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Abstract

From a procedural perspective, an economic process is fair or unfair depending on the rules of the game and the shape of the income distribution is irrelevant. As a component of the Rule of Law, equality before the law is a necessary condition for fairness. Recognizing a higher level of equality before the law as a normative criterion, I examine to which extent the observed income and wealth inequality in a sample of 87 countries can be traced back to inequality before the law and be therefore qualified as unfair from a procedural justice perspective. Using data from the World Justice Project and the Standardized World Income Inequality Database, I find that the relationship between equality before the law and income inequality before redistribution is conditional on the level of development. Additionally, an increase in equality before the law is found to be related to less redistribution and more strongly so in poorer countries. The model largely predicts lower levels of income inequality after redistribution in a scenario of complete fairness compared to the de facto level of income inequality.

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1 Introduction

Is an unequal distribution of income always unfair? If not, what level of income inequality would be fair? Does it matter whether the observed level of income and wealth inequality can be traced back to a despotic dictator or a competitive process of free equals? After the recent rise in concerns about income and wealth inequality, the question of justice (or fairness) has been regaining attention in economics and public policy. The (often implicit) normative stance of most recent works in economics has usually been egalitarian in the sense that a more equal distribution of income and wealth is normatively superior to the one currently observed (Arneson, 2013).[1] The issue of justice, however, is inherent to the issue of inequality and whether less income or wealth inequality is normative superior depends on the view on justice one adopts. In this paper, I take a procedural perspective to explore the extent to which equality before the law, a characteristic of a just economic process, is related to the observed income distribution and redistribution policies. I also quantify how much of the level of income inequality is due to law inequality.

Generally speaking, the concepts of justice can be classified in the two broader categories of distributive and procedural justice. Distributive justice defines justice criteria by focusing on the characteristics of the distribution of income and wealth resulting from a social process. Absolute equality of income, for example, would be just from a strict material egalitarian perspective. If the criterion is equality of opportunity, a distribution would be just if it reflects differences only due to the effort of the individuals and not from any advantage due to the individual's specific circumstances which are not in each one's control (Fleurbaey and Maniquet, 2018).

Procedural justice, in contrast, focuses on the characteristics of the economic process, i.e. the "rules of the game", independent from the outcome of the process. From this perspective, the shape of the income distribution does not play any

[1] "In modern democratic societies, the term 'egalitarian' is often used to refer to a position that favors, for any of a wide array of reasons, a greater degree of equality of income and wealth across persons than currently exists" (Arneson, 2013).

normative role. The principle of equality before the law or equal treatment plays a key role since it is a necessary condition for justice for example in the contractarian tradition of Rawls (1971, p. 61) and Brennan and Buchanan (1985).

The main reason to shift focus from the widespread distributive to the procedural perspective is that people's perception of justice crucially depends on the rules of the game. The legal literature has long recognized the relevance of procedural justice for people's perception of fairness (Thibaut and Walker, 1976; Thibaut *et al.*, 1973). Recent empirical social research additionally shows that the fairness of the rules is crucial for people's perception of justice and redistribution preferences. Starmans *et al.* (2017), for example, show that people, in general, prefer fair inequality over unfair equality. Akbaş *et al.* (2019) show that equal treatment and the possibility of selecting among different risks (what the authors call "agency") are determinant for people's perception of fairness and their redistribution preferences. Bortolotti *et al.* (2017) show that people's views of fairness strongly depend on the characteristics of the process and that participants' demands for redistribution strongly increase when they suspect that others have violated the rules.

The main goal of this paper is to shed a light on the inequality debate from a procedural justice perspective by empirically addressing two questions. First, whether there is a general relationship between de facto deviations from the principle of equality before the law and the shape of the income distribution in societies. Second, to which extent these deviations are related to redistribution policies. Using the results, I provide an estimation of how much of the observed income inequality is unfair in the sense that it can be traced back to deviations from the principle of equality before the law.

To capture the deviations from the principle of equality before the law, I use data from the World Justice Project. Specifically, I use various sub-components of their Rule of Law Index (RLI) which capture the de facto unequal treatment of citizens by the legislative, judicial and executive branches for a sample of 126 countries. The

data is compiled from a broad sample of households and experts surveys regularly implemented in each country. The data on income distribution is taken from the SWIID. I look at post-2015 averages of 87 countries.

In a nutshell, I find that there is no direct unconditional relationship between equality before the law and income inequality. As one would expect from the procedural perspective, the shape of the distribution will depend on other variables. Only when controlling for regional characteristics one can find that for countries with high GDP per capita, improvements in the equality before the law are associated with a reduction in income inequality before redistribution. Indeed, except for the six poorest countries of the sample – all in Sub-Saharan Africa – improvements in the equal treatment before the law are overall negatively related to income inequality conditional on and increasing, i.e. more negative, in the level of per capita GDP. Similarly, controlling for region-specific characteristics, the relationship of equality before the law and the level of redistribution is conditional on the level of per capita GDP. Increases in the application of equality before the law are associated with less redistribution, decreasing in the level of per capita GDP.

Additionally, I estimate the "fair" level of income inequality, i.e. in a counterfactual scenario where all else equal, full equality before the law applies, both before and after redistribution. In general, I find that income inequality, both before and after redistribution, is lower in the "fair" scenario, with some exceptions where the "fair" income inequality after redistribution would be higher than the observed.

There are not many recent empirical studies in economics pointing out the connection between fairness and inequality and stressing the point that a more equal distribution not necessarily means a more just distribution. A recent notable contribution is by Hufe *et al.* (2018). Based on the normative criteria of equality of opportunity and freedom from poverty, they define the conditions a fair distribution should fulfil, estimate the fair distribution for the US and Europe and define the

gap between the ideal and the observed income distribution as the unfair portion of inequality. As they point out, they follow the distributive (and not the procedural) justice literature by studying the shape and characteristics of the final income distribution. Using equality of opportunity as a normative criterion, Kanbur and Snell (2019) argue that even if one would accept the procedural view that not the outcome but the characteristics of the process matter for fairness, standard measurements of income inequality can be used as a test for fairness, namely as tests for inequality being due to issues outside the control of individuals (such as race, gender, parental wealth) or not. My approach is related but not the same since I focus on the normative criterion of equality before the law and not on the (stronger) criterion of equality of opportunity.

The main contribution of this paper is to provide the – to the best of my knowledge – first empirical study approaching the question of fairness and inequality from a procedural justice perspective (as opposed to the common distributive justice perspective).

The rest of the paper is structured as follows. In section two I shortly review the role of the principle of equality before the law for the procedural justice perspective and its importance for the discussion on the fairness of economic processes. In section three I use these concepts to formulate hypotheses regarding the relationship between equality before the law, income inequality and redistribution. In section four I present the data, estimation strategy and results. In section five I summarize the results and discuss final remarks.

2 Procedural justice and equality before the law

Equality before the law, as a principle of the rule of law, has been and remain today a central issue in legal and political philosophy. The concept of the rule of law has a long historical evolution with thinkers as early as Aristotle, Locke and Montesquieu. In the last century F.A. Hayek, Lon Fuller, John Rawls and contemporaneous

thinkers such as Richard Epstein and Jeremy Waldron have published some of the most influential contributions. According to Waldron (2016), "[t]he Rule of Law comprises a number of principles of a formal and procedural character, addressing the way in which a community is governed." In its more general sense, it basically guarantees that no one is above the law and therefore everyone is subject to the same rules and everyone has access to the same protection of the law.

The study of the rule of law has been controversial[2], but despite the controversies, few people seem to be against the rule of law regardless of their position in the political spectrum (Epstein, 2016, p. 583). In this paper, I choose to focus on the principle of equality before the law as it is arguably one of its uncontroversial and vital components.

A key work in shaping today's understanding of equality before the law as a principle of the rule of law is *The Constitution of Liberty* by F.A. Hayek (1960). Acemoglu and Wolitzky (2018), for example, use it as their central reference for a theory of equality before the law. For Hayek (1960), the main concern is the ideal of freedom and the concept of equality before the law finds a central place in his work with regard to its conceptual role as a principle conducive to freedom and as an institutional safeguard of individual liberty.

As a principle conducive to freedom, the starting point is that every individual is different and that these differences do not justify a discriminatory treatment by the government.[3] Accepting that the limitation of all coercion is the basic postulate of a free society, equality before the law is the only kind of equality that can be conducive to such a free society. As Hayek puts it: "Equality of the general rules of law and conduct, however, is the only kind of equality conducive to liberty and the only equality which we can secure without destroying liberty" (Hayek, 1960, p. 75).

As a safeguard of individual liberty, equality before the law serves as a protection

[2]For an account of the evolution of the concept see Epstein (2011). For an account of the controversies see Waldron (2002).

[3]"It is of the essence of the demand for equality before the law that people should be treated alike in spite of the fact that they are different" (Hayek, 1960, p. 76).

from oppressive laws since these would apply also for the lawmakers.[4] For Hayek, the only clear and generally applicable criterion for justice is equality before the law, even though he presumes that there might be other general criteria that are accepted as just by specific groups.[5]

Hayek's view is strictly procedural since justice does not refer to the outcome from social interaction but rather to the characteristics of the rules under which such interaction takes place. In a free society in which people individually decide how and towards which goals to dedicate their efforts, the aggregate and unintended results, such as the distribution of income, are necessarily unpredictable and therefore an assessment of justice based on an observed distribution would be meaningless.[6] This unpredictability is due to the market's characterization as a spontaneous order that emerges from people's decentralized actions. In contrast, only in an organization (or made order, such as an army) with a centralized command, the final distribution can be judged as just or unjust because the outcome is not unintended but the duties and rewards are centrally defined by some specific instance (Hayek, 1976). The central issue is, therefore, not whether the shape of a distribution of income is just or unjust but whether it is the result of a process under just or unjust rules. The only generalizable just rule is equality before the law.

