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René M. Stulz
Rohan Williamson

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Respectively, Reese Chair in Banking and Monetary Economics, Fisher College of Business, The Ohio State University, and Assistant Professor, Georgetown University. We are grateful for useful conversations with Lee Pinkowitz, Raghuraj Rajan, Patricia Reagan, Andrei Shleifer, and Luigi Zingales. The views expressed herein are those of the authors and not necessarily those of the National Bureau of Economic Research.

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ABSTRACT

Religions have little to say about shareholders but have much to say about creditors. We find that the origin of a country's legal system is more important than its religion and language in explaining shareholder rights. However, a country's principal religion helps predict the cross-sectional variation in creditor rights better than a country's openness to international trade, its language, its income per capita, or the origin of its legal system. Catholic countries protect the rights of creditors less than other countries, and long-term debt is less important in these countries. A country's openness to international trade mitigates the influence of religion on creditor rights. Religion and language are also important predictors of how countries enforce rights.

René M. Stulz
The Ohio State University
Department of Finance
806 Fisher Hall
2100 Neil Avenue
Columbus, OH 43210
614-292-1970
stulz@cob.ohio-state.edu

Rohan Williamson
McDonough School of Business
Georgetown University
G-04 Old North
Washington, DC 20057

“Max Weber was right. If we learn anything from the history of economic development, it is that culture makes almost all of the difference.”

Landes (2000)

1. Introduction.

There is substantial evidence that financial development benefits economic growth.¹ Across countries, there are significant differences in the importance of capital markets, in firms’ ability to access external finance, and in the ownership of publicly traded firms. As La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) show, a common element explaining these differences is the extent to which investors are protected from expropriation by managers, controlling shareholders, and governments. Policymakers, economists, and journalists have argued that the appropriate model for the protection of the rights of investors is the so-called Anglo-Saxon model. Nevertheless, countries that protect their investors as the U.S. and the U.K. do are in the minority. This is so despite the fact that, as the competition for capital becomes more global, countries with poor protection of investor rights apparently lose out to countries with better protection of investor rights. Why is it then that the degree of investor protection differs across countries?

This paper explores whether differences in culture, defined as a system of beliefs that shape the actions of individuals within a society, can help explain differences in investor protection. One reason why the Anglo-Saxon form of investor protection might be opposed in a country could simply be because of where it is coming from. Is it then the case that English-speaking countries differ from other countries in how they protect investors? More importantly, however, a country’s culture could affect both how financial markets

¹ See Levine (1997) for a review of the literature.

are viewed within that country and how they contribute to social welfare. The view that culture is an important determinant of economic institutions has a long tradition, dating back at least to the work of Weber (1930). This tradition provides powerful arguments for why some cultures are more supportive of financial markets than others. Weber (1930) argued in his influential work that cultural changes, namely the Calvinist reformation, played a critical role in the development of capitalism and its institutions. Many others have emphasized the importance of Western individualism as an explanation for the growth of markets in the West (see, for instance, Lal (1999) and the references therein). In a seminal paper on the role of culture as a determinant of institutions, Greif (1994) compares Maghribi traders of the eleventh century and Genoese traders of the twelfth century and concludes that “Differences in the societal organization of the two trading societies can be consistently accounted for as reflecting diverse cultural beliefs.” (p. 914). He states that his “findings suggest the theoretical and historical importance of culture in determining societal organizations, in leading to path dependence of institutional frameworks, and in forestalling successful intersociety adoption of institutions.” (p. 914).

Religions are a key component of systems of beliefs. Historically, religions have had a lot to say about the rights of creditors and much less about the rights of shareholders. As Tawney (1954) shows, the prohibition of usury was a fundamental tenet of the medieval church. Usury meant receiving interest on loans and led to excommunication. The Council of Lyons (1274) even prescribed excommunication for anybody who would let a house to a usurer. The medieval church was intent on restricting economic transactions to those where one of the parties would not be taking advantage of the other because of greater bargaining strength. The Calvinist reformation viewed the payment of interest as a normal part of commerce, thereby making it possible for modern debt markets to develop. In the aftermath of the Calvinist reformation, creditor rights differed sharply across Protestant and Catholic countries. This raises the question of whether these differing attitudes toward creditor rights have persisted sufficiently to help understand the variation in creditor

rights across countries in the late 20th century.

Cultures change and adapt in response to economic changes, but they generally do so slowly. If predominant values in some countries are less supportive of market interactions than in other countries, one would expect investor rights to be less well protected in these countries for a number of reasons. First, the case to strengthen these rights is less compelling to their citizens and politicians. Second, these countries might have institutions fostered by their culture that make financial markets less valuable. For instance, extended families limit the use of markets for individuals since many transactions take place within the extended family that otherwise would require the use of markets. Third, these countries might have different economic fundamentals that make market interactions less valuable. For instance, Glaeser and Scheinkman (1998) provide a model where usury laws serve as a primitive means of social insurance. In their model, economic conditions can make such laws useful. At the same time, however, the existence of such a form of social insurance makes financial innovations less profitable and hence slows down financial development. With this view, if culture explains differences in investor protection, it is that it proxies for more fundamental differences in economic conditions across countries.

We examine whether simple proxies for culture are helpful in understanding how investor rights differ across countries. Religion is widely used as a proxy for culture. For instance, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) use religion as a proxy for culture in their study of government quality. Besides religion, it can be argued that beliefs are more easily communicated among countries that share the same language and therefore are more likely to be common among such countries. We therefore use language as our second proxy for culture. It is hard to argue that these proxies depend on the degree of financial development, so that we do not have to worry about reverse-causation arguments. We choose few and extremely simple proxies for two reasons. First, our study uses 49 countries. Since there are few countries, there is a substantial risk of overfitting. Some combination of a suitable number of cultural variables could end

up explaining the diversity in shareholder and creditor rights spuriously. Overfitting is not a problem with our choice of proxies and there is much precedent for using them in social sciences. Second, providing a complete explanation of how cultural variables help understand the diversity in investor rights is beyond the scope of this paper. Rather, we want to investigate whether cultural variables have to be taken seriously in explaining that diversity. Strikingly, after controlling for income per capita, language and/or religion are almost always significant in regressions attempting to predict the degree of investor protection.

La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) show that the legal origin of a country's laws explains the degree of investor protection in that country. Common law countries protect investors better than civil law countries. There is some debate as to why it is so. One reason could be that the state has a smaller role in common law countries than in civil law countries.² Another reason could be that common law leaves more room for judges to adapt to changes in the economy and to invoke fairness arguments. In a civil law country, the judge interprets the law like a theologian interprets the bible. He has no flexibility in how he can render his decisions. In contrast, common law judges have much more flexibility since they can refer to precedents and can create precedents of their own. Viewed this way, it would seem that the advantage of common law countries is that the enforcement of laws can adapt to changes in the economy. Because civil law countries limit the power of judges, only those attempts to take advantage of investors that are codified can be reversed and punished. This means that managers or controlling shareholders who are intent in taking advantage of investors can use the legal code as a roadmap for permissible expropriation in a civil law country. In contrast, in a common law country, a judge could invoke fairness arguments to force restitution to expropriated investors even though the acts expropriating investors are not specifically prohibited by law.

² See La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999). Glaeser and Shleifer (2000) provide a model where common law emerges as an efficient solution to the problem of designing a legal system when "the law and order environment is benign to begin with" while civil law emerges as the efficient solution in countries with weak law and order to begin with.

After showing that language and religion are helpful in understanding differences in investor protection across countries, we examine whether culture proxies are successful because they happen to be correlated with legal origins. It turns out that this is only partly the case. When we consider shareholder rights, culture proxies seem to matter mostly but not exclusively because they are correlated with legal origins. For instance, shareholder rights are better protected in Protestant countries with common law legal origins than in such countries with civil law origins. Our work therefore strengthens the existing evidence on the importance of legal origins insofar as shareholder rights are concerned. However, culture proxies seem to be more important than legal origins for creditor rights. Creditor rights are strongest in countries where the main religion is Protestant regardless of legal origin. Within civil law countries, the protection of creditor rights is weaker in Catholic countries. There is no difference in creditor protection between common law Protestant countries and civil law Protestant countries, but there is a strong difference among civil law countries between Catholic countries and Protestant countries. Finally, when we consider the enforcement of rights, there is clear evidence that religion, language, and legal origins all play a role. Protestant countries have better enforcement of rights than Catholic countries, but for some variables this difference disappears once we also allow for language to play a role.

Several authors have emphasized the importance of politics in understanding why shareholder and creditor rights differ across countries. Roe (2000) argues that the existence of strong redistributive or socialistic movements is more important than legal origins in explaining why financial markets play a weaker role in some countries than in others. Rajan and Zingales (2000) point out that countries where financial markets were highly developed at the turn of the 20th century became hostile to financial markets during that century. They reason that changes in economic conditions can make it particularly valuable for established firms to oppose new entrants. In such situations, established interests find it optimal to oppose financial markets since they permit new entrants to obtain funding. Legal origins or cultural variables cannot explain

why such changes take place. However, both types of variables can explain why investor protection might evolve differently across countries in response to changes in economic conditions. If greater investor protection becomes more valuable because of changes in economic conditions, common law countries or countries with a culture that is more favorable to market interactions could improve investor protection faster and more effectively than other countries.

