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Abstract

We show that the heavy use of legal services relative to output in the US is not a peculiarity of the country but applies to common law countries in general. It stems largely from better ability to contract and easier access to justice. Yet in close association, common law also opens significantly more room for rent-seeking by lawyers than civil law. Thereby the costs could outweigh the benefits. Both real GDP per capita and openness emerge as further factors making room for lawyers.

JEL classification: K15, K00;

Keywords: Common law, civil law, rent-seeking, openness

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I. Introduction

There is now a large and impressive literature showing the superiority of common law to civil law in defending property rights and promoting finance (La Porta et al 1997, 1998, Beck et al 2003a, b). Even though some economists remain dubious, with the possible exception of Guerriero (2016a, b), even they do not support the opposite conclusion that civil law does better (Rajan and Zingales 2003, Stulz and Williamson 2003, Pagano and Volpin 2005, Roe 2006). Many legal scholars and sociologists do clearly prefer civil law, but the only notable economist to do so unmistakably thus far, to our knowledge, is Tullock (1997), and he does so largely on grounds of judicial decision-making accuracy or justice. Juries are more easily swayed by attorneys than judges and guilty parties face a better chance of acquittal under common law. Here we shall present evidence that any economic benefits of common law come at the cost of higher investment of human capital in providing legal services (a point that Tullock recognized). The impressive size of the legal profession in the US is familiar enough and lawyers in the country do not have a particularly good press (cf. Abel 1988a, p. 223). Unfavorable comparisons of the number of lawyers relative to doctors or engineers come up (Magee et al 1989: pp. 111-121, Murphy et al 1991, Rosen 1992: pp. 215-16). There are also repeated adverse references to litigation explosions in the country (Olson 1981, Galanter 1983, 2017: pp. 267-71). Yet strangely to our eyes, the absorption of human talent in legal activity does not figure big, if at all, in the empirical evaluation of the relative merits of common law and civil law in the field of economics.

We shall provide international evidence that common law indeed breeds higher allocation of resources per capita in legal services than civil law. Our chosen measure of legal services per capita is the sum of the receipts of private legal firms and the public spending on the judiciary in real terms, corrected by PPP prices and divided by population. The measure has two basic merits. First, it is internationally comparable. Second, it includes all of the expenses of legal firms and the judiciary: the rent, the secretarial services, etc., and not only the incomes of lawyers and judges (see inter alia Garicano and Hubbard 2018, pp. 223-4). The same is not true of the figures that most frequently come up in international comparisons. These typically concern numbers of lawyers (mostly reported by national bar associations). However, a high population of lawyers can be offset by lower income per individual lawyer. Indeed, it is reasonable to think that there would be an inverse relationship between numbers of lawyers and their average incomes depending on barriers to entry into the profession via certification and otherwise (see, e.g., Pashigan 1977). In addition, the

count of lawyers typically includes salaried ones outside legal firms and the judiciary that provide other services to their employers besides legal ones relating to marketing, production and administration, but does so to a variable extent (see, e.g., Epp 1992, pp. 596-7 and Galanter and Knight 1993, p. 104). Those other services can even be dominant in certain national cases (Abel and Lewis 1988a, b).

As regards the receipts of private legal firms, many countries collect the right annual data themselves or more often obtain it from national statistical institutes. Statistical surveys generally play a part in the collection, as do tax records and other sources such as national Chambers of Commerce. In some cases the revenues of accounting firms are not separated from those of legal firms in the data. In such cases, we excluded the countries. On the other hand, we included notarial firms, which perform functions in civil law countries that lawyers generally do in common law ones (see Merryman and Pérez-Perdomo 2018, pp. 109-10). Based on the national sources, Eurostat reports the relevant data for 32 members of the European Economic Area for recent years, but we were able to trace back the series longer ourselves. Outside the EEA, however, we only managed to obtain similar data for 19 countries. These come from all the other continents outside of Europe. The work entailed many direct inquiries to national authorities, frequently unsuccessful.

As for the judiciary, the data depends on sufficient decomposition of government budgets to permit extracting expenditures on justice departments. Not every country in the 51 furnishes the needed data. We were thus only able to acquire the extra information for 37 of them. Consequently, we present two estimates of all test specifications throughout, one for a larger sample excluding judiciary expenditures and one for a smaller sample including them. The smaller sample is our preferred one because of the high relevance of the judiciary. Quite significantly, our data shows a marked tendency for higher expenditures on the judiciary relative to law firms in civil law countries than in common law ones, as we would expect from the legal literature (see, e.g., Abel 1988b, pp. 6, 44-48; and 1989, pp. 102-3). Thus, the results for the larger sample could be swayed in favor of higher legal expenditures for common law countries than civil law ones. Keeping this point in mind, the results for both samples accord remarkably well. As regards the 37 or 51 numbers for countries in our study, the other work in the related economic literature, which generally focuses on law and finance, mostly features sample sizes in the same range (49 in La Porta et al 1997 and 1998, 39 to 45 in Levine 1999).

As regards the identification of common law countries, there is general agreement but

with one important caveat. About a couple of decades ago, the Law School of the University of Ottawa provided a worldwide classification of legal systems by country under the title of Juriglobe with the evident design of making finer distinctions than the usual one between common law and civil law and in particular, identifying mixes of either with customary law, Muslim law and Jewish law. Juriglobe goes even further and classifies some countries as mixes of common and civil law. Our sample includes five such cases. Three of these are generally known elsewhere as common law countries — Cyprus, Israel and South Africa — and two as civil law ones, Malta and Philippines. In response, we will engage in a robustness test without those five countries.

We test using panel data after collecting time series for individual countries going back as far as possible in order to profit from the multiplication of observations and greater efficiency. All our national sets of observations go up to 2018 except for five countries where they go up only to 2014-17. Ours then is an unbalanced panel with 10 cases of 5 to 8 observations at one end, and 12 cases of observations that go back before 2000 and forward to 2014 or later at the opposite end. Because of our interest in common law, a 0-1 variable, we could not proceed with country fixed effects. If only for this reason, we run random effects estimations with time fixed effects and time-varying variables. But the empirical results support this choice independently of all issues of country fixed effects. Subsequently we also check for bias in our estimates of the impact of common law stemming from the absence of country fixed effects and find no evidence of any. Pagano and Volpin (2005, pp. 1019-24) proceeded likewise with random effects and time controls in a panel in a similar context.

The results clearly display a positive impact of common law on legal services. Our estimate is around 100 to 120 percent more legal expenses per capita in a common law country than a civil law one. The 100 to 120 range of estimates holds with the sole additional cross-country controls that prove highly significant over the whole range of trials. These are two: GDP per capita and openness or the ratio of trade to GDP (trade equals both sides of the trade balance divided by two). Both enter with positive signs. Financial development is among the influences that do not prove significant, not robustly so. The role of per capita output is obvious in promoting demand for legal services and that of openness has a clear interpretation. Foreign trade requires each party to a trade to engage in a contract with another who lives and works under a different legal system. Not only may enforcement depend on foreign laws and foreign courts, but domestic courts may rule that the foreign law applies at home (Merryman and Clark 1978, p. 7). It is of no surprise therefore that added

expert legal advice becomes important. Relatedly, a common legal system emerges in the gravity literature as an important positive influence on bilateral trade. In this case, further, the importance of a common legal system holds even with some of the finer distinctions of legal systems suggested by Juriglobe (Melitz and Toubal 2014). The underlying logic in these gravity examples is essentially the same as here.¹

A number of countries are outliers in our study. Accordingly, we needed to check that our results did not depend upon them. The most important case is that of the US, which stands alone (barring Luxembourg) at the upper bound of legal services per head in the sample. Without any division per capita, the US alone would account for over half of legal services in the sample (neither India nor China is in). The US looms correspondingly large in popular perceptions of the legal profession in the West. Japan is a notorious opposite case of sparsity of legal services per head. It is also a civil law country. A separate control for the US indeed proves important. In its presence, however, common law is little affected. This last point is of great significance. It means that the peculiarities of the US should not be allowed to distract us in interpreting the positive influence of common law. Thus, the exceptional size of awards for damages by US courts (which are even contrary to principle under civil law: Merryman and Clark 1978: pp. 660-1), the broad scope for class-action suits in the country, and the existence of gargantuan U.S. law firms of over 1000 lawyers, for example, do not matter. The basic mechanism at work is likely to be the facilitation of private contracting and the ease of appeal to justice under common law, or one of the two major reasons why common law promotes finance (the other reason being better protection of property rights of debt- and equity-owners). Rent may well be a supplementary factor, as we shall argue later. In the case of Japan, a separate control is also important. In this case, the basic factor at work is likely to be a disaffection for litigation.

As many as 12 of the 51 countries in our sample are also ex-members of the Soviet Union or ex-Soviet satellite states of Eastern Europe or ex-Yugoslavia. These countries had unusually low levels of legal services only 30 years ago and perhaps have not yet attained their equilibrium level of legal services. They are also classified as civil law countries (Merryman and Pérez-Perdomo 2018, pp. 2, 158). Could this then be the reason for the negative influ-

¹In a related work Rajan and Zingales (2003) too place heavy emphasis on openness. They do so in a particularly sophisticated argument where this factor and not the legal system explains financial development at times of open capital markets. According to their reasoning, as trade openness increases at such times, the domestic political factions favoring financial development gain the upper hand against their political opposition. Of course, in our case, the dependent variable is legal services per head, not financial development, and therefore the significance of openness necessarily stands on different ground.

ence of civil law on legal services? Testing proves this last hypothesis also to be false. As a further consideration, a number of prominent contributors to the literature consider that the German legal system should be treated as a separate breed of civil law and closer to common law than the French civil law (Beck and Levine 2003, Beck et al 2003b, Beck 2010, Berkowitz et al 2003a, b). It is difficult to think, however, that the German law group in the aggregate would display higher use of legal services per capita than the French civil law countries since it includes three Asian members — Japan, South Korea and Taiwan — who make unusually sparse use of such services. It also includes 11 of the 12 ex-Communist countries in our sample, all except Lithuania (compare Djankov et al 2007, p. 306).² Still, we admitted the hypothesis that the three West European representatives at least — Germany, Austria and Switzerland — on which the focus often centers, should be treated separately. The results are negative.

