What Firms Know

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Abstract: A large literature shows that the legal tradition of a country is highly correlated with various dimensions of institutional quality. Broadly, studies show that English common law countries perform better than the French civil law countries with respect to the regulatory burden on firms, efficiency of courts and contract enforcement, corruption and overall governance. The present paper adds to this literature by showing another aspect of institutional development that conforms to the same pattern. That is, ease with which information on laws and regulations is available to firms is superior in common law compared with civil law countries. Roughly, one-third of this difference can be explained by differences in the level of business regulations across the two legal traditions. Among other factors, we find that larger firms and smaller countries report much better availability of information than their respective counterparts. We provide some plausible reasons for these findings.

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1. Introduction

A large literature documents poorer quality of institutions in civil law compared with common law countries. Specifically, studies show differences across the two legal traditions in the quality of property rights protection and contract enforcement (Djankov et al. 2003a), number of procedures required to start a business (Djankov et al. 2002), labor laws (Botero et al. 2004) and financial development (La Porta et al. 1997, Djankov et al. 2008). In short, common law countries perform better than civil law countries with respect to various indicators of institutional development.

While the existing literature suggests a pervasive effect of legal tradition on institutions, many important dimensions of institutional quality remain unexplored. One such dimension, the focus of the current paper, is the ease with which information on laws and regulations is available to firms (information availability). We contribute to the literature mentioned above by providing evidence on how information availability varies across civil and common law countries.

The direction of the relationship between information availability and legal tradition is not obvious for a variety of reasons. First, one can think of institutional design (including legal structure) as a delicate trade-off between disorder and dictatorship with civil law countries more concerned about maintaining order and common law countries with private freedom (Djankov et al. 2003b). This difference implies two contrasting effects on information availability. On the one hand more order requires a more elaborate structure of laws and regulations governing private behavior which could increase the difficulty that firms face in obtaining all the necessary information (on laws and regulations). On the other hand, a greater preference for order is likely to create

additional incentive for the governments to ensure easy access to information for order is hardly conceivable when private agents are unaware of what should or should not be done. The former effect (demand for information) implies better information availability under common law while latter (supply of information) the opposite.[1]

Second, one can extend the previous argument to the process of law making in civil vs. common law countries. Beck et al. (2003) note that the French civil law is based on the idea that the legislature drafts laws "without gaps" and that judges play a minimal role in making laws or its interpretation. In contrast, the English common law is much more flexible with judges having broad interpretation powers and with courts creating laws as circumstances change. Gennaioli and Shleifer (2007) discuss the issue in detail and show that while the decentralized system of law-making in the common law tradition leads to a more efficient legal system (under certain conditions), it tends to increase the complexity of rules and laws. A complex system of rules under the common law is likely to aggravate information problems but the same holds for the system of law without gaps (more rules and laws) under civil law. Which of these effects dominates is an empirical question.

Third, greater state control in the civil law tradition may promote a culture of rent seeking by government officials. If this indeed happens then we might expect better governance and better provision of public goods including information on laws and regulations in common law compared with civil law countries. For example, La Porta et al. (1999) find substantial evidence of better governance and Treisman (2000) of lower corruption in common law vs. civil law countries.

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[1] Due to data limitations we restrict ourselves to how the net of these demand and supply forces varies across legal traditions.

The present paper does not aim to establish which of these (or other) mechanisms prevail although it does rule out a number of potential mechanisms. Our goal is simply to document differences in information availability across legal origins. By doing so, we provide a profile of countries that face greater information problems. Policy reforms aimed at better dissemination of information are more urgently needed in such countries.

The results show that information availability is much better in common law compared with civil law countries. This result is partly but not entirely due to more stringent business regulation in the civil law countries. Lastly, smaller firms and larger countries face greater information problems than their respective counterparts.

The plan of the paper is as follow. In section 2 we describe our data and the main variables. Main empirical results are provided in section 3 and robustness checks in section 4. The concluding section provides a summary of the important results.