From a similar procedural perspective, equality before the law has been a central criterion of justice for various authors in the contractarian tradition. For the empirical examination in section 4, Rawls (1971) and Brennan and Buchanan (1985)

[4] "The ideal of the rule of law requires that the state either enforce the law upon others – and that this be its only monopoly– or act under the same law and therefore be limited in the same manner as any private person. It is this fact that all rules apply equally to all, including those who govern, which makes it improbable that any oppressive rules will be adopted" Hayek (1960, p. 184).

[5] "But though there can be no doubt that, in order to be effective, it must be accepted as just by most people, it is doubtful whether we possess any other formal criteria of justice than generality and equality – unless, that is, we can test the law for conformity with more general rules which, though perhaps unwritten, are generally accepted, once they have been formulated" Hayek (1960, p. 84).

[6] Insofar as we want the efforts of individuals to be guided by their own views about prospects and chances, the results of the individual's efforts are necessarily unpredictable, and the question as to whether the resulting distribution of incomes is just has no meaning Hayek (1960, p. 87).

provide central insights. For Rawls (1971), arguably one of the most influential scholars in the field, the principles of justice are derived from the hypothetical situation of agreement behind a veil of ignorance: being in a situation of equal liberties ("original position") and without knowing in which concrete life situation they would be (income, wealth, level of education, etc), rational individuals would hypothetically agree on two basic principles of fairness to guide their lives. The first one, and the one which rules the second one and everything that derives from it, is the principle of equal basic liberties or equality before the law.[7] The second principle, which includes that social inequalities are attached to equality of opportunity and the famous difference principle (that social inequalities should be to the benefit of the least-advantaged), is only to be pursued if thereby the principle of equality before the law is not undermined.[8]

Brennan and Buchanan (1985) follow a similar contractarian approach as Rawls (1971) and see consensus in general, not necessarily behind a veil of ignorance, as the ultimate criterion for a just process. When an individual engages in market exchange, there is at least implicitly an agreement to commit to a set of rules. The parties might agree to change the rules because, for instance, they see a potential for reaching a mutually advantageous situation. Consensus in the modification of the rule makes the interaction just, irrespective of the outcome and even if the expectations of a mutually beneficial outcome turn out to be wrong. A change in the rules without the agreement of the participants would, in contrast, be unjust, even if the involved parties end up reaching a more advantageous result.[9]

[7] "The basic liberties of citizens are, roughly speaking, political liberty (the right to vote and to be eligible for public office) together with freedom of speech and assembly; liberty of conscience and freedom of thought; freedom of the person along with the right to hold (personal) property; and freedom from arbitrary arrest and seizure as defined by the concept of the rule of law" (Rawls, 1971, p. 61).

[8] "As I explain below, the first principle is prior to the second: also, in the second principle fair equality of opportunity is prior to the difference principle. This priority means that applying a principle (or checking it against test cases) we assume that the prior principles are fully satisfied. We seek a principle of distribution (in the narrower sense) that holds within the setting of background institutions that secure the basic equal liberties (...) as well as fair equality of opportunity." (Rawls, 2001, p. 43).

[9] "A rule is legitimate, and violations of it constitute unjust behavior, when the rule is the object

The principle of equality before the law is a necessary condition for agreement in the methodological individualist approach by Brennan and Buchanan (1985). Since the individual is the ultimate source of value and from this premise, no argument can be derived which justifies discrimination against any kind of individual, all individuals must be treated as moral equivalents.[10] Regarding the relationship to the law, this implies that it must treat individuals equally. This point is made clear by Buchanan (1975) as he argues that individuals – which are by nature unequal – are defined in a market transaction by the rights they have and the rights other people acknowledge them to have. For a transaction to take place, the rights must be mutually respected. If at least one party does not enjoy the acknowledgement of her rights, agreement and therefore exchange in its essence are not possible. "That is to say, mutual agreement on an assignment of rights implies *equal* and *reciprocal* respect for these rights, as assigned. The assignment of rights further implies that the enforcing agent, the state, must behave neutrally in its task, that it must treat all persons equally in the organization and implementation of enforcement" (Buchanan, 1975, p. 16).

Equality before the law is, therefore, a decisive criterion when studying the principles of justice from a procedural, as opposed to a distributive perspective and its relation to income inequality. The three approaches outlined above provide helpful insights for the quantitative study of the extent to which income inequality is fair from a procedural perspective.

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of voluntary consent among participants in the rule-governed order. Why is this so? Because the provision of consent on a voluntary basis amounts to offering a promise to abide by the rules. Just conduct is conduct in accord with promises given. A person breaks a promise if he acts differently than, for morally proper reasons, those to whom the promise was made believe he will act. The morality of justice is, then, the morality of promise keeping" (Brennan and Buchanan, 1985, p. 112).

[10] "If the individual is presupposed to be the only source of value, a question arises concerning identification. Which individuals are to be considered sources of value? There is no apparent means of discriminating among persons in the relevant community, and there would seem to be no logical reason to seek to establish such discrimination if it were possible. Consistency requires that all persons be treated as moral equivalents, as individuals equally capable of expressing evaluations among relevant options" (Brennan and Buchanan, 1985, p. 26).

3 Equality before the law and income inequality

To estimate how much of today's income inequality is fair, a benchmark for fairness is necessary. In contrast to the distributive approach by Hufe *et al.* (2018), the procedural perspective does not define a fair distribution but the conditions of a fair process which, as discussed above, is based on equality before the law. Since the principle is applied to different degrees in each country, I need to examine the relationship between the degree of application of equality before the law and income inequality to be able to estimate the level of income inequality in each country in the hypothetical case of complete application of equality before the law. The approaches presented in section 2 offer a useful framework for the empirical exercise regarding income inequality before and after government redistribution.

3.1 Income inequality as the unintended result from social interaction

First, without taking into account any government intervention to modify the income distribution, there is no clear theoretical (unconditional) relationship between the shape of the distribution and the degree of application of equality before the law. It is at the core of the procedural perspective that there is no direct normative link between the rules of the game and the specific characteristics of the distribution, precisely because, as mentioned above, the distribution of income is the *unintended* result of people's interactions under general rules and there is, therefore, no positive (descriptive) link between equality before the law and income inequality. A change in the degree of application of equality before the law could lead to an increase or a decrease in income inequality depending on multiple other factors.

The lack of a general relationship between equality before the law and income inequality (before redistribution) becomes clearer by considering two examples. First, as Hayek (1976) argues, to achieve complete equality of incomes a government would need to treat each person differently since every individual is uniquely different. In such a situation of complete inequality before the law and income

equality, any change towards a higher level of law equality would necessarily lead to higher income inequality. On the other hand, if the situation is one of a monopolized economy in which all political and economic power is concentrated in a few hands who do not permit, for example, the right of free enterprise to everyone equally, a change towards a more equal treatment and therefore more competition, would decrease income inequality ceteris paribus, at least in the short-run.

Sturm and De Haan (2015) empirically examine a closely related issue by testing whether there is a systematic relationship between income inequality and economic freedom broadly understood. Using an adjusted economic freedom index, they do not find a systematic unconditional relationship between economic freedom and income inequality (before redistribution). In reviewing further studies on the same question, Bennett and Nikolaev (2017) find mixed results which depend on the sample of countries, the method and the measurement of inequality. The concept of equality before the law is certainly connected to economic freedom but it is not the same. Nevertheless, a similar result can be expected. Whether there is a pattern in the relationship after taking into account further variables, is an empirical question which I will examine below.

3.2 Fair government redistribution does not undermine equality before the law

While the first point considered the distribution of income before redistribution, the second is related to government interventions to modify the distribution of income.

The theory of justice by Rawls (1971) and specifically the hierarchical order for the principles of justice provide a first normative insight. For Rawls (1971), by following the difference principle – that any intervention should be in favor of the least-advantaged – the principle of equality before the law should not be undermined. In an ideal world in which both principles are respected and pursued, government redistribution would not, intentionally or unintentionally, undermine law equality.

The amount of "fair" redistribution would not necessarily be zero but would depend on the specific characteristics of each country, the redistribution preferences of the individuals and their beliefs regarding the roles of luck and effort in determining their incomes, among others (Alesina and Angeletos, 2005b).

It is possible, however, that governments precisely use redistribution measures to undermine equality before the law. The works by Brennan and Buchanan (1985) and Buchanan (1975) and their focus on consensus as the ultimate normative criterion for justice, provide a second element to better understand the normative question in a situation in which governments use redistribution to seek agreement to reduce or maintain low levels of equality before the law. Going beyond the bilateral exchange interactions at the core of the analysis by Brennan and Buchanan (1985), the formal rules of the game, including the application of equality before the law, are administered by governmental institutions. The analytical framework allows for the possibility of these governmental institutions to decrease the de facto level of equality before the law and to offer compensation to the excluded groups or individuals. If a national government, for example, nationalizes and monopolizes an industry branch in favor of a certain group, it could offer the affected parties a compensation to secure their agreement.

An agreement on the compensation for discrimination, however, does not imply justice. Brennan and Buchanan (1985, p. 118) differentiate between agreed-on rules and just rules and argue that the concept of voluntary agreement can be applied at different levels of abstraction. Since rules emerge from a decision process guided by more abstract meta-rules, simple agreement is not enough to make a rule just. The agreed-on rule would only be just if it does not violate the more abstract meta-rules that guide the rule-making process. If two parties would agree on forming a cartel, violating a meta-rule of free competition, the agreed-on cartel would be unjust. In the same way, if the government offers a compensation to the affected for granting the cartel, the action is not fair given the meta-rule of free competition. As argued

above, equality before the law is a necessary condition for consensus and therefore part of the contractarian concept of justice. Therefore, actions that aim to reduce the degree of the application of equality before the law are unjust as they touch on the core of the meta-rule that makes consensus possible in the first place.

The closely related issue of corruption provides helpful insights even though it does not cover all aspects of equality before the law in its entirety. With corruption, which essentially means cheating to circumvent the rules of the game, the affected people perceive the process as less fair. In the basic setting by Brennan and Buchanan (1985), an individual could hold her counterpart accountable in the case she would not commit to the agreed rules. Empirical research has shown that people are likely to demand more redistribution in cases of corruption provided that they cannot directly hold the counterpart accountable. Bortolotti *et al.* (2017), for example, show in an experimental setting that participants are more likely to demand redistribution from rich to poor when they suspect that the rich had cheated. Regarding government corruption, Alesina and Angeletos (2005a) acknowledge that more corruption raises the demand for redistribution to correct the injustice generated by the acts of corruption.