Last, the relevant literature underlines the distinction between countries who bred their own system of common law or civil law at home and those for whom it is a “transplant” either because it was imposed on them by colonial powers or else because they adopted it themselves. On the widest possible measure of origin-countries, ten of them in our sample (Berkowitz et al 2003a, b), an additional control for the transplants proves insignificant and yields no difference at all.

In the next section, we will display the profiles of our series for legal services per head and spell out the reasons for our proposed cross-country influences on legal services, their hypothetical signs and their measures. Next, Section III will provide the econometric results of the paper, which we have already largely previewed. A general discussion will follow and some brief concluding observations will close the paper. In the general discussion, we will enlarge on our fundamental theme of the questionable superiority of common law to civil law on economic grounds. Yet we emphatically make no claim that civil law is better; simply that the question is open.

II. The data and hypotheses

Table 1 presents the country-years of our per capita data for legal services, both without the judiciary and with it. In the case of EEA members, it also identifies the years for which the

²The rest are Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, North Macedonia, Poland, Slovenia, Slovakia, and Serbia.

data is available from Eurostat.³ The common law ones are designated with an asterisk.

[Table 1]

Figures 1 and 2, next, show histograms of the country values for legal services per capita by ascending order without the judiciary and with it. These values reflect averages over 2008-2018 inclusively for 36 of the 37 countries in the smaller sample and for 39 of the 51 countries in the larger one and shorter periods of five to ten years for the other 12 in the histograms. Insisting on an identical period of coverage for all of the countries would have limited the histograms to a single year and would be misrepresentative. It can be seen that the common law countries are bunched toward the top in both figures. This is confirmed by the kernel densities of the log per capita private sector expenditure on legal services, Private, displayed separately for common law and civil law countries in the top panel of Figure 3. It is equally confirmed for common law and civil law countries separately for the log of the sum of per capita judiciary and private sector expenditure on legal services, Total, in the bottom panel of Figure 3. All this, of course, is consistent with our main hypothesis that common law breeds larger costs of legal services, though it remains to be seen if the hypothesis holds true when other influences are added. The reasonableness of the hypothesis of the impact of common law, pertaining to ease of litigation and appeal to justice, was mentioned before.

Upon close comparison of Figures 1 and 2 there is also clearly a positive correlation between GDP per head and the rank order. This too makes sense. A positive effect of personal income on demand for legal services accords with theory. Indeed, in an oft-cited study of the US market, Pashigan (1977, pp. 72-3) concludes that GDP is by far the most important determinant of the demand for lawyers. Therefore, control for GDP per head would seem essential in interpreting the positive correlation of legal services in real (PPP) terms per head with common law in any case, even if we went no further. Our data for GDP and population comes from the World Bank's World Development Indicators. Our GDP values also correct for the PPP price level, which comes from the same source.

[Figures 1, 2 and 3]

For the rest of influences on legal services per head besides common law and GDP per

³We exclude Eurostat data for two countries, Serbia and Romania: Serbia because of too few observations, only three, Romania for the simple reason that the legal spending data covers a narrower field of firms than the rest and is not comparable. We also do not retain some early figures reported by Eurostat for Bosnia Herzegovina, Greece and Slovakia because they fail to correct for a subsequent structural break. An appendix explaining all of the sources of our data is available upon request.

head, there is no standard list of examples to draw from. Upon reflection, we entertain three more positive influences: openness, urbanization and the divorce rate. We have already discussed openness. Urbanization, or increases in city population relative to the total, raises auto accidents per head. According to Shavell (2003, p. 5), “it is estimated that automobile accident disputes comprise at least half of all tort litigation” in the US. Urbanization also increases litigations stemming from joint tenancy of buildings, co-proprietorships and close neighbors. Divorces raise demand for legal services before property settlement but also afterwards in connection with joint custody of children. Our openness data comes from the World Bank Indicators. The urbanization data comes from the United Nations, Department of Economic and Social Affairs, Population Division (2019). As for divorces, Ortiz-Ospina and Roser (2020) provide a wide international database collected from many sources. We extend this last data, when needed, by going back to the national statistical agencies. In the end, we lose only 76 observations when we use the divorce rate.

As for the other variables that may hypothetically affect the volume of legal services, the “rule of law” is an obvious case. However, rule of law is a broad umbrella term covering many things and while some specific measures of it have a clear expected effect, mostly the effect could go either way. The homicide rate is an example of a case where a positive effect of rule of law on the demand for legal services is plausible, since a high level of the rate indicates weak government, low civil order, low rule of law and consequently a lack or futility of recourse to the courts for law enforcement, and therefore a low demand for lawyers. The same probably holds to a lesser extent for penal crimes to person or property generally, including lesser physical attack and burglary. In these examples too, lower incidence of crime or higher rule of law might be expected to encourage recourse to legal services. Opposite examples where higher rule of law can be expected to reduce legal services instead are mandatory insurance, compulsory labor arbitration, and no-fault divorces.

Yet the popular measures of rule of law, which come from the privately funded World Justice Project and the World Bank, are far too broad to admit a hypothesis either way. They basically aim to instruct world investors where it is safest to invest their capital or else to let everyone know how well any particular country does in providing justice at home. What ground is there, for example, for a strong prior about the sign of the impact of limiting government powers on the volume of legal services? Or the impact of increasing voice and accountability? Or that of government effectiveness? In response to such open questions, we simply experiment with a wide range of available measures of rule of law including homicide

rates and percent of prison population. The nine Rule of Law indices of the World Justice Project (limited government powers, absence of corruption, order and security, fundamental rights, open government, regulatory enforcement, access to civil justice, effective criminal justice, and informal justice (Botero and Ponce 2011)) began with a group of 66 countries in 2013, has grown ever since and covers 40 of our 51-country sample and 36 of our 37-country one, all except Switzerland. However, the series remain only four years long and experiments prove them to be all unimportant. We give precedence below to the six World Bank Worldwide Governance Indicators (Kaufmann et al 2010) which are available for 1996-2018 inclusively and cover the full sample of 51 countries. One of these six indicators is titled “rule of law” but all six all are covered by the World Justice Project’s broad definition that we accept.⁴ Our homicide rates and prison-population rates come from the Office of Drugs and Crimes of the United Nations. They go from 1990 through 2018 for the former and for 2003 through 2018 for the latter. These last two measures rest on national statistics whereas those of the World Bank (like those of the World Justice Project) rest on survey evidence. The last two are indeed negatively correlated with the rest (which are all highly positively correlated with one another) as expected, in the order of around 30 to 40 percent for homicides and 10 to 20 for prison population.

Last, we consider financial development as a possible influence on legal services per head. In this case, the influence would seem positive in either direction. By wide agreement, legal services and financial development are highly complementary. Writing financial contracts often requires legal help, especially if the contracts are tailor-made to suit the particular contractors, which is more easily done under common law. Pistor (2013) notably proposes a “legal theory of finance”. Thus, any OLS estimate of the impact of financial development on legal services is subject to simultaneity bias. Yet as the bias is positive since the reciprocal effects in both directions are so, there is still interest. Moreover, the wide concern with the relation between finance and common law in the literature heightens the interest.

⁴The other five World Bank indicators are voice and accountability, political stability and the absence of violence/terrorism, government effectiveness, regulatory quality, and no corruption. The measure of “rule of law” of the World Justice Project is the last of a sequence of widening measures. Knack and Keefer (1995, pp. 210, 225) first introduced the measure as indicating “whether there are established peaceful mechanisms for adjudicating disputes.” La Porta et al (1997, 1998) followed the Knack-Keefer proposal (via their use of the International Country Risk Guide, which had already adopted the measure). Subsequently, the World Bank proposed a broader definition of rule of law as “capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts as well as the likelihood of crime and violence” (Kaufmann et al 2010, p. 4). The still more sweeping definition of the World Justice Project came shortly after (see Kleinfeld Belton 2005 for more information).

Financial development, like rule of law, also suffers from many definitions. We use the most recent set of nine financial development indicators from the International Monetary Fund (Svirydzenka 2016) covering depth, access and efficiency for financial markets and for financial institutions. To these we add the two most popular measures of financial development in the literature, which come from the World Bank's World Development Indicators. These two are total domestic credit to the private sector as a percent of GDP and domestic credit by banks to the private sector as a percent of GDP. The nine plus two measures are available since 1980 and cover 49 of the countries in our large sample up to year 2018, all but Taiwan and North Macedonia.

In sum, we propose to study legal services per head as a function of seven variables: common law, GDP per head, openness, urbanization, divorce, rule of law and financial development.

III. The tests and test results

III.1. Estimation approach

As already stated, we run a random effects estimation of an unbalanced panel. Indeed, the estimates of the sets of year fixed effects, which we include as well, are jointly significant at the 99 percent confidence level in all our major regressions. This alone shows that our estimates provide valuable information that OLS cross-sectional estimates would miss, even apart from the impact of common law, and even if they rested on multiple-year averages. On the other hand, as evoked earlier, random effects raise the possibility of statistical bias since the method does not guard as well as fixed effects (not possible here because of the common law dummy) for omitted country-specific influences. As a result, we check on this bias. The standard procedure to do so is to run a Hausman test on the correlation between the explanatory variables and residuals in random effects estimations. However, the Hausman test is impossible with year dummies. Therefore, we adopt a different and standard procedure (see for example Wooldridge 2010, p. 332), which is to run an auxiliary regression with the time-averages of the time-varying variables added to the rest on the right hand side and next run a Wald test for the joint significance of the auxiliary variables (using cluster-robust standard errors to allow for heteroscedasticity and serial correlation). The larger sample concerning private legal services passes the Wald test of no bias while the smaller sample including the judiciary does not. Thus, the issue of the bias remains for the small-sample panel. We will return to this problem after the estimates of our baseline model and show that

there is no evidence of it.

