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Regime Type, Inequality, and Redistributive Transfers in Developing Countries

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Abstract

The debate on whether democracy and inequality increase the level of redistribution in a country is still ongoing. We construct a model that predicts a higher probability of redistribution in democracies than in autocracies. Further, with higher initial inequality, there should be more redistribution in democracies but not necessarily in autocracies. We test these predictions using data on social transfers in developing countries for the period 1960–2010. We confirm that democracy increases redistribution and, to some extent, that there is more redistribution with rising inequality. Hence, on the basis of a direct measure of redistribution, we present evidence to confirm the median voter theorem.

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Regime Type, Inequality, and Redistributive Transfers in Developing Countries

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Article Outline

1   Introduction

Do the poor benefit from majority voting? And how does inequality influence redistribution in democracies and autocracies? Studies exploring these issues are mostly based on the influential work by Meltzer and Richard (1981), who applied the median voter theorem to redistribution. [1] The two authors arrived at the conclusion that majority voting will increase the level of redistribution and that this effect is stronger when the initial level of inequality is

higher. For autocracies, where the median voter does not decide on policy, the political economy literature predicts ambiguous effects of inequality on redistribution. The rich can use their wealth either to limit redistribution or to increase redistribution if faced with a revolutionary threat.

Although Meltzer and Richard's (1981) theory has been tested extensively, the results have been inconclusive and the debate is ongoing. Recently, Acemoglu et al. (2013) have found that democracy enhances redistribution. Ansell and Samuels (2014), however, do not find an effect of democracy on redistribution, nor of inequality on redistribution in either regime type. Remarkably, all previous tests have been conducted using a proxy for redistribution, such as government expenditure, tax revenue, or social spending. Transfers to the poor compete with many other line items in the allocation of public budgets. Moreover, the share of social transfers within government expenditures, tax revenues, or social spending cannot be assumed to be comparable across countries or across time. Therefore, the proxies that have been used cannot accurately reflect the level of redistribution of income from the rich to the poor.

Our contribution is twofold. First, we focus on transfers to the poor as a way to redistribute wealth. To the best of our knowledge, this is the first study that examines the relationship between regime type, inequality, and redistribution using a direct measure of social transfers. Our measure comprises conditional and unconditional transfers that have been shown to have a substantial impact on the income of the poor. We therefore overcome the limitations of the proxies for redistribution used in earlier studies. Second, we suggest a theory of direct transfers for the purpose of complete redistribution in different regime types. Thus, we enrich Meltzer and Richard's (1981) finding, but consider a probabilistic model of the adoption of a transfer program in a democracy versus in an autocracy.

We have designed a simple model whereby the ruling class takes a decision on a redistributive transfer under different regimes. We follow Niskanen's (2003) approach and assume that democracies and autocracies differ because of the respective ruling group's objectives. In a democracy, the median voter decides on policy, whereas in an autocracy the elite or the autocratic leader maximizes utility. We predict that in a democracy the probability that a transfer program will be adopted is greater than in an autocracy. Further, with rising inequality the probability of a transfer program increases in democracies, while in autocracies the result is ambiguous.

Using data on social transfers in developing countries for the period 1960–2010, we find supporting evidence for our theory that there is more redistribution in democracies. We also present some evidence that the probability of having a transfer program is greater in countries that have a higher initial level of inequality. The results are robust when we consider the determinants of the adoption of a transfer program as opposed to the determinants of the duration of a transfer program. However, we do not find robust results for the effects of inequality on redistribution when we analyze democracies and autocracies separately.

The paper is structured as follows. Section 2 reviews the literature. Section 3 presents the theoretical framework and the simple model, and Section 4 goes on to describe the data. Section 5 translates the model into an equation that can be estimated econometrically. Section 6 discusses the results, and Section 7 concludes the paper and outlines some possibilities for future research.

