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the Distributive Implications of Legal Systems

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LAW AND INEQUALITY: A COMPARATIVE APPROACH TO THE DISTRIBUTIVE IMPLICATIONS OF LEGAL SYSTEMS

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Abstract

The literature on legal traditions focuses on the comparative macroeconomic effects of legal systems concentrating on efficiency alone and leaving distributive issues to taxation. However, the legal structure of a country also conditions the primary distribution of income and can have a comparative advantage as a distributive tool relative to taxation. We use cross-section and panel estimates to show that the level of income inequality in a country is indeed correlated with its legal system. By several measures of inequality, on average, common law countries are more unequal than civil law countries. We explain these results by the nature of the systems. The reduced regulation of common law countries limits their capacity to achieve social objectives such as combating income inequality.

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1 Introduction

The last few decades have seen the development of a vast field of research studying the influence of legal systems on the economic performances of nations. Some authors have sought to demonstrate a connection between legal tradition and the level of economic and financial development. La Porta, Lopez-De-Silanes, Sheifer, and Vishny (LLSV) have published several articles demonstrating that common law countries are associated with better investor protection, better contract enforcement, and a greater respect for private property (see La Porta, Lopez-De-Silanes, and Sheifer (2008) [23], for a survey). As a result, these countries seemingly benefit from greater economic efficiency than civil law countries marked by the influence of the Napoleonic Code. Subsequent works have supplemented or tempered the impact of the common law on economic and financial development (e.g., Mahoney (2001) [30], La Porta et al. (2002) [25], and Levine (1999) [27]). Debates have focused on methodological issues and the quality of empirical treatments (Rostowski and Stacescu (2006) [37], Kim (2009) [19], Xu (2011) [38], or Klerman et al. (2011) [21]). More rarely, the question of the nature and foundations of legal systems has been addressed (Glaeser and Shleifer (2002) [15], Roe (2007) [35], Klerman and Mahonney (2007) [20], or Crettez, Deffains, and Musy (2018) [7]).

One subject that has not been much discussed is whether the objective of legal systems can be reduced to the sole question of economic efficiency. The approach developed by LLSV makes the protection of private property the central element of good economic governance, insofar as it maximizes individual incentives to invest, produce, and undertake (La Porta, Lopez-de-Silanes, and Shleifer (2002, 2006) [22] [24]). Such an approach addresses the question of the economic impact of the law exclusively from the point of view of the interests of shareholders, and thus privileges the question of value creation and leaves aside that of value sharing. It leads to empirical measurements (and rankings) of the levels of investor protection at the international level. According to LLSV, investor protection is greater in common law countries, thus supporting the argument that the legal tradition of countries can statistically explain differences in the development of financial markets and economies.

A possible explanation for these differences is the degree of centralization of the production of

legal norms and judicial decisions (e.g., Deffains and Musy (2018) [11]). In common law countries, the production of legal norms appears less centralized. The participation of private agents in judicial decision-making, for example in the form of popular juries, is also more widespread. As a result, the preferences of individuals are supposedly better taken into account, in particular to ensure the search for efficient solutions. As stated by Porta, Lopez-De-Silanes, and Sheifer (2008) [23], the common law is designed to support "unconditioned private contracting while French civil law embraces 'socially-conditioned private contracting'". Damaska (1986) [9] argues that civil law is policy implementing, while common law is dispute resolving. In civil law countries, the legislature is the primary source of production of legal norms. The primacy of the law established at a centralized level implies that legal developments often reflect trade-offs inherent in public choices that incorporate a multiplicity of social objectives, among which the protection of individuals and freedom of contract are only elements. Legal systems supposedly thus reflect potentially different trade-offs in the place accorded to the defense of individual and general interests. While efficiency issues are then at the core of common law, pursuing social objectives can be more efficient with the tools of civil law.

One of the major consequences of this work, but one that is rarely emphasized, is that it has steered thinking in a direction that emphasizes the question of resource allocation without really looking at the redistributive aspects in relation to the treatment of economic inequalities. By focusing on the protection of shareholders, it seems clear that the objective sought, from a normative point of view, is to maximize the value of the firm. Current events clearly invite us to question this "patrimonial" outlook of the law, which proves to be questionable in a context of "stakeholder" capitalism, which aims to avoid restricting the purpose of the firm to the interests of its shareholders alone (e.g., Deffains, Durand, and Hurstel (2021) [10]). But beyond this questioning of corporate social responsibility, it has already been observed that legal systems are not neutral with regard to the treatment of inequalities (Crettez, Deffains, and Musy (2018) [7]). Tocqueville had already underlined this in his time by explaining how the question of inequalities contributes to defining certain aspects of legal systems.¹

The purpose of this article is to fill a gap by discussing how the law deals not only with the

¹Tocqueville, *On Democracy in America*, 1835.

allocative but also the redistributive aspects that jointly characterize the functioning of any society. We argue that the counterpart of the greater efficiency of the common law can be lower capacity to control economic inequalities. Distributive issues are not absent from the law and economics literature, but the classic position is to think of redistribution exclusively through the prism of the tax system. The main argument in favour of redistribution solely through the tax system is that of the double distortion introduced by Kaplow and Shavell (1994) [18]. The tax system is inherently distorting to the economy but addresses equity concerns, while the legal system is also distorting but supposedly less effective than the tax system at redistribution. For the proponents of the double distortion, it is not relevant to have two distorting systems and it would therefore be preferable to resort to the more efficient system for redistribution, i.e. the tax system.² The legal system should thus only address efficiency concerns. In a way, the work of LLSV can be seen as extending this approach into the empirical arena by moving the debate in the direction of investigating the effects of legal systems solely from the point of view of efficient allocation of resources. The extension of this work within the framework of the World Bank's *Doing Business* project seemed, for a time, to reinforce this "unequivocal" representation of the relationship between the economy and the law to the detriment of any other consideration.

The multitude of articles examining the law-efficiency nexus (see Dam (2004) [8], Roe and Siegel (2009) [36]) and the belief that law need not concern itself with redistribution explain why there is very little research on the link between the legal system and inequality. Only a few articles have empirically (and mostly incidentally) examined this issue (Islam (2016) [17], Easterly (2007) [13]) and two contributions explicitly address this theme: Maggio, Romano, and Troisi (2014) [29] and Ferguson et al. (2017) [14]). The former establishes a significant link between legal tradition and the Gini coefficient while the latter concludes that there is no such correlation. Similarly, in their long-term analysis of high incomes, Atkinson, Piketty, and Saez (2011) [5] distinguish between several evolutionary dynamics: European countries and Japan on the one hand, and English-speaking countries on the other. Between the beginning of the 20th century and the 1980s, all the countries analyzed saw the share of national income of their richest 1% fall. But at the turn of the 1980s, the trends differed, with European countries and Japan experiencing a stabilization of the level of this share, which the authors describe as "L-shaped" (Figure 1). The other group of countries, the

²See Liscow (2013) [28] or Dimick (2016) [12] for a critique of this argument.

English-speaking countries (the United States, the United Kingdom, Canada, Australia, Ireland and New Zealand) saw the share of their richest 1% increase after the 1980s. The authors call this a "U-shaped" dynamic (Figure 1). In this paper, we argue that this difference in evolution is not accidental and can, in part, be explained by differences in legal systems. Figure 2 repeats this long term analysis of the income share of the richest 1%.³ The blue curve represents the average share in civil law countries⁴ and the red curve in Common Law countries.⁵ This graph confirms the results of Graph 1, but we interpret this difference using the legal system.

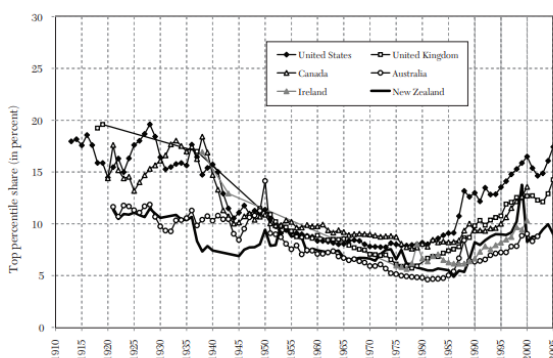


Figure 8. Top 1 Percent Share: English Speaking Countries (U-shaped), 1910–2005
Source: Atkinson and Piketty (2007, 2010).

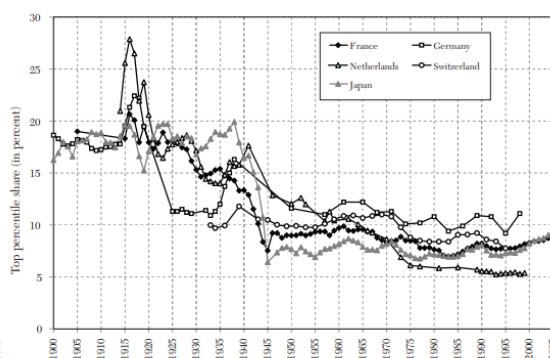


Figure 9. Top 1 Percent Share: Middle Europe and Japan (L-shaped), 1900–2005
Source: Atkinson and Piketty (2007, 2010).

Figure 1: Evolution of the top 1% (Atkinson, Piketty, and Saez (2011))

³Before 1980, each year has between 3 and 6 observations for common law and between 7 and 11 observations for civil law. After 1980 the observations are available for all countries and all year. For each years the averages are calculated using the available observations.