III.2. Test results

Table 2 shows the baseline estimates in eight columns, four concerning each sample. The table includes all the aforementioned variables except for financial development, which we leave for separate consideration. Legal services in real terms per head in logs is the dependent variable. The log of GDP per head enters correspondingly on the right hand side. The other explanatory variables are either 0-1 in the case of common law, percentage values, or in the case of our rule of law measures drawn from the World Bank governance indicators, scores. As seen at a glance, common law, output and openness are highly significant for both samples regardless of the other variables in the table. Urbanization enters with the right positive sign for both samples but insignificantly. Divorce performs poorly as does rule of law for all seventeen different measures of it we experimented with (including the nine from the WJP). For rule of law, we present the outcome for no corruption simply because the measure is well correlated with the seven others from the World Bank and the UN to which we devoted principal attention (government effectiveness would be another candidate on this ground).

[Table 2]

Comparing the coefficients of common law, openness and per capita GDP between the small and the large sample in Table 2 shows that the results largely agree for common law and openness but not for per capita GDP, where the estimate for private legal services is around 1.5 and that for total services around 1.⁵ The estimates for the elasticity of influence of common law stand around 1, though perhaps closer to 1.18 for the large sample. Those for openness are around 0.45 for the small sample and except in the presence of no corruption, a little smaller for the large sample.⁶

Table 3 focuses on the separate role of financial development, the subject of much dis-

⁵We are prone to interpret the higher coefficient of per capita GDP for private than total legal services as reflecting higher fixed costs or economies of scale in the provision of legal services for the judiciary than the private sector.

⁶Both coefficients for common law and openness are semi-elasticities, and therefore require conversion by the exponential minus one to obtain the elasticities. For common law, $\exp(0.7)-1 \simeq 1$ and $\exp(0.78)-1 \simeq 1.18$, and for openness, $\exp(0.37)-1 \simeq 0.45$. The corrections for bias coming from the non-linear transformation of an estimated random variable that are suggested by Kennedy (1981) and Garderen and Shah (2002) are very small, less than two percent, since the standard deviations of the estimates of our common law dummies are rather small.

cussion surrounding common law versus civil law but far less concerning the total absorption of resources in legal services. The two most popular measures of financial development in the literature, total domestic credit to the private sector as a percent of GDP and domestic credit by banks to the private sector as a percent of GDP, both of which come from the World Bank’s World Development Indicators, are totally insignificant. Of the nine measures of financial development of the IMF (Svirydzenka 2016), six are distinct — those for depth, access and efficiency of financial institutions (three) and of financial markets (three) — and the rest are combinations of the six. All six distinct measures are insignificant. Only the aggregates prove interesting. Columns (1) and (4) of Table 3 reports on the aggregate for all six individual measures, columns (2) and (5) on the aggregate for the three concerning firms, and columns (3) and (6) on the aggregate concerning the three for markets. All three measures perform poorly. Next, columns (7) through (12) show how they perform when we remove GDP per capita from the baseline model. In this case, the first two aggregates perform well, either at the 95 percent level or modestly below it. As indicated before, our inference is that any importance of financial development is already contained in GDP.⁷ The descriptive statistics of all the variables in the estimates in Tables 2 and 3 are in the Appendix.

[Table 3]

Table 4 introduces controls for two notorious outliers in our samples: the US and Japan. Columns 1-2 enter the US or Japan alternatively for the small sample and columns 5-6 do so for the large sample. As seen, the two countries appear with the expected opposite signs and significantly in both samples. Their separate presence reduces the coefficient of common law moderately without disturbing its significance in either case. Columns 3-4 and 7-8 delve further into the significance of Japan. According to Merryman and Pérez-Perdomo (2018): “comparative lawyers recognize a distinct tradition in East Asia whose cultures emphasize social harmony and respect for hierarchies” (p. 4). Perhaps Japan is then an example of this regional tradition of avoiding litigation. Accordingly, we experiment with a special control for the entire East Asian group in our sample consisting of Japan plus South Korea, Taiwan, Hong Kong and Singapore. The variable turns out highly significant with the expected negative sign and removes all separate importance of Japan in the large sample (column 7) not the small one (column 3). We consequently substitute the East Asian group for Japan in the earlier columns (2) and (6) in columns (4) and (8), where East Asia emerges as just as highly significant as Japan was before when it stood alone in columns (2) and (6). As

⁷A number of rule of law indicators also become significant in the absence of GDP per capita, which would mean that GDP per capita covers some aspects of rule of law as well as financial development.

a consequence, it would seem that we could include East Asia in the baseline as a general indicator of the importance of a reluctance to litigate but we hesitate to do so since other regional factors could also be at work in the dummy and the reluctance to litigate could hold elsewhere too. If we compare the results with East Asia in columns (4) and (8) of this table with those without it in columns (1) and (5) of Table 2, we also see that the two are close. Thus, leaving out East Asia from the baseline, our choice, makes little difference.

[Table 4]

Table 5 entertains further controls for different sets of countries suggested by the literature. First, the literature prior to the 2010s treats ex-members of the Soviet Bloc (including ex-Yugoslavia) as a separate socialist group belonging to neither common law nor civil law or else simply omits them. As La Porta et al (2013, p. 429) more recently confirm, this is because the countries had only emerged from the Soviet Bloc in the near past. However, most of our data goes nearly 20 years beyond the break-up of the Bloc, and the European members of this union were under civil law beforehand and returned to it soon afterwards. So we included them as civil law members where the 12 of them in our sample (see Table 5) make up an important fraction of the total, that is, 12 out of 51 in the full sample, 10 out of 37 (all 12 but Bosnia Herzegovina, and Bulgaria) in our smaller sample. Columns (1) and (5) of Table 6 check out the possibility that their presence skews the results. It does not, though it is barely significant at the 10 percent level for the small sample. Omitting any control for ex-Soviet-Bloc membership does not affect the results to any notable extent.

[Tables 5 and 6]

The next additional control concerns the German civil law countries. It is typical to treat this branch separately in the literature and Beck and Levine (2003), Beck et al (2003a, b), Beck (2010), Berkowitz et al (2003a, b) particularly insist upon it. The basic idea is that the German branch is distinctly closer to common law since it allows a greater role for precedent and custom in judicial decision-making than French civil-law ones. However, these authors' basic concern is private property rights, legal contracts and finance or still economic growth. Ours is the volume of legal services. In this last respect, there is good reason to think, quite the opposite, that the German influence would lead further away from the common-law countries than French civil-law ones: namely, the size of the judiciary. As mentioned earlier, a basic distinguishing characteristic of the civil law world from the common law one is a higher percentage of resources allocated to the judiciary relative to

private law. There is a broad -0.36 inverse correlation between the ratio of spending on the judiciary to private legal services and the ratio of total legal services to GDP in our small (37-country) sample. Germany happens to be an extreme example of high ratios of expenses on justice departments relative to private legal firms in the civil law world. Figure 4 shows the average ratio of expenditures on the judiciary relative to spending on private law firms in the 37-country sample over 2008-18 (except for Japan where it is over 2012-16). It can be seen that Germany leads all the other Western European civil law countries except for Greece in this ratio, though it is admittedly little ahead of Portugal. France, Belgium and Luxembourg are particularly far to the left. Besides Panama and Greece, the only countries worldwide that score higher than Germany are East European ones that were under Socialist law within living memory plus Japan (all of which but Lithuania, incidentally, are also members of the German civil law tradition (see Table 6)).

[Figure 4]

Indeed, this is not surprising. In Germany, lawyers are trained as jurists in law school rather than for private practice, in addition even the road to private practice traditionally goes through public service, and from there the move to private activity is a step sideways or downward along the social prestige ladder. To quote Blankenburg and Schultz (1988, p. 125): “Interest in lawyers in Germany traditionally had concentrated on their roles as judges and civil servants and on their orientation toward authority rather than advocacy.” And once again (ibid, p. 133): “Germany has had traditionally the highest ratio of judges to population of all countries with a developed legal system” (see also Abel 1988a, p. 6, and Lewis 1988, p. 9). This German deviation is on the decline and even sharply so; its ratio of judiciary services to total legal services in our data drops from 0.75 in 2000 to 0.44 in 2018; but as seen in Figure 4 the deviation persists.

We went ahead nevertheless and experimented with a separate control for the West European branch of German civil law countries, Germany, Austria and Switzerland (only these three German-law countries since including Japan, South Korea, Taiwan, and the eleven East European members of the German civil law tradition (the twelve minus Lithuania) would have crippled the hypothesis of a positive sign from the start). We did so expecting, if anything, a negative sign. Instead the control is close to zero in columns 2 and 6 of Table 5 and totally insignificant.⁸

⁸The same literature distinguishes a separate Scandinavian civil-law family (see Table 6), which does receive a significant negative sign at the 10 percent level for the small sample but an insignificant sign for the

Following, we entertain the important distinction between origin and transplant, which Berkowitz et al (2003a, b) strongly emphasize in close step with La Porta et al (1997, 1998). Unlike their predecessors, Berkowitz et al maintain that the difference between “receptive” and “unreceptive” transplants is really a more critical one than the one between common law and civil law. Consequently, we experimented with a single control for all transplants and a separate control for “receptive” and “unreceptive” transplants. As in Berkowitz et al, the origin countries number ten (because of several varieties of civil law and the treatment of the US as a separate origin country for common law (see Table 6)).⁹ As seen in columns (3) and (7), and (4) and (8) of Table 5, the results are uniformly poor.

Last, as presaged, we drop Cyprus, Israel, Malta, Philippines and South Africa, which Juriglobe treats as combinations of common law and civil law. All except Philippines belong to our smaller sample containing the judiciary. As can be seen in columns (5) and (10), the coefficient of common law stays essentially the same in the small sample while its significance drops slightly below the 1 percent level; in the case of the large sample the coefficient drops moderately while remaining significant at the 1 percent level.¹⁰

III.3. Further test

It is interesting to probe further into the significance of common law at least in one regard. A basic feature of this system, as observed time and again, is a less intensive use of the judiciary relative to private law firms. Further, it is also sufficiently clear that this feature is associated with more legal services. Thus, when private lawyers take the lead in investigation, there

large sample.