2   Related Literature

In the study of public policy choices in democracies, the median voter theorem by Downs (1957) has been most influential. It states that two competing parties will converge on the policy preferred by the median voter. Meltzer and Richard (1981) applied the median voter theorem to redistribution. According to their model, majority voting determines the tax rate in the country. Taxes are used to redistribute income, so the scale of redistribution will be decided by the voter with the median income in the country.[2] In other words, the extent of redistribution depends on the distance of the median voter's income to the mean income in society. If the median income is lower than the mean, redistribution rates will be positive. Assuming the probability density function of income in a country has a longer upper tail, the mean income will be higher than the median income. Since this generally holds, the theory predicts more redistribution in democracies than in autocracies, where the tax rate is not determined by majority voting.[3] Alesina and Rodrik (1994) have extended Meltzer and Richard's (1981) model to take into account the effect of inequality on redistribution. According to the extended model, as the distance of the median voter from the mean increases (which is the case in more unequal countries), redistribution should also increase. Thus, there should be a positive relationship between inequality and redistribution in democracies.

In autocracies, where majority voting does not take place, the (rich) elite decides on policy. The literature agrees that the elite in an autocracy will be reluctant to redistribute income from itself to the poor, unless redistribution helps it to stay in power. Mejía and Posada (2007) suggest that the elite in an autocratic society may use redistribution to appease the poor and prevent a revolution that could result in democratization. In their model, redistribution increases with greater initial inequality, since the incentive for the autocratic leader to prevent democratization is greater when inequality is high. Similarly, according to Knutsen and Rasmussen (2014), redistribution is a useful tool for the political survival of autocrats because it is a long-term commitment to distribution to their supporters and because it can be targeted towards specific groups. Leon (2014) argues that redistribution might be a strategic

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2   See Galasso and Profeta (2002) for a review of studies on voters' motives to support positive levels of redistribution.

3   Consequently, through the effect of redistribution on inequality, the latter should also be lower in democracies than in autocracies. The empirical literature is not conclusive on the impact of democracy on inequality; see Acemoglu et al. (2013) for a review.

tool to reduce the future political power of specific groups by limiting their wealth. He refers to this strategic form of redistribution as populism.

Other scholars have analyzed the importance of inequality as a determinant of regime-type choice. Hence, the question of endogeneity – that is, whether a high level of inequality produces less democratic systems or whether democracy leads to less inequality – is still open. Boix (2003) argues that in countries with a high level of inequality, it is in the elite's interest to prevent democratization and hinder the poor's ability to vote for redistribution. Therefore, the probability of democratization decreases with rising inequality. Acemoglu and Robinson (2006) arrive at the conclusion that democratization is most likely at intermediate levels of inequality. Democratization happens when the poor feel a sufficient need to revolt and the rich regard repression of the poor under autocracy as more costly than redistribution under democracy. Houle (2009) suggests that inequality has two opposite effects on democratization and that its impact is therefore ambiguous. On the one hand, inequality makes a democratic regime less attractive to elites, who fear redistribution. On the other hand, it increases the pressure for democratization from the poor.

There is an extensive empirical literature that investigates the impact of regime type on redistribution. Among the studies that find majority voting to have a redistribution-enhancing effect are Acemoglu et al. (2013), Aidt et al. (2006), Aidt and Jensen (2008), and Kaufman and Segura-Ubiergo (2001). Studies by Ansell and Samuels (2014), Mulligan et al. (2004), and Scheve and Stasavage (2010, 2012) find no effect of democracy on redistribution. Regarding the effect of inequality on redistribution, there is a body of literature that focuses on wealthy and democratic countries. Some of those studies confirm a positive effect of inequality on redistribution (e.g., Iversen and Soskice (2009), Kenworthy and Pontusson (2005), Finseraas (2009), Borge and Rattso (2004)) while others do not (e.g., Kenworthy and McCall (2008), Lübker (2007), Lupu and Pontusson (2011)). Ansell and Samuels (2014) even claim that the interaction of democracy and inequality negatively affects redistribution. The only study that focuses on the impact of inequality on redistribution in autocracies is that by Ansell and Samuels (2014), who find no effect. Thus, the complex triple relationship between democracy, inequality, and redistribution requires further research.