Rajan and Zingales (2000) argue that trade openness is a proxy for the extent to which it is advantageous for established interests to restrict entry to markets, so that one would expect investor rights to be more protected in countries that are more open to international trade. At the same time, however, one would expect countries that benefit more from international trade to have better investor protection. Trade has to be financed. Trade financing will be harder to obtain and more expensive if the rights of those providing the financing are poorly protected. Trade financing does not take the form of equity stakes, but rather of credits. Consequently, one would expect openness to be more closely tied to creditor rights than to shareholder rights. We find that this is the case. Shareholder rights do not improve with openness, but creditor rights do so. We find evidence that, as countries become more open, the relation between religion and creditor rights becomes less important.

Culture matters for investor rights. We know already from the literature that investor rights matter for financial development. However, we show that religion is important for creditor rights but not for shareholder rights. Further, language and religion are important for enforcement of rights. This raises the question of whether culture and legal origins affect different aspects of financial development. The answer is yes. Stock market development depends on a country's legal origin. In contrast, debt markets and banking development depend on culture. In particular, we document that debt issuances relative to GNP are smaller in Catholic countries than in Protestant countries.

The paper proceeds as follows. In section 2, we motivate our proxies for culture and show the data

we use for our study. In section 3, we investigate the relation between rights variables and culture proxies. In section 4, we attempt to ascertain whether the success of the culture proxies is simply due to their correlation with legal origin variables. In section 5, we investigate whether investor rights are stronger in countries that are more open to international trade and whether the significance of our cultural variables is due to possible correlation of these variables with openness to international trade. Section 6 shows a direct relation between financial development measures and our culture variables and extends the analysis allowing for differences in the type of civil law a country has. Section 7 concludes.

Section 2. Culture proxies: Motivation and data.

The data on legal families, shareholder rights, creditor rights, and the rule of law is taken from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV, 1998). The sample includes 49 countries from Asia, Europe, North America, South America, Africa, and Australia. It does not include countries that recently were socialist countries. To be included in the sample, the countries had to have at least five non-financial publicly traded firms with no government ownership as of 1993. The number of countries specifies the number of observations for the dependent variable in our regressions. Though the literature distinguishes between three types of civil law (French, Scandinavian, and German), regressions typically only distinguish between civil law countries and common law countries (see, for instance, LLSV (1998)). Since we focus mostly on regressions, we do not make distinctions among civil law countries. In any case, there is some debate about what these distinctions really mean. In particular, recent work by Nenova (2000) creates the puzzle that the benefits from control are lower in countries with a Scandinavian civil law tradition than in common law countries. Coffee (2001) makes the point that the Scandinavian civil law tradition is sufficiently like other civil law traditions that the lower benefits from control in Scandinavian countries cannot be explained by differences in legal regimes. Instead, Coffee (2001) argues that “social norms in Scandinavia may discourage

predatory behavior by those in control of the firm.” Differentiating civil law traditions finely may simply amount to having a dummy variable for Scandinavian countries that picks up the effect of these norms. The norms that Coffee (2001) focuses on reflect the influence of culture rather than law. All Scandinavian countries are Protestant countries. Though we can compare civil law Protestant countries to civil law Catholic countries, sample sizes are too small to compare Protestant countries with Scandinavian civil law to other civil law countries. We therefore shy away from differentiating the civil law traditions finely and contrast civil law countries to common law countries. Assuredly, one could make a different choice. We therefore show in Section 6 that the key result of this paper, namely that law matters more than culture for shareholder rights but less than culture for creditor rights is not affected by this choice.

Our aim is to test whether simple culture proxies can help explain the diversity in the protection of investor rights consistently across countries. We therefore restrict our choice to just language and religion as proxies for culture. We use the 2000 CIA World Factbook to obtain each country’s primary religion and primary language. These proxies have a long tradition that motivates their use. We define the primary religion (language) as the religion (language) that is practiced by the largest fraction of the population of a country. The Anglican religion is included in the Protestant religion. For most countries, more than half the country practices the primary religion. In Canada, Germany, and Holland, the fraction of the population practicing the Catholic religion is close to the fraction practicing the Protestant religion. In Korea, the fraction of the population that is Protestant is only slightly larger than the fraction of the population that is Buddhist.³ Our results do not seem sensitive to the classification of the religious affiliation of these countries. Our approach differs from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999), who use the fraction of a country that practices a given religion in the multiple regressions in their study of the determinants of the quality of

³ The 2000 CIA Factbook states that 49% of the population is Christian and 47% is Buddhist. The 1997 CIA Factbook used Protestant instead of Christian, so that we use Protestant also.

governments. We proceed the way we do because we believe that, if religion matters, the religion that is practiced by the largest fraction of a country should have a unique influence on that country, so that the impact of religion is not proportional to the fraction of the population of a country that practices a religion.

Hallpike (1986) emphasizes the existence of core principles of societies that are extremely persistent and include a world-view. He states that “The evidence that societies have core principles is very substantial. Cross-culturally, we constantly find that groups of societies with common origins (as shown particularly in membership of the same language family) share many basic features of organization and world-view that cannot be explained on adaptive or functional grounds.” (p. 293). When considering the role of financial markets across countries, it is typical to talk about an Anglo-Saxon model. This model is one with diffuse ownership where stock markets play a crucial role in the allocation of capital. We therefore ask whether countries where English is the primary language are countries where shareholder and creditor rights are different from other countries. Table 1 provides a list of countries and shows which countries use English as their primary language. We see there that English is the primary language for ten countries. The Spanish language is the only other language that is shared by a significant number of countries since eight countries have Spanish as their primary language.

Since Weber’s work, religion has been viewed as a key determinant in the growth of capitalism. Lal (1999) argues that “...cosmological beliefs - an essential element of “culture” - have been crucial in the rise of the West and the subsequent evolution of its political economy.” (1999, p. 174). There is, however, some controversy as to whether capitalism and its institutions were fostered by the Protestant reformation as suggested by Weber or emerged earlier. Lal (1999) argues that individualism “is the unique cosmological belief of the West.” (p. 174) in contrast to the communalism prevalent in the rest of the world. We therefore consider whether investor rights differ in countries where the primary religion is Christian as well as whether rights differ between Protestant and Catholic countries. Table 1 shows that the Christian religion is the

primary religion in 32 out of 49 countries. Of these 32 countries, 12 countries have Protestantism as their primary religion. Seven countries have the Muslim religion as their primary religion and in five countries, Buddhism is the primary religion. No other religion is the primary religion in more than two countries in our sample.

Section 3. Culture proxies and investor rights.

Table 2 shows how investor rights differ according to whether a country's primary language is English or not, whether the country's primary religion is Christian or not, and finally, when the primary religion is Christian, whether it is Protestant or Catholic. In the first three parts of this section, we discuss how shareholder rights, creditor rights, and the enforcement of investor rights differ according to these religion and language proxies. In the fourth part of this section, we present multiple regressions that allow us to control for income per capita and increase the number of language and religion proxies we use.

Section 3.1. Shareholder rights.

Panel A of Table 2 considers shareholder rights. The first right is whether a country mandates one share one vote. Departures from one share one vote enable shareholders who control less than a majority of cash flow rights to make decisions for the firm. Strikingly, no English-speaking country mandates one share one vote. Religion does not affect whether one share one vote prevails. The next six measures are denoted by LLSV as anti-director rights. They combine these six measures into an anti-director rights index. Each variable for anti-director rights is a dummy variable that takes value one if a right is mandated in a country and zero otherwise. The value of the index is obtained by adding the dummy variables for the six rights. The index provides a summary of how rights differ across countries with different cultures. Anti-director rights are stronger in English-speaking countries. The differences in the index are not significant between Christian

and non-Christian countries or between Protestant and Catholic countries.

Looking at the various anti-director rights, English-speaking and Protestant countries make it easier for shareholders to vote. No English-speaking country blocks shares before the shareholder meeting, so that shareholders in these countries do not have to deposit their shares with the company to be able to vote. A majority of the English-speaking countries allow voting by mail. Cumulative voting or proportional representation make it easier for minority shareholders to be represented on the board. Catholic countries are significantly more likely to have cumulative voting or proportional representation, but the other cultural distinctions we make do not matter. All English-speaking countries have some mechanism for shareholders to pursue redress against decisions of the company that they believe to be harmful. Less than half of the non-English speaking countries have such a mechanism. Religion seems irrelevant for the existence of such a mechanism. Preemptive rights enable shareholders to have first right to buy new shares issued by the company. Such a mechanism protects minority shareholders from having controlling shareholders sell shares cheaply to some subsets of investors. Preemptive rights are more likely in non-English speaking countries. Three-quarters of the Catholic countries have such rights, in contrast to less than half the Protestant countries. Finally, the last variable takes value one if less than 10% of the shareholder votes are required to call a shareholder assembly. Non-English speaking countries and Catholic countries have lower requirements to call a shareholder assembly.