⁴16 countries: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Italy, Japan, Luxembourg, Netherlands, Norway, Portugal, South Korea, Spain and Switzerland.

⁵8 countries: Australia, Canada, Hong Kong, Ireland, Israel, New Zealand, United Kingdom and United States.

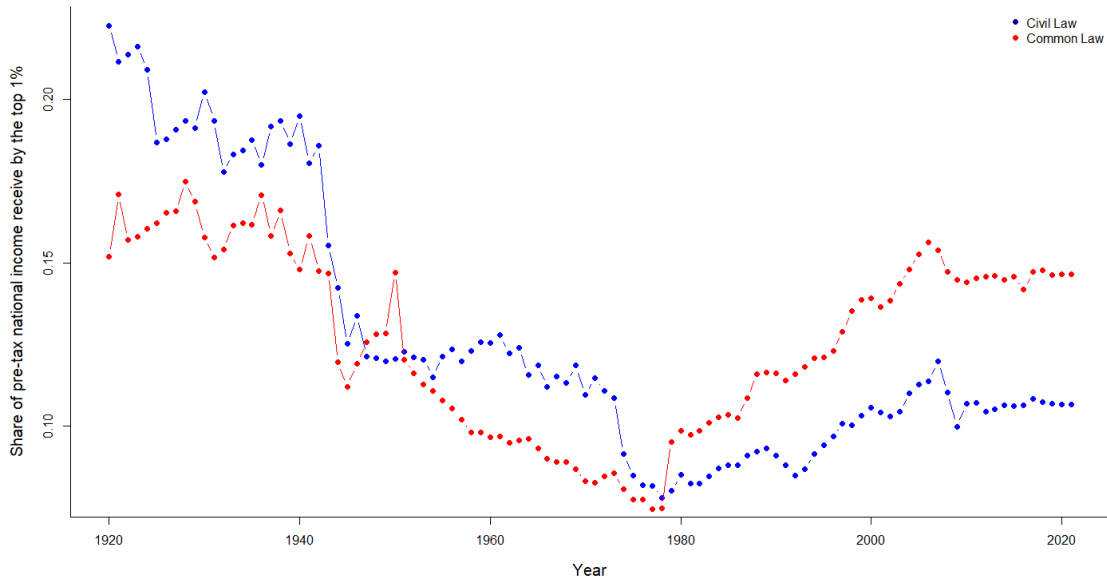


Figure 2: Evolution of the top 1% between 1920-2021, common law and civil law (data: WIB)

We supplement these studies by proposing a more in-depth analysis of the relationship between legal systems and inequalities in order to understand to what extent these systems reflect economic concerns other than economic efficiency. Since the French Revolution, the question of the development of nations has not been limited to the measurement of productive efficiency, but has also questioned the nature of the social contract and the setting up of institutions likely to ensure the protection of individuals through social policies and solidarity mechanisms to face the rise of inequalities. The law is not "watertight" with respect to these questions. The growing success of economic works on inequalities (Atkinson, Piketty, and Saez (2011) [5] and Piketty (2013, 2019) [32] [31]), even among common law legal scholars (see Pistor (2019) [34] shows that this subject is not anecdotal. The major international organizations have not been left behind, since the United Nations Human Development Index (HDI) has recently included an explicit dimension relating to inequalities. Similarly, the pillars of the United Nations Millennium Project for sustainable development now include the pillar of addressing inequalities alongside those of growth and environmental protection.

Indeed, civil law and common law countries differ in many respects, such as the role of govern-

ment (La Porta et al. (1999) [26]), aversion to inequality (Alesina et al. (2004) [3]), or institutions (Acemoglu and Robinson (2001) [1]). The legal system is therefore far from being the only difference between civil law and common law countries. The literature that best summarizes these differences is undoubtedly that on the typology of forms of capitalism. For instance, Hall and Soskice (2001) [16] shows that it is possible to highlight two "types" of market economies, the "Liberal Market Economies" (LMEs), and the "Coordinated Market Economies" (CMEs). Obviously, these two categories remain ideal-types and in fact there are nuances within these two groups. To simplify, LMEs are economies based on contractual relations passing through a competitive market, they have relatively unregulated markets (compared to CMEs). In CMEs, relations are based more on non-contractual relations of trust and state regulation is more developed there.⁶ Here, the important point is that civil law countries tend to be more akin to CMEs and common law countries to LMEs. For Pistor (2005) [33], this overlap between common law and LME and between civil law and CME is not a coincidence, as she writes: "the legal system serves as a coordination device for social preferences." Social preferences are present at the heart of legal systems, this is particularly the case with contractual relations. Pistor shows that the "ground rules", particularly in terms of the allocation of rights of access to the judicial system or even of the extent of what may or may not be subject to contract, count in the organization of a market economy. LMEs give much scope to individual initiative whereas CMEs place more value on collective mechanisms. For Pistor, this difference can be found in the higher level of contractibility of corporate law in common law or in the capacity of civil law systems to challenge past contracts on the basis of social norms (as with the principle of "good faith" for example). These differences are also noticeable for the allocation of rights of access to the judicial system. LMEs favor more individual initiative, common law gives significant powers to the individual in terms of access to the judicial system. Conversely, CMEs favor collective negotiation mechanisms with significant ex-ante controls, while individual access to the judicial system is more limited and the use of alternative dispute resolution mechanisms is favoured. These points are only examples but from Pistor's analysis, we know that legal systems and their ground rules are closely related to the type of market economy, which is why in this section we measure the right effect: the differences in social preferences present at the heart of legal

⁶For other differences such as the preferred method of financing companies or the vision of the "shareholder value vs. stakeholder value" view of the firms objective, see Hall & Soskice (2001).

systems.

This article is organized as follows: Section 2 presents new empirical results on the link between legal systems and pre-tax income inequality. Section 3 discusses the results. Section 4 concludes.

2 Law and income inequality: an empirical comparative law approach

2.1 Legal systems

In this section, we compare the inequality (especially income inequality) performance of common law and civil law countries. In order to differentiate between these two legal systems, we use data from La Porta, Lopez-De-Silanes, and Sheifer (2008) [23] and *Juriglobe*.⁷ La Porta, Lopez-De-Silanes, and Sheifer (2008) provides data on legal traditions using dichotomous variables that indicate whether the country is one of English Law, French Law, German Law, Scandinavian Law, or Socialist Law. Here, we are interested in the common law civil law duality, which is why we keep the English Law variable equal to 1 for common law countries and equal to 0 for civil law countries only. The database of *La Porta, Lopez-De-Silanes, and Sheifer* (2008) does not contain data on all the countries, which is why we complete the database for the missing countries using the *Juriglobe* classification proposed by the University of Ottawa. The countries are categorized according to four legal systems, each country potentially belonging to one or more of these categories: civil law, common law, customary law, and muslim law. When a country is classified as belonging to a mixed system, we include it in the analysis whenever one of the components of this mixed system is classified as common law or civil law, excluding those that combine these two traditions. Thus, countries whose legal tradition is not provided by La Porta, Lopez-De-Silanes, and Sheifer (2008), as well as those that are mixed in civil law and common law or that are neither common law nor civil law are excluded from the analysis.

⁷<http://www.juriglobe.ca/fra/index.php>

2.2 HDI and HDI adjusted for inequality

We first consider the effects of legal systems on the basis of simple standard welfare indicators. We use the Human Development Index (HDI), elaborated by the United Nations Development Programme (UNDP). It is built as the average of development scores in three dimensions: per capita income, education, and life expectancy. In 2010, the organization calculated the Inequality-adjusted HDI (HDII) for the first time. One of the criticisms of the HDI was that it failed to take into account inequality in the measurement of well-being. Indeed, the HDI assumes that wealth, access to education, and health conditions are the same for all individuals in a population, but in reality, disparities exist. With the HDII, the new interpretation of the HDI is the potential level of development if resources are equally accessible. The HDII measures the actual level of development, i.e. taking into account inequalities. The calculation of the HDII corresponds to the average of the three development scores corrected for the levels of inequality associated with them. This correction is made using Atkinson indexes. In this section, we will study how the legal system affects well-being by comparing the HDI and HDII performances of civil law and common law countries.

We study the UNDP data for the year 2019. We study HDI (**idh**), HDII (**idhi**), percentage HDI loss due to inequality (**loss**) and percentage of health dimension loss due to inequality (**atk_lifexp**), percentage of education dimension loss due to inequality (**atk_educ**), percentage of income dimension loss due to inequality (**atk_inc**).⁸ The variables **atk_inc**, **atk_educ**, and **atk_lifexp** are used to break down by dimension the loss of HDI due to inequalities. They correspond to the Atkinson coefficient multiplied by 100. Table 1 provides the descriptive statistics for all these variables, by legal system. Table 2 presents the tests of the differences in means of the different variables of interest between civil law and common law. Civil law countries have, on average, a higher HDI than common law countries but this difference is not statistically significant. When we look at the HDI adjusted for inequality (i.e. the actual level of development) the difference that was not sig-

⁸ $HDI = (Income \cdot Education \cdot LifeExp)^{1/3}$ with I the dimensional index.