Since equality before the law, as argued above, is a necessary condition for a just economic process, it is straightforward that a low level of application of equality before the law (as with discrimination) would be perceived as an unfair game. In such a case, one would expect that a governmental induced reduction of equality before the law would be accompanied by increasing demand for redistribution.

In summary, from the procedural perspective proposed above, the ideal just process would have a full application of equality before the law and government redistribution would only happen as far as it does not interfere with the principle of equality before the law. There is no clear theoretical prediction to be made regarding the level of income inequality with a just process. Before redistribution, the connection between the application of equality before the law and income inequality

is likely to depend on multiple additional factors. The amount of redistribution in each country as well, but a decrease in law equality is expected to be accompanied by stronger income redistribution.

4 Data, Estimation and Results

To capture the degree of application of equality before the law I use data from the World Justice Project (WJP), specifically the relevant sub-components of their Rule of Law Index[11]. The index is constructed based on household and experts surveys for 126 countries with the aim of measuring the extent to which the general public experience the different components of the rule of law in their everyday life. The surveys are designed to capture the de facto existence of the rule of law (as opposed to the written rules) in the experience of ordinary people. The answers to the household and experts surveys are used to compile final scores that are aggregated into 8 factors, each including various sub-factors, which make up the Rule of Law Index. Each sub-factor as well as the general index, range from 0 to 1 where 1 reflects a full application of the principle. I choose the WJP data as opposed to other available alternatives because it captures the broadest range of components and is the most complete measurement (Versteeg and Ginsburg, 2017).[12]

From the eight factors and 44 sub-factors included in the WJP Rule of Law Index (Figures A1), two sub-factors are explicitly measuring the application of equality before the law: "Equal treatment & absence of discrimination" (4.1) and "Civil justice is free of discrimination" (7.2). It would be possible to relate every single sub-factor to a certain extent to the principle of equality before the law since all of them make part of the conceptual framework for measuring the rule of law. I focus on these two aspects, however, to be able to examine in the most precise way the

[11]The data is available under `https://worldjusticeproject.org/our-work/wjp-rule-law-index`.

[12]See World Justice Project (2019) for the most recent report using the WJP Rule of Law index and a description of the methodology. Botero and Ponce (2011) explain further details regarding the construction of the index. For a list of all factors and sub-factors that make up the WJP Rule of Law index see Figure A1 in the appendix.

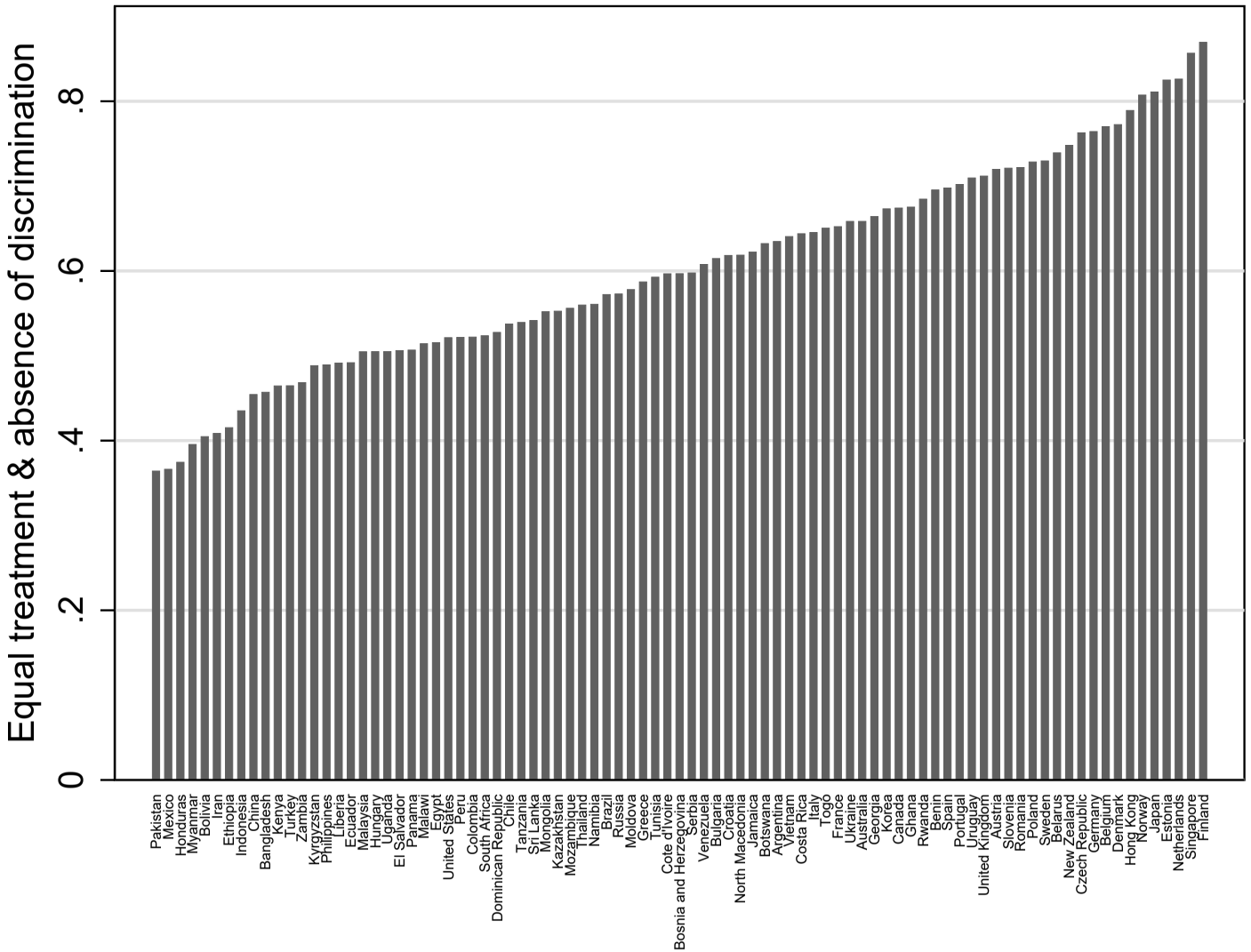
role of the application of equality before the law in explaining income inequality. Figures 1 and 2 show the average values for each country of the sample for the years 2015 - 2019.

As a measure of income inequality, I use the Gini coefficient provided by the Standardized World Income Inequality (SWIID) Database by Solt (2019). I choose the SWIID because it is the database that best allows for comparability across countries and it offers a clear measurement for income inequality before ($gini\_mkt$) and after government redistribution ($gini\_disp$).

For further control variables, I follow Sturm and De Haan (2015) and use the natural logarithm of real per capita GDP (PPP, Penn World Tables) and the Fraser Institute's Economic Freedom index to control for the general level of development of each country. I consider both, the total Economic Freedom index (EFI_Tot) and the modified index (EFI_SdH) used by Sturm and De Haan (2015) who remove categories that include actions by the government sector to prevent including a measurement of redistribution. I use the KOF general ($KOFGI$) and the KOF economic ($KOFEcGI$) globalization indices as it has been recently argued that globalization has played a key role in explaining income inequality at least for transition countries (Dorn *et al.*, 2018). I also include trade as percent of GDP ($tradetogdp$) and the stock of FDI as further measures. I further control for the share of the population with completed secondary education ($sharepopeduc$) as it has been recognized as an important explanatory variable for income inequality (Barro, 2000). Finally, I include the ethnic fractionalization index by Alesina *et al.* (2003) because Sturm and De Haan (2015) find that conditional on the degree of economic freedom, the level of ethnic fractionalization has an impact on redistribution. The data availability over time is constrained by the WJP Rule of Law Index and covers the years from 2012 to 2019. Table A1 in the appendix summarizes and describes the data and the sources.

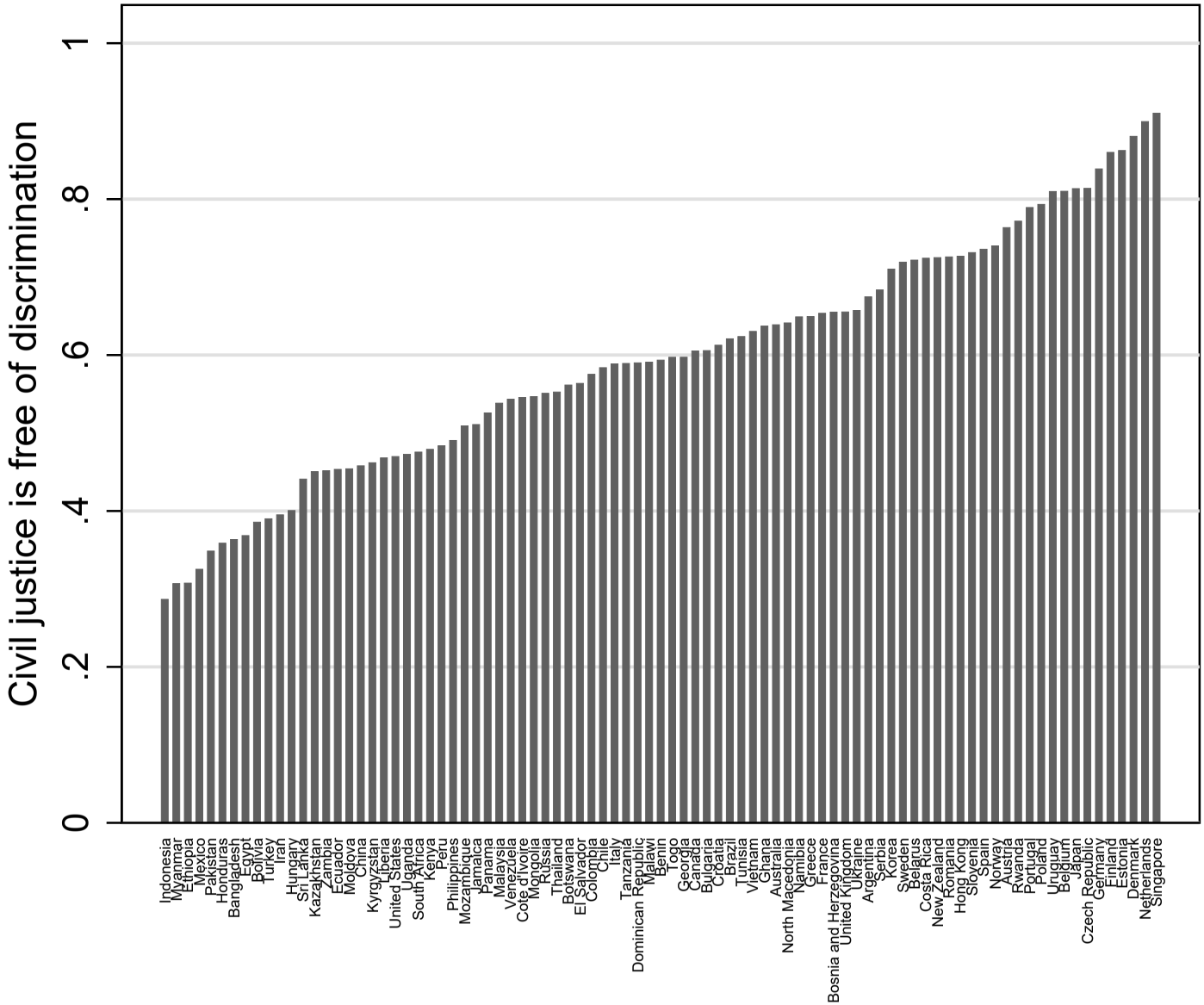
The summary statistics in Table 1 show that the number of countries for which