⁹In our test of the difference between “receptive” and “unreceptive” transplants, we lose observations for 14 countries. Berkowitz et al made the distinction on the basis of considerable research into the dating of the transplantation period, which turned out to be mostly in the nineteenth century. We tried to implement Berkowitz et al’s distinction for all the countries in our sample that fell outside of theirs, but we only felt sure about the correct classification of three: Iceland (receptive), Luxembourg (receptive), and Panama (unreceptive). This left 14 missing cases, which consist of the 12 ex-Soviet bloc countries and Malta and Cyprus. In recent work, Guerriero (2016 a, b) probes further into the nature of the adaptations of the civil law and common law transplants since their transplanting period and finds an element of convergence between the two. He also analyzes the welfare consequences of this convergence.

¹⁰We have also gone further and omitted the seven countries that Juriglobe treats as mixed systems of either common or civil law with customary law or Muslim law or both (Hong Kong, Japan, Jordan, Korea, Malaysia, Singapore and Taiwan), and thereby retained a sample consisting only of “monosystems” of common or civil law in Juriglobe’s terms. The results still remain essentially the same. In addition, we have responded to the presence of some country exits in the recent years 2014-2018 in our unbalanced panel, not many, of which Luxembourg is the outstanding example (2014, see Table 1). Whether we omit Luxembourg alone or we lop off all observations beyond 2013, the results are also basically the same. We provide these last findings on request.

is evidently no mere substitution of private for public legal services but the total amount expands. Less total work is needed to reach a judicial decision when the justice department takes part in the collection of the evidence. It is fair to ask then whether this factor explains all of the positive impact of common law on legal services. As shown in Table 7, the answer is no. When the ratio of public to private legal services enters separately in the baseline model, this ratio does indeed bear a highly significant negative sign but the coefficient of common law remains just as highly significant as before while dropping only moderately in size. Thus, lower reliance on the judiciary alone does not suffice to explain common law's higher recourse to lawyers.

III.4. The issue of missing country fixed effects

We return at this point to the econometric problem of possible bias of our random effects estimates stemming from missing country fixed effects. As mentioned before, our initial robustness tests, using auxiliary regressions, suggest that the residuals are uncorrelated with the explanatory variables in our large-sample estimates but not in our small-sample ones. To display this point fully here, let us begin with the estimated form of our auxiliary regression for our preferred baseline in the tests:

$$Y_{it} = \text{const.} + \alpha_{0i} + \alpha_1(\text{per capita GDP})_{it} + \alpha_2(\text{common law})_i + \alpha_3(\text{openness})_{it} + \alpha_4(\text{mean per capita GDP})_i + \alpha_5(\text{mean openness})_i + \epsilon_{it}, \quad (1)$$

where i is a country index, t is a time index, α_{0i} is the country-specific random effect and the dependent variable Y_{it} is either the log of real per capita private sector expenditure on legal services (Private) or the log of the real per capita value of the sum of judiciary and private sector expenditure on legal services (Total). In addition, per capita GDP is in logs, the $\alpha_1, \dots, \alpha_5$ coefficients are all theoretically positive, and ϵ_{it} is the error term. Our test statistic is a Wald test for the joint significance of the α_4 and α_5 coefficients. Table 8 displays the results of this specification for both dependent variables and the results of the Wald tests in columns 2 and 4. Columns 1 and 3 simply repeat our baseline equations, Table 2, columns 1 and 5 for convenience. The null that the estimated coefficients are jointly no different from zero is not rejected for Private (column 4), but is rejected at nearly the 1 percent level for Total (column 2).

[Table 8]

In light of this negative result for our small-sample regression, we need to probe into the question of the biasedness of the coefficient of common law as such. Separate comparison of columns 1 and 2 for Total already provides an important favorable indication. As we see, the coefficients and significance of common law are very close in both cases, which suggests little bias if any. The only one of the two additional time-constant terms that is significant is mean openness. It would seem that this last variable would then be the source of the failure of the equation to pass the Wald test. A comparison of columns 3 and 4 for the large sample yields the same inference. Thus, doubt about the unbiasedness of the estimates of the coefficients of the influences centers on openness.

To dig further we engage in an additional test of the unbiasedness of the estimated influence of common law as such consisting of a two-step procedure that is familiar in the gravity literature where a similar issue arises.¹¹ In the first step, legal services serves as the dependent variable in an OLS regression with country and time as the sole explanatory variables. The estimates of the country-fixed effect terms in this first regression next serve as the dependent variable in a second step where common law enters as an explanatory variable. Mean GDP and mean openness best enter there too. In the gravity literature, the interest lies in the performance of a particular selected country-specific term in the second step. In our random effects framework, the interest goes further and concerns the difference between the estimated coefficient of particular interest — that of common law — in the second step with the baseline estimate of this coefficient with random effects. If there is little difference in level or significance of the coefficients between the two, there is no evidence of biasedness in the baseline estimate.

The first-step regression equation goes as follows:

$$Y_{it} = \nu_i + \nu_t + \epsilon_{it}, \quad (2)$$

where Y_{it} are the log of total or private sector per capita expenditure on legal services, ν_i is a vector of country fixed effect, ν_t is a vector of time fixed effect. The second step treats the estimated fixed effect term $\hat{\nu}_i$ as the dependent variable with common law as an influence on

¹¹The issue arises when interest turns on a country-specific feature and therefore there is no possibility of admitting general country fixed effects in order to reflect multilateral trade resistance. See Head and Mayer (2014) pp. 31-32.

the right hand side. The means of the other two control variables enter too:

$$\hat{v}_i = \gamma_0 + \gamma_1(\text{common law})_i + \gamma_2(\text{per capita GDP})_i + \gamma_3(\text{openness})_i + \epsilon_i. \quad (3)$$

Because the number of observations drops sharply to 37 or 51 in the second round regression, in this case we calculate bootstrapped cluster-robust standard errors. Table 9 displays the results.

[Table 9]

The estimated coefficients and standard errors of common law are essentially identical to what they were in the random effects framework. The same holds true for the GDP variable. Yet the openness variable performs badly, far worse than in the auxiliary regression test. From this, we draw two major implications: first, that the significance and robustness of openness in our earlier tests depend on panel data and will not appear otherwise; and second and most important, that there is no evidence of bias in the coefficient of common law in either sample.

IV. Discussion

There is strong evidence that common law promotes finance through better protection of property rights of creditors and equity holders. La Porta et al (1999) also offer evidence that common law leads to better performance of government in various respects. Even further, La Porta, López de Silanes, Pop-Eleches and Shleifer (2004) argue that common law promotes economic and political freedom. Here we present equally strong evidence that common law absorbs more resources in providing legal services. Some have argued that common law promotes growth. If this were true, the extra legal costs of common law would necessarily be compensated by benefits. However, the growth argument has recently ground to a halt. Its early advocates, Levine (1999) and Beck et al (2000), maintained that since financial development promoted growth, common law did the same by promoting financial development. Mahoney (2001) reached the same conclusion via a different path and stressed the better general protection of property rights under common law associated with independence of the judiciary (in accordance with Hayek 1960, 1978). Since he wrote, however, Rostowski and Stacescu (2006) offered evidence that any effect of common law origins on growth via the quality of government or the independence of the judiciary could be attributed to the difference between ex-colonialization by England or France and some geographical factors.

More significantly, a strong econometric objection arose. Levine, Beck et al and Mahoney had all relied on the legal system as an instrument to reach their conclusions. However, the effects of the legal system on the economy are so broad that its use as an instrument never met the exclusion restriction. La Porta et al made this criticism more than once, and go out of their way in a recent Vox column (La Porta et al 2019) addressing a wide public to say accordingly: “In our work, we have strenuously stayed away from claiming that legal traditions and legal rules influence economic growth” (see inter alia Glaeser et al 2004).

The issue of the net benefit of common law is thus up in the air. This issue evidently concerns matters of justice as well as contracts and professional advice. Many court decisions result in transfers from one party to another that would yield a negative-sum game because of legal fees except for the issue of justice. Legal services in pursuit of justice manifestly provide a public good (like defense) and belong in economic output. Otherwise the market values of these services would need to be classed entirely as rents. Our emphasis will be on the aggregate contributions of legal services to output without an attempt to separate the part related to justice.¹²

If the issue is strictly the benefit of common law versus civil law from an aggregate economic standpoint, then the strong bent in favor of common law in economics looks even at odds with the economics profession’s inclination to consider legal services excessive in common law countries, certainly the US. In a relevant book chapter, Magee et al (1989) consider an economy with two classes of labor, a productive and a redistributive one. “Think

¹²The better system for obtaining justice has been and remains a subject of considerable discussion in the legal literature (Merryman and Pérez-Perdomo 2018, pp. 114-35). Economists have also treaded into this discussion by examining the issue of the efficacy of various legal procedures in pursuing justice, but except for Tullock, they have never aimed at the question of the general merits of common law versus civil law in achieving justice. Thus, Becker and Stigler (1974) maintain that litigation is a good because violation of social rules and laws will always be beneficial to some. Clearly, however, this point does not permit distinguishing between civil law and common law since litigation occurs in both cases. Subsequent to Becker and Stigler, Glaeser et al (2001, pp. 859-60) placed special emphasis on the enforcement of the adjudication, whatever it is, and the choice of judges or regulators (see also Glaeser and Shleifer 2003). It would also seem that civil law stands no worse than common law in making this next choice either. Dewatripont and Tirole (1999) argue for partisan advocacy (a feature of common law) rather than inquisition by an impartial judge (a feature of civil law) on the ground, *stated at its simplest*, that advocacy leads to better exposure of relevant facts (in opposition to Tullock 1997). But they do not deal nor pretend to deal with the weight of the relevant facts on the judicial outcome depending on the legal procedure. If the advocacy takes place before a court, there is also the jury system to consider. Under civil law, evidence accumulates progressively so that little new can legitimately enter at the closing stage, whereas under common law, the trial is a concentrated event in the presence of the jury at the end when drama and unexpected news can arise (Merryman and Clark 1978, p. 652 and Zweigert and Holz 1987, vol. I, pp. 281-4). Even independently, skilled lawyers will handle evidence differently depending on whether they are addressing a judge or a jury. (For information about the varied use of juries in the world, see Hans 2008.)

of the former as engineers and the latter as redistributive lawyers,” they say (p. 111). They go on to produce a graph showing a negative convex relationship between GDP growth per capita and the ratio of lawyers to physicians over 34 countries in 1960-80 (p. 119). Magee et al are in good company. In explicit agreement with them, Murphy et al (1991) use college enrollment in law rather than engineering as a measure of rent seeking (p. 523). Because growth is likely to be lower if the most talented people become rent seekers, they propose that “the flow of some of the most talented people in the United States today into law and financial services might then be one of the sources of our low productivity growth” (p. 506). Baumol (1990, pp. 918-19) similarly points to the difference between lawyers per capita in the U.S. and Japan as a good example of the wide opportunities there exist for improving the allocation of talent in the US.