Dimensional index = $\frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$. For example for the income index, the maximum GNI per capita value is \$75 000 and the minimum is \$100.

A_i is the Atkinson index, with $A_i = 1 - \frac{\mu}{m}$ (μ is the geometric mean and m is the arithmetic mean). In our work the Atkinson indexes are multiplied by 100.

$HDII = [(1 - A_{income}) \cdot Income \cdot (1 - A_{education}) \cdot Education \cdot (1 - A_{lifexp}) \cdot LifeExp]^{1/3} = [(1 - A_{income}) \cdot (1 - A_{education}) \cdot (1 - A_{lifexp})] \cdot HDI$

$Loss = 100 \cdot (1 - \frac{HDII}{HDI}) = [(1 - A_{income}) \cdot (1 - A_{education}) \cdot (1 - A_{lifexp})]^{1/3}$

If the three Atkinson indexes are equal to 0, then HDI=HDII.

For more details on the calculations, see: http://hdr.undp.org/sites/default/files/hdr2020_technical_notes.pdf

nificant becomes significant. This loss of development due to inequality can be quantified using the loss variable, which is also significantly different between civil law and common law. On average, common law countries lose 22.568% of their HDI due to inequality while civil law countries lose 18.175%. This difference in inequality loss between civil law and common law countries is significant at 5%. As a result of inequality, common law countries lose more than civil law countries in effective development, which inevitably has consequences for well-being. If we look at the sources of this loss (Figure 3), we see that, whatever the dimension, civil law countries are less unequal than common law countries. Nevertheless, the most significant difference of inequality is for the income dimension. These results show us that the legal system and the law in general have consequences for the well-being of societies (measured here with the UNDP method). In the next section, we will focus on income inequality using the pre-tax income distribution.

	Min	Q1	Median	Mean	Q3	Max	SD
civ_hdi	0.394	0.627	0.763	0.734	0.851	0.957	0.154
com_hdi	0.433	0.555	0.645	0.688	0.806	0.955	0.164
civ_hdii	0.232	0.476	0.632	0.614	0.770	0.899	0.187
com_hdii	0.276	0.398	0.476	0.546	0.675	0.885	0.192
civ_loss	4.444	9.850	16.254	18.175	25.537	45.307	10.004
com_loss	7.330	14.609	24.660	22.568	29.621	36.259	9.175
civ_atk_lifexp	2.400	4.925	10.650	13.678	20.700	40.900	10.422
com_atk_lifexp	2.500	6.475	19.100	17.652	25.250	39	11.035
civ_atk_educ	1.388	5.308	12.124	17.539	29.334	50.124	14.310
com_atk_educ	1.840	9.970	19.996	22.202	36.897	47.658	14.890
civ_atk_inc	8.500	14.543	20.150	22.309	28.325	56	9.735
com_atk_inc	13.217	18.243	24.970	26.273	31.394	56.996	9.692

Table 1: Descriptive statistics of HDI, HDII, Loss, and Atkinson indices for income, education, and life expectancy. The sample includes 110 civil law countries and 42 common law countries (year 2019)

2.3 Pre-tax income distribution

The standard approach to measuring inequality is to focus exclusively on monetary inequalities. We use data from the World Inequality Database (WIB).⁹ The WIB contains data on the distribution of pre-tax national income for most countries and over several years (sometimes more than a century).

⁹<https://wid.world/fr/accueil/>

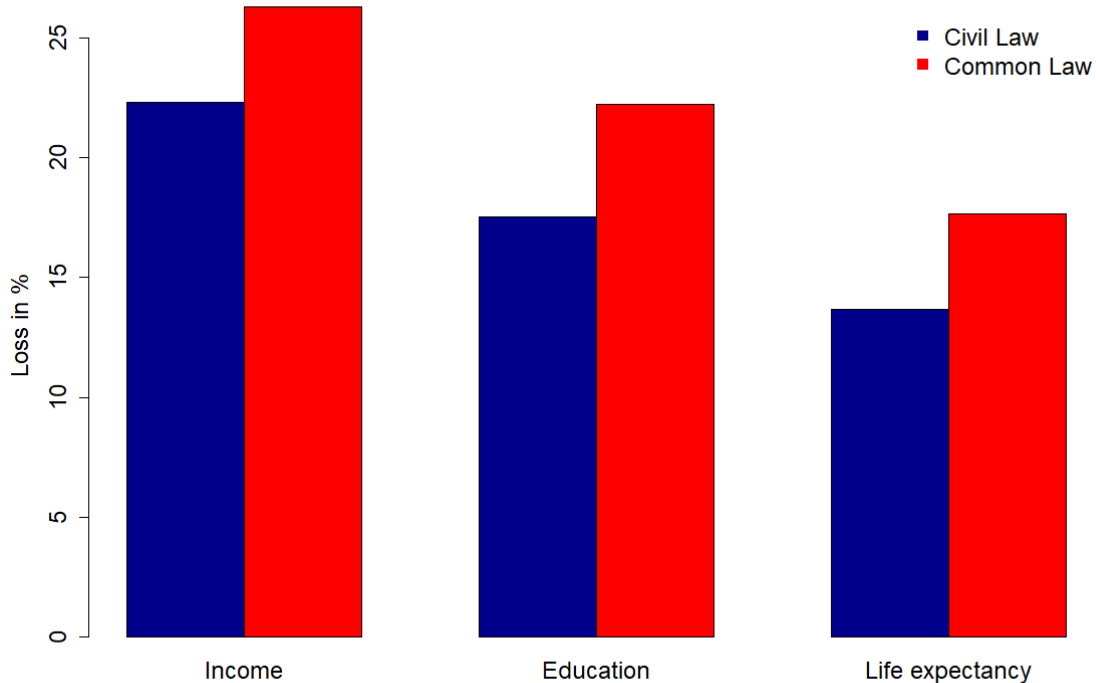
	Mean Civil Law	Mean Common Law	p.value
hdi	0.734	0.688	0.126
hdii	0.614	0.546	0.054
loss	18.175	22.568	0.012
atk_lifexp	13.678	17.652	0.048
atk_educ	17.539	22.202	0.085
atk_inc	22.309	26.273	0.027

Table 2: Tests of differences in means between common law and civil law

Since we focus on the effects of legal systems and not fiscal rules, we consider the distribution of pre-tax income as a prime indicator. The impact of taxation will explain the difference between pre-tax and post-tax income. Difference in pre-tax incomes can be considered as the result of the constraints placed by legal rules on the primary distribution of income. Law shapes markets, allocates bargaining power, and frames all transactions. The role of law is thus contained in the determinants of national income distribution before the impact of taxation. For example, Blanchet, Chancel, and Gethin (2021) [6] have shown that the difference in inequality between Europe and the United States is not due to a difference in redistribution but to a difference in pre-distribution, that is, national income before taxes.

Concerning our variables of interest, we use the same classification as in most of the works (Piketty (2013, 2019) [32] [31], Alvaredo et al. (2018) [4]) of the researchers of the World Inequality Lab, i.e. we analyze the share of national income of the poorest 50%, the middle 40% and the richest 10%. We also study the Gini coefficient, also available on the WIB website. Our data are for the year 2017.

Tables 3 and 4 present the descriptive statistics as well as the tests of differences in means for the four variables of interest between civil law and common law. Table 4 shows that common law countries appear to be more unequal than civil law countries. Without any control, we observe that common law countries have a Gini index 0.034 higher than common law countries (significant at the 1% level), but also a share of national income of the richest 10% 0.035 higher (significant at the 5% level), a share of national income of the middle 40% lower by 0.016 (significant at the 5% level), and a share of national income of the bottom 50% lower by 0.018 (significant at the 1% level). Now,



Interpretation: Loss of development by dimension, due to inequalities

Figure 3: Loss of development by dimension due to inequalities (Atkinson indexes)

the challenge of this empirical section will be to show that this difference is robust to the addition of relevant control variables that can explain these inequality differences.