Figure 1: Mean of Equal Treatment by country



Mean of the "Equal treatment & absence of discrimination" (4.1) sub-factor by country in ascending order

Figure 2: Mean of Equal Justice by country



Mean of the "Civil justice is free of discrimination" (7.2) sub-factor by country in ascending order

observations are available at least for one year between 2012 and 2019 varies between 93 (education variable) and 156 (FDI). Regarding the variables of interest, the mean of the Gini index after redistribution is overall smaller than before redistribution even though the minimum and maximum values in both variables are roughly the same. The variables measuring the application of equality before the law have a similar mean of 0.6 (f41) and 0.58 (f72) even though the range of values in the civil justice factor (f72) is wider. One important insight from Table 1 is that, as can be expected from the characteristics of the data set (many countries and few years) and the nature of the variables, the variation across countries is much larger than the variation over time. This is indicated by the between vs within standard deviations. With such a little within-variation a cross-sectional analysis allows for the most straightforward examination of the data. Due to the different availability of data for each country in the different databases, I use a sample of 87 countries listed in Table A2 in the Appendix.

To study the cross-sectional characteristics of the data I use the average of every variable after 2015. The reason is that in 2015 the WJP included an important number of new countries and changed the construction of the indicators in sensible aspects making the data before 2015 less comparable. As World Justice Project (2019) explains, however, the sub-factors 4.1 and 7.2 were not directly modified.

4.1 Gini before redistribution

Table 2 shows simple correlation coefficients between the variables of interest and the controls. The Gini coefficient before redistribution has a positive correlation coefficient with all other variables. The correlation is strongest with the index of economic freedom and the index of economic globalization. The correlations, however, are not very precise as the correlation is significant only for these two indices and at the 90% level. The correlation with the factors measuring the application of equality before the law is also weak and insignificant. The law equality

Table 1: Descriptive Statistics

		Mean	Std. Dev	Min	Max	N/n/T-bar
gini_disp	overall	37.31	8.03	23.40	65.20	678.00
	between		7.97	23.58	65.02	147.00
	within		0.30	36.23	38.84	4.61
gini_mkt	overall	45.58	6.42	22.40	68.70	678.00
	between		6.54	22.46	68.54	147.00
	within		0.28	44.48	46.91	4.61
f41	overall	0.60	0.12	0.28	0.88	650.00
	between		0.12	0.34	0.87	126.00
	within		0.04	0.47	0.73	5.16
f72	overall	0.58	0.16	0.08	0.97	650.00
	between		0.15	0.19	0.91	126.00
	within		0.06	0.38	0.87	5.16
lnrgdpcap	overall	9.33	1.15	6.57	11.89	836.00
	between		1.18	6.59	11.86	152.00
	within		0.07	8.96	9.79	5.50
EFI_Tot	overall	6.92	0.89	2.59	8.92	780.00
	between		0.87	2.91	8.90	142.00
	within		0.13	6.20	7.55	5.49
EFI_SdH	overall	6.55	1.07	2.55	9.00	780.00
	between		1.05	2.76	8.92	142.00
	within		0.14	5.84	7.25	5.49
KOFGI	overall	65.63	13.70	33.81	91.31	861.00
	between		13.90	34.98	90.86	159.00
	within		0.98	61.17	69.34	5.42
KOFEcGI	overall	59.94	16.38	25.81	95.23	851.00
	between		16.32	27.48	94.23	157.00
	within		1.84	53.04	66.70	5.42
tradetogdp	overall	91.87	60.77	20.72	442.62	850.00
	between		59.36	25.20	406.11	155.00
	within		9.09	11.12	162.88	5.48
FDI	overall	75.76	168.49	0.37	1811.63	846.00
	between		160.30	2.98	1650.97	156.00
	within		20.33	-90.64	288.30	5.42
sharepopeduc	overall	55.32	24.10	1.57	93.00	324.00
	between		26.81	1.57	91.45	93.00
	within		1.97	49.90	66.57	3.48
frac_eth	overall	0.44	0.25	0.00	0.93	954.00
	between		0.25	0.00	0.93	152.00
	within		0.00	0.44	0.44	6.28

variables, in contrast, are strongly correlated with the control variables. This is an indication of how closely the institutional variables are related to each other. In general, the countries with a stronger application of the principle of equality before the law are richer, more globalized, have a higher level of economic freedom and are better educated.

Table 2: Correlation Coefficients

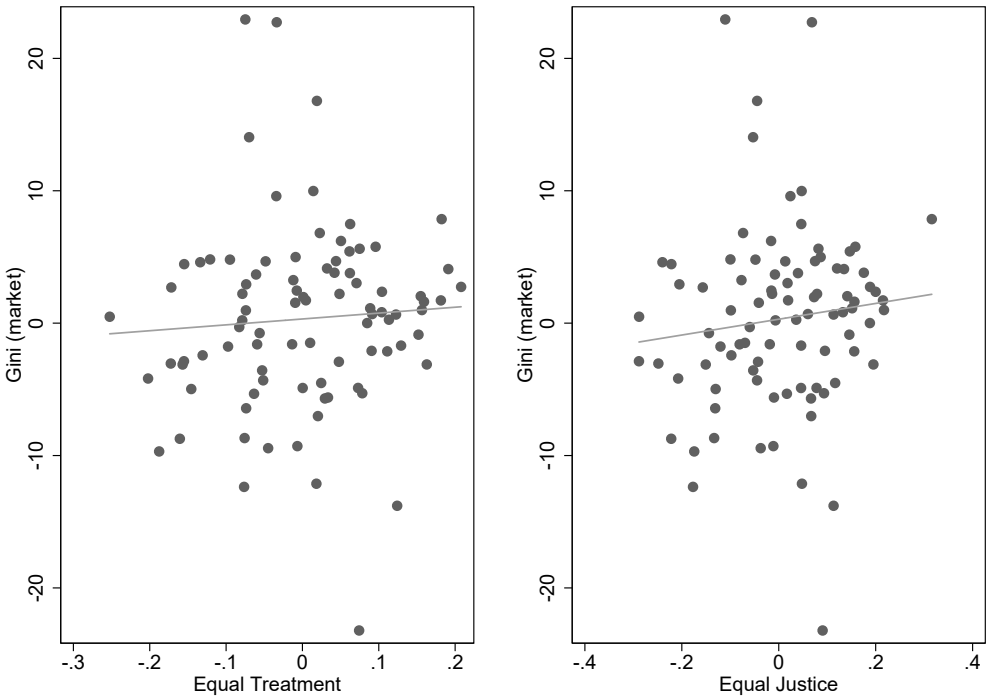
	gini_mkt	f41	f72
f41	0.11		0.91***
f72	0.15	0.91***	
lnrgdpcap	0.08	0.49***	0.52***
EFI_Tot	0.22**	0.38***	0.40***
EFI_SdH	0.25**	0.59***	0.59***
KOFGI	0.13	0.54***	0.56***
KOFEcGI	0.21**	0.58***	0.58***
tradetogdp	0.01	0.38***	0.33***
FDI	0.01	0.20**	0.17*
sharepopeduc	0.24**	0.57***	0.54***
frac_eth	0.01	-0.42***	-0.42***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The most important point here is that, as expected from the discussion on the lack of predictability of income inequality from the rules of the process, the degree of application of the principle of equality before the law does not seem to be related to the level of income inequality before redistribution. This is true even after controlling for variables strongly related to law equality. Figure 3 shows the partial correlations between the law equality indicators and the GINI coefficient before redistribution. The figure shows that after controlling for per capita GDP the correlation is slightly positive but not significant.

Table 3 shows the (lack of) relationship between the degree of application of equality before the law and income inequality before redistribution. The simple linear regressions show that for six different specifications, the coefficient of equal treatment ($f41$) is negative – ranges from -7.9 to -0.34 – and is not statistically significant. The results shown in the Table correspond to the specifications for which

Figure 3: Partial Correlation: Equality before the law and Gini



Note: The figure shows the partial correlation between the indicators for the application of equality before the law and the Gini index before redistribution after controlling for GDP per capita.

the control variables are jointly significant and do not change by trying all other possible combinations. Table 4 shows similar results for the equal justice variable. The coefficient of equal justice is negative or positive depending on the specification and is not significant. Therefore, I cannot find an unconditional relationship between law equality and income inequality. Since the results using the equal justice variable do not meaningfully differ from the results using equal treatment, I will only present the results for equal treatment for the remainder of the section.