Suppose then we center on the issue of common law versus civil law from an economic standpoint. First and foremost, legal services are undoubtedly valuable. Their surge after the Soviet Union broke up in 1991 in the ex-membership bears strong witness. Those services went along with and helped bring fruit to, the new freedom of contracting that came. We show clearly here too that legal services are associated with contracting in trade between citizens living under different legal regimes and thereby presumably assist this contracting and trade. It is only natural that such gains would bear costs. These costs could simply limit the net benefits from common law without overturning the results in favor of civil law. But can we take this for granted?

In order to reason on this subject, we do best to abstract from all causes of cross-country differences in legal expenditure that are independent of the legal system. Thus, let us abstract from all differences in native talent or education between common law countries and civil law ones. Let us also abstract from differences in legal services resulting from different internal barriers to supply via diplomas, quotas, etc. One set of countries could also be more open, which would increase the value of lawyers there. Let us abstract from that too. Further, one set may be highly litigious and the other prone to suppress conflict and submit to peer pressure without recourse to law. That is a very pertinent point we have seen, but we have also seen that it is one that we can safely put aside. The differences that concern us stem strictly from the two legal systems and can be grouped into four, two of which are favorable to common law, two of which are unfavorable. The discussion in economics thus far has focused heavily on the favorable sort.

One of the two sets of beneficial effects of common law on economic performance as

such stems from better ability to contract, largely associated with judicial independence and more financial development, which we now group together. The second, which Hayek (1960, 1978) prominently argued and Beck et al (2003b) have done much to confirm since, is that the common law system is more adaptable to changes in the environment. Thus, among other things, the system may be quicker to adopt features of the opposite one that can be accommodated once they appear more attractive.¹³ On the opposite side, the first unfavorable difference is that common law absorbs more human capital. On this point, there is even some evidence that a lawyer needs more time to work on a problem under common law than civil law (e.g., Rueschemeyer 1978, pp. 100-101; 1988, p. 292; and Zweigert and Kotz 1987, I, pp. 268-9). But in principle, this first set of costs could be compensated by corresponding social benefits. The second set of costs is of the more worrying kind.

Along with its beneficial effects, common law opens up special room for earning economic rents by lawyers. The ease of contracting opens the way for soliciting clientele and for malpractice suits and class action suits. In the US, these favorable conditions for rent-seeking have strong manifestations: there are contingency fees permitting lawyers to offer their services for nothing but a cut of the winnings, and private and class-action suits can lead to large punitive awards by judges (Olson 1981). These results are not typical of the rest of the common law world. Still, if only rule of law applies to the judiciary and the judiciary cannot be bribed, by and large rents can only accrue in private practice, and common law countries generally make more intensive use of private practice in providing legal services. On this ground alone, there is greater scope for rent-earning in the common law world. Further, many international analyses show that the incidence of the widening of income distributions in the world around the turn of the twentieth century was limited to English-speaking countries as such (Bajika et al 2012, pp. 9-10). These countries are predominantly common law ones whereas the civil law world is not native-English-speaking. It is plausible that the higher potential for economic rents in common law would be one of the reasons for the widening income distribution in these countries at the time, and the widening has also continued since. As a further consideration, rents plausibly concentrate in the upper range of the income distribution in law, and since the ratio of the income of lawyers in the top 10 % relative to the median income of the profession in common law countries is probably higher than in civil law ones,¹⁴ this is further ground for the likelihood of higher

¹³Shleifer also points out (in private correspondence) that lawyers in common law countries may do work of collecting court evidence that civil-law lawyers would rely on their clients to perform. We know of no study bearing on this relevant topic.

¹⁴We write “probably” in light of positive indications but we know of no study on this question thus far.

rents under common law. In this last regard, Philippon and Reshef (2012) make a suggestive contribution. They show that much of the proportional rise in the upper tail of the income distribution relative to the median in finance in the US in 1980-2006 exceeds productivity, possibly due to rent. These considerations bring to the foreground the important and difficult question of the mix of the extra legal services per capita under common law between productive and redistributive activity. In closing this discussion, let us underline the role of this mix.

Suppose the entire excess of 100 to 118 percent of legal services under common law over civil law represented rent. Then based on the ratio of legal services to GDP in the US in the last 20 years of 2 percent, the spurious social output would be around 1 percent GDP. However, this is an unreasonable assumption. The evidence clearly suggests that common law countries receive many economic benefits for the extra legal services they purchase. It remains true nonetheless that the figures on incomes in the legal profession as opposed to other ones like medicine and engineering give the widespread impression of legal rents, as underlined before. Some simple calculations show, without stretching the imagination, that the issue is open. Recent figures from the US Bureau of Labor Statistics and the UK Office for National Statistics and summaries from the US National Association for Law Placement and the British Bar Council and British Law Society indicate that the top 10 percent of lawyers in common law countries tend to receive around two-thirds more income than the median (authors' estimates). Based on earlier considerations, suppose that half of this income of the top 10 percent represented rent. Since they earn something below but in the vicinity of 16.7 percent of the total, this would make around 7 percent of total legal income depending on how far the median income lay below the mean. Suppose next that the rest of the 90 percent in the profession added twice as much to total rents than the top 10, for a grand total of, say, 20 percent. In that hypothetical case, the split of the aggregate 2 percent of GDP going into law between productive and unproductive services would be 1.6 to 0.4 percent of GDP. If rents in civil law countries were half as high as a percentage of GDP in line with the regression estimates, then the external benefits that legal services furnish to the rest of the economy would need to be over 0.2 percent GDP for common law to be superior to civil law on economic grounds. This is a non-negligible amount.

V. Closing observations

It is common knowledge that the number of lawyers relative to total population is unusually high in the US. This turns out to be true too for the ratio of spending on total legal services relative to output, a better basis for international comparison. On this last basis, it emerges for the first time that an especially intensive use of legal services is not really peculiar to the US but applies to common law countries as a group. Our data for legal services, comprising either 51 countries or on a more demanding criterion 37, shows this. We also confirm the widespread perception that common law countries make much lower use of services of the judiciary than civil law ones. This could be interpreted as a point in its favor (e.g., Posner 1986, pp. 492-3). But as Tullock ([1997] 2005, pp. 450-1) foresaw and we are now able to show, this last feature of common law is more likely to be a strike against it.

Another major outcome of the study demands strong emphasis at the end. It is the role of openness and trade as such in creating market demand for legal services. This positive influence of openness is just as plain in our results as that of common law. Effectively, therefore, the mere presence of separate national legal authorities fosters demand for legal services internationally. Common law simply adds more to total legal services wherever it applies.

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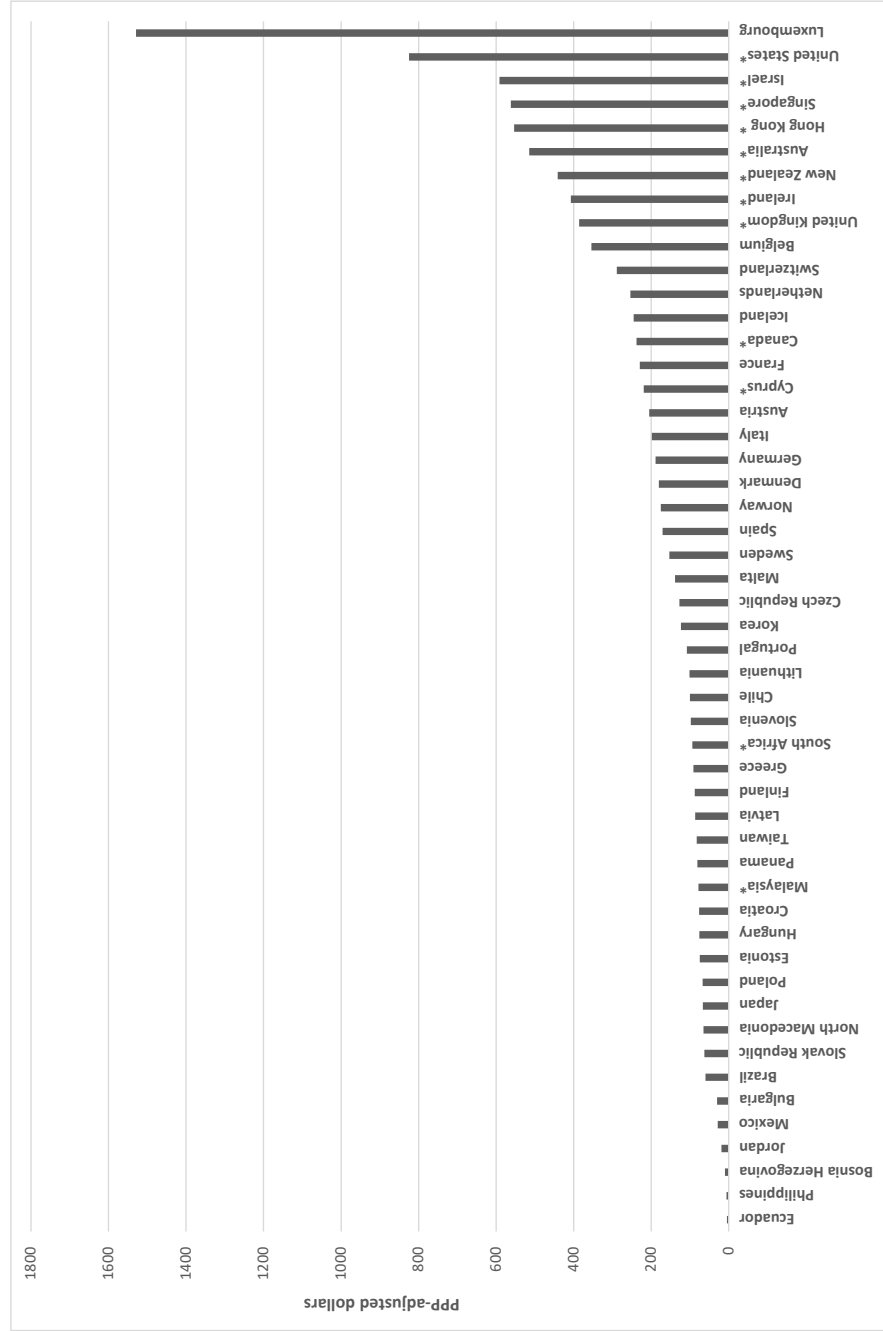
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TABLE 1
The country-year coverage