	Min	Q1	Median	Mean	Q3	Max	SD	N
gini_civ	0.376	0.491	0.555	0.554	0.609	0.874	0.086	126
gini_com	0.458	0.541	0.599	0.588	0.617	0.746	0.071	47
t10_civ	0.273	0.372	0.447	0.444	0.494	0.827	0.091	126
t10_com	0.336	0.430	0.489	0.478	0.508	0.654	0.077	47
m40_civ	0.144	0.375	0.397	0.401	0.441	0.490	0.052	126
m40_com	0.288	0.363	0.383	0.384	0.413	0.503	0.046	47
b50_civ	0.030	0.126	0.152	0.155	0.183	0.252	0.043	126
b50_com	0.058	0.122	0.131	0.137	0.160	0.204	0.035	47

Table 3: Descriptive statistics

	Mean com	Mean civ	Difference	p-value
gini	0.588	0.554	0.034	0.010
t10_	0.478	0.444	0.035	0.014
m40_	0.384	0.401	-0.016	0.045
b50_	0.137	0.155	-0.018	0.005

Table 4: Mean Difference Tests

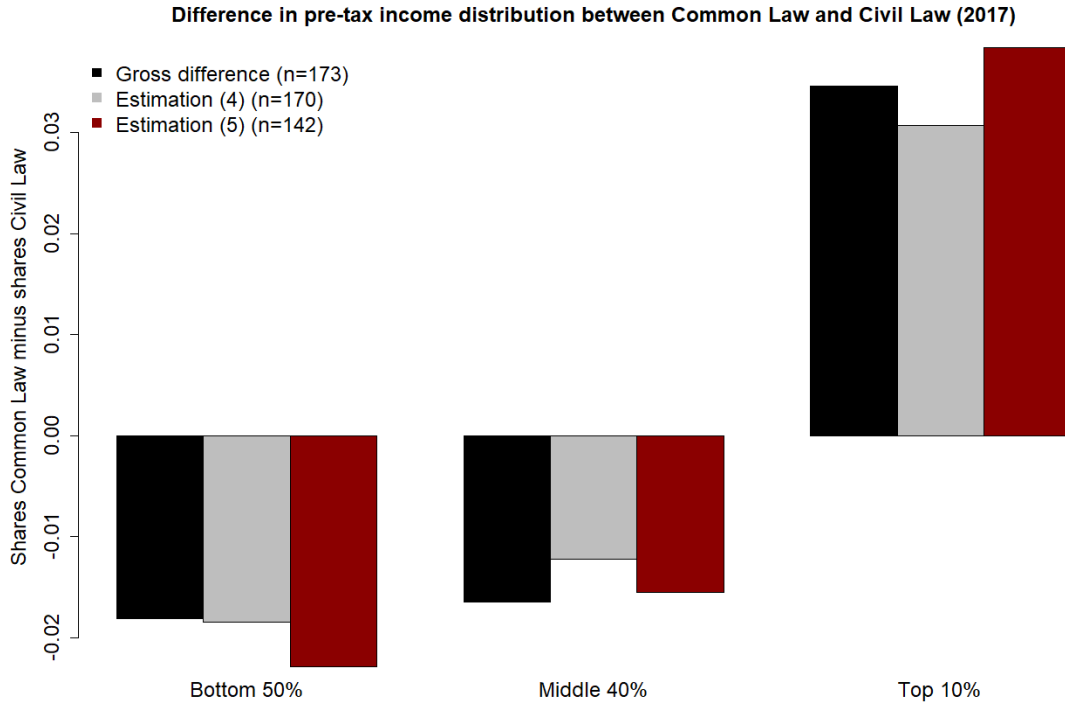


Figure 4: Difference in distribution of pre-tax national income between civil law and common law (gross difference, specifications (4) and (5))

We try to isolate the effect of the legal system on the inequality indicators. Although common law countries appear significantly more unequal than civil law countries, it is possible that this difference is due to unobserved heterogeneity. This is why we seek to estimate the impact of the legal system on the three groups as well as on the Gini coefficient by introducing control variables using the OLS method. We estimate variants of the following specification:

$$coef_ineg_i = \alpha + B_1 DIM_IDH_i + B_2 GOUV_i + B_3 CONT_i + \gamma legor_i + \varepsilon_i \quad (1)$$

In the above specification, α is the model constant, GOUV are the World Bank governance indicators, and *legor* is a dummy equal to 1 if it is a common law country and equal to 0 if it is a civil law one. CONT corresponds to a set of control variables such as the unemployment rate, the share of labor in GDP, investment, and indicators of ethnic and linguistic fragmentation (Alesina et al. (2003) [2]). DIM_HDI corresponds to the three HDI development scores of income, life expectancy, and education. These controls for development are relevant because they provide a standardized measure of economic development in three areas of importance. In addition, for education, the standardized index takes into account the expected years of schooling.

Tables 5, 6, 7, and 8 correspond to the estimates of equation (1). In these tables the difference between specifications (5) and (6) is the addition of a control for the unemployment rate. For none of these estimates does this control seem significant. Nevertheless, this control greatly affects the size of the sample analyzed with a change from 142 observations to 106 observations between specifications (5) and (6). Moreover, the effect of the coefficient associated with the legal tradition increases largely with the introduction of the unemployment rate because of the change of sample. It is likely that in reality the estimates (6) overestimate the effect of legal tradition. Therefore, here we retain specifications (4) and (5) as the most relevant ones. We have plotted in Figure 4 the differences between civil law and common law, for the gross difference (Table 4) and for the differences with controls for estimates (4) and (5) in Tables 6, 7, and 8.

Concerning the Gini coefficient and Table 5, the *legor* variable is always significant whatever the specification. According to the controls, the difference in the Gini coefficient between civil law and common law is between 0.022 and 0.051, and the coefficient associated with the legal tradition is always significantly different from 0 at the risk of 1% or 5%, except for estimate (3) with a significance at 10%. Tables 6, 7, and 8 describe the estimates for the three income groups (top 10%, middle 40%, and bottom 50%). For the top 10%, we see that except for estimate (3) the coefficient associated with legal tradition is always significantly different from 0 at the 5% level. On average, the share of national income of the top 10% in common law countries is higher than that in civil law countries; this difference is between 0.022 and 0.048. For the share of the bottom 50%, the effect

of legal tradition is also significant whatever the specification. Common law countries have a lower average share than civil law countries, with a difference between 0.012 and 0.028. For the middle 40% share, the effect is less clear. In Table 6, the coefficient of the legal tradition of specifications (1), (2), and (6) is significantly different from 0, with on average a lower share in common law countries. We also note that these effects are robust to other controls for economic development (A.2.1) as well as to panel estimation (A.2.2).

These estimates show us that law does have an impact on pre-tax income inequality, with common law countries appearing more unequal, at least before the impact of taxation. These results lead us to question the redistribution through law. Indeed, the Law and Economics literature has tended to separate allocative issues from redistributive concerns. However, we can see here that these two subjects are closely linked. The question of distribution is contained in the allocation made by law. From then on, one can legitimately wonder about the normative question of the correction of inequalities by law.

Table 5: Gini coefficient

	<i>Dependent variable:</i>					
	Gini index of pre-tax national income					
	(1)	(2)	(3)	(4)	(5)	(6)
legor	0.034** (0.014)	0.032** (0.013)	0.022* (0.013)	0.033** (0.013)	0.041*** (0.015)	0.051*** (0.016)
inc		-0.200*** (0.032)	0.070 (0.074)	0.077 (0.078)	0.118 (0.095)	-0.017 (0.124)
educ			-0.158** (0.069)	-0.103 (0.072)	-0.111 (0.085)	-0.125 (0.092)
lifexp			-0.226** (0.097)	-0.168* (0.099)	-0.157 (0.128)	0.046 (0.157)
rule				-0.034 (0.027)	-0.023 (0.032)	-0.040 (0.033)
cor				0.004 (0.018)	-0.004 (0.022)	-0.002 (0.022)
polstab				0.008 (0.009)	0.006 (0.011)	-0.011 (0.013)
gouv				-0.015 (0.026)	-0.024 (0.033)	0.011 (0.038)
reg				0.035* (0.020)	0.036 (0.025)	0.029 (0.026)
voicac				-0.022** (0.010)	-0.018 (0.012)	-0.008 (0.014)
shareL					-0.0005 (0.001)	-0.001 (0.001)
fbcf					0.0002 (0.001)	-0.001 (0.001)
ethnic					0.089** (0.039)	0.129*** (0.043)
language					-0.073* (0.038)	-0.087** (0.040)
unemp						-0.001 (0.001)
Constant	0.554*** (0.007)	0.697*** (0.024)	0.793*** (0.045)	0.697*** (0.067)	0.669*** (0.116)	0.651*** (0.136)
Observations	173	170	170	170	142	106
R ²	0.033	0.210	0.281	0.338	0.374	0.440
Adjusted R ²	0.027	0.201	0.264	0.297	0.305	0.347
Res. Std. Err.	0.082	0.075	0.072	0.070	0.072	0.065
F Statistic	5.816**	22.196***	16.128***	8.129***	5.414***	4.723***
p-value BP test	0.16	0.062	0.332	0.737	0.702	0.433

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6: Share of top 10%

	<i>Dependent variable:</i>					
	Share of pre-tax national income received by the top 10%					
	(1)	(2)	(3)	(4)	(5)	(6)
legor	0.035** (0.015)	0.033** (0.014)	0.022 (0.014)	0.031** (0.014)	0.038** (0.016)	0.048*** (0.017)
inc		-0.208*** (0.035)	0.077 (0.079)	0.070 (0.085)	0.113 (0.104)	-0.010 (0.131)
educ			-0.170** (0.074)	-0.106 (0.078)	-0.112 (0.092)	-0.111 (0.097)
lifexp			-0.234** (0.104)	-0.186* (0.107)	-0.176 (0.139)	-0.009 (0.165)
rule				-0.023 (0.029)	-0.014 (0.034)	-0.034 (0.035)
cor				0.004 (0.019)	-0.005 (0.024)	-0.001 (0.023)
polstab				0.004 (0.010)	0.003 (0.012)	-0.014 (0.014)
gouv				-0.011 (0.029)	-0.018 (0.036)	0.018 (0.040)
reg				0.028 (0.022)	0.030 (0.027)	0.022 (0.027)
voicac				-0.026** (0.011)	-0.022 (0.014)	-0.011 (0.015)
shareL					-0.001 (0.001)	-0.001 (0.001)
fbcf					0.0001 (0.001)	-0.001 (0.001)
ethnic					0.083* (0.043)	0.121*** (0.046)
language					-0.072* (0.041)	-0.094** (0.042)
unemp						-0.001 (0.001)
Constant	0.444*** (0.008)	0.593*** (0.026)	0.692*** (0.048)	0.609*** (0.073)	0.587*** (0.126)	0.590*** (0.143)
Observations	173	170	170	170	142	106
R ²	0.030	0.198	0.268	0.318	0.341	0.411
Adjusted R ²	0.025	0.189	0.250	0.275	0.269	0.313
Res. Std. Err.	0.088	0.080	0.077	0.076	0.079	0.069
F Statistic	5.347**	20.666***	15.106***	7.408***	4.704***	4.183***
p-value BP test	0.275	0.177	0.575	0.825	0.644	0.337