The last right considered by LLSV is whether there is a mandatory dividend law or rule. The mandatory dividend variable takes value zero if a country has no minimum dividend and is equal to the decimal minimum dividend otherwise. No English-speaking country has such a minimum-dividend rule and no Protestant country has such a rule. Catholic countries are much more likely to have such a rule than Protestant countries.

In summary, English-speaking countries and Protestant countries make it easier for shareholders to

vote and sue, but harder to make their vote count when they vote.

Section 3.2. Creditor Rights.

Panel B of Table 2 shows how creditor rights vary across countries that differ in religion or language. Panel B of Table 2 is sharply different from Panel A of the same Table. Looking across the various creditor rights variables, language is mostly unimportant while religion is crucially important. LLSV combine the first four rights into an index. The first right is whether the reorganization procedure imposes an automatic stay on secured assets. In the presence of such a stay, secured creditors cannot get possession of the collateral in a reorganization. The dummy variable takes value one if there is no automatic stay. The results for that dummy variable turn out to be similar to the results for most of the creditor rights: language does not matter, but Catholic countries protect the rights of creditors poorly, so that non-Christian countries protect the rights of creditors better than Christian countries. The next variable takes value one if secured creditors are paid first. This dummy variable does not differ significantly across culture proxies, but the sign of the differences is the same as with the first dummy variable considered. The third variable takes value one if there are restrictions to going into reorganization. Again, language does not matter, but non-Catholic countries are more likely to impose restrictions. An important issue in a reorganization is whether management stays in control. The dummy variable takes value one if management does not stay in control during the reorganization process. It is highly unusual for management to stay in control in non-Christian countries, but management almost always stays in control in Catholic countries. Given these results, the creditor rights index, which sums up the four proxies we have just discussed, shows that creditor rights are higher in non-Christian countries than in Christian countries and higher in Protestant countries than in Catholic countries. The creditor rights index can take values from 0 to four. Of all the groups of countries we consider, the Catholic group has the lowest index, 1.32. The final variable is a dummy variable that takes value one if there is a minimum amount

of share capital required for a firm not to be dissolved. No English speaking country has such a rule. The existence of such a rule does not seem to be related to a country's primary religion.

Section 3.3. Enforcement of rights and accounting standards.

So far, we have examined how shareholder rights and creditor rights are correlated with our culture proxies. The rights we considered were rights specified in laws or statutes. The enforcement of these rights differs across countries. We therefore now consider variables that measure the extent of enforcement of these variables. The value of each index increases with enforcement. Panel C of Table 2 provides the results for sample splits based on culture proxies for various enforcement variables and for accounting standards.

Before looking at the results for the individual variables, we can summarize the results of that Panel as follows. First, language is irrelevant except for accounting standards. Second, religion matters a great deal. Christian countries have typically better enforcement. The strongest result is, however, that for every variable, enforcement is significantly stronger for Protestant than for Catholic countries. The first variable is a measure of the efficiency of the judicial system produced by a country risk rating agency. LLSV use the average from 1980 to 1984. This variable is the same whether countries have English as their primary language or not and whether countries are Christian or not. However, its score is significantly higher for Protestant countries than for Catholic countries. The next four variables are significantly higher for Christian countries than for non-Christian countries and significantly higher for Protestant countries than for non-Protestant countries. These variables are all indexes produced by the country rating agency International Country Risk (ICR). The first variable measures the rule of law. The second variable estimates the extent of corruption in government. The third variable assesses the risk of expropriation. The fourth variable is an index capturing the risk of expropriation by the government. All ICR indices used by LLSV are averages from 1982 through 1995 and are scaled so that their values go from one through ten, with one representing the worst possible enforcement

and ten the highest. The final variable in the table is an index of accounting standards produced by the Center for International Financial Analysis and Research. With this index, English speaking countries have better accounting standards than other countries and Protestant countries have higher standards than Catholic countries.

Section 3.4. Multiple regression analysis.

The comparisons in Table 2 do not take into account the state of development of countries. Further, it is only possible to make comparisons between two groups at a time. We estimate multiple regressions that include GNP per capita as an explanatory variable. We would expect that investor rights are better protected in richer countries. We therefore want to make sure that our culture proxies do not proxy for GNP per capita. At the same time, however, such an approach may lead us to understate the impact of culture. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) find that Catholic countries have lower quality government, but their results are not significant when they control for GNP per capita. Their interpretation is that “ the adverse effect of the religious affiliation on the quality of the government is in part captured by per capita income.” With this view, GNP per capita is affected by culture, which makes it harder to estimate precisely the relation between investor protection and culture. With the multiple regression, we can also use additional culture proxies. We use dummy variables PROTESTANT, CATHOLIC, BUDDHIST, MUSLIM, ENGLISH, and SPANISH. These variables take value one if a country’s primary religion or language is the one of the name of the dummy variable and zero otherwise. Table 3 presents some of the regressions. We only present regressions for the anti-director rights index, the creditor rights index, and the enforcement and accounting indices. We estimate regressions for the individual shareholder and creditor rights, but including these regressions in our discussion would not affect our conclusions.

The regressions for the anti-director rights index as the dependent variable are reproduced in Panel

A of Table 3. The first regression uses the dummies PROTESTANT and CATHOLIC in addition to a constant and the log of GNP per capita. There is no significant difference between the coefficients of the religion dummies. The second regression adds the dummies BUDDHIST and MUSLIM. None of the coefficients on the religion proxies are significant or significantly different from each other. The difference between the PROTESTANT and CATHOLIC dummies has a p-value of 0.13, though. The third regression uses the dummies ENGLISH and SPANISH. Countries whose primary language is ENGLISH have a significantly higher anti-director rights index than countries whose primary language is SPANISH or than other countries. In these regressions, GNP per capita is not significant. The results therefore confirm our conclusions in Section 3.1. on shareholder rights and taking into account additional culture proxies has no impact on our conclusions.

Panel B of Table 3 shows regression estimates for creditor rights. It is immediately clear from the first regression that whether a country's primary religion is Catholic instead of Protestant matters a great deal. The coefficient on the CATHOLIC is negative and has a t-statistic of -4.17. The regression has an adjusted R² of 40%. The second regression shows that CATHOLIC remains significant when we add BUDDHIST and MUSLIM to the regression. These additional dummies are not significant. All religion dummies are significantly different from the Catholic dummy. The result for MUSLIM is surprising since the Qur'an prohibits the charging of interest and some fundamentalist countries still have this prohibition. The last regression of the panel shows that countries with Spanish as the primary language have lower creditor rights than other countries, but countries with English as the primary language do not have creditor rights that differ significantly from countries other than those with Spanish as the primary language. Per capita income is insignificant for the first two regressions, but not for the last one. This provides support for the argument in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) that GNP captures part of the effect of religion.

Panel C of Table 3 shows regression estimates for the enforcement of rights. Looking first at judicial

efficiency, there is a significant difference between the coefficients on CATHOLIC and PROTESTANT in the first regression. In the next regression, the coefficient on CATHOLIC is significantly negative and significantly different from the coefficient on PROTESTANT. The other coefficients on the dummy variables are not significant and do not differ significantly from other coefficients. Finally, when we turn to the language regression, we find that judicial efficiency is higher in countries where English is the primary language. None of the religion dummies are correlated with the rule of law index, but the rule of law is significantly higher for English-speaking countries than for Spanish-speaking countries. The Protestant countries have a significantly higher corruption index than all other countries (remember that a higher corruption index means less corruption). When we add dummy variables for Buddhist and Muslim countries, Protestant countries remain different and have a higher corruption index than Catholic, Buddhist, or Muslim countries. There is an extremely sharp difference in the corruption index between countries whose primary language is Spanish and those whose primary language is English. SPANISH is significantly negative and ENGLISH is significantly positive. Turning to expropriation risk, once more the only religion difference that matters is the one between Protestant and Catholic countries. Spanish-speaking countries have a significant negative coefficient. The results are similar for repudiation risk, except that both Protestant and Buddhist countries have a higher index than Catholic countries. Finally, the accounting index is significantly lower in Catholic countries. The difference in the index between Catholic and Protestant countries is also significant. Perhaps not surprisingly at this point, English-speaking countries have a significant positive coefficient and Spanish-speaking countries have a significant negative coefficient.

Section 4. Is it culture or legal origins?