Country	Private expenditure		Judiciary		Eurostat coverage	
	First year	Last year	First year	Last year	Private sector	Judiciary
Australia*	1988	2016	1998	2018		
Austria	2002	2018	1995	2018	2008-2018	1995-2018
Belgium	2008	2018	1995	2018	2008-2018	1995-2018
Bosnia Herzegovina	2014	2018			2012-2018	
Brazil	2006	2018				
Bulgaria	2002	2018	1995	2018	2008-2018	1995-2018
Canada*	2012	2018				
Chile	2013	2018				
Croatia	2008	2018	2001	2018	2008-2018	2001-2018
Cyprus*	2000	2018	1995	2018	2008-2018	1995-2018
Czech Republic	2008	2018	1995	2018	2008-2018	1995-2018
Denmark	2000	2018	1995	2018	2008-2018	1995-2018
Ecuador	2000	2018				
Estonia	2003	2018	1995	2017	2008-2018	1995-2018
Finland	1993	2018	2001	2018	2008-2018	2001-2018
France	2008	2018	1995	2018	2008-2018	1995-2018
Germany	2000	2018	1995	2018	2008-2018	1995-2018
Greece	2014	2018	2001	2018	2008-2018	2001-2018
Hong Kong*	1980	2018				
Hungary	2008	2018	1995	2018	2008-2018	1995-2018
Iceland	2001	2018	1998	2018	2015-2018	2012-2018
Ireland*	1998	2018	1995	2018	1998-2018	1995-2018
Israel*	2011	2017	2011	2018		
Italy	1995	2018	2001	2018	1995-2018	2001-2018
Japan	2012	2016	2012	2016		
Jordan	2011	2018				
Korea	1994	2018				
Latvia	2005	2018	2001	2018	2008-2018	2001-2018
Lithuania	1997	2018	2000	2018	2008-2018	2000-2018
Luxembourg	2008	2014	1995	2018	2008-2014	1995-2018
Malta	2008	2018	2001	2018	2008-2010	2001-2018
Malaysia*	2005	2017				
Mexico	2012	2018				
Netherlands	1995	2018	1995	2018	2008-2018	1995-2018
New Zealand*	2002	2018				
North Macedonia	2011	2018			2011-2018	
Norway	2002	2018	1995	2018	2008-2018	1995-2018
Panama	2012	2018	2012	2018		
Philippines	2010	2018				
Poland	2005	2018	2001	2018	2008-2018	2001-2018
Portugal	2008	2018	1995	2018	2008-2018	1995-2018
Singapore*	2000	2018	2000	2018		
Slovak Republic	2010	2018	2001	2018	2002-2018	2001-2018
Slovenia	2008	2018	1995	2018	2008-2018	1995-2018
South Africa*	2010	2018	2010	2018		
Spain	1996	2018	1995	2018	2008-2018	1995-2018
Sweden	1997	2018	2001	2018	2008-2018	2001-2018
Switzerland	2009	2018	1995	2018	2009-2018	1995-2018
Taiwan	2012	2016				
United Kingdom*	1997	2018	1995	2018	2008-2018	1995-2018
United States*	1990	2018	1990	2018		

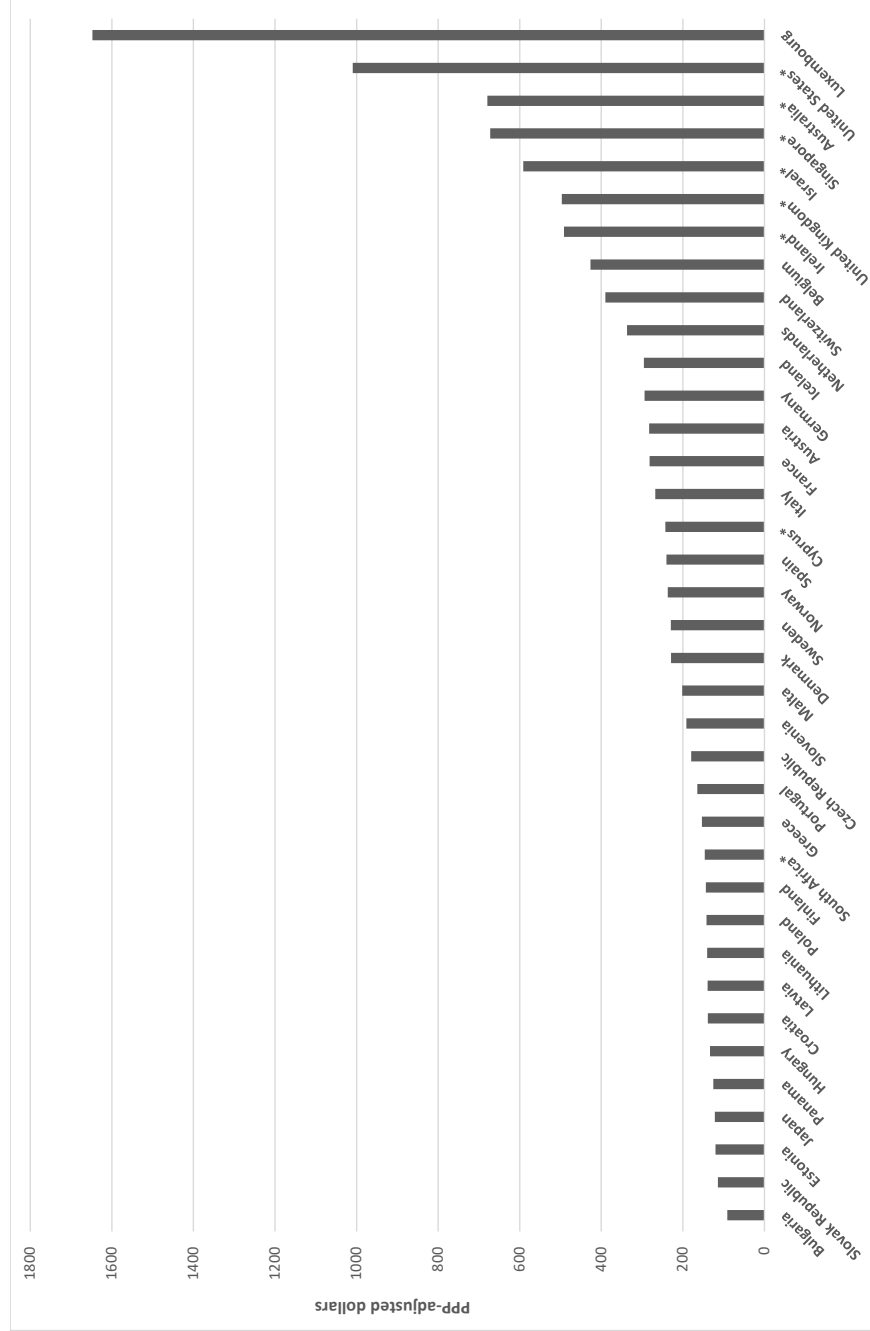
Note: The asterisks denote common law countries.

FIGURE 1
Spending on services of private law firms per capita



Note: Averages over 2008-2018 inclusively or closest continuous period five to ten years for 51 countries.

FIGURE 2
Spending on services of private law firms plus judiciary per capita



Note: Averages over 2008-2018 inclusively or closest continuous period five to ten years for 37 countries.