Table 3: Relation between Equal Treatment and Income Inequality

	(1)	(2)	(3)	(4)	(5)	(6)
Eq. Treatment	-7.90	-5.30	-3.62	-2.91	-1.89	-0.46
Econ. Freedom	2.40***	2.61***	3.15***			
Trade/GDP		-0.02**	-0.02**		-0.03**	-0.03**
GDP (PC)			-0.96			-0.94
Globalization				0.10**	0.15***	0.20***
Observations	87	87	87	87	87	87
Adjusted R^2	0.070	0.078	0.079	0.022	0.046	0.044
AIC	582.77	582.91	583.81	587.12	585.93	587.03
Region Dummies	No	No	No	No	No	No

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The endogenous variable is the Gini coefficient before redistribution and the regression robust standard errors.

Table 4: Relation between Equal Justice and Income Inequality

	(1)	(2)	(3)	(4)	(5)	(6)
Eq. Justice	-2.57	-0.78	0.46	1.01	1.21	2.10
Econ. Freedom	2.05***	2.33***	2.94***			
Trade/GDP		-0.02**	-0.02**		-0.03**	-0.03**
GDP (PC)			-1.05			-0.99
Globalization				0.08*	0.14**	0.19**
Observations	87	87	87	87	87	87
Adjusted R^2	0.061	0.074	0.077	0.021	0.046	0.045
AIC	583.61	583.33	584.01	587.23	585.95	586.93
Region Dummies	No	No	No	No	No	No

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The endogenous variable is the Gini coefficient before redistribution and the regression was estimated with robust standard errors.

Table 5: Relation between Equal Treatment and Income Inequality: by Region

	(1)	(2)	(3)	(4)	(5)
Eq. Treatment	1.87	76.91	99.41**	101.06**	79.60**
GDP (PC)		9.69*	9.85*	9.97	8.78*
Eq. Treatment × GDP (PC)		-9.10*	-11.96**	-12.16**	-9.89**
Econ. Freedom			2.35	2.32	0.88
Trade/GDP				0.00	-0.01
Globalization					0.16
Observations	87	87	87	87	87
Adjusted R^2	0.221	0.363	0.399	0.391	0.397
AIC	556.91	541.16	536.96	538.94	538.80
Region Dummies	Yes	Yes	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The regression includes dummy variables for each region and therefore the standard errors are clustered by region.

Table 5 shows the regression results after controlling for regional characteristics using a dummy variable for every region. I follow Duarte and Schnabl (2015) and Dorn *et al.* (2018) to classify the countries into eight regions: Common Wealth of Independent States (CIS), East Asia, Emerging Europe, Industrialized Europe, Latin America and Caribbean (LatAm and Caribbean), Middle East and North Africa (MENA), Subsaharan Africa and Western Off-shores (see Table A2 for the classification of the countries in each region). The dummy variables capture the variation across countries which is due to specific common regional characteristics among countries such as geography, colonial history, culture, etc.

When controlling for the regional characteristics only, the equal treatment variable stays positive and insignificant. When including further controls and an interaction term effect between per capita GDP and equal treatment, the sign of the law equality variable turns negative and statistically significant. The motivation for including the interaction term is that the effect of the application of equality before the law is likely to change at different development stages. The effect of equal treatment by itself is positive and statistically significant while the interaction term is negative (and statistically significant). This result suggests that the effect

of a change in the level of law equality in a country will be smaller (more negative) in countries with a higher GDP per capita.

An example is useful to better grasp the size of the estimated effect. Colombia's GDP per capita (in natural logarithms) is 9.45. The estimated marginal effect of an in increase of one percentage point in the equal treatment variable, according to specification (3), is $(99.41 - 11.96 \times 9.45)/100 = -0.135$. Germany has an equal treatment score (f41) of 0.76 and Colombia of 0.52. Would Colombia achieve the degree of application of the principle of equality before the law that German citizens experience, Colombia's Gini coefficient before redistribution would decrease from 48 to 44.74 ($-0.135 \times 24 = -3.26$).

The main takeaway from the estimations above is that, as expected from the discussion in section 3, there is no unconditional relationship between the degree of application of the principle of equality before the law and income inequality for the time between 2015 and 2018 for my sample of countries. The degree of fairness, i.e. the level of law equality, does not provide a predictable relationship for the level of income inequality. After controlling for the specific characteristics of the regions and each country's development and institutional stance, however, there is evidence for a non-linear relationship between the degree of application of equality before the law and income inequality. For the poorest countries in the sample, the model predicts a positive effect and for the richer countries a negative effect. The richer the country the stronger the negative effect tends to be. Interestingly, the positive effect would concern only six countries of the sample, all in Sub-Saharan Africa, which have a per capita GDP (Log) below 7.5. This is intuitive as well since through the increase in equal treatment, people can engage in various productive activities that allow them an increase in their incomes. By being treated more equally, the different individuals can have different incomes and therefore income inequality increases with the increase in welfare.

Having estimated the relationship between law equality and income inequality

it is possible to estimate how high the Gini coefficient would be if, everything else equal, citizens would experience a full application of the principle of equality before the law in every country. Figure 4 shows the observed vs the "fair" Gini coefficients. In most of the countries, the fair income inequality would be lower if equality before the law would be fully applied. On average, the fair Gini coefficient is 4.7 points lower than the observed Gini coefficient.

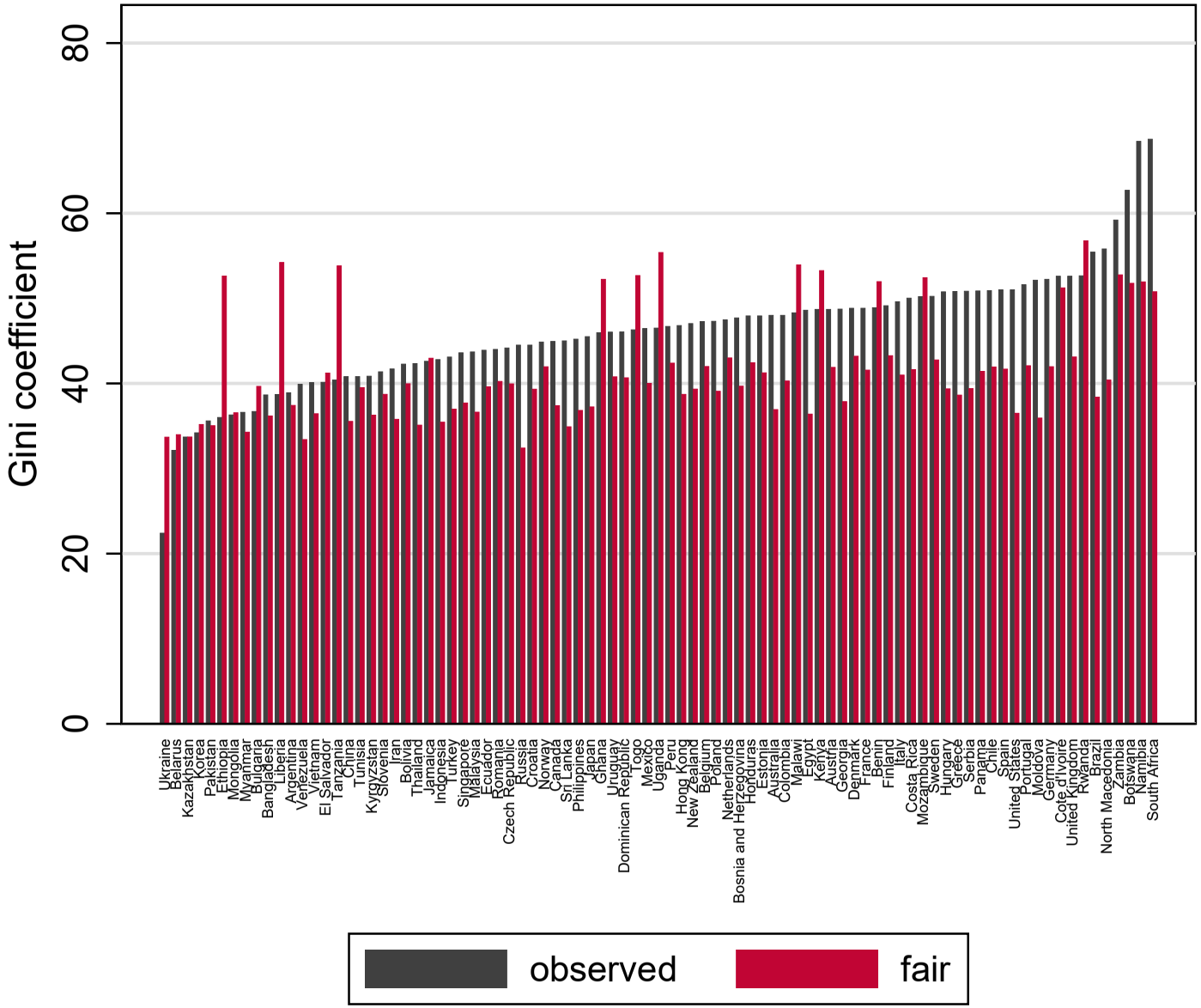
Figure 5 shows the difference between the fair and the observed Gini coefficients. For countries like Brazil and South Africa, fair income inequality would be over 17 points lower than what is observed. In contrast, for countries like Ethiopia and Ukraine, equality before the law would lead to higher income inequality. As explained in section three, equality before the law can lead to higher income inequality if it allows people to engage in economic activities which were previously not available. Since every person has different capabilities and preferences, incomes are likely to better reflect those differences when governments treat citizens equally.

4.2 Gini after redistribution

To measure the extent of redistribution I use the relative difference between the Gini coefficient before and after government redistribution multiplied by -1 ($\frac{Gini_{disp}-Gini_{mkt}}{Gini_{mkt}}$) such that higher values indicate higher redistribution. The main hypothesis from section 3.2 is that with higher levels of equality before the law citizens would demand less redistribution in the political system because the process is perceived as more fair. Additionally, government interventions that aim to lower law inequality might be accompanied by stronger redistribution to maintain political support. This relationship, however, is likely to depend again on the specific characteristics of the countries, including redistribution preferences and the perception of income being the result of effort or luck.