LLSV (1998) show that differences in investor protection are highly correlated with differences in legal origin. Common law countries have better investor protection than civil law countries. Culture could

matter simply because it is correlated with legal origin. The dataset gives us some ability to distinguish between a legal origin explanation and a cultural explanation for differences in investor protection across countries. However, no civil law country has English as its primary language, all countries with Spanish as their primary language are Catholic, and no common law country has Spanish as its primary language. First, we can distinguish between English-speaking common law countries and other common law countries. Second, there are 12 Protestant countries. Of these countries, six are common law countries and six are civil law countries. We can therefore investigate whether legal origins matter for Protestant countries. There is only one common law country whose primary religion is the Catholic religion, so that we ignore that country in our discussion of the results - one might note, however, that taking the results for that country would not affect our conclusions. However, we can compare Catholic and Protestant civil law countries.

We have seen that for creditor rights and for legal enforcement, there are strong differences between Catholic and Protestant countries. If these differences can be explained by differences in legal origins, we would expect significant differences among Protestant countries depending on their legal origins and no significant differences between Protestant and Catholic civil law countries. To investigate these differences, we use regressions where we estimate coefficients on dummy variables that take value one for countries that share a religion as well as legal origins. Our tests then focus on differences between these coefficients.

Table 4 shows the estimates of regressions for shareholder and creditor rights where we distinguish between cultural origins and legal origins. To limit the number of regressions we show, we do not reproduce regressions for individual shareholder and creditor rights. Rather, we simply show regression estimates for the shareholder rights index and for the creditor rights index. The first regression shows the relation between the shareholder rights index and religion and legal origins. This regression shows that for shareholder rights, the coefficients on all civil law origin variables are quite similar and at the same time quite different from the coefficients on the common law origin variables. The p-value for the difference between common law

Protestant countries and civil law Protestant countries is lower than 0.01. In contrast, the p-value for the difference between civil law Protestant countries and civil law Catholic countries is 0.93. The evidence shows clearly that differences in shareholder rights cannot be explained by differences in religion but can be explained by differences in legal origins. The second regression compares whether there is a difference between English-speaking common law countries and other common law countries as well as between Spanish-speaking civil law countries and other civil law countries. None of the language differences are significant. It is important to note that at the level of individual shareholder rights, the differences based on whether the religion is Protestant or Catholic identified in Table 2 typically persist when we take into account legal origins. However, the recourse for oppressed minorities is much more likely to be available in common law countries than in civil law countries. The strength of this relation is such that when the individual rights are aggregated into the anti-director index, it overwhelms everything else.

The second set of regressions in Table 4 investigates the relation between creditor rights, culture proxies, and legal origins. The results are sharply different from those for shareholder rights. First, there is no difference between common law Protestant countries and civil law Protestant countries. Second, there is a significant difference between civil law Protestant countries and civil law Catholic countries. The second regression shows that English-speaking common law countries have lower creditor protection than non-English speaking common law countries. In fact, there is no difference between English-speaking common law countries and civil law countries that do not speak Spanish. This evidence shows that legal origins are not as important for creditor rights as the branch of Christianity a Christian country belongs to.

We now turn to the enforcement variables, but do not show the regression estimates in a table to save space. There is never a significant difference between common law Protestant countries and civil law Protestant countries. Except for the first two variables, we cannot reject the hypothesis that enforcement is worse in civil law Catholic countries than in civil law Protestant countries. The bottom line from these

regressions is that when it comes to enforcement, we find that culture matters but cannot establish that legal origins matter.

Given the data limitations, it is perhaps more surprising that we can find that something matters than that we cannot when we try to distinguish between the effect of legal origins and the effect of our culture proxies. In the regressions of Table 4, we have five different independent variables to estimate jointly the religion and law origin effects. Because we are splitting a sample of 49 countries into five different groups and because there is only one common law Catholic country, it makes sense to use a more conservative test to see whether there is a role for religion when one takes into account legal origins. We estimate regressions of the rights variables on a constant, a dummy that takes value one for civil law countries, CIVOR, and the logarithm of GNP per capita. We then add to these regressions PROTESTANT and CATHOLIC. If religion proxies for legal origins, the religion dummy variables should not be significant in these regressions. We do not report these regressions in a table. One would expect the religion proxies not to be significant for shareholder rights and they are not. The results for creditor rights are dramatic. In the regression with CIVOR and the log of GNP per capita, CIVOR has a coefficient of -1.18 with a t-statistic of -2.83. The regression has an adjusted R-square of 24%. When we add the religion dummy variables, the adjusted R-square increases to 42%. CATHOLIC has a coefficient of -1.57 with a t-statistic of -3.63. The coefficient on the civil law dummy variable is -0.54 with a t-statistic of -1.59, so that it is not significant at the 10% level. CIVOR is significant in the presence of the religion variables for judicial efficiency, corruption, and the accounting index. For the other enforcement indices, CIVOR is significant in the absence of the religion variables for all indices except the rule of law index. When the regression includes the religion proxies, CIVOR stops being significant for the repudiation risk index and the expropriation risk index. The difference between PROTESTANT and CATHOLIC is significant for these indices. For the corruption and accounting indices, CIVOR is significant but so is the difference between PROTESTANT and CATHOLIC. Finally,

for judicial efficiency, CIVOR is significant, but the significance of the difference between PROTESTANT and CATHOLIC disappears when CIVOR is added to the regression. In summary, in most of the regressions, the difference between PROTESTANT and CATHOLIC is significant when we add a dummy variable for civil law.

Section 5. Politics, openness, and finance.

Financial development did not evolve linearly through time. As Rajan and Zingales (2000) show, financial development was high before World War I. They also report that some civil law countries had a very high level of financial development. However, the period preceding World War I represents a high point of financial development that would not be matched again, at least for some indicators of financial development, until after 1980 for many countries. Both the legal origin variables of LLSV and the culture proxies we use in this paper stayed mostly unchanged during the 20th century for our sample countries. These variables cannot therefore explain why financial development fell and then increased again during that century. Rajan and Zingales (2000) argue that financial development is critically related to a country's openness to trade and capital flows. They show that both before World War I and in the late 20th century, countries that are more open have greater financial development. A possible explanation for this finding is that openness serves as a proxy for the benefits from letting markets work unimpeded. As political forces that oppose markets get the upper hand in countries, perhaps because the median voter finds the lack of security resulting from the working of markets to be too costly, countries close their frontiers so that economic transactions can be controlled more closely by the government.

As we pointed out in the introduction, trade has to be financed. There can therefore be a mechanical relation between openness as measured by trade and investor rights, especially creditor rights. The trade literature has measures of natural openness. These measures estimate what the trade openness of a country

would be given some characteristics of that country. Such measures are helpful here because they eliminate the possibility of a mechanical relation between our measure of openness and investor protection. These measures can be used to proxy for the incentives a country has to protect investor rights to benefit from trade. Frankel and Romer (1999) have two measures of natural openness. One measure uses only geographic characteristics. This measure is based on a gravity model that presumes that countries closer to each other trade more with each other. The other measure uses factor endowments, including capital. The problem with the second measure is that one would expect accumulated capital to depend on investor rights. Wei (2000) provides evidence that corruption is less important in countries that are more naturally open. In his paper, natural openness is the ratio of trade to GDP predicted by a regression where the explanatory variables are the logarithm of population, distance, variables measuring access to maritime transportation, and language dummies. He presents a model using the fact that foreign traders and investors have many options of which countries to trade with and where to invest. Corruption reduces the benefits from trade, so that countries which find trade more valuable will invest more to prevent corruption. Wei's measure includes the language variables that we use as culture proxies. We therefore use in this section the measure of natural openness of Frankel and Romer (1999) that is based on geographic characteristics alone. In the next section, we will discuss some results obtained using Wei's measure.

With the papers just discussed as well as related papers, openness can lead countries to value investor rights more or can be correlated with better investor rights as countries become more market oriented. Therefore, we would like to know whether openness matters for investor rights and whether the success of our religion and language dummy variables is due to their possible correlation with openness. To examine these issues, we regress investor rights measures on our culture proxies, openness, the log of GNP per capita, and CIVOR. For each dependent variable, we use the measure of natural openness of Frankel and Romer in one regression and a measure of actual openness, the average ratio of imports plus exports to GNP from

1985 to 1995, in the other. We also use, but do not report in the table, another measure of actual openness, namely the ratio of imports plus exports to GNP in 1985. These regressions are reported in Table 5.

The results for the shareholder rights index regressions are striking. Both measures of openness are negative and significant. Countries that are more open have lower shareholder protection. This negative coefficient is mostly due to an extremely strong negative relation between openness and the dummy variable for cumulative or proportional voting. In the regressions, the dummy variable for civil law, CIVOR, is extremely significant and negative. Absent CIVOR, the coefficients on openness are similar, but CATHOLIC has a negative significant coefficient as well as ENGLISH. Actual openness explains less than natural openness - adding actual openness to the regression increases adjusted R-square by about 2% and adding natural openness by about 10%. Adding CIVOR to the regression with natural openness increases the adjusted R-square by about 15%. Regardless of the openness measure, none of the culture variables matter for the shareholder rights regressions, which does not change our earlier conclusions.