In this paper we revisit the approach to redistribution in democracies and autocracies by focusing on redistributive transfers to the poor. All of the abovementioned studies, except for those that focus exclusively on wealthy democracies, proxy redistribution with measures such as tax revenues, government expenditures, or health and education spending. However, Chu et al. (2000) find that the redistributive effect of precisely these measures is inadequate in developing countries, where tax systems are characterized by low tax-to-GDP ratios, high levels of tax evasion, and weak governance and administration. In addition, the insufficiency of tax systems for redistribution in developing countries is reflected in the fact that pre- and post-tax inequality measures tend to be very close. In order to actually redistribute income from the rich to the poor, the government revenues would have to be used to finance efficient

pro-poor policies. Indeed, in developing countries poverty-alleviation transfer programs provide a large part of the poor's income. They should thus be taken into consideration when studying the relationship between democracy, inequality, and redistribution. Therefore, this paper has two strengths relative to the existing literature. First, we account for the fact that in developing countries wealth is mainly reapportioned to the poor through redistributive transfers. We thus take a more complex approach to the redistribution problem in developing countries. Second, our focus on transfers allows us to control for all groups' incentives to redistribute, thereby incorporating median-voter preferences and the elite's fear of being overthrown. Furthermore, we take initial pre-tax inequality as the reference point for addressing the inequality–redistribution link to make our approach more comprehensive.

Our measure of redistribution comprises conditional and unconditional direct transfers to the poor. Conditional transfers include programs that give cash conditional on household investments in education and/or health as well as food/cash-for-work programs. Some programs require compliance with conditions that are individually set by the household in collaboration with a social worker. Unconditional transfers do not require households to comply with any behavior; they are predominantly pensions.[4] There has indeed been a remarkable increase in the number of such programs during the last decades. Barrientos et al. (2010) provide a compendium of the literature investigating the targets and impact of social transfer schemes in developing countries. According to this compendium, many studies find that the transfer programs have a substantial impact on the poor's income. For the Mexican transfer program Oportunidades (launched as Progresa in 1997), Barrientos et al. (2010) list a 22 percent increase in total family consumption for rural areas and 16 percent for urban areas among the impacts. The program reaches approximately 19 percent of Mexican households. Although Oportunidades is surely one of the programs that stands out in terms of the population it reaches and transfer volume, all the social transfer programs in our database directly target the poor. In the absence of redistribution through extensive public goods provision, as is the case in industrialized countries, we believe social transfers to be an adequate indicator for redistribution in developing countries. Hence, we exclude industrialized countries from the analysis in order not to compare social transfers in developing countries with the policies of comprehensive welfare states.

Furthermore, we extend the literature by demonstrating theoretically that inequality has ambiguous effects on redistribution. Our model confirms that in democracies, the probability that transfer programs will be adopted is greater than in autocracies. It also confirms that in democracies, greater initial inequality increases the probability that transfer programs will be adopted. As inequality increases in autocracies, however, the elite can use its wealth to limit redistribution or to increase redistribution to prevent social unrest.

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4   See Barrientos (2013) for a typology of social assistance programs in developing countries.

3   Model

Let us consider a simple decision-making model that takes into account regime differences. We assume that the society comprises N citizens and that the rich *(R)*, middle *(M)*, and poor *(P)* classes are of the following sizes, respectively: n_R, n_M, n_P. The middle class makes up the majority of the population. Any transfer program is financed by a tax on the income of the rich and middle classes. The poor class gets the utility of x_P , where x_P is its real consumption level. The preferences of the middle class and the rich class are described as follows: $x_i - \xi(z, \lambda_i)$, where $i \in M, R, z$ is the poverty line and λ_i is the preference for redistribution of the rich and middle classes.[5] λ_i is a normally distributed random variable $\lambda_i \sim N(\bar{\lambda}, \sigma_\lambda^2)$.[6] We also assume that the exogenously defined poverty line is higher than the income of the poor $z > y_P$.