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: Share of bottom 50%

	<i>Dependent variable:</i>					
	Share of pre-tax national income received by the bottom 50%					
	(1)	(2)	(3)	(4)	(5)	(6)
legor	-0.018** (0.007)	-0.017*** (0.006)	-0.012* (0.006)	-0.018*** (0.006)	-0.023*** (0.007)	-0.028*** (0.008)
inc		0.102*** (0.016)	-0.033 (0.037)	-0.042 (0.039)	-0.061 (0.047)	0.011 (0.063)
educ			0.076** (0.034)	0.053 (0.036)	0.057 (0.042)	0.073 (0.047)
lifexp			0.117** (0.048)	0.084* (0.049)	0.080 (0.063)	-0.042 (0.080)
rule				0.023* (0.013)	0.017 (0.015)	0.023 (0.017)
cor				-0.003 (0.009)	0.001 (0.011)	0.001 (0.011)
polstab				-0.006 (0.004)	-0.004 (0.006)	0.004 (0.007)
gouv				0.009 (0.013)	0.013 (0.016)	-0.004 (0.019)
reg				-0.020** (0.010)	-0.021* (0.012)	-0.018 (0.013)
voicac				0.010** (0.005)	0.008 (0.006)	0.003 (0.007)
shareL					0.0003 (0.0004)	0.0005 (0.0004)
fbcf					-0.0001 (0.0005)	0.0004 (0.001)
ethnic					-0.048** (0.019)	-0.071*** (0.022)
language					0.038** (0.019)	0.041** (0.020)
unemp						0.0004 (0.001)
Constant	0.155*** (0.004)	0.083*** (0.012)	0.033 (0.022)	0.085** (0.033)	0.099* (0.057)	0.122* (0.069)
Observations	173	170	170	170	142	106
R ²	0.038	0.222	0.293	0.356	0.403	0.457
Adjusted R ²	0.032	0.213	0.276	0.316	0.337	0.367
Res. Std. Err.	0.041	0.037	0.036	0.035	0.035	0.033
F Statistic	6.693**	23.845***	17.113***	8.802***	6.115***	5.058***
p-value BP test	0.082	0.009	0.123	0.7	0.835	0.525

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 8: Share of middle 40%

	<i>Dependent variable:</i>					
	Share of pre-tax national income received by the middle 40%					
	(1)	(2)	(3)	(4)	(5)	(6)
legor	-0.016*	-0.015*	-0.010	-0.012	-0.016	-0.020**
	(0.009)	(0.008)	(0.008)	(0.008)	(0.010)	(0.010)
inc		0.106***	-0.044	-0.028	-0.052	-0.001
		(0.021)	(0.047)	(0.051)	(0.062)	(0.076)
educ			0.094**	0.053	0.055	0.039
			(0.044)	(0.047)	(0.055)	(0.056)
lifexp			0.117*	0.101	0.096	0.050
			(0.062)	(0.064)	(0.083)	(0.095)
rule				0.0001	-0.003	0.011
				(0.017)	(0.021)	(0.020)
cor				-0.001	0.004	-0.0004
				(0.012)	(0.014)	(0.014)
polstab				0.002	0.001	0.010
				(0.006)	(0.007)	(0.008)
gouv				0.003	0.006	-0.014
				(0.017)	(0.022)	(0.023)
reg				-0.008	-0.008	-0.004
				(0.013)	(0.016)	(0.016)
voicac				0.017***	0.015*	0.008
				(0.006)	(0.008)	(0.008)
shareL					0.0003	0.001
					(0.001)	(0.001)
fbcf					0.00002	0.001
					(0.001)	(0.001)
ethnic					-0.034	-0.050*
					(0.026)	(0.026)
language					0.034	0.053**
					(0.025)	(0.024)
unemp						0.0003
						(0.001)
Constant	0.401***	0.325***	0.275***	0.305***	0.314***	0.288***
	(0.005)	(0.015)	(0.029)	(0.044)	(0.076)	(0.083)
Observations	173	170	170	170	142	106
R ²	0.021	0.153	0.211	0.258	0.264	0.332
Adjusted R ²	0.015	0.142	0.192	0.211	0.182	0.221
Res. Std. Err.	0.051	0.047	0.046	0.046	0.047	0.040
F Statistic	3.626*	15.026***	11.035***	5.524***	3.246***	2.982***
p-value BP test	0.475	0.394	0.843	0.856	0.54	0.294

Note:

*p<0.1; **p<0.05; ***p<0.01

3 Discussion

3.1 Comparative redistributive efficiency of law and taxation

The analysis of legal systems often appears biased since it leads to ignoring the relationship between law and inequality. It is therefore important to go beyond this vision and to show that the question of the distribution of wealth and the treatment of inequalities is fundamental from a dual perspective of interdisciplinary dialogue and analysis of legal systems and their economic "performance".

Some of the literature has been mainly conceptual and theoretical. As the discussion began on the argument, popularized by Posner, of the economic efficiency of the common law, it seemed essential to some to set aside all considerations of income distribution. The solution has been to demonstrate that the legal system is inherently less efficient than the tax system in dealing with redistributive issues. The classic argument is that there is a risk of "double distortion" inherent in any legal solution. Kaplow and Shavell (1994) [18] have notably synthesized why the Legal System Is Less Efficient than the Income Tax in Redistributing Income. They argue that the use of legal rules to redistribute income distorts incentives as much as the tax system and also reduces efficiency in the domains framed by the legal rules. As a result, redistribution through legal rules offers no advantage over redistribution through income taxes and is less efficient overall. From this analysis, they also draw the more general conclusion that the economic analysis of law should focus on efficiency issues and ignore income distribution on normative grounds. The use of the legal system for redistributive reasons leads, according to Kaplow and Shavell, to a "double distortion" in the economy. The tax system is partly the cause, but using the legal system for redistributive purposes supposedly adds new distortions in the law's application to the redistributive effects. In the authors' example of accident liability, legal redistribution leads to suboptimal levels of precaution. It would therefore be preferable to make the economic system and the legal rules governing it as efficient as possible and to use the gains made to redistribute wealth through the tax system. All in all, this should lead to greater redistribution and better conditions for all. The gains in efficiency would thus make it possible to improve the conditions of redistribution in a second stage.

This analysis recognizes a view of welfare economics based on the first and second theorems which lead to a clear distinction between issues of resource allocation and those of distribution. An

essential element of Kaplow and Shavell's argument is that legal rules that redistribute income are always inefficient: "using legal rules to redistribute income distorts work incentives fully as much as the income tax system-because the distortion is caused by the redistribution itself-and also creates inefficiencies in the activities regulated by the legal rules."¹⁰ On the other hand, it is clear that if the legal rules that redistribute income do not create inefficiencies in parallel, there will be no double distortion. This point is essential because it raises the question of whether all legal rules that have a redistributive function are inherently inefficient. The answer seems fairly obvious, since there is nothing in the concept of redistribution that inherently implies more or less economic efficiency. There is nothing to prevent us from imagining that legal rules that improve the distribution of wealth could also be efficient in the Pareto sense. While taxation always creates distortions, some forms of "redistribution" through the legal system can increase wealth.

Competition law is a good example of a legal system that improves both efficiency and equity. When a firm is able to set a price above its cost of production, the consequences are harmful to both competition and to consumers.¹¹ On the one hand, the price proposed generates a deadweight loss (and therefore a loss of efficiency) and on the other hand, part of the consumer surplus is transferred to that of the producers (thus increasing inequalities). Competition law thus responds to a dual objective of efficiency and equity. We may note here that a fiscal solution consisting, for example, in transferring part of the firm's wealth to consumers would necessarily create distortions, which is not the case with the legal solution.

What emerges from these reflections is that not everything depends on taxation to correct inequalities, since the law clearly has an effect on the distribution of income within the framework of contractual relations. The difference is essentially in the way it intervenes. Where taxation intervenes essentially *ex post* (in accordance with the theorems of welfare economics), the law intervenes rather *ex ante* by setting the framework for possible transactions. Coase's theorem itself, while offering the opportunity to understand the non-neutrality of law from an economic point of view, gives precedence to the question of efficiency by treating the distributive issues of law in a secondary manner. It is surprising to see how much of the literature has focused on tax mechanisms, from Kaplow and Shavell to Piketty and Saez, to deal with the subject of income inequality. This

¹⁰Kaplow and Shavell (1994).

¹¹In Europe, for example, articles 101 and 102 of the TFEU (1957) prohibit cartels and abuse of dominant positions.

is an extreme simplification, not to say a distortion, which amounts to denying the vision of the "social conditioning" of law.