FIGURE 3
Kernel density of Private and Total expenditure on legal services

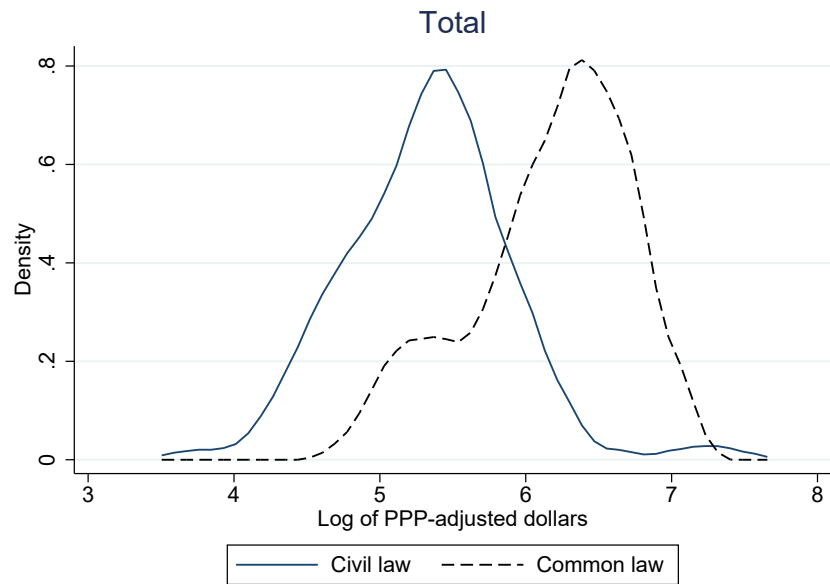
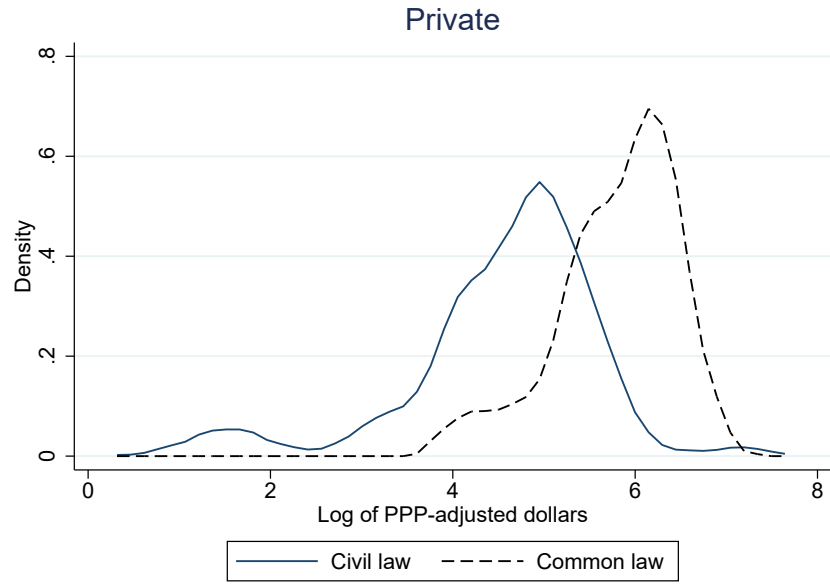
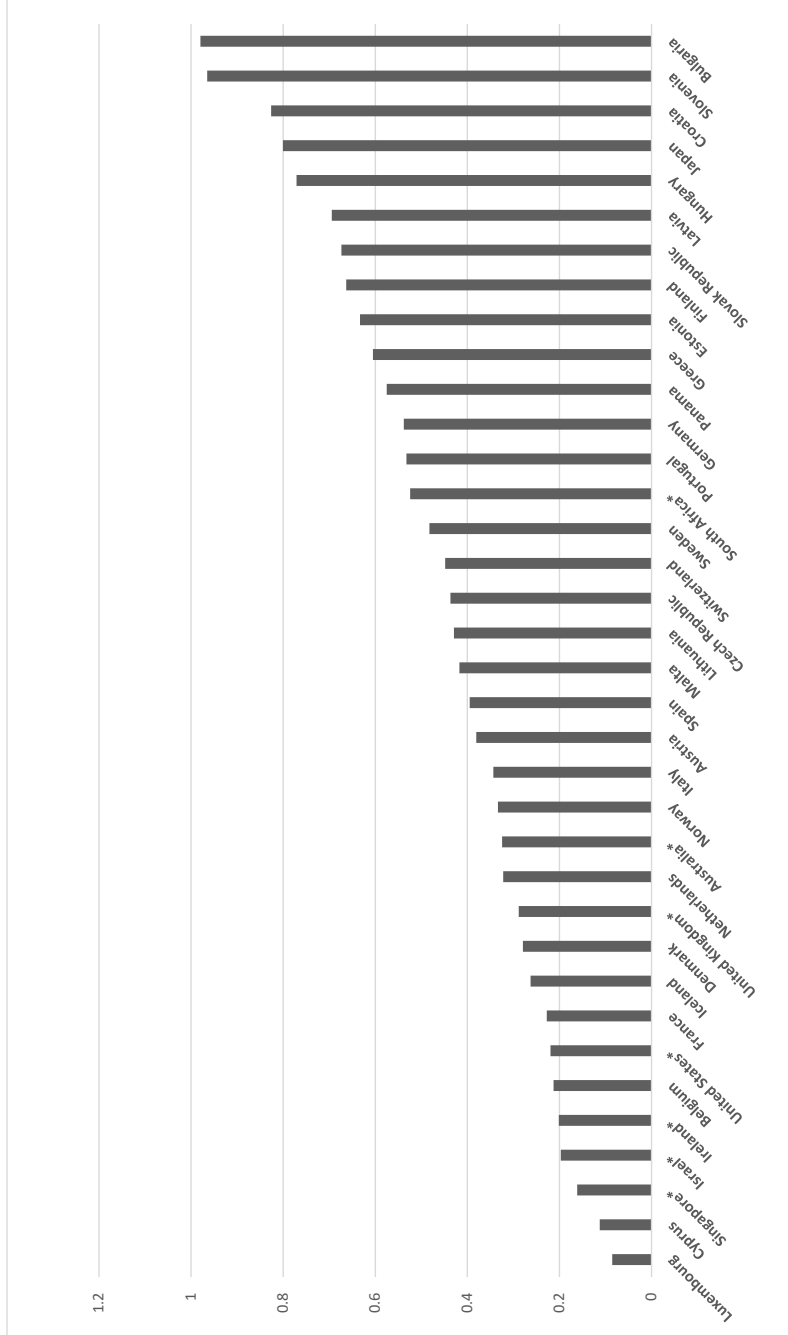


FIGURE 4
Ratio of spending on judiciary to private law firms



Note: Averages over 2008-2018 inclusively or closest continuous period five to ten years for 37 countries.

TABLE 2
Results for influences on legal services minus finance

	Total				Private			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Per capita GDP	0.896*** (0.122)	0.894*** (0.122)	0.906*** (0.129)	0.826*** (0.158)	1.491*** (0.203)	1.505*** (0.210)	1.504*** (0.192)	1.254*** (0.205)
Common law	0.715*** (0.194)	0.707*** (0.184)	0.715*** (0.189)	0.712*** (0.194)	0.769*** (0.196)	0.726*** (0.190)	0.846*** (0.205)	0.779*** (0.202)
Openness	0.382*** (0.123)	0.368*** (0.124)	0.343** (0.138)	0.375*** (0.124)	0.324*** (0.107)	0.319*** (0.106)	0.354*** (0.114)	0.473*** (0.102)
Urbanization		0.184 (0.440)				0.244 (0.554)		
Divorce			0.00007 (0.00034)				0.00027 (0.00040)	
No corruption				0.062 (0.063)				0.076 (0.068)
Observations	544	544	522	515	749	737	673	683
Overall R^2	0.695	0.702	0.707	0.706	0.781	0.790	0.794	0.757
Countries	37	37	36	37	51	50	48	51

Note: The dependent variable is the log of real per capita private sector expenditure on legal services (Private) or of the log of the sum of real per capita judiciary and private sector expenditure on legal services (Total). GDP per capita is the log of real GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. Random effects GLS estimations with year dummies and cluster-robust standard errors in parentheses. * = significant at 10%, ** = at 5% and *** = at 1%. Overall R^2 as distinct from between or within R^2 .

TABLE 3
Results for Financial Development

	Total		Private			Total			Private			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Per capita GDP	0.876*** (0.124)	0.885*** (0.127)	0.887*** (0.122)	1.490*** (0.220)	1.486*** (0.192)	1.521*** (0.214)						
Common law	0.698*** (0.193)	0.701*** (0.195)	0.709*** (0.190)	0.721*** (0.206)	0.729*** (0.193)	0.746*** (0.202)	0.726*** (0.244)	0.767*** (0.270)	0.794*** (0.253)	0.993*** (0.266)	1.029*** (0.268)	1.134*** (0.287)
Openness	0.399*** (0.127)	0.378*** (0.135)	0.395*** (0.122)	0.345*** (0.103)	0.325*** (0.116)	0.323*** (0.097)	0.734*** (0.203)	0.774*** (0.193)	0.699*** (0.194)	0.765*** (0.217)	0.727*** (0.254)	0.702*** (0.182)
Financial development	0.133 (0.211)			0.270 (0.362)			0.735** (0.299)			1.032*** (0.366)		
Financial firm development		0.145 (0.235)			0.320 (0.322)			0.629* (0.337)			1.107** (0.546)	
Financial market development			0.038 (0.117)			0.072 (0.254)			0.208 (0.157)			0.226 (0.324)
Overall R ²	0.705	0.709	0.696	0.804	0.810	0.798	0.480	0.398	0.386	0.444	0.428	0.318
Observations	544	544	544	729	729	729	544	544	544	729	729	729
Countries	37	37	37	49	49	49	37	37	37	49	49	49

Note: The dependent variable is the log of real per capita private sector expenditure on legal services (Private) or of the sum of real per capita judiciary and private sector expenditure on legal services (Total). GDP per capita is the log of real GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. For financial development, financial firm development and financial market development, see Svirydenka (2016). Random effects GLS estimations with year dummies and cluster-robust standard errors in parentheses. * = significant at 10%, ** = at 5% and *** = at 1%. Overall R² as distinct from between or within R².

TABLE 4
Results for US, Japan, East Asia

	Total				Private			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Per capita GDP	0.878*** (0.124)	0.910*** (0.122)	0.924*** (0.127)	0.913*** (0.127)	1.481*** (0.208)	1.499*** (0.204)	1.482*** (0.200)	1.481*** (0.198)
Common law	0.625*** (0.204)	0.693*** (0.188)	0.843*** (0.173)	0.790*** (0.158)	0.718*** (0.201)	0.749*** (0.195)	0.876*** (0.157)	0.879*** (0.151)
Openness	0.411*** (0.127)	0.345*** (0.122)	0.467*** (0.130)	0.435*** (0.119)	0.337*** (0.111)	0.315*** (0.105)	0.361*** (0.111)	0.362*** (0.108)
US	0.738*** (0.240)				0.638*** (0.215)			
Japan		-0.593*** (0.069)	0.661** (0.314)			-0.759*** (0.113)	-0.061 (0.256)	
East Asia			-1.200*** (0.290)	-0.838*** (0.249)			-0.732*** (0.218)	-0.741*** (0.183)
Overall R^2	0.741	0.713	0.761	0.757	0.791	0.785	0.813	0.813
Observations	544	544	544	544	749	749	749	749
Countries	37	37	37	37	51	51	51	51

Note: The dependent variable is the log of per capita real private sector expenditure on legal services (Private) or of the sum of real per capita judiciary and private sector expenditure on legal services (Total). GDP per capita is the log of real GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. Random effects GLS estimations with year dummies and cluster-robust standard errors in parentheses. * = significant at 10%, ** = at 5% and *** = at 1%. Overall R^2 as distinct from between or within R^2 .