The ruling class – that is, the middle class in a democracy and the rich in an autocracy – maximizes its utility and chooses its optimal policy. It follows that in any regime the ruling class accepts the transfer program only if its λ_i is large enough to be intolerant of poverty. The middle class and the rich care about their consumption and experience disutility as a result of poverty. The disutility stems not only from pure altruism but also from the possibility that the poor, in an autocracy, could revolt against the current regime. The rich thus try to avoid revolution in any case because then they will lose their income.

The ruling class determines the redistribution policy. Redistribution takes the form of direct transfers to the poor that increase their consumption level up to the poverty line z. In such a universal scheme, the amount of transfers is $TN = \tau(y_M n_M + y_R n_R)$, where y_P , y_M , y_R is the income of the poor, middle, and rich classes, respectively. Therefore, $T = z - y_P = \tau (y_M \beta_M + y_R \beta_R)$ is the difference between the actual income of the poor and the poverty line. We assume that transfers to all classes are equal – that is, we consider complete redistribution. Let Y be the total income of the poor, middle and rich classes. The utilities for every class in cases with and without transfers may then be written as outlined in Table 1.

Table 1: The Classes' Utilities with and without Transfers

	Without transfers $u_i\|_{no\ tr}$	With transfers $u_i\|_{tr}$
Poor	y_P	$y_P + T$
Middle	$y_M - \lambda_M (Y - y_P)$	$(1 - \tau) y_M + T - \lambda_M (Y - (y_P + T))$
Rich	$y_R - \lambda_R (Y - y_P)$	$(1 - \tau) y_R + T - \lambda_R (Y - (y_P + T))$

In every regime, the ruling class decides whether or not to adopt the transfer program. We follow the standard probabilistic approach, whereby the ruling class will only choose redistribution if this increases its utility over the case without redistribution.

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5   These basic elements are taken from Besley (1997).

6   Normally, but not necessarily, $\lambda_R > \lambda_M$, which implies that the rich might be more concerned about the level of poverty because of the revolutionary threat.

Therefore, in a democracy:

$$P\ (u_{M|tr} \ge u_{M|no\ tr}) = P\ (\lambda_M \ge \tfrac{\tau y_M \text{-} T}{T}) = 1 - F\ (\tfrac{\tau y_M \text{-} T}{T}) = 1 - F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1)$$

And in an autocracy:

$$P\ (u_{R|tr} \ge u_{R|no\ tr}) = P\ (\lambda_R \ge \tfrac{\tau y_R \text{-} T}{T}) = 1 - F\ (\tfrac{\tau y_R \text{-} T}{T}) = 1 - F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1)$$

By assumption $y_R > y_M$, thus:

$$F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1) < F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1)$$

And the probability that a transfer program will be adopted is greater in a democracy:

$$1 - F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1) > 1 - F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1)$$

This result simply follows from the fact that the rich have a higher level of income and that in an autocracy the rich constitute the ruling class. In a democracy, the median voter decides on the level of redistribution.

Proposition 1: The probability that a transfer program will be adopted is greater in a democracy than in an autocracy.

Tax rate τ and level of transfers T are defined from the maximization of utility functions in every regime. The utility functions maximized in a democracy and an autocracy are the sum of utilities in the case of transfers and without them:

$$V_M = P\ (tr)\ u_{M|tr} + P\ (no\ tr)\ u_{M|no\ tr}$$

$$V_R = P\ (tr)\ u_{R|tr} + P\ (no\ tr)\ u_{R|no\ tr}$$

Or, in a detailed form:

$$V_M = (1 - F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1))\ u_{M|tr} + F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1)\ u_{M|no\ tr}$$

$$V_R = (1 - F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1))\ u_{R|tr} + F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1)\ u_{R|no\ tr}$$

Both functions are linear by τ, and the probability that a transfer scheme will be adopted does not depend on the tax rate; therefore, in order to maximize the whole utility functions V_M and V_R we should maximize only the utilities from redistribution for the respective ruling class.