3.2 Common law vs. civil law

The arguments presented by La Porta, Lopez-De-Silanes, and Sheifer (2008) [23] to explain the better performances of common law systems can also explain their poorer distributive performances.¹² Damaška (1986) [9] provides a framework to help identify the similarities and differences between civil and common law jurisdictions, grouping them into two "ideal types" called "hierarchical" and "coordinated". The hierarchical ideal is associated with civil law jurisdictions while the coordinated ideal is related to common law jurisdictions. Damaška argues that the structure of authority in any jurisdiction can be classified into either of these two ideal types, but accepts that features of one can be found in the other. On this basis, he explains that the hierarchical system tends to legitimize public action on behalf of the community, notably through the pursuit of multiple objectives such as efficiency and equity. This approach is also very interesting because it allows us to go beyond the traditional opposition relating to procedural law, which equates common law with the accusatory process and civil law with the inquisitorial process. For this purpose, Damaška proposes a framework of analysis organized along two different axes. The "hierarchical-coordinated" axis reflects the way in which a state organizes its judicial institutions; hierarchical states structure their judicial systems with a rigid definition of roles, while coordinated states organize their judicial systems in a more flexible manner. Damaška's second axis concerns "state activism" and considers as "activist" those states that seek to satisfy social priorities through various means, including the judiciary, while reactive states do not adopt such priorities, especially in terms of the "good life", their judiciary then playing essentially an arbitration role in private disputes, enforcing the parties' agreements and relying on the autonomy of the parties. Any system of procedural law, according to Damaška, can thus be situated along these two axes. Seen in this light, the classical Anglo-American trial is coordinated/reactive, while the classical Continental approach is hierarchical/activist. In each system, the existing rules of procedure will reflect the society's preferred view of the state.

¹²We focus in this paper on private law contracts, but the same arguments about equality can be applied to the other areas, such as labor laws, minimum wages or, even conscription.

3.3 Social goals and legal rules

If the French Civil Code of 1804 is largely based on freedom of contract and individual freedom, it is essential to understand to what extent legal systems have contributed to the sacralization of property, thus leading to the emergence of problems in terms of economic and social inequalities. The "patrimonial" vision of law predates the modern period, since many legal systems contributed very early on to the exclusion of the "poor" from social life, for example by excluding from access to the courts all those to whom it was possible to "give orders", in practice the poorest. This example illustrates the way in which law contributes to the construction of society. This is the claim defended by Pistor (2019) [34] when she considers that "law writes capital", i.e. the fact that the rules of positive law reflect society's preoccupation with making capital flourish (i.e. maximizing the value of the firm). She underlines the fact that the "legal code" ¹³ ensures that certain claims and certain objects are able to create wealth. Without this "legal coding", a piece of land is only a piece of the Earth. The capital code is thus composed of different modules, including contract, property, civil liability, criminal sanctions, and so on. These modules confer essential attributes such as priority, durability, convertibility, and universality that give certain goods a comparative advantage over others. Priority allows for the ranking of claims and the creation of strong versus weak rights. Durability allows these rights to be extended over time. Convertibility allows the holder of the thing to convert it into something more secure, such as cash. Finding an agent willing to offer cash when the price of things is falling is decisive for securing past gains. For its part, universality means that each of the preceding attributes can be opposed to any person, and if necessary with the coercive power of the state. It is undoubtedly at this level that one must seek the very essence of the absolute right of property embodied by the French Revolution.

This is not in contradiction with the fact that there are differences between legal systems, since the "social conditioning" of law may well be based on different logics in different countries. To admit with Pistor that the legal privileges conferred by the writing of the law are not only binding on those who are parties to the contractual agreement, but also on all those who are not parties to it, simply means that once the agreement has been recognized as legal, the state can enforce it against all third parties. But it can also be admitted that the parties who enter into a contractual relationship

¹³It should be noted that this is not a code in the sense of the civil code or the commercial code, but rather a code in the sense of genetic or computer programming insofar as the law conditions society through the definition of rule.

(work contract, commercial contract, etc.) commit themselves mutually but also "before society". There is a commitment that goes beyond the parties themselves, so that it can be admitted that the company has a form of control over the content and nature of the contractual relations. Of course, this is not peculiar to the civil law tradition, since most legal systems take care to ensure the conditions of validity of contracts by ruling out certain practices such as theft or violence. However, in a French legal tradition that is now well-established, this right of supervision may go further when society envisages correcting certain possible "outcomes" linked to the functioning of the market, or even, more radically, prohibiting certain transactions. This can be seen in labor law, for example, when it comes to prohibiting hiring or remuneration conditions that are considered socially undesirable. Similarly when certain commercial relationships perceived as "significantly" unbalanced are condemned in commercial law. It is important to understand that such devices at work in the civil law system imply an ex ante intervention in market mechanisms. In contrast, common law systems are reluctant to operate on the same basis, generally favor ex post intervention instead. Nevertheless, it follows that in all legal systems, the law contributes to structuring the distribution of income; but this structuring will not be identical but vary with the propensity of "social conditioning" to intervene in contractual relations. The contract can be seen as the place where power relations are exercised freely, in an unconditional manner, between the parties, but it can also be the place for "re-founding the idea of equality" in the words of Rosanvallon.

From this point of view, one of the main foundations of the civil law approach lies precisely in the fact that if society believes that the distribution of income should be equitable, it is logical that the law should take this into account, in particular by excluding certain contractual provisions that would be incompatible with collective preferences from the start. It is not surprising, therefore, to observe significant differences between civil law and common law with respect to the consideration of inequalities (real or potential) in market relations. In civil law, these concerns appear to be more prevalent.

4 Conclusion

In this article we have been able to highlight a relationship between economic inequalities, assessed through income before redistribution, and legal systems. This work is innovative because it proposes to go beyond the usual vision of the economic attractiveness of law based solely on resource allocation considerations without taking into account the distributional aspects of the relationship between law and economics. This approach has been widely popularized by the World Bank's *Doing Business* project, which focuses essentially on the capacity of a legal system to maximize the shareholder value of the firm. We understand that this vision is insufficient at a time when the question of the *raison d'être* of companies is increasingly being asked around the consideration of the interests of stakeholders other than just shareholders. The study shows that civil law systems are better able to integrate these considerations than common law systems. Indeed, from the main data available, in particular from the United Nations (Human Development Index) and the very recent World Inequality Database, it is possible to show that civil law systems are generally more successful than common law systems in addressing the issue of inequality. This result appears essential for the economic analysis of legal systems.

These results must now be explored further in order to better understand the interactions between economic inequality and legal mechanisms. The link with other works can be made. For example, in their analysis of the evolution of income inequalities over a century between 1905 and 2005, Atkinson, Piketty, and Saez (2011) [5] distinguish between two dynamics: English-speaking countries and central European countries (and Japan). Most of the countries analyzed experienced a decline in inequality between 1905 and 1980, but at the turn of the 1980s the trends diverged. On the one hand, the English-speaking countries saw their inequality levels increase, while the Central European countries experienced stagnation. This divergence is not fortuitous and thus seems to support our results concerning legal systems.

A Appendices

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A.1 Robustness

A.1.1 OLS: others controls for development

In this section, we examine the robustness of the estimates made above. First, we estimate a variant of equation (1) by changing the control variables for economic development:

$$coef_ineq_i = \alpha + B_1DEV_ECO_i + B_2GOUV_i + B_3CONT + \gamma legor_i + \epsilon_i \quad (2)$$

In this new specification, DEV_ECO includes two control variables for the level of development: GDP per capita (in current international PPP\$) and total government expenditure on education (in % of GDP). Tables 9 to 12 confirm the effects put forward in the previous section: common law countries do have a higher level of inequality.

Table 9: Gini coefficient

<i>Dependent variable:</i>					
Gini index of pre-tax national income					
	(1)	(2)	(3)	(4)	(5)
legor	0.033** (0.013)	0.037** (0.015)	0.046*** (0.015)	0.050*** (0.016)	0.054*** (0.019)
log(gdpcap)	-0.028*** (0.005)	-0.029*** (0.006)	-0.003 (0.011)	0.009 (0.013)	-0.012 (0.017)
educgdp		-0.003 (0.004)	0.005 (0.005)	0.011** (0.005)	-0.001 (0.007)
rule			-0.012 (0.031)	-0.012 (0.036)	-0.040 (0.040)
cor			-0.0005 (0.021)	-0.012 (0.024)	-0.004 (0.024)
polstab			0.015 (0.012)	0.011 (0.014)	-0.004 (0.017)
gouv			-0.057* (0.030)	-0.062* (0.035)	-0.006 (0.042)
reg			0.039 (0.025)	0.060** (0.028)	0.042 (0.030)
voicac			-0.037*** (0.012)	-0.040*** (0.014)	-0.013 (0.016)
partL				-0.00001 (0.001)	-0.001 (0.001)
fbcf				-0.0001 (0.001)	-0.00003 (0.001)
ethnic				0.133*** (0.045)	0.149*** (0.049)
language				-0.053 (0.039)	-0.080* (0.042)
chom					0.0003 (0.002)
Constant	0.818*** (0.048)	0.843*** (0.053)	0.553*** (0.106)	0.369** (0.149)	0.643*** (0.180)
Observations	165	139	139	120	89
R ²	0.193	0.225	0.351	0.434	0.462
Adjusted R ²	0.183	0.208	0.306	0.365	0.361
Res Std. Err.	0.076	0.078	0.073	0.073	0.067
F Statistic	19.387***	13.087***	7.748***	6.251***	4.547***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 10: Share of top 10%