When we turn to creditor rights, openness has a significant positive effect on creditor rights. Adding actual openness does not affect the adjusted R-square, but adding natural openness increases it by 8%. CIVOR is insignificant. Without openness, however, that dummy variable has a significant negative coefficient. As before, CATHOLIC has a negative significant impact on the creditor rights index. CATHOLIC does not proxy for openness in our regressions - it remains significant regardless of whether we control for legal origins or openness.

As discussed earlier, one would expect there to be larger incentives for a country to respect creditor rights when international trade is more important for that country. We examine whether the importance of religion falls as openness increases in the following way. We estimate a regression where we regress the creditor rights index on a constant, the log of GNP per capita, PROTESTANT, CATHOLIC, OPENNESS*PROTESTANT, OPENNESS*CATHOLIC, OPENNESS*NON-CHRISTIAN, where NON-

CHRISTIAN takes value one for all countries that where the principal religion is neither Protestant nor Catholic. The estimates and t-statistics are as follows when we use the Frankel and Romer (1999) measure of natural openness:

$$\begin{aligned}
 & 5.63 - 0.37 \text{ Log GNP per capita} - 0.19 \text{ PROTESTANT} - 1.83 \text{ CATHOLIC} \\
 & (-3.23) \quad (-3.24) \qquad \qquad (-0.34) \qquad \qquad (-3.25) \\
 \\
 & + 0.04 \text{ OPENNESS*PROTESTANT} + 0.05 \text{ OPENNESS*CATHOLIC} \\
 & (1.27) \qquad \qquad \qquad (3.42) \\
 \\
 & + 0.03 \text{ OPENNESS*NON-CHRISTIAN} \\
 & (2.82)
 \end{aligned}$$

With this regression, we find a significant negative coefficient on CATHOLIC as expected. The coefficient on OPENNESS*CATHOLIC is significant positive. Perhaps more importantly, it is also larger than OPENNESS*PROTESTANT. The difference of the two interaction terms has a p-value of 0.01 for natural openness and 0.11 for actual openness. None of the other differences are significant. This evidence suggests that as a country's openness increases, the fact that its principal religion is Catholic matters less for creditor rights.

We now turn to the rights enforcement variables. We first look at judicial efficiency. The measure of openness one uses makes a critical difference. Actual openness increases the adjusted R-square of the regression by 4%, but natural openness increases it by 10%. With actual openness, nothing is significant. The measure of average actual openness is available for 43 countries. We use actual openness in 1985 for 49

countries and obtained similar results. With natural openness, we find that judicial efficiency increases with natural openness. Furthermore, when we control for natural openness, judicial efficiency is significantly lower in Catholic than in Protestant countries. CIVOR is not significant. For the rule of law index, openness is not relevant. However, countries where Spanish is the principal language have a significantly lower index than Catholic countries where Spanish is not the principal language and than countries where English is the principal language.

For corruption, actual openness is not significant and this is the case whether we use the 1985 measure or the average measure. In the same regression without openness, CIVOR has a negative significant coefficient, PROTESTANT has a significant positive coefficient, and SPANISH has a negative coefficient with a p-value of 0.11. This indicates that actual openness is correlated with these variables, so that when it is added to the regression, it becomes impossible to estimate coefficients precisely. Adding actual openness does not change adjusted R-square, so that openness does not have information in addition to the other variables in the regression. Adjusted R-square increases by about 1% when we use natural openness and natural openness has a positive significant coefficient as expected from Wei (2000). Once we do that, the coefficient on the civil law dummy variable is significantly negative and the coefficient on PROTESTANT is significantly positive. The coefficient on CATHOLIC is significant, but it is not significantly different from the coefficient on PROTESTANT. Protestant countries have a significantly higher corruption index than Spanish-speaking countries after controlling for legal origins and for openness.

The next two variables are expropriation risk and repudiation risk. For both variables, CIVOR and the openness measures are not significant. The regressions provide evidence that Protestant countries have better repudiation risk indices, while Spanish-speaking countries have worse expropriation risk indices. Finally, for the accounting index, the openness measures are not significant. Adding openness to the regression does not affect our earlier results that civil law leads to a lower index while Protestant countries have higher values

of the index.

The precise construction of the natural openness measure matters. We do not reproduce results using Wei's measure of natural openness because it includes the language variables we use. Nevertheless, we estimated all our regressions using his measure of natural openness. His measure typically explains more than the Frankel and Romer (1999) measure. In particular, natural openness tends to be positively correlated with the enforcement of rights, especially with the corruption index.

Section 6. Financial development and culture.

We have shown that culture is correlated with the rights that investors have and with how these rights are enforced. The literature shows that investor rights matter for financial development. Our results suggest that culture should affect financial development. However, because we showed that shareholder rights depended mostly on legal origin rather than culture, we would expect measures of stock market development to be unrelated to our culture variables. In contrast, we saw that culture is important for creditor rights. Consequently, culture should affect the development of debt markets and banking.

We consider four measures of financial development for which we have data for 36 of our countries or more. We obtain this data from Beck, Demirgüç-Kunt, and Levine (1999) and use averages from 1985 to 1995. These measures are equity issues to GDP, long-term private debt issues to GDP, private credit by deposit money banks and other financial institutions to GDP, and stock market capitalization to GDP. Beck, Levine, and Loayza (2000) show that there is a strong relation between private credit measured as we do here and growth that is due to the relation between private credit and productivity growth. We estimate regressions of these averages on a constant, logarithm of GNP per capita, a measure of openness, PROTESTANT, CATHOLIC, ENGLISH, SPANISH, and CIVOR. Without controlling for openness, the only variable that is significant in explaining equity issues is the dummy variable that takes value one for civil

law countries, CIVOR. It has a significant negative coefficient. When we add an openness measure to the regression, CIVOR remains significant but openness is not significant regardless of the measure. The F-test does not allow us to reject the hypothesis that the coefficients are equal to zero. We estimate the same regressions for long-term debt issues. The difference between the coefficients of PROTESTANT and CATHOLIC is always significant with a p-value lower than 0.01. No other variable is significant, but the F-test has a p-value of less than 0.01. The adjusted R-square of the regression exceeds 45% for all measures of openness we use. Except for the log of GNP per capita, none of the coefficients in the regression for credit are significant and none of the culture coefficients are significantly different from each other. Finally, for stock market capitalization, CIVOR is significantly negative when we do not control for openness. If the openness measure is actual openness, CIVOR is insignificant but the 1985 actual openness measure is significantly positive. When the Frankel and Romer (1999) measure of natural openness is used, natural openness is not significant but CIVOR is significantly negative. The only other variable that is significant in the regressions for stock market capitalization is the logarithm of GNP per capita which is always significantly positive.

The regressions that use openness, legal origin, and the culture variables have two lessons. First, it is clear that religion is important in explaining debt markets and legal origins and possibly openness are important in explaining stock market variables. These results reinforce what we learned in the earlier sections: legal origins are important for shareholder rights and culture is important for creditor rights. At the same time, however, the regressions suggest that it is difficult to estimate coefficients precisely because of multicollinearity. An indication that this problem is not trivial is the following. If we regress the financial development variables on the log of GNP per capita, CATHOLIC, and PROTESTANT, we find that for each regression either CATHOLIC or PROTESTANT is significant. Catholic countries have significantly fewer equity issues than other countries, significantly fewer long-term debt issues than Protestant countries,

significantly less bank credit than other countries, and significantly lower stock market capitalization. If we use CIVOR instead of the two religion dummy variables, we find that civil law countries have significantly less new equity, significantly lower credit from financial institutions, and significantly lower stock market capitalization.

To understand better which variables are most important in explaining the cross-sectional variation in financial development, we provide in Table 6 the incremental adjusted R-square for explaining the cross-sectional variation in investor rights, enforcement of investor rights, and financial development of adding to a regression with a constant and the log of GNP per capita, a civil law dummy, PROTESTANT and CATHOLIC, ENGLISH, and SPANISH, average actual openness from 1985 - 1995, or natural openness.

Ignoring for the moment the last column of Table 6, we see from the other columns that for anti-director rights, the civil law dummy has by far the biggest incremental adjusted R-square. There is no question therefore that legal origin is the most important variable among the ones considered here to explain the anti-director rights index. Not surprisingly given our earlier conclusions, religion has by far the biggest incremental adjusted R-square in explaining creditor rights. The incremental adjusted R-squares of the various variables in the regressions for judicial efficiency are much more bunched together than for either anti-director rights or creditor rights. The civil law dummy edges out natural openness in having the largest incremental adjusted R-square. The incremental adjusted R-squares of the various variables for regressions for the rule of law, corruption, repudiation, and risk of expropriation indices are extremely small, but the language variables have the highest incremental adjusted R-square in all regressions. For the accounting index, the civil law dummy variable contributes a sizable incremental R-square. Turning to equity issues, CIVOR has a small incremental adjusted R-square, but no culture or openness variable does better. With long-term debt issues, the religion dummy variables have the highest incremental adjusted R-square and they explain more than the log of GNP per capita. For private credit, language and religion are just about tied for the highest incremental adjusted

R-square, but the incremental adjusted R-square of these variables is more than twice CIVOR's incremental adjusted R-square. Finally, for stock market capitalization, CIVOR has the highest explanatory adjusted R-square, followed closely by actual openness.