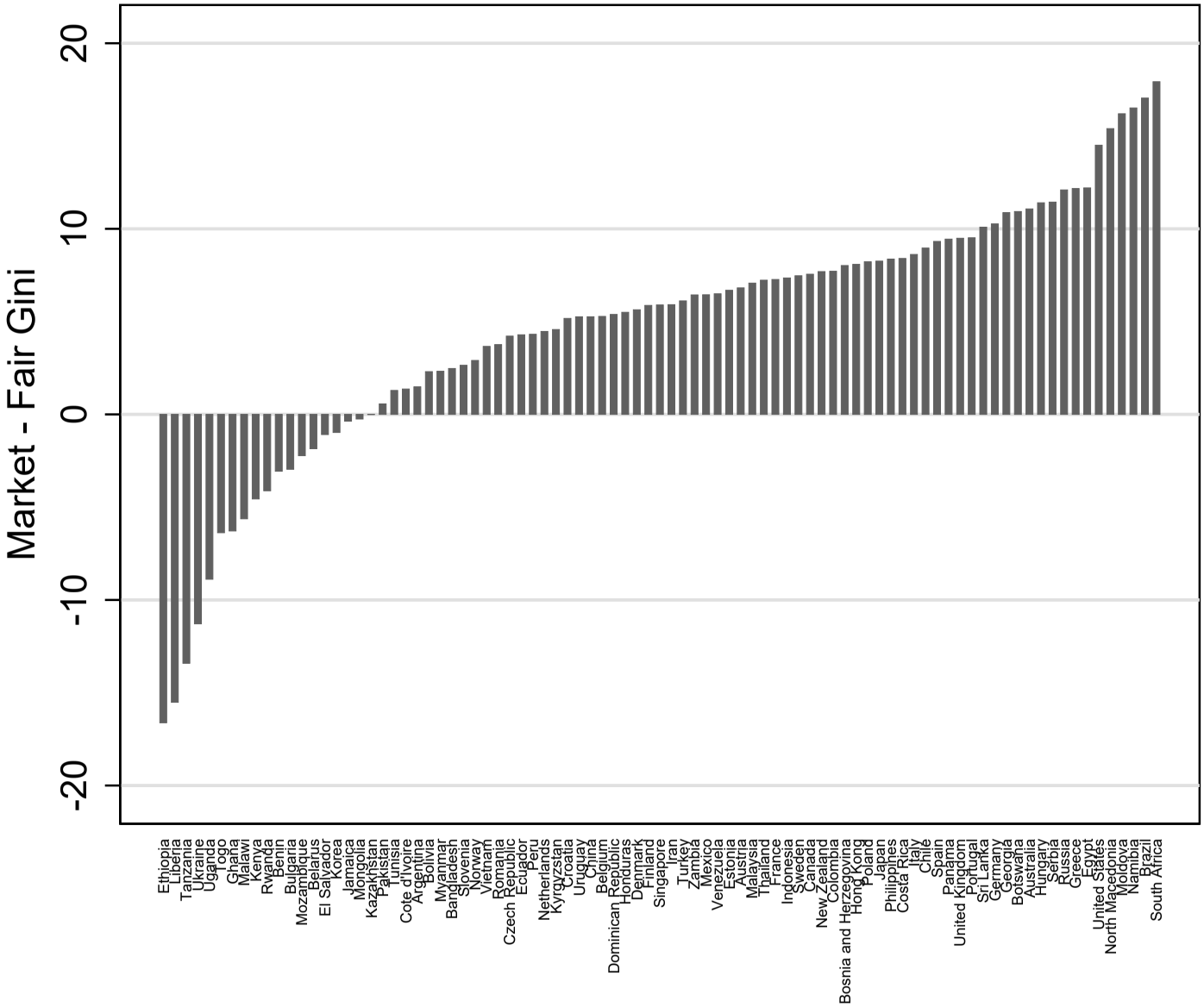
Table 6 shows that the correlation coefficient between the variables of interest

Figure 4: Comparison of observed and "fair" Gini coefficients



Observed vs. "fair" Gini per country in ascending order of observed Gini coefficients

Figure 5: Difference between "fair" and observed Gini coefficients



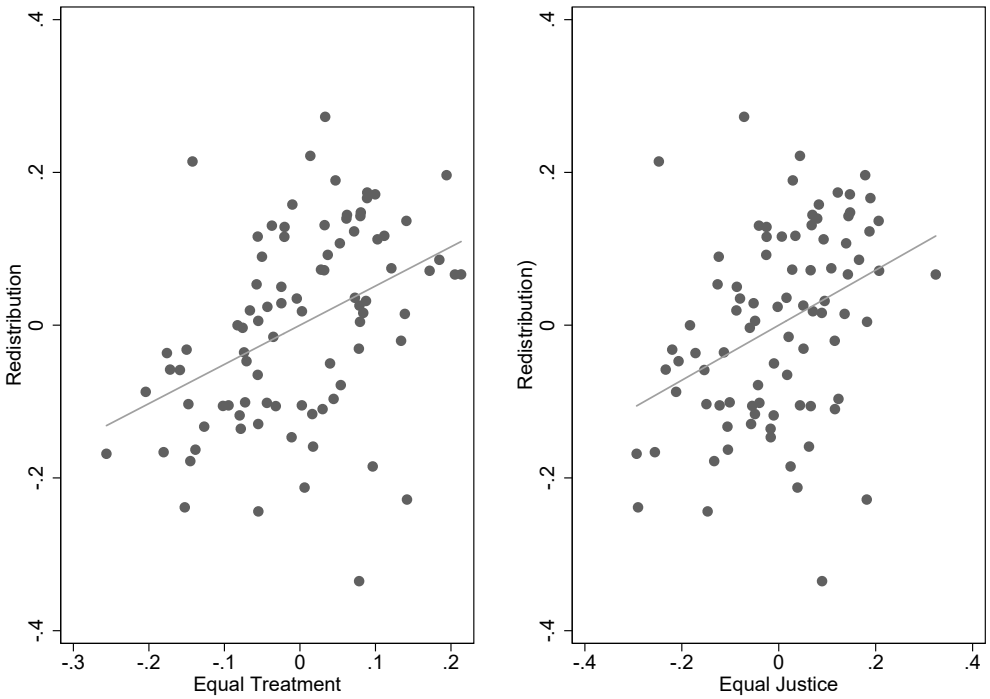
Observed vs. "fair" Gini per country in ascending order of observed Gini coefficients

Table 6: Correlation Coefficients: Redistribution

	redist	f41	f72
f41	0.62***		0.92***
f72	0.58***	0.92***	
lnrgdpcap	0.63***	0.55***	0.53***
EFI_Tot	0.46***	0.46***	0.46***
EFI_SdH	0.61***	0.66***	0.64***
KOFGI	0.76***	0.63***	0.63***
KOFEcGI	0.68***	0.66***	0.66***
tradetogdp	0.19*	0.43***	0.39***
FDI	-0.01	0.25**	0.20*
sharepopeduc	0.62***	0.63***	0.51***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 6: Partial Correlation: Equality before the law and Redistribution



Note: The figure shows the partial correlation between the indicators for the application of equality before the law and the level of redistribution after controlling for GDP per capita (log). The (partial) correlation coefficients are -0.42 with a p-value of 0.0001 for equal treatment and -0.37 with a p-value of 0.0005 for equal justice.

is positive and statistically significant. The partial correlations shown in Figure 6 additionally show that the high correlation is not driven by the level of development. After controlling for the effect of GDP per capita, the correlation between law equality and income inequality remains positive and statistically significant. This positive partial correlation and the correlation between the law equality variables and the controls in Table 6 show that there are more aspects at play and a closer analysis is necessary.

Table 7: Relation between Equal Treatment and Redistribution: by Region

	(1)	(2)	(3)	(4)
Eq. Treatment	0.28***	-1.13**	-1.04**	-0.99**
GDP (PC)		-0.07**	-0.06**	-0.06*
Eq. Treatment × GDP (PC)		0.14**	0.13***	0.12**
Econ. Freedom			0.01	0.02
(mean) frac_eth				0.15
(mean) frac_eth × Econ. Freedom				-0.03
Observations	87	87	87	83
Adjusted R^2	0.732	0.738	0.736	0.733
AIC	-190.67	-190.84	-189.27	-177.44
Region Dummies	Yes	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The regression includes dummy variables for each region and therefore the standard errors are clustered by region.