<i>Dependent variable:</i>					
Share of pre-tax national income receive by the top 10%					
	(1)	(2)	(3)	(4)	(5)
legor	0.035** (0.014)	0.037** (0.016)	0.045*** (0.016)	0.048*** (0.018)	0.054*** (0.020)
log(gdpcap)	-0.030*** (0.005)	-0.031*** (0.006)	-0.005 (0.012)	0.009 (0.014)	-0.010 (0.018)
educgdp		-0.003 (0.005)	0.006 (0.005)	0.013** (0.006)	0.001 (0.007)
rule			0.002 (0.034)	-0.002 (0.039)	-0.030 (0.042)
cor			-0.001 (0.022)	-0.013 (0.025)	-0.004 (0.025)
polstab			0.013 (0.013)	0.010 (0.015)	-0.006 (0.018)
gouv			-0.059* (0.032)	-0.065* (0.038)	-0.006 (0.044)
reg			0.036 (0.027)	0.059* (0.030)	0.038 (0.031)
voicac			-0.043*** (0.013)	-0.046*** (0.015)	-0.019 (0.017)
partL				0.00001 (0.001)	-0.001 (0.001)
fbcf				-0.0003 (0.001)	-0.0003 (0.001)
ethnic				0.136*** (0.048)	0.147*** (0.051)
language				-0.052 (0.042)	-0.082* (0.044)
chom					0.001 (0.002)
Constant	0.721*** (0.051)	0.744*** (0.056)	0.459*** (0.114)	0.262 (0.160)	0.527*** (0.187)
Observations	165	139	139	120	89
R ²	0.186	0.214	0.336	0.410	0.438
Adjusted R ²	0.176	0.197	0.289	0.338	0.331
Res. Std. Err.	0.081	0.084	0.079	0.078	0.070
F Statistic	18.480***	12.275***	7.237***	5.667***	4.117***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 11: Share of bottom 50%

<i>Dependent variable:</i>					
Share of pre-tax national income receive by the bottom 50%					
	(1)	(2)	(3)	(4)	(5)
legor	-0.018*** (0.007)	-0.020*** (0.008)	-0.025*** (0.007)	-0.028*** (0.008)	-0.029*** (0.010)
log(gdpcap)	0.014*** (0.002)	0.015*** (0.003)	0.001 (0.006)	-0.004 (0.007)	0.007 (0.009)
educgdp		0.002 (0.002)	-0.002 (0.002)	-0.005* (0.003)	0.001 (0.003)
rule			0.012 (0.016)	0.011 (0.018)	0.024 (0.021)
cor			-0.0004 (0.010)	0.006 (0.012)	0.002 (0.012)
polstab			-0.009 (0.006)	-0.007 (0.007)	0.0003 (0.009)
gouv			0.028* (0.015)	0.030* (0.017)	0.003 (0.022)
reg			-0.022* (0.012)	-0.031** (0.014)	-0.024 (0.015)
voicac			0.016*** (0.006)	0.017** (0.007)	0.004 (0.008)
partL				0.00003 (0.0004)	0.0002 (0.001)
fbcf				-0.00004 (0.001)	-0.0001 (0.001)
ethnic				-0.068*** (0.022)	-0.079*** (0.025)
language				0.027 (0.019)	0.039* (0.022)
chom					-0.00004 (0.001)
Constant	0.022 (0.024)	0.007 (0.026)	0.154*** (0.053)	0.242*** (0.074)	0.103 (0.093)
Observations	165	139	139	120	89
R ²	0.201	0.240	0.362	0.451	0.475
Adjusted R ²	0.191	0.223	0.317	0.384	0.375
Res. Std. Err.	0.038	0.039	0.037	0.036	0.035
F Statistic	20.404***	14.176***	8.118***	6.703***	4.776***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 12: Share of middle 40%

<i>Dependent variable:</i>					
Share of pre-tax national income receive by the middle 40%					
	(1)	(2)	(3)	(4)	(5)
legor	-0.017** (0.008)	-0.017* (0.009)	-0.020** (0.009)	-0.020* (0.010)	-0.025** (0.011)
log(gdpcap)	0.015*** (0.003)	0.016*** (0.003)	0.004 (0.007)	-0.005 (0.008)	0.003 (0.010)
educgdp		0.0003 (0.003)	-0.004 (0.003)	-0.007** (0.003)	-0.002 (0.004)
rule			-0.014 (0.020)	-0.009 (0.023)	0.006 (0.024)
cor			0.002 (0.013)	0.008 (0.015)	0.002 (0.014)
polstab			-0.004 (0.008)	-0.004 (0.009)	0.006 (0.010)
gouv			0.031 (0.019)	0.035 (0.022)	0.003 (0.025)
reg			-0.014 (0.016)	-0.028 (0.018)	-0.014 (0.017)
voicac			0.027*** (0.007)	0.030*** (0.009)	0.015 (0.010)
partL				-0.00004 (0.001)	0.001 (0.001)
fbcf				0.0004 (0.001)	0.0004 (0.001)
ethnic				-0.068** (0.029)	-0.067** (0.029)
language				0.026 (0.025)	0.043* (0.025)
chom					-0.001 (0.001)
Constant	0.258*** (0.030)	0.249*** (0.033)	0.387*** (0.067)	0.496*** (0.095)	0.370*** (0.107)
Observations	165	139	139	120	89
R ²	0.147	0.167	0.284	0.340	0.356
Adjusted R ²	0.136	0.149	0.234	0.259	0.234
Res. Std. Err.	0.048	0.049	0.046	0.046	0.040
F Statistic	13.908***	9.024***	5.674***	4.193***	2.920***

Note:

*p<0.1; **p<0.05; ***p<0.01

A.1.2 Estimation in panel

In this section, we estimate in panel the four indicators from section 3.2, namely the shares of pre-tax national income of the richest 10%, the poorest 50%, and the middle 40%, as well as the Gini coefficient, in a panel. We retain as explanatory variables only the legal tradition, the three pillars of the HDI, the governance indicators, and the ethno-linguistic indicators. The period studied is 10 years, from 2010 to 2019. Because of the invariance in the time dimension of legal tradition, we favor a random effects estimation method. For all our endogenous variables, we provide estimates with the within estimator (FE), the FGLS estimator (RE) as well as the instrumental variable estimators HT (Hausman and Taylor (1981)), AM (Amemiya & McCurdy (1986)) and BMS (Breusch, Mizon & Schmidt (1989)). These results are presented in Tables 13 through 16. For the instrumental variable estimates, we categorize our variables as follows:

- Invariant in the temporal dimension and exogenous: *legor*, *lang*
- Invariant in the temporal dimension and endogenous: *ethnic*
- Variant in the temporal dimension and exogenous: *lifexp*, *polstab*, *reg*, *rule*, *voicac*
- Variant in the temporal and endogenous: *inc*, *educ*, *gov*, *corrupt*

The p-values associated with the Hausmann tests are well above 5 or 10% in all the regressions by which we use instrumental variable methods, this choice of instrument seems to us to be relevant. The results we obtain in the panel confirm those obtained in 2017, with common law countries having a significantly higher share of national income for the top 10% than for civil law countries (4% more on average) and significantly lower shares for the middle 40% and bottom 50% (respectively 1.8% and 2.2% less on average) than civil law countries.

Table 13:

<i>Dependent variable:</i>					
Share of pre-tax national income receive by the top 10%					
	FE	RE	HT	AM	BMS
	(1)	(2)	(3)	(4)	(5)
legor		0.041*** (0.013)	0.040*** (0.014)	0.040*** (0.014)	0.040*** (0.014)
inc	0.023 (0.023)	0.023 (0.022)	0.022 (0.023)	0.027 (0.023)	0.026 (0.022)
educ	-0.035 (0.022)	-0.047** (0.021)	-0.037* (0.022)	-0.041* (0.021)	-0.040* (0.021)
lifexp	-0.040* (0.023)	-0.046** (0.023)	-0.045* (0.023)	-0.046** (0.023)	-0.048** (0.023)
corrupt	0.006** (0.003)	0.005* (0.003)	0.006** (0.003)	0.006* (0.003)	0.006* (0.003)
gov	-0.002 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)
polstab	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
reg	-0.007** (0.003)	-0.007** (0.003)	-0.006** (0.003)	-0.007** (0.003)	-0.007** (0.003)
rule	-0.004 (0.004)	-0.004 (0.004)	-0.003 (0.004)	-0.004 (0.004)	-0.004 (0.004)
voicac	-0.008*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)
ethnic		0.100*** (0.032)	0.295*** (0.103)	0.188*** (0.054)	0.146*** (0.044)
lang		-0.046 (0.029)	-0.167** (0.069)	-0.100** (0.042)	-0.073** (0.036)
Constant		0.463*** (0.022)	0.416*** (0.032)	0.438*** (0.025)	0.448*** (0.024)
Observations	1,550	1,550	1,550	1,550	1,550
R ²	0.034	0.075	0.056	0.063	0.065
Adjusted R ²	-0.080	0.067	0.048	0.056	0.058
Hausman test		0.019	0.733	0.62	0.613