2. Data and Main variables

We use firm level data from the World Bank's Environment Survey (WBES, 1999), complemented with additional data sources for GDP, legal origin, etc. The WBES data are a stratified random sample of firms with a common questionnaire and sampling methodology for all participating countries. For most countries, samples were drawn from the complete company registers and the same set of minimum sampling guidelines was applied to ensure cross-country comparability. Batra et al. (2003) provide a useful summary of the sampling methodology and the comparability of data across countries. Small firms (less than 50 employees) and large firms (more than 500 employees) are duly represented with each of them comprising 15% of the sample for every country. The

distribution of the sample across sectors (manufacturing, services, agriculture, construction and others) is in accordance with the contribution of the sectors to total GDP in each country. Previous work using the WBES data includes, for example, Clarke et al. (2006), Dabla-Norris et al. (2008) and Beck et al. (2005).

The dependent variable, *Information*, is based on the response of firms to the following statement in the WBES: "In general, information on the laws and regulations affecting my firm is easy to obtain." Response of firms to the statement was recorded on a 1-6 scale: fully disagree (1), disagree in most cases (2), tend to disagree (3), tend to agree (4), agree in most cases (5) and fully agree (6). The mean value of the variable equals 4.1 and the standard deviation is 1.41. Percentage of firms reporting lowest to highest value of *Information* equal 5.5%, 9.5%, 14%, 25%, 29% and 17%, respectively.[2]

Our main explanatory variable, *English*, is a dummy variable equal to 1 if a country's legal structure is based on the English common law (20 countries) and 0 otherwise (French civil law, 30 countries).

La Porta et al. (2007) note that omitted political and religious factors constitute the most serious threat to the findings on legal origin. As a remedy, we follow their approach by using the following controls (data source in brackets): the political rights index (Freedom House), a dummy variable, *PR*, which is equal to 1 if the electoral rule for the lower house is a form of proportional representation and 0 otherwise (Database for Political Institutions, World Bank), a dummy variable equal to 1 if the executive head is directly elected and 0 otherwise (Database for Political Institutions, World Bank). For

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[2] We note that the dependent variable is a subjective measure and could vary across firms depending on their personal experiences and how they interpret "tend to agree", "fully agree", etc. While this requires some caution in interpreting our results, we do not have any reason to believe that the stated subjectivity is systematically correlated with the legal tradition of countries.

religion we use three dummy variables indicating the main religion of the country (La Porta et al., 1999). Main religions include Catholic, Muslim, Protestant and the rest.

Remaining controls in the main specification include (log of) GDP per capita (PPP adjusted, constant 2000 USD) in 2000 taken from World Bank's World Development Indicators and two dummy variables which indicate whether the firm is small (*Small*) or large (*Large*). The omitted category is medium firms.

3. Estimation

We use ordered logit estimation method with all standard errors clustered on the country. Regression results for the main specification are provided in Table 1. In columns 1-4 we report the estimated log-odd ratios while the corresponding marginal effects for the highest value of the dependent variable (*Information* = 6) are reported in columns 5-8. These marginal effects show the change in the probability of a firm reporting *Information* value of 6 due to a unit change in the various explanatory variables.[3]

Results in Table 1 clearly show that information availability is much better in common law compared with civil law countries. The estimated effect is economically large and statistically significant. Without any other controls, the marginal effect of common law on the dependent variable equals .067 against the sample mean of .169 and this effect is significant at less than 1% level (column 5, Table 1). In other words, the probability that a firm reports information is very easily available (*Information* = 6) rises by 6.7 percentage points when we move from civil to common law, a large effect given that only 16.9% of the firms in the full sample find information very easily available.

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[3] Marginal effects for the remaining values of the dependent variable follow a similar pattern with English common law showing a significant reduction (increase) in the probability of a firm reporting lower (higher) values of the variable. All marginal effects are evaluated at the mean value of the explanatory variables.

The statistically significant and economically large positive effect of common law survives controls for firm-size, GDP per capita and political and religious variables (columns 2-4 and 6-8, Table 1). The magnitude of the effect rises due to controls for firm-size and GDP per capita and falls due to the religious controls with political controls having virtually no effect. Further, information availability improves significantly with GDP per capita and firm-size.

4. Robustness

Robustness results are provided in Table 2. These results serve to raise our confidence against the omitted variable bias problem and also narrow down the possible channels through which legal origin may affect information availability.