The regression results in Table 7 show that controlling for the specific characteristics of the regions and per capita GDP, the coefficient of Equal Treatment is negative, confirming the intuition explained above. An increase in the level of application of equality before the law is related to a lower level of redistribution. Since the interaction term is statistically significant as well, the model shows that the effect of the equal treatment variable is conditional on the level of development of the countries. In richer countries, the effect is less strong and could even turn positive. Specifications (3) and (4) are motivated by Sturm and De Haan (2015) because they find that ethnic fractionalization plays an important role in explaining income redistribution. Including their specification does not change the core of the

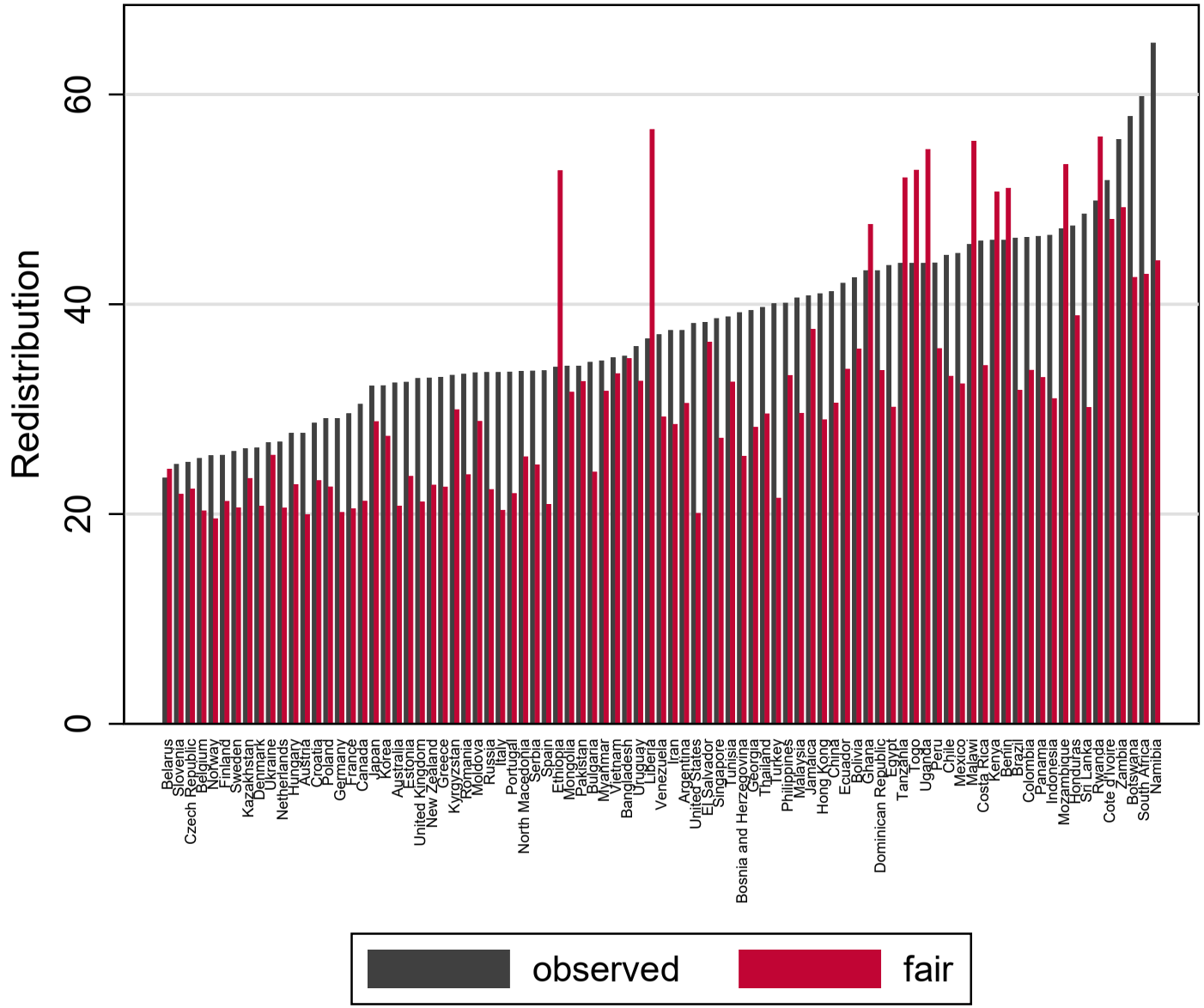
results. The size of the coefficients remain roughly the same and the precision of the estimates declines due to the high correlation between the economic freedom and the equal treatment variables.

In general, the results are in accordance with the intuition sketched above. Lower levels of law equality might be perceived as a less fair game and people demand higher redistribution. Additionally, in poor countries a reduction in law equality can be more strongly perceived than in richer countries, what would go in hand with a demand for stronger redistribution. In rich countries, a decrease in equal treatment might not necessarily trigger higher demand for redistribution. People may reduce their tax contributions which could even decrease the amount available for redistribution. Additionally, considering that a higher level of equality before the law goes in hand with a more capitalist society in which luck plays a more important role for the outcome of the process, people in richer more capitalist countries might prefer higher levels of redistribution, as also found by Sturm and De Haan (2015).

Analogous to the estimation of a fair Gini coefficient in the ideal situation of complete application of equality before the law, I estimate the amount of fair redistribution using specification (2) of Table 7. Multiplying the estimated fair redistribution with the fair Gini coefficient computed above, Figure 7 presents the fair Gini coefficient after redistribution. For most countries, the fair Gini coefficient after redistribution is lower than the observed. Figure 8 shows the differences between the fair Gini and the observed Gini after redistribution. For some countries, the fair Gini coefficient would be higher, even after redistribution.

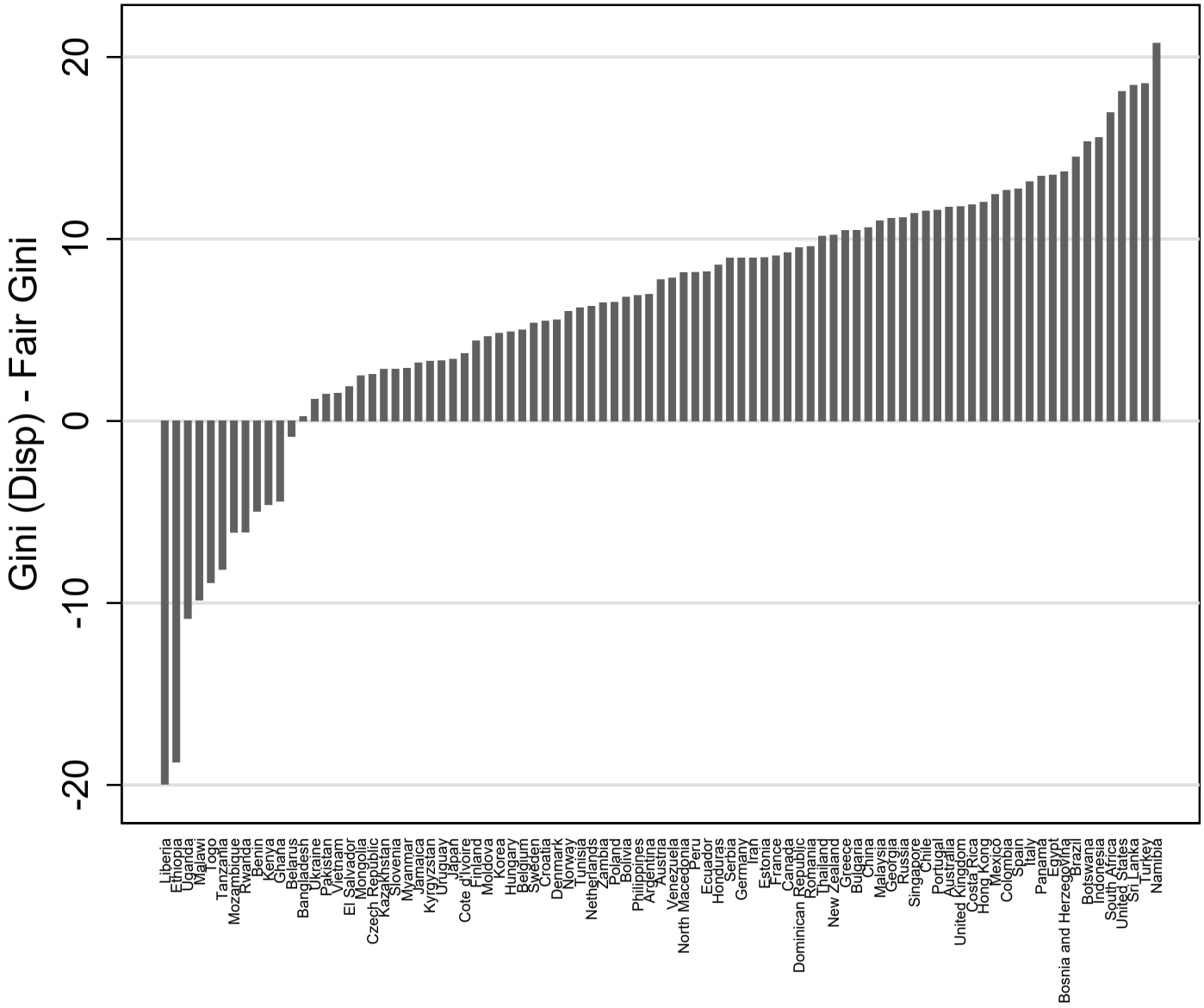
Table 8 summarizes the main results of the empirical exercise. It shows the observed vs the estimated fair Gini coefficients before and after redistribution. Apart from the differences in the levels of income inequality, the estimations show differences in the amounts of redistribution. The estimated fair Gini coefficients depend on multiple specific characteristics of each country. For two high income countries like France and Japan, for example, the Gini coefficient before

Figure 7: Comparison of observed and "fair" Gini (disp)



Observed vs. "fair" Gini after (fair) redistribution per country in ascending order of observed Gini coefficients.

Figure 8: Difference between "fair" and observed Gini (disp)



Observed vs. "fair" Gini after redistribution per country in ascending order of observed Gini (disp) coefficients.

redistribution is above 40. The governments in these countries redistribute strongly reducing the Gini coefficient: from 48 to 29 in France and from 45.5 to 32.2 in Japan. The fair Gini before redistribution is lower in both countries, while in Japan the amount of redistribution would be lower than the observed, in France the fair redistribution would be higher than the observed.