The most striking result using Wei's openness measures is that the difference between actual openness averaged from 1978 to 1980 and natural openness, which he calls residual openness, is by far the most successful variable in explaining stock market capitalization to GDP. In other words, the more trade a country has relative to what would be expected based on geography and language, the greater the capitalization of the country's stock market to GDP controlling for GNP per capita. In a regression of the stock market capitalization to GDP on a constant, the log of GNP per capita, residual openness, a dummy variable for civil law origin, PROTESTANT, CATHOLIC, ENGLISH, and SPANISH, the log of GNP per capita and residual openness have highly significant positive coefficients. No other variable is significant - though CATHOLIC would be significantly negative for a one-sided test.

The last column of Table 6 uses a finer classification of legal origins. Instead of dividing countries between common law countries and civil law countries, we look at the incremental explanatory power of allowing for a different impact of the three civil law traditions, the French, the German, and the Scandinavian. Strikingly, for anti-director rights, using dummy variables for the three civil law traditions instead of just the civil law dummy variable leads to a lower adjusted R-square than using only the civil law dummy variable. For creditor rights, religion explains much more than the three dummy variables. When we turn to the enforcement variables, the three civil law dummy variables explain more of the cross-sectional variation than the religion variables. In two cases, for rule of law and risk of expropriation, language explains more than the three civil law dummy variables. Finally, for the financial development variables, again the three civil law dummy variables have more explanatory power than CIVOR and, for the case of long-term debt issues, the three civil law dummy variables have more explanatory power than the religion variables.

We also re-estimate the regressions discussed at the end of Section 4 replacing CIVOR with dummy variables for each of the civil law traditions. When we do that, CATHOLIC is unaffected in the bankruptcy regressions, but perhaps not surprisingly in light of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) and of the fact that all Scandinavian countries are Protestant countries, the coefficients on religion are hard to estimate precisely in the enforcement rights regressions. The key issue in evaluating these results is whether a case can be made that the differences among civil law traditions are important enough to explain so much of the evidence. As emphasized by Coffee (2001), there is a Scandinavian puzzle. Since the Scandinavian dummy variable measures how the Scandinavian countries differ, it can stand for anything that makes that set of countries different.

Section 7. Conclusion.

In this paper, we have shown that investor protection is related to culture. This relation is especially strong for creditor rights. We find that Catholic countries have significantly weaker creditor rights than other countries. This result holds when we control for the origin of the country's legal system as well as for GNP per capita. Openness reduces the influence of religion on creditor rights, so that Catholic countries where international trade is more important have better protection of creditor rights. We therefore find strong support for the view that culture matters, but there is also evidence that the impact of culture is tempered by openness. Though we find evidence that culture and creditor rights are related, we do not find such evidence for a shareholder rights index once we control for the legal origin of a country's legal system. Yet, there are striking differences between the rights of shareholders across countries that are correlated with religion and language, but they are harder to explain than the differences in creditor rights. For instance, a shareholder's vote is likely to count more in a Catholic country when the shareholder gets to vote, but it is harder for the shareholder to get to vote in such a country. We also showed that culture is related to the enforcement of

rights, with Catholic and especially Spanish-speaking Catholic countries having weaker enforcement of rights.

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Table 1. Country characteristics. The table shows the primary language, primary religion, and the origin of the legal system for each country in the sample. The primary religion (language) of a country is the religion practiced (language spoken) by the largest fraction of the population. The data on religion and language is obtained from the 2000 CIA World Factbook. The legal origin variables are obtained from La Porta, Lopez-de-Silanes, Shleifer, and Vishny.

Country	Primary Language	Primary Religion	Legal Origin
Argentina	Spanish	Catholic	civil/French
Australia	English	Protestant	common
Austria	German	Catholic	civil/German
Belgium	Dutch	Catholic	civil/French
Brazil	Portuguese	Catholic	civil/French
Canada	English	Catholic	common
Chile	Spanish	Catholic	civil/French
Colombia	Spanish	Catholic	civil/French
Denmark	Danish	Protestant	civil/Scandinavian
Ecuador	Spanish	Catholic	civil/French
Egypt	Arabic	Muslim	civil/French
Finland	Finnish	Protestant	civil/Scandinavian
France	French	Catholic	civil/French
Germany	German	Protestant	civil/German
Greece	Greek	Greek Orthodox	civil/French
Hong Kong	Chinese	Local beliefs	common
India	Hindi	Hindu	common
Indonesia	Bahasa Indonesia	Muslim	civil/French
Ireland	English	Catholic	common
Israel	Hebrew	Judaism	common
Italy	Italian	Catholic	civil/French
Japan	Japanese	Buddhist	civil/German
Jordan	Arabic	Muslim	civil/French
Kenya	English	Protestant	common
Malaysia	Bahasa Melayu	Muslim	common
Mexico	Spanish	Catholic	civil/French
Netherlands	Dutch	Catholic	civil/French
New Zealand	English	Protestant	common
Nigeria	English	Muslim	common

Norway	Norwegian	Protestant	civil/Scandinavian
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Table 1, Continued

Country	Primary Language	Primary Religion	Legal Origin
Pakistan	Punjabi	Muslim	common
Peru	Spanish	Catholic	civil/French
Philippines	Pilipino	Catholic	civil/French
Portugal	Portuguese	Catholic	civil/French
Singapore	Chinese	Buddhist	common
South Korea	Korean	Protestant	civil/German
South Africa	English	Protestant	common
Spain	Spanish	Catholic	civil/French
Sri Lanka	Sinhali	Buddhist	common
Sweden	Swedish	Protestant	civil/Scandinavian
Switzerland	German	Catholic	civil/German
Taiwan	Chinese	Buddhist	civil/German
Thailand	Thai	Buddhist	common
Turkey	Turkish	Muslim	civil/French
UK	English	Protestant	common
Uruguay	Spanish	Catholic	civil/French
US	English	Protestant	common
Venezuela	Spanish	Catholic	civil/French
Zimbabwe	English	Syncretic	common

Table 2: Averages of investor rights variables for different cultures. The table shows averages of shareholder rights, creditor rights, and investor rights enforcement variables for different religions and languages. The primary religion (language) of a country is the religion practiced (language spoken) by the largest fraction of the population. The data on religion and language is obtained from the 2000 CIA World Factbook. * indicates unequal variances at the 10% level thus t-statistics are calculated assuming unequal variances.

Panel A: Shareholder Rights.

Variable	Primary Language			Primary Religion			Primary Religion		
	English	Non-English	t-stat	Christian	Non-Christian	t-stat	Catholic	Protestant	t-stat
N	10	39		32	17		20	12	
One share one vote	0.000	0.282	3.86 *	0.156	0.353	1.45	0.200	0.083	-0.94
Proxy by mail allowed	0.600	0.077	-3.10 *	0.250	0.059	-1.96 *	0.100	0.500	2.41 *
Shares not blocked before meeting	1.000	0.641	-4.61 *	0.625	0.882	2.17 *	0.500	0.833	2.08
Cumulative voting / proportional rep	0.200	0.282	0.51	0.250	0.294	0.32	0.350	0.083	-1.94 *
Oppressed Minority	1.000	0.410	-7.39 *	0.469	0.647	1.19	0.400	0.583	0.98
Preemptive right to new issues	0.300	0.590	1.68	0.625	0.353	-1.84	0.750	0.417	-1.86
% share capital to call ESM	0.075	0.120	3.08 *	0.115	0.101	-0.79	0.138	0.079	-2.79 *
Anti-director rights	4.10	2.72	-4.04	2.94	3.12	0.47	2.65	3.42	1.58
Mandatory dividend	0.000	0.060	2.50 *	0.063	0.021	-1.22 *	0.100	0.000	-2.36 *

Table 2, Continued.
Panel B: Creditor Rights.

Variable	Primary Language			Primary Religion			Primary Religion		
	English	Non-English	t-stat	Christian	Non-Christian	t-stat	Catholic	Protestant	t-stat
N	10	39		32	17		20	12	
No automatic stay on assets	0.500	0.487	-0.07	0.323	0.813	3.71	0.211	0.500	1.62
Secured creditors paid first	0.900	0.778	-1.00	0.767	0.875	0.93	0.684	0.909	1.58
Restrictions for going into reorganization	0.600	0.541	-0.32	0.452	0.750	2.07	0.316	0.667	1.95
Management does not stay in reorganization	0.600	0.405	-1.07	0.226	0.875	5.67	0.105	0.417	1.88 *
Creditor rights	2.600	2.22	-0.76	1.77	3.31	4.57	1.32	2.50	2.93
Legal reserve as a % of capital	0.000	0.194	5.89 *	0.155	0.155	0.00 *	0.185	0.104	-1.41

Table 2, Continued.
Panel C: Rule of Law.