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 14:

	<i>Dependent variable:</i>				
	Share of pre-tax national income receive by the bottom 50%				
	FE	RE	HT	AM	BMS
	(1)	(2)	(3)	(4)	(5)
legor		-0.022*** (0.006)	-0.022*** (0.007)	-0.022*** (0.007)	-0.022*** (0.007)
inc	-0.014 (0.010)	-0.015 (0.010)	-0.014 (0.010)	-0.016 (0.010)	-0.016 (0.010)
educ	0.047*** (0.010)	0.048*** (0.009)	0.046*** (0.010)	0.047*** (0.010)	0.046*** (0.009)
lifexp	-0.005 (0.010)	-0.001 (0.010)	-0.003 (0.010)	-0.002 (0.010)	-0.001 (0.010)
corrupt	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)
gov	0.0004 (0.001)	0.001 (0.001)	0.0004 (0.001)	0.001 (0.001)	0.001 (0.001)
polstab	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)
reg	0.004*** (0.001)	0.004*** (0.001)	0.003** (0.001)	0.004*** (0.001)	0.004*** (0.001)
rule	-0.0002 (0.002)	0.0002 (0.002)	-0.0002 (0.002)	0.0001 (0.002)	0.0001 (0.002)
voicac	0.004*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)
ethnic		-0.056*** (0.016)	-0.161*** (0.050)	-0.097*** (0.026)	-0.078*** (0.021)
lang		0.029** (0.014)	0.095*** (0.034)	0.054*** (0.020)	0.042** (0.018)
Constant		0.152*** (0.010)	0.176*** (0.015)	0.163*** (0.012)	0.159*** (0.011)
Observations	1,550	1,550	1,550	1,550	1,550
R ²	0.055	0.095	0.073	0.084	0.085
Adjusted R ²	-0.056	0.088	0.066	0.077	0.078
Hausman test		0	36	0.515	0.7

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 15:

<i>Dependent variable:</i>					
Share of pre-tax national income receive by the middle 40%					
	FE	RE	HT	AM	BMS
	(1)	(2)	(3)	(4)	(5)
legor		-0.019** (0.007)	-0.018** (0.008)	-0.019** (0.008)	-0.019** (0.008)
inc	-0.009 (0.015)	-0.009 (0.014)	-0.008 (0.015)	-0.012 (0.015)	-0.011 (0.015)
educ	-0.011 (0.014)	0.001 (0.014)	-0.008 (0.014)	-0.004 (0.014)	-0.004 (0.014)
lifexp	0.045*** (0.015)	0.046*** (0.015)	0.048*** (0.015)	0.048*** (0.015)	0.049*** (0.015)
corrupt	-0.004* (0.002)	-0.003* (0.002)	-0.004* (0.002)	-0.004* (0.002)	-0.004* (0.002)
gov	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.003 (0.002)	0.002 (0.002)
polstab	-0.0002 (0.001)	-0.0001 (0.001)	-0.00001 (0.001)	-0.00001 (0.001)	-0.00002 (0.001)
reg	0.003 (0.002)	0.003* (0.002)	0.003 (0.002)	0.003* (0.002)	0.003* (0.002)
rule	0.004 (0.002)	0.004 (0.002)	0.003 (0.002)	0.004 (0.002)	0.004 (0.002)
voicac	0.003* (0.002)	0.005*** (0.002)	0.004** (0.002)	0.004** (0.002)	0.004** (0.002)
ethnic		-0.044** (0.019)	-0.130** (0.060)	-0.089*** (0.031)	-0.066*** (0.025)
lang		0.018 (0.017)	0.070* (0.040)	0.045* (0.023)	0.031 (0.020)
Constant		0.383*** (0.014)	0.406*** (0.020)	0.398*** (0.015)	0.392*** (0.015)
Observations	1,550	1,550	1,550	1,550	1,550
R ²	0.023	0.054	0.041	0.046	0.048
Adjusted R ²	-0.092	0.047	0.034	0.039	0.040
Hausman test		0.013	0.584	0.383	0.432

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 16:

	<i>Dependent variable:</i>				
	Gini index of pre-tax national income				
	FE	RE	HT	AM	BMS
	(1)	(2)	(3)	(4)	(5)
legor		0.041*** (0.012)	0.041*** (0.014)	0.041*** (0.013)	0.041*** (0.013)
inc	0.024 (0.021)	0.025 (0.020)	0.023 (0.021)	0.027 (0.020)	0.027 (0.020)
educ	-0.065*** (0.020)	-0.072*** (0.019)	-0.065*** (0.020)	-0.068*** (0.019)	-0.066*** (0.019)
lifexp	-0.013 (0.021)	-0.020 (0.020)	-0.017 (0.021)	-0.019 (0.020)	-0.021 (0.020)
corrupt	0.005* (0.003)	0.004 (0.003)	0.005* (0.003)	0.005* (0.003)	0.004* (0.003)
gov	-0.001 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)
polstab	-0.003** (0.001)	-0.003* (0.001)	-0.003* (0.001)	-0.003** (0.001)	-0.003** (0.001)
reg	-0.007** (0.003)	-0.007*** (0.003)	-0.007** (0.003)	-0.007*** (0.003)	-0.007*** (0.003)
rule	-0.002 (0.003)	-0.003 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.003 (0.003)
voicac	-0.008*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)
ethnic		0.103*** (0.031)	0.294*** (0.097)	0.184*** (0.051)	0.146*** (0.041)
lang		-0.053* (0.028)	-0.172*** (0.065)	-0.102*** (0.040)	-0.078** (0.034)
Constant		0.568*** (0.020)	0.523*** (0.030)	0.546*** (0.023)	0.554*** (0.022)
Observations	1,550	1,550	1,550	1,550	1,550
R ²	0.046	0.087	0.068	0.076	0.078
Adjusted R ²	-0.066	0.080	0.060	0.069	0.071
Hausman test		0.017	0.685	0.686	0.653

Note:

*p<0.1; **p<0.05; ***p<0.01

A.2 Control variables

Variable	Description	Source
legor	Legal origin, dummy variable equal to 1 for common law countries and equal to 0 for civil law countries	La Porta, Lopez-De-Silanes, and Sheifer (2008) and Juriglobe for the missing values (http://www.juriglobe.ca/fra/index.php)
inc	Normalized indicator (from 0 to 1) of the income dimension of the HDI	United Nations Development Programme (http://hdr.undp.org/en/data), see technical notes for more details (http://hdr.undp.org/sites/default/files/hdr2020_technical_notes.pdf)
educ	Normalized indicator (from 0 to 1) of the education dimension of the HDI	United Nations Development Programme (http://hdr.undp.org/en/data), see technical notes for more details (http://hdr.undp.org/sites/default/files/hdr2020_technical_notes.pdf)
lifexp	Normalized indicator (from 0 to 1) of the life expectancy dimension of the HDI	United Nations Development Programme (http://hdr.undp.org/en/data), see technical notes for more details (http://hdr.undp.org/sites/default/files/hdr2020_technical_notes.pdf)
rule	Rule of Law captures 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. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)

Variable	Description	Source
cor	Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)
polstab	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)
gouv	Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)

Variable	Description	Source
reg	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)
voicac	Voice and Accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank (https://databank.banquemondiale.org/source/worldwide-governance-indicators)
shareL	Labor income share as a percent of GDP (%)	International Labor Organization (https://www.ilo.org/shinyapps/bulkexplorer51/)

Variable	Description	Source
fbcf	Gross capital formation (% of GDP), Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.	World Bank (https://data.worldbank.org/indicator/NE.GDI.TOTL.ZS)
chom	Unemployment, total (% of total labor force) (national estimate), Unemployment refers to the share of the labor force that is without work but available for and seeking employment. Definitions of labor force and unemployment differ by country.	World Bank (https://data.worldbank.org/indicator/SL.UEM.TOTL.NE.ZS)
educgdp	Government expenditure on education, total (% of GDP), General government expenditure on education(current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government. General government usually refers to local, regional and central governments.	World Bank (https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS)

Variable	Description	Source
gdpcap	<p>GDP per capita, PPP (current international \$), This indicator provides per capita values for gross domestic product (GDP) expressed in current international dollars converted by purchasing power parity (PPP) conversion factor. GDP is the sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products. Conversion factor is a spatial price deflator and currency converter that controls for price level differences between countries. Total population is a mid-year population based on the de facto definition of population, which counts all residents regardless of legal status or citizenship.</p>	<p>World Bank (https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD)</p>
language	<p>Measure of linguistic fragmentation ranging from 0 to 1. The value 1 corresponds to a fragmented society and 0 to a homogeneous society.</p>	<p>Alesina et al. (2003) (https://ferdi.fr/donnees/indicateurs-de-fragmentation-ethnolinguistiques)</p>
ethnic	<p>Measure of ethnic fragmentation ranging from 0 to 1. The value 1 corresponds to a fragmented society and 0 to a homogeneous society.</p>	<p>Alesina et al. (2003) (https://ferdi.fr/donnees/indicateurs-de-fragmentation-ethnolinguistiques)</p>