TABLE 5
Results for further controls

	Total					Private				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Per capita GDP	0.858*** (0.132)	0.895*** (0.124)	0.880*** (0.135)	0.884*** (0.125)	0.938*** (0.113)	1.500*** (0.212)	1.493*** (0.207)	1.487*** (0.222)	1.444*** (0.217)	1.567*** (0.213)
Common law	0.650*** (0.210)	0.728*** (0.193)	0.719*** (0.190)	0.730*** (0.183)	0.674** (0.274)	0.799*** (0.203)	0.769*** (0.201)	0.772*** (0.198)	0.801*** (0.182)	0.579*** (0.221)
Openness	0.394*** (0.132)	0.371*** (0.125)	0.398*** (0.131)	0.394*** (0.120)	0.391*** (0.092)	0.322*** (0.109)	0.321*** (0.107)	0.329*** (0.114)	0.337*** (0.106)	0.300*** (0.092)
Former socialist	-0.201* (0.120)					0.105 (0.169)				
German		0.122 (0.111)					-0.003 (0.175)			
Transplants			-0.095 (0.149)					-0.026 (0.193)		
Unreceptive				-0.121 (0.188)					-0.340* (0.207)	
Overall R^2	0.712	0.702	0.698	0.696	0.710	0.781	0.781	0.780	0.797	0.771
Observations	544	544	544	544	498	749	749	749	749	694
Countries	37	37	37	37	33	51	51	51	51	46

Note: The dependent variable is the log of per capita real private sector expenditure on legal services (Private) or of the sum of per capita real judiciary and private sector expenditure on legal services (Total). GDP per capita is the log of real GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. Transplants and unreceptive transplants from Berkovitz et al. (2003a, b). Random effects GLS estimations with year dummies and cluster-robust standard errors in parentheses. * = significant at 10%, ** = at 5% and *** = at 1%. Overall R^2 as distinct from between or within R^2 . Columns (5) and (10) display the results for the sample excluding Cyprus, Israel, Malta, Philippines and South Africa (column 10) or all these minus Philippines (column 5).

TABLE 6
Country classifications by legal family

Common law	Civil law	Former socialist	German	Scandinavian	Origin country	Transplants	Receptive transplants	Unreceptive transplants
Australia	Austria	Bosnia Herzegovina	Austria	Denmark	Austria	Australia	Australia	Brazil
Canada	Belgium	Bulgaria	Germany	Finland	Denmark	Belgium	Belgium	Ecuador
Cyprus	Bosnia Herzegovina	Croatia	Korea	Iceland	Finland	Bosnia Herzegovina	Canada	Greece
Hong Kong	Bulgaria	Czech Republic	Japan	Norway	France	Bulgaria	Chile	Hong Kong
Ireland	Brazil	Estonia	Switzerland	Sweden	Germany	Brazil	Iceland	Korea
Israel	Chile	Hungary	Taiwan		Norway	Canada	Ireland	Jordan
Malaysia	Croatia	Latvia	Bosnia Herzegovina		Sweden	Chile	Israel	Malaysia
New Zealand	Czech Republic	Lithuania	Bulgaria		Switzerland	Croatia	Italy	Mexico
Singapore	Denmark	North Macedonia	Croatia		United Kingdom	Cyprus	Japan	Panama
South Africa	Ecuador	Poland	Czech Republic		United States	Czech Republic	Luxembourg	Philippines
United Kingdom	Estonia	Slovak Republic	Estonia			Ecuador	Netherlands	Portugal
United States	Finland	Slovenia	Hungary			Estonia	New Zealand	Singapore
	France		Latvia			Greece		South Africa
	Germany		North Macedonia			Hong Kong		Spain
	Greece		Poland			Hungary		Taiwan
	Hungary		Slovak Republic			Iceland		
	Iceland		Slovenia			Ireland		
	Italy					Israel		
	Japan					Italy		
	Jordan					Japan		
	Korea					Jordan		
	Latvia					Korea		
	Lithuania					Latvia		
	Luxembourg					Lithuania		
	Malta					Luxembourg		
	Mexico					Malaysia		
	Netherlands					Malta		
	North Macedonia					Mexico		
	Norway					Netherlands		
	Panama					New Zealand		
	Philippines					North Macedonia		
	Poland					Panama		
	Portugal					Philippines		
	Slovak Republic					Poland		
	Slovenia					Portugal		
	Spain					Singapore		
	Sweden					Slovak Republic		
	Switzerland					Slovenia		
	Taiwan					South Africa		
						Spain		
						Taiwan		

Note: All listings for origin countries, transplants, receptive transplants and unreceptive transplants are from Berkovitz et al (2003 a,b).

TABLE 7
Additional regression with ratio of judiciary to private

	Total	Total
Per capita GDP	0.896*** (0.122)	0.719*** (0.122)
Common law	0.715*** (0.194)	0.646*** (0.187)
Openness	0.382*** (0.123)	0.326*** (0.114)
Judiciary to private ratio		-0.256*** (0.039)
Overall R^2	0.695	0.720
Observations	544	544
Countries	37	37

Note: The dependent variable is the log of per capita value of the sum of Judiciary and private sector expenditure on legal services (Total). GDP per capita is the log of GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. Judiciary to private ratio is the ratio between judiciary and private sector expenditure on legal services. Random effects GLS estimations with year dummies with bootstrapped cluster-robust standard errors in parentheses. *** = significant at 1%. Overall R^2 as distinct from between or within R^2 .

TABLE 8
Test with auxiliary regression

	Total		Private	
	(1)	(2)	(3)	(4)
Per capita GDP	0.896*** (0.122)	0.810*** (0.156)	1.491*** (0.203)	1.450*** (0.302)
Common law	0.715*** (0.194)	0.704*** (0.144)	0.726*** (0.190)	0.800*** (0.160)
Openness	0.382*** (0.123)	0.614*** (0.142)	0.324*** (0.107)	0.418*** (0.148)
Mean GDP		0.294 (0.193)		0.135 (0.316)
Mean openness		-0.693** (0.304)		-0.558** (0.276)
Observations	544	544	749	749
Overall R^2	0.695	0.797	0.781	0.821
Countries	37	37	51	51
Wald		0.011		0.123

Note: The dependent variable is the log of per capita value of the sum of Judiciary and private sector expenditure on legal services (Total). GDP is the log of GDP per capita. Judiciary to private ratio is the ratio between Judiciary and private sector expenditure on legal services, openness is measured as the sum of imports plus exports divided by GDP times 2. Mean indicates the time-series mean of the variables. Random effects GLS estimations with year dummies and cluster-robust standard errors in parentheses. **=significant at 5%, *** = significant at 1%. Overall R^2 as distinct from between or within R^2 . Wald are the p-values of the joint significance Wald test for Mean GDP and Mean openness.

TABLE 9
Second stage of two-stage test

	Total	Private
Mean GDP	0.913*** (0.108)	1.53*** (0.184)
Common Law	0.740*** (0.152)	0.732*** (0.178)
Mean openness	-0.135 (0.243)	0.052 (0.264)
Observations	37	51
$AdjR^2$	0.78	0.78

Note: The dependent variables are the estimated fixed effect coefficients from Eq. 2. Mean GDP capita is the time-mean of the log of per capita GDP. Mean openness is the time-mean of the sum of imports plus exports divided by GDP times 2. OLS estimations with bootstrapped cluster-robust standard errors in parentheses. $AdjR^2$ is the adjusted R^2 . *** = significant at 1%.

Appendix

TABLE A1
Descriptive statistics

Variable		Mean	Std. Dev.	Min	Max	Observations
Private expenditure	overall	4.905495	1.116757	0.5422367	7.417656	N = 753
	between		1.086803	1.272215	7.142074	n = 51
	within		0.367039	2.808857	6.12191	\bar{T} = 14.7647
Total expenditure	overall	5.546806	0.6683959	3.674993	7.485728	N = 544
	between		0.6209372	4.367334	7.223871	n = 37
	within		0.3056937	4.555394	6.325669	\bar{T} = 14.7027
Per capita GDP	overall	10.28712	0.5268455	8.635204	11.52582	N = 753
	between		0.5173575	8.845596	11.41366	n = 51
	within		0.2439214	9.419762	11.08848	\bar{T} = 14.7647
Openness	overall	0.5576273	0.4067121	0.0989322	2.2131	N = 749
	between		0.3782635	0.1250906	1.842007	n = 51
	within		0.0998526	0.0831969	1.194936	\bar{T} = 14.6863
Judiciary to private ratio	overall	0.5089793	0.4441587	0.0704423	4.584484	N = 544
	between		0.4014291	0.0852651	2.428573	n = 37
	within		0.1643225	-0.5103943	2.66489	\bar{T} = 14.7027
Urbanization	overall	0.7662588	0.1277581	0.45332	1	N = 737
	between		0.1365388	0.4610111	1	n = 50
	within		0.2710036	0.5909249	0.8533449	\bar{T} = 14.7647
Divorce	overall	0.02075007	0.008118905	0	0.048	N = 673
	between		0.008319111	0	0.03831034	n = 51
	within		0.002876035	0.008359103	0.03248921	\bar{T} = 14.0208
No corruption	overall	1.091676	0.911319	-0.9279991	2.469991	N = 686
	between		0.9340693	-0.7569481	2.346803	n = 51
	within		0.1377749	0.5372038	1.541347	\bar{T} = 13.451

Note: Private expenditure is the log of per capita real private sector expenditure on legal services. Total expenditure is the log of the sum of judiciary and private sector expenditure on legal services. GDP per capita is the log of GDP per capita. Openness is measured as the sum of imports plus exports divided by GDP times 2. Judiciary to private ratio is the ratio between judiciary and private sector expenditure on legal services. N is the number of observations, n the number of countries, \bar{T} the average number of time periods.



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