Variable	Primary Language			Primary Religion			Primary Religion		
	English	Non-English	t-stat	Christian	Non-Christian	t-stat	Catholic	Protestant	t-stat
N	10	39		32	17		20	12	
Efficiency of Judicial System	8.450	7.466	-1.55	7.914	7.201	-1.07	7.325	8.896	2.46
Rule of Law	7.262	6.740	-0.52	7.624	5.383	-3.21	7.049	8.583	1.79
Corruption	7.696	6.692	-1.20	7.499	5.762	-2.74	6.788	8.685	2.69
Risk of expropriation	8.179	8.017	-0.24	8.050	7.295	-2.69	8.106	9.028	1.75
Risk of contract repudiation	7.688	7.553	-0.20	8.036	6.722	-2.60	7.575	8.805	2.31
Rating on accounting standards	71.00	58.85	-3.72 *	61.07	60.58	-0.10	54.83	71.27	4.51 *
GNP per capita (US \$)	10,994	11,197	0.06	13,517	6,712	-2.40	11,422	17,009	1.60

Table 3 : Multiple Regressions. The table shows the multiple regression results for the religion and language variables. The primary religion (language) of a country is the religion practiced (language spoken) by the largest fraction of the population. The data on religion and language is obtained from the 2000 CIA World Factbook. The dummy variables PROTESTANT, CATHOLIC, MUSLIM, BUDDHIST, ENGLISH, and SPANISH take value one if the name of the variable describes the primary religion or the primary language of the country and zero otherwise. a, b, c denotes that the F-test of no difference between PROTESTANT and CATHOLIC or ENGLISH and SPANISH is significant at the 1, 5, and 10% level respectively, and ***, **, * denotes that the t-statistic is significant at the 1, 5, and 10% level respectively.

	Log of GNP per capita in US\$	CATHOLIC	PROTES- TANT	MUSLIM	BUDDHIST	ENGLISH	SPANISH	Intercept	N Adjusted R ²
Panel A: Shareholder Rights									
Anti-Director Rights	0.0107 (0.09)	-0.4789 (-1.15)	0.2820 (0.58)					3.0347 (2.97)***	49 -0.0045
Anti-Director Rights	-0.0349 (-0.28)	-0.9233 (-1.42)	-0.1380 (-0.20)	-0.9271 (-1.21)	-0.3766 (-0.546)			3.8808 (3.48)***	49 -0.0183
Anti-Director Rights	0.0403 (0.30)					1.4151 ^a (4.05)***	0.1070 (0.20)	2.3458 (1.88)*	49 0.1338
Panel B: Creditor Rights									
Creditor Rights	-0.1643 (-1.38)	-1.8228 ^a (-4.17)***	-0.5583 (-1.26)					4.5926 (5.29)***	47 0.3991
Creditor Rights	-0.1296 (-0.99)	-1.9793 ^a (-2.95)***	-0.7317 (-1.06)	0.1082 (0.17)	-0.5132 (-0.76)			4.4424 (4.22)***	47 0.3835
Creditor Rights	-0.3448 (-3.07)***					0.0025 ^b (0.01)	-1.3389 (-2.45)**	5.4962 (5.25)***	47 0.1832

Table 3, Continued.

	Log of GNP per capita in US\$	CATHOLIC	PROTES- TANT	MUSLIM	BUDDHIST	ENGLISH	SPANISH	Intercept	N Adjusted R ²
Panel C: Rule of Law									
Efficiency of judiciary system	0.8981 (6.57)***	-0.8233 ^b (-1.53)	0.2678 (0.45)					0.2396 (0.18)	49 0.4340
Efficiency of judiciary system	0.8981 (6.11)***	-1.8615 ^b (-2.83)***	-0.7703 (-1.08)	-1.3057 (-1.15)	-1.7015 (-1.53)			1.2775 (0.94)	49 0.4525
Efficiency of judiciary system	0.8756 (5.48)***					1.0306 ^a (2.24)**	-0.5846 (-1.13)	0.0594 (0.04)	49 0.4465
Rule of law	1.4461 (8.62)***	0.1400 (0.28)	0.9011 (1.40)					-5.8256 (-4.53)***	49 0.7578
Rule of law	1.4675 (7.29)***	0.5134 (0.59)	1.2630 (1.30)	0.6421 (0.75)	0.4471 (0.48)			-6.3872 (-3.53)***	49 0.7505
Rule of law	1.5093 (12.75)***					0.6694 ^b (1.51)	-0.7145 (-1.27)	-6.0944 (-5.73)***	49 0.7688
Corruption	1.2609 (12.23)***	-0.3049 ^a (-1.01)	0.9186 (2.01)**					-4.0106 (-4.39)***	49 0.7793
Corruption	1.2339 (11.21)***	-0.9791 ^a (-2.68)***	0.2589 (0.52)	-1.0662 (-1.99)**	-0.8964 (-2.18)**			-3.0984 (-3.23)***	49 0.7847
Corruption	1.3083 (12.22)***					1.0878 ^a (2.85)***	-0.8105 (-2.69)**	-4.3894 (-4.44)***	49 0.8065

Table 3, Panel C: Continued

	Log of GNP per capita in US\$	CATHOLIC	PROTES- TANT	MUSLIM	BUDDHIST	ENGLISH	SPANISH	Intercept	N Adjusted R ²
Risk of expropriation	0.9274 (11.28)***	-0.1678 ^c (-0.64)	0.2596 (1.09)					0.1067 (0.15)	49 0.7840
Risk of expropriation	0.9245 (9.09)***	-0.0051 ^c (-0.01)	0.4239 (0.75)	0.1815 (0.25)	0.2888 (0.49)			-0.0307 (-0.02)	49 0.7760
Risk of expropriation	0.9152 (10.59)***					0.1908 ^b (0.90)	-0.6951 (-1.96)**	0.2947 (0.35)	49 0.8096
Repudiation of contracts by government	1.0449 (13.50)***	-0.2499 ^a (-0.85)	0.4233 (1.60)					-1.3768 (-2.15)**	49 0.8126
Repudiation of contracts by government	1.0144 (11.23)***	-0.0268 ^a (-0.06)	0.6627 (1.46)	0.0346 (0.06)	0.6006 (1.21)			-1.3314 (-1.37)	49 0.8120
Repudiation of contracts by government	1.0377 (14.24)***					0.1622 ^b (0.79)	-0.8141 (-2.07)**	-1.1967 (-1.70)*	49 0.8274
Accounting standards	4.6241 (2.93)***	-8.4520 ^a (-2.01)**	4.2141 (1.15)					22.2962 (1.47)	41 0.3798
Accounting standards	4.1350 (2.69)***	-7.9700 ^a (-1.92)*	5.0953 (1.31)	-2.8474 (-0.28)	3.4362 (0.81)			26.1497 (1.89)*	41 0.3548
Accounting standards	4.2728 (2.72)***					9.3506 ^a (3.55)***	-10.7905 (-2.23)**	23.3566 (1.51)	41 0.4228

Table 4. Culture and Law Interactions. The table shows the interaction between the culture (religion or language) and the legal origin (civil or common) variables. ***, **, * denotes the significance of the t-test at the 1, 5, and 10% significance levels respectively. a, b, c denotes that the F-statistic of no difference between Catholic, Protestant, and non-Christian, or English and Spanish keeping legal origins constant is significant at the 1, 5, and 10% level respectively. 1, 2, 3 denotes that F-statistic of no difference between civil and common legal origin keeping the religion or the language the same is significant at the 1, 5, and 10% level respectively.

	Anti-Director Rights	Anti-Director Rights	Creditor Rights	Creditor Rights
Log(GNP) is US\$	0.0847 (0.72)	0.1649 (1.79)*	-0.1111 (-0.89)	-0.2315 (-1.75)*
Civil Law and Protestant	-1.4021 ¹ (-2.41)**		-1.2016 ^b (-2.53)**	
Common Law and Protestant	0.5248 (1.09)		-0.9910 ^a (-1.86)*	
Civil Law and Catholic	-1.3573 ¹ (-2.92)***		-2.3086 (-5.46)***	
Common Law and Catholic	0.6152 (1.13)		-2.5577 (-7.95)***	
Civil Law and Non-Christian	-1.4645 ¹ (-3.18)***		-1.2153 ^b (-2.45)**	
Common Law and English		1.9424 (6.71)***		0.4636 (0.94)
Civil Law and Spanish		0.6781 (1.35)		-0.8395 (-1.46)
Common Law and No Spanish or English		1.8027 (4.05)***		1.4939 (3.47)***
Intercept	3.0639 (3.12)***	0.7711 (0.955)	4.6340 (4.89)***	4.0825 (3.07)***
N	49	49	49	47
Adjusted R ²	0.2930	0.3465	0.4282	0.3123

Table 5: Openness and Finance. The table shows the relationship between openness, culture and the law category. Openness measured using the 1985 actual openness adjusted for geography as done in Frankel and Romer (1999). The second measure of openness is the average actual openness measure from 1985 -1995. CATHOLIC, PROTESTANT, ENGLISH, and SPANISH are dummy variables that take value one if the name of the variable corresponds to the primary religion or the primary language of a country. a, b, c denotes that the F-statistic for the test that CATHOLIC and PROTESTANT are equal or SPANISH and ENGLISH are equal is significant at the 1, 5, and 10 % level of significance and ***, **, * denotes that the t-statistic t is significant at the 1, 5, and 10% levels.