In columns 1 and 5 we control for (log of) private credit to GDP ratio (taken from Djankov et al. 2007) known to be an important covariate of legal origin and a dummy variable indicating whether a firm is government owned (6.8% of the sample) or private. These controls have little effect on our main results discussed above even though government ownership shows a significant correlation with information availability.[4]

Our next set of controls include country size measured by the (log of) total population in 2000 (World Development Indicators, World Bank) and an index of corruption (International Country Risk Guide, 2000 values). These controls do not change the estimated effect of legal origin (columns 2 and 6, Table 2). Corruption shows no significant correlation with the dependent variable but for population we find a sharp negative correlation (significant at less than 1% level). This could be due to a more

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[4] Our main results survive if we drop government owned firms from the sample.

complex and detailed web or laws in larger countries or decreasing returns to scale in the provision of information.

Next, we control for some firm characteristics. These include a dummy variable indicating whether a firm exports or not, a dummy variable for firms that have operations (offices) in foreign countries and fixed effects for the legal organization of the firm (single proprietorship, partnership, cooperative, privately held corporation, corporation listed on stock exchange and the residual category). Regression results reported in columns 3 and 7 of Table 2 show that the estimated effect of legal origin remains positive and significant with not much change in its magnitude.

We now check the extent to which difference in the level of business regulation across the two legal traditions may be driving our main result. To this end, we control for an index of business regulation using Heritage Foundation's index of economic freedom (1999 values of the sub-index on regulation) which captures on a 1-5 scale the difficulty that firms face in starting, running and closing a business due to government regulations. We also control for an index of creditor rights (from Djankov et al. 2007) under the assumption that more creditor rights imply more rules and laws for firms and therefore more information related problems.

Regression results reported in columns 4 and 8 of Table 2 confirm that more creditor rights and more regulation have large negative effects on the dependent variable (significant at less than 5% level). For example, a move from the lowest (1) to the highest (5) level of regulation implies a large decline of 9.6 percentage points in the probability of a firm reporting the highest value of *Information*. We note that the English legal origin dummy still remains positive and significant. It increases in magnitude from .045

(column 7, Table 2) to .056 (significant at less than 1% level) when we control for creditor rights but declines to .039 (column 8, Table 2) when we control for regulation. These results suggest that less business regulation explains about one third of the beneficial effect of common law on information availability.

We performed a number of additional robustness checks. For example, we added the following controls to the list above: sector and continent fixed effects (Europe and North America, Latin America & Caribbean, Asia and Africa), ethno-linguistic fractionalization index, a dummy variable indicating if a country had implemented Right to Information Act prior to the survey year (1999), percentage of its sales that a firm reports for tax purposes and regulation measures from the World Bank's Doing Business project (number of procedures to start a business, enforce a contract, register a property and the rigidity of employment index). With all these controls, the estimated marginal effect of the *English* dummy equaled .040 (p-value of .024) compared to .039 above.

5. Conclusion

The paper extends the theory of legal origins to another dimension of institutional development by showing that information on rules and regulations is more easily available to firms in common law vs. civil law countries. About one third of this difference can be attributed to lesser business regulation in the common law countries but the remaining two-thirds remains to be explained. We also find that larger countries face more information problems, an important finding for the broader literature on the optimal size of nations. Information availability is a highly neglected area of institutions and we hope that the present work will motivate more research on the topic.

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Table 1: Main results (Ordered Logit)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable: *Information*								
		Log Odds ratios			Marginal effects for the highest value of *Information*			
English	.461***	.560***	.580***	.323**	.067***	.081***	.084***	.046**
	(.003)	(.000)	(.001)	(.012)	(.005)	(.001)	(.002)	(.013)
Small		-.251***	-.276***	-.268***		-.033***	-.037***	-.036***
		(.001)	(.000)	(.000)		(.001)	(.000)	(.000)
Large		.348***	.343***	.332***		.050***	.050***	.048***
		(.000)	(.000)	(.000)		(.000)	(.000)	(.000)
GDP per capita		.153**	.173**	.197**		.021**	.024**	.027**
(log values)		(.019)	(.032)	(.044)		(.020)	(.036)	(.050)
Political Rights index			.022	.021			.003	.003
			(.694)	(.708)			(.696)	(.708)
PR (electoral rule for the lower house			-.077	-.113			-.011	-.016
is a form of proportional representation)			(.650)	(.496)			(.649)	(.496)
Presidential system			.096	.170			.013	.023
(executive head is directly elected)			(.563)	(.554)			(.559)	(.551)
Religion Fixed Effects				Yes				Yes
Catholic				-.421				-.060
				(.284)				(.302)
Muslim				-.319				-.041
				(.232)				(.200)
Protestant				.001				.0001
				(.998)				(.998)
Predicted probability					.169	.164	.167	.167
Sample Size	4972	4831	4625	4625	4972	4831	4625	4625
(countries)	(50)	(49)	(47)	(47)	(50)	(49)	(47)	(47)