Table 8: Observed vs Fair Gini and Redistribution

	Gini (mkt)	Fair Gini (mkt)	Redist	Fair Redist.	Gini (disp)	Fair Gini (disp)
Argentina	38.9	37.4	0.036	0.18	37.5	30.5
Australia	48	36.9	0.32	0.44	32.5	20.8
Austria	48.7	41.9	0.43	0.52	27.7	19.9
Bangladesh	38.7	36.2	0.093	0.038	35.0	34.8
Belarus	32.1	34.0	0.27	0.29	23.4	24.3
Belgium	47.3	42.0	0.46	0.52	25.3	20.3
Benin	48.9	52.0	0.057	0.017	46.1	51.1
Bolivia	42.3	40.0	-0.0063	0.11	42.5	35.7
Bosnia and Herzegovina	47.7	39.7	0.18	0.36	39.2	25.5
Botswana	62.7	51.8	0.077	0.18	57.9	42.6
Brazil	55.4	38.4	0.16	0.17	46.3	31.8
Bulgaria	36.7	39.7	0.061	0.39	34.5	24.0
Canada	44.9	37.4	0.32	0.43	30.5	21.2
Chile	50.9	41.9	0.12	0.21	44.7	33.1
China	40.8	35.5	-0.0098	0.14	41.2	30.6
Colombia	48	40.3	0.034	0.16	46.4	33.7
Costa Rica	50.0	41.6	0.080	0.18	46.0	34.1
Cote d'Ivoire	52.6	51.2	0.015	0.061	51.8	48.1
Croatia	44.5	39.3	0.36	0.41	28.7	23.2
Czech Republic	44.2	39.9	0.44	0.44	24.9	22.4
Denmark	48.8	43.2	0.46	0.52	26.3	20.7
Dominican Republic	46.0	40.7	0.062	0.17	43.2	33.7
Ecuador	43.9	39.6	0.043	0.15	42	33.8
Egypt	48.6	36.4	0.10	0.17	43.7	30.2
El Salvador	40.1	41.2	0.047	0.12	38.3	36.4
Estonia	47.9	41.2	0.32	0.43	32.6	23.6
Ethiopia	36	52.6	0.056	-0.0022	34	52.7
Finland	49.1	43.3	0.48	0.51	25.6	21.2
France	48.8	41.6	0.39	0.51	29.6	20.5
Georgia	48.7	37.9	0.19	0.25	39.4	28.3
Germany	52.2	42.0	0.44	0.52	29.1	20.1
Ghana	46.0	52.2	0.060	0.089	43.2	47.6

Greece	50.8	38.6	0.35	0.42	33.0	22.6
Honduras	47.9	42.4	0.0097	0.083	47.5	38.9
Hong Kong	46.8	38.7	0.12	0.25	41	29.0
Hungary	50.8	39.4	0.45	0.42	27.7	22.8
Indonesia	42.8	35.4	-0.088	0.13	46.6	31.0
Iran	41.7	35.8	0.10	0.20	37.5	28.5
Italy	49.6	41.0	0.32	0.50	33.5	20.4
Jamaica	42.6	43.0	0.042	0.12	40.8	37.6
Japan	45.5	37.2	0.29	0.23	32.2	28.8
Kazakhstan	33.7	33.7	0.22	0.31	26.2	23.4
Kenya	48.7	53.3	0.053	0.048	46.1	50.7
Korea	34.2	35.2	0.058	0.22	32.2	27.4
Kyrgyzstan	40.8	36.3	0.19	0.17	33.2	29.9
Liberia	38.7	54.2	0.052	-0.045	36.7	56.7
Malawi	48.3	53.9	0.054	-0.030	45.7	55.5
Malaysia	43.7	36.6	0.071	0.19	40.6	29.6
Mexico	46.5	40.0	0.034	0.19	44.8	32.4
Moldova	52.1	35.9	0.36	0.20	33.5	28.8
Mongolia	36.3	36.5	0.061	0.14	34.1	31.6
Mozambique	50.2	52.4	0.060	-0.017	47.2	53.3
Myanmar	36.6	34.3	0.055	0.075	34.6	31.7
Namibia	68.4	51.9	0.052	0.15	64.9	44.1
Netherlands	47.5	43.0	0.43	0.52	26.9	20.6
New Zealand	47.0	39.3	0.30	0.42	33.0	22.8
North Macedonia	55.8	40.4	0.40	0.37	33.6	25.5
Norway	44.9	42.0	0.43	0.53	25.6	19.5
Pakistan	35.6	35.0	0.042	0.069	34.1	32.6
Panama	50.9	41.4	0.087	0.20	46.5	33.0
Peru	46.7	42.4	0.059	0.16	43.9	35.8
Philippines	45.2	36.8	0.11	0.098	40.1	33.2
Poland	47.3	39.1	0.38	0.42	29.1	22.6
Portugal	51.6	42.1	0.35	0.48	33.5	21.9
Romania	44	40.2	0.24	0.41	33.3	23.7
Russia	44.5	32.4	0.25	0.31	33.5	22.3
Rwanda	52.7	56.8	0.053	0.014	49.8	56.0
Serbia	50.8	39.4	0.34	0.37	33.6	24.7
Singapore	43.6	37.7	0.11	0.28	38.6	27.2
Slovenia	41.4	38.7	0.40	0.43	24.7	21.9
South Africa	68.7	50.8	0.13	0.16	59.8	42.9
Spain	51	41.7	0.34	0.50	33.7	20.9
Sri Lanka	45	34.9	-0.080	0.14	48.6	30.2
Sweden	50.2	42.8	0.48	0.52	26.0	20.6
Tanzania	40.4	53.8	-0.087	0.033	43.9	52.1
Thailand	42.3	35.1	0.062	0.16	39.7	29.5
Togo	46.3	52.7	0.052	-0.0020	43.9	52.8
Tunisia	40.8	39.5	0.049	0.18	38.8	32.6

Turkey	43.1	37.0	0.071	0.42	40.0	21.5
Uganda	46.5	55.4	0.056	0.011	43.9	54.7
Ukraine	22.4	33.7	-0.20	0.24	26.8	25.6
United Kingdom	52.6	43.1	0.37	0.51	32.9	21.1
United States	51	36.5	0.25	0.45	38.2	20.1
Uruguay	46.0	40.8	0.22	0.20	36.0	32.7
Venezuela	39.9	33.4	0.070	0.12	37.1	29.3
Vietnam	40.1	36.4	0.13	0.084	34.9	33.4
Zambia	59.2	52.8	0.059	0.067	55.7	49.2
Total	46.1	41.4	0.17	0.25	37.8	31.5

5 Conclusions

From a procedural perspective, it is not the characteristics of the distribution of income but the rules under which the economic process takes place which determine justice. Therefore, a process under just rules is fair irrespective of the level of income inequality. As part of the concept of the rule of law and based on the works by Rawls (1971), Hayek (1976) and Brennan and Buchanan (1985); Buchanan (1975), equality before the law is a necessary condition for a just economic process.

Acknowledging equality before the law as a normative criterion for justice, I estimate the extent to which income inequality is related to equality before the law. Using data from the WJP's Rule of Law Index and the Gini coefficients provided by the SWIID for 87 countries over the years 2015 - 2019, I find that there is no unconditional relationship between the degree of application of equality before the law and the level of income inequality. Conditional on regional and country-specific institutional characteristics, I find that a higher degree of law equality goes in hand with a lower level of income inequality. This relationship depends on the level of per capita GDP.

Using these results, I calculate a hypothetical "fair" Gini coefficient in each country, namely the level of inequality given the ideal condition of full application of equality before the law. On average, I find that the fair Gini coefficient would

be approximately 4 points lower. For countries like South Africa or Brazil as much as 17 points lower. For a few poor countries of the sample, in contrast, the fair Gini coefficient would be higher. These results confirm that the connection between equality before the law and income inequality is not unconditional and that a higher level of income inequality does not necessarily mean less fairness. Using data for the Gini coefficients after government redistribution I calculate a similar model. The results partly confirm the hypothesis that citizens can perceive lower levels of law equality as unfair and would, therefore, demand more government redistribution. This relationship is also conditional on the level of per capita GDP in each country and the effect dampens for richer countries, even turning positive.

In general, I find that for most countries, today's income inequality is higher than the level of inequality they would have with a fair process of equality before the law. More redistribution, additionally, would not directly make the process fairer. For some countries, less redistribution and a higher level of income inequality would result from a fairer process. As I have argued from a procedural perspective, a fair process can be achieved through a stronger application of the principle of equality before the law. Following this goal could have the side effect of reducing income inequality.

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Appendix

Figure A1: WJP Rule of Law Index: Factors and Subfactors

Source: World Justice Project (2019).

Table A1: Countries and Regions

Acronym	Description	Source
gini_mkt	Gini coefficient before government redistribution.	Standardized World Income Inequality Database (SWIID)
gini_disp	Gini coefficient before government redistribution.	Standardized World Income Inequality Database (SWIID)
lnrgdpcap	Natural logarithm of real per capita GDP (PPP).	Penn World Tables
EFI_Tot	Total Economic Freedom index .	Fraser Institute's Economic Freedom index
EFI_SdH	Sturm and De Haan (2015) modified Economic Freedom Index, which excludes categories that include actions by the government sector.	Fraser Institute's Economic Freedom index, Sturm and De Haan (2015)
KOFGI	KOF General Globalisation Index.	KOF Swiss Economic Institute
KOFEcGI	KOF Economic Globalisation Index.	KOF Swiss Economic Institute
tradetogdp	Trade as percent of GDP.	World Development Indicators (WID), the World Bank

FDI	Stock of foreign direct investment.	World Development Indicators (WID), the World Bank
sharepopeduc	Share of population with completed secondary education.	(Barro, 2000)
FDI	Ethnic Fractionalization	Alesina *et al.* (2003)

Table A2: Countries and Regions

CIS
Belarus
Georgia
Kazakhstan
Kyrgyzstan
Moldova
Russia
Ukraine

East Asia
Bangladesh
China
Hong Kong
Indonesia
Japan
Korea
Malaysia
Mongolia
Myanmar
Pakistan
Philippines
Singapore
Sri Lanka
Thailand
Vietnam

Emerging Europe
Bosnia and Herzegovina
Bulgaria
Croatia
Czech Republic
Estonia
Greece
Hungary
North Macedonia
Poland
Romania
Serbia
Slovenia
Turkey

Industrialized Europe
Austria
Belgium
Denmark
Finland
France
Germany
Italy
Netherlands
Norway
Portugal
Spain
Sweden
United Kingdom

Latin America and Caribbean
Argentina
Bolivia
Brazil
Chile
Colombia
Costa Rica
Dominican Republic
Ecuador
El Salvador
Honduras
Jamaica
Mexico
Panama
Peru
Uruguay
Venezuela

MENA
Egypt
Iran
Tunisia

Subsaharan Africa
Benin
Botswana
Cote d'Ivoire
Ethiopia
Ghana
Kenya
Liberia
Malawi
Mozambique
Namibia
Rwanda
South Africa
Tanzania
Togo
Uganda
Zambia

Western Offshores
Australia
Canada
New Zealand
United States