	Log of GNP per capita in US\$	Openness - Frankel and Romer Geographic	Openness - Average 1985 - 1995	Civil Law Dummy (CIVOR)	CATHOLIC	PROTES- TANT	ENGLISH	SPANIS H	Intercept	N Adjust ed R ²
Panel A: Shareholder Rights										
Anti-Director Rights	0.2821 (2.95)***	-0.0330 (-3.27)***		-1.8980 (-4.01)***	-0.1784 (-0.48)	-0.0881 (-0.23)	-0.2599 (-0.45)	0.4466 (0.78)	2.4350 (2.70)***	49 0.4226
Anti-Director Rights	0.1441 (1.19)		-1.4954 (-2.10)**	-1.8725 (-3.36)***	0.1911 (0.38)	0.1936 (0.38)	0.0058 (0.01)	0.3040 (0.46)	3.6738 (3.83)***	43 0.3463
Panel B: Creditor Rights										
Creditor Rights	-0.3314 (-2.83)***	0.0385 (3.68)***		-0.5988 (-1.29)	-1.4283 ^a (-2.71)***	-0.0330 (-0.07)	-0.1734 (-0.36)	0.2784 (0.47)	5.4470 (6.16)***	47 0.4849
Creditor Rights	-0.2318 (-1.61)		1.2177 (3.02)***	-0.2841 (-0.48)	-1.7033 ^a (-2.55)***	-0.3019 (-0.51) ^l	-0.1662 (-0.28)	0.1930 (0.30)	4.4886 (4.25)***	42 0.4035
Panel C: Rule of Law										
Efficiency of judiciary	0.7757 (4.45)	0.0490 (3.43)		-0.9770 (-1.07)	-0.2720 ^c (-0.38)	0.6336 (0.78)	0.5772 (0.56)	0.5880 (1.09)	0.4953 (0.29)	49 0.5550
Efficiency of judiciary	1.0146 (6.44)		0.6623 (0.92)	-0.8846 (-0.66)	-0.6271 (-0.74)	0.1687 (0.20)	0.1499 (0.11)	0.3299 (0.54)	-0.7641 (-0.44)	43 0.4965

Table 5, Panel C, Continued.

	Log of GNP per capita in US\$	Openness - Frankel and Romer Geographic	Openness- Average 1985 - 1995	Civil Law Dummy (CIVOR)	CATHOLIC	PROTES- TANT	ENGLISH	SPANIS H	Intercept	N Adj R ²
Rule of law	1.4043 (7.94)***	-0.0070 (-0.54)		0.1071 (0.19)	0.6606 (1.24)	0.7673 (1.15)	0.3849 ^b (0.60)	-1.2233 (-1.72)*	-5.4443 (-3.70)***	49 0.7625
Rule of law	1.3001 (5.66)***		0.6654 (1.08)	0.3678 (0.43)	0.6393 (1.06)	0.9101 (1.26)	0.6868 (0.76)	-1.0511 (-1.48)	-5.3824 (-3.14)***	43 0.7379
Corruption	1.1644 (10.72)***	0.0215 (2.66)***		-0.7885 (-1.93)*	0.5188 (1.17)	1.1617 (2.26)**	0.2978 (0.51)	-0.5427 (-1.12)	-3.4239 (-3.50)***	49 0.8279
Corruption	1.2555 (9.70)***		0.7420 (1.32)	-0.7793 (-1.21)	0.1910 (0.32)	0.7998 (1.29)	0.2995 (0.42)	-0.4936 (-0.96)	-4.0302 (-3.66)***	43 0.8064
Risk of expropriation	0.8977 (8.77)***	-0.0090 (-1.61)		-0.3534 (-0.93)	0.4276 (1.03)	0.4000 (1.27)	-0.3058 (-0.67)	-0.9523 (-2.00)**	0.7109 (0.69)	49 0.8074
Risk of expropriation	0.8764 (7.23)***		0.0863 (0.20)	-0.4374 (-0.72)	0.3503 (0.71)	0.3863 (0.90)	-0.2925 (-0.47)	-0.8112 (-1.71)*	0.7719 (0.64)	43 0.7889
Repudiation of contracts	1.0003 (9.95)***	-0.0081 (-1.00)		-0.4004 (-1.11)	0.3979 (0.95)	0.6565 (1.87)*	-0.4644 (-1.24)	-0.9923 (-1.99)**	-0.6413 (-0.76)	49 0.8302
Repudiation of contracts	0.9112 (7.65)***		0.5897 (1.45)	-0.5878 (-0.11)	0.1538 ^b (0.30)	0.5784 (1.29)	-0.0984 (-0.19)	-0.8100 (-1.74)*	-0.5454 (-0.55)	43 0.8268
Accounting standards	4.9611 (2.82)***	-0.1634 (-1.57)		-16.8076 (-3.09)***	2.9875 (0.53)	8.4387 (1.83)*	-9.4322 (-1.40)	-8.5084 (-1.40)	30.7001 (2.26)**	41 0.5208
Accounting standards	4.5540 (2.13)**		0.6696 (0.15)	-20.8536 (-2.38)**	8.0322 (1.01)	15.0557 (2.01)**	-13.9787 (-1.50)	-6.6799 (-1.03)	29.4736 (2.02)**	36 0.5082

Table 6. Incremental Explanatory Power. This table shows the incremental adjusted R^2 from adding OPENNESS, CIVOR, CIVOR3, PROTESTANT and CATHOLIC, or ENGLISH and SPANISH to regressions of investor rights variables on a constant and the log of GNP per capita. OPENNESS is either the ratio of trade to GDP from 1985 to 1995 or the Frankel and Romer (1999) measure of geographic openness. PROTESTANT, CATHOLIC, ENGLISH, and SPANISH are dummy variables that take value one if their name describes the primary religion or language of a country and zero otherwise. CIVOR takes value one if the origin of a country's legal system is civil law. ***, **, * denotes that the t-test is significant at the 1, 5, and 10% level respectively. CIVOR3 represents dummy variables for whether a country's civil law in of French, Scandinavian, or German origin. a, b, and c denotes that the F-statistic for the test that CATHOLIC and PROTESTANT are equal, that ENGLISH and SPANISH are equal, or that the dummy variables for the three distinct civil law origins are equal is significant at the 1, 5, and 10% level.

	OPENNESS Frankel and Romer Geographic (Incr R^2)	OPENNESS Average 1985 - 1995 (Incr R^2)	CIVOR (Incr R^2)	CATHOLIC and PROTESTANT (Incr R^2)	ENGLISH and SPANISH (Incr R^2)	CIVOR3 (Incr R^2)
Anti-Director Rights	0.1036**	0.0459*	0.3596***	0.0165	0.1548 ^b	0.3430
Creditor Rights	0.1222***	0.0564*	0.1561***	0.3176 ^a	0.1017 ^b	0.2124 ^b
Efficiency of judiciary system	0.0574**	0.0529	0.0941***	0.0306 ^c	0.0431 ^b	0.1296 ^b
Rule of law	-0.0028	-0.0241	-0.0009***	0.0069	0.0179 ^b	0.0028
Corruption	0.0011	-0.0113	0.0530	0.0352 ^a	0.0624 ^a	0.0860 ^a
Risk of expropriation	-0.0028	-0.0164	0.0092*	0.0021	0.0277 ^a	0.0130
Repudiation of contracts by government	-0.0032	-0.0055*	0.0082*	0.0142 ^b	0.0290 ^a	0.0342 ^a
Accounting standards	-0.0152	0.0021	0.2447***	0.1370 ^a	0.1800 ^a	0.3266 ^a
Equity Issues to GDP	-0.0138	0.0073	0.1552**	0.0399	0.0140	0.1091
Long-Term Private Debt Issues to GDP	-0.0224	0.0015	-0.0199	0.1472 ^a	-0.0077	0.2378 ^a
Total Private Credit to GDP	-0.0112	-0.0297	0.0211*	0.0586	0.0519 ^b	0.1565 ^a
Stock Market capitalization to GDP	-0.0082	-0.0063	0.2009***	0.1044	0.0373 ^b	0.1960