1) p-values in brackets; all standard errors are clustered on country; significance level is denoted by *** (1% or less), ** (5% or less) and * (10% or less). Sample size varies due to missing observations.
2) Columns 1-4 report the log odds ratios from the ordered logit specification. Columns 5-8 show the corresponding marginal effects (evaluated at the mean value of explanatory variables) for the highest value of the dependent variable (information most easily available).

Table 2: Robustness results (Ordered Logit)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable: *Information*								
		Log Odds ratios			Marginal effects for the highest value of *Information*			
English	.313**	.385***	.336**	.295**	.044**	.053**	.045**	.039**
	(.026)	(.002)	(.017)	(.041)	(.026)	(.019)	(.019)	(.050)
Small	-.234***	-.325***	-.342***	-.353***	-.031***	-.041***	-.042***	-.043***
	(.002)	(.000)	(.000)	(.000)	(.001)	(.000)	(.000)	(.000)
Large	.321***	.284***	.262***	.251***	.046***	.039***	.035***	.033***
	(.000)	(.000)	(.002)	(.001)	(.001)	(.001)	(.003)	(.003)
GDP per capita	.163	.112	.085	-.078	.022	.015	.011	-.010
(log values)	(.135)	(.111)	(.240)	(.440)	(.144)	(.115)	(.244)	(.434)
Political Rights	.033	.027	.040	.016	-.015	.004	.005	.002
index	(.584)	(.562)	(.368)	(.635)	(.583)	(.564)	(.371)	(.635)
PR	-.109	-.054	-.054	-.035	-.015	-.007	-.007	-.004
	(.529)	(.707)	(.680)	(.747)	(.531)	(.708)	(.681)	(.748)
Presidential	.246	.121	.093	.020	.033	.016	.012	.002
system	(.445)	(.507)	(.614)	(.904)	(.440)	(.505)	(.612)	(904)
Religion Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Private credit to	.088	.087	.131	.172**	.012	.011	.017	.021**
GDP (log values)	(.478)	(.291)	(.139)	(.039)	(.477)	(.293)	(.140)	(.037)
Government	.667***	.643***	.514***	.474***	.109***	.101***	.076***	.069***
owned firm	(.000)	(.000)	(.003)	(.003)	(.001)	(.000)	(.009)	(.010)
Population		-.246***	-.246***	-.279***		-.032***	-.031***	-.035***
(log values)		(.000)	(000)	(.000)		(.000)	(.000)	(.000)
Corruption		-.051	-.045	-.036		-.007	-.006	-.005
(ICRG index)		(.503)	(.564)	(.594)		(.504)	(.564)	(.594)
Firm is an exporter			-.020	-.033			-.003	-.004
			(.747)	(.606)			(.747)	(.606)
Firm operates in a foreign country			-.031	-.035			-.004	-.004
			(.698)	(.662)			(.696)	(.659)
Ownership type fixed effects			Yes	Yes			Yes	Yes
Creditor's rights index				-.160***				-.020***
				(.000)				(.000)
Regulation (Heritage Foundation)				-.187**				-.024**
				(.025)				(.022)
Predicted probability					.162	.156	.150	.148
Sample Size	4333	4333	4034	4034	4333	4333	4034	4034
(countries)	(46)	(46)	(46)	(46)	(46)	(46)	(46)	(46)

1) p-values in brackets; all standard errors are clustered on country; significance level is denoted by *** (1% or less), ** (5% or less) and * (10% or less). Religion fixed effects are dummies indicating the main religion of the country (Muslim, Catholic, Protestant and Others). Sample size varies due to missing observations.

2) Columns 1-4 report the log odds ratios from the ordered logit specification. Columns 5-8 show the corresponding marginal effects (evaluated at the mean value of explanatory variables) for the highest value of the dependent variable (information most easily available).