We can easily show that because of the linearity, the tax rate in the case of transfers is equal to 1. Only this rate maximizes the utility function of the respective ruling class (corner solution). Hence, in the case of the adoption of transfers in our model, we have complete redistribution. The second theoretical result regards the effect of inequality on redistribution in democracies. Higher inequality implies the shift of y_M to the left. As we know, in a democracy,

$$P\ (u_{M|tr} \ge u_{M|no\ tr}) = 1 - F\ (\tfrac{y_M}{y_M \beta_M + y_R \beta_R} - 1),$$

and in an autocracy,

$$P\ (u_{R|tr} \ge u_{R|no\ tr}) = 1 - F\ (\tfrac{y_R}{y_M \beta_M + y_R \beta_R} - 1).$$

Proposition 2: In a democracy, the probability that a transfer program will be adopted increases with a higher level of inequality.

Indeed, inequality increases when y_M decreases. Hence, the ratio $\frac{y_M}{y_M\beta_M+y_R\beta_R}$ decreases and the probability that a transfer program will be adopted increases. Redistribution is more likely in unequal democracies. Further, in the case of transfer the poverty line equals $z=y_P+T=y_P+y_M\beta_M+y_R\beta_R$. Thus with higher inequality, the poverty line also decreases as y_M decreases.

In autocracies we can observe a twofold effect. With higher inequality y_M decreases, and the ratio $\frac{y_R}{y_M\beta_M+y_R\beta_R}$ is an increasing function with respect to the income of the middle class. This leads to the decreased probability that a transfer program will be adopted in an autocracy. However, in the presence of a revolutionary threat, greater inequality increases the probability of revolution and this might offset the decrease in the probability that a transfer will be adopted.

Indeed, in an autocracy the poor do not rebel if their average income with and without transfers is no less than their income after a revolution:

$(1 - F (\frac{y_R}{y_M\beta_M+y_R\beta_R}\ 1))[\ y_P+T]+ F (\frac{y_R}{y_M\beta_M+y_R\beta_R} - 1)\ y_P \geq y_P+(\ y_M\beta_M+\ y_R\beta_R)-\pi,$

where π is the cost of collective actions. We assume that if a revolution occurs, the transfers are compulsorily introduced – that is, the middle and rich classes are forced to pay to the poor.

In simplifying we get $F(\frac{y_R}{y_M\beta_M+y_R\beta_R} - 1) \leq \frac{\pi}{y_M\beta_M+y_R\beta_R}$. At equilibrium the lowest probability of adopting a transfer program equals $1 - F \left(\frac{y_R}{y_M\beta_M+y_R\beta_R} - 1\right) = 1 - \frac{\pi}{y_M\beta_M+y_R\beta_R}$ It might be higher if this maximizes the utility of the rich because of their higher disutility from poverty.

The revolutionary threat in an autocracy requires that the probability of not adopting a transfer program should not be greater than the costs of revolutionary action weighted by the average income of the middle and rich classes. It actually equals the marginal value of revolution. Therefore, in order to avoid revolution the rich should provide redistribution in a society with a probability of no more than one minus the marginal value of revolution. If inequality increases –that is, if y_M decreases – then $1 - F \left(\frac{y_R}{y_M\beta_M+y_R\beta_R} - 1\right)$ decreases, but the real probability reduces only until the level at which the poor are indifferent to rebellion. This threshold is defined by $1 - \frac{\pi}{y_M\beta_M+y_R\beta_R}$.

These propositions can be stated as the predictions for the empirical analysis. First, a higher degree of democracy increases the probability that a transfer program will be adopted. Second, in a democracy, a higher level of inequality leads to a greater probability that a transfer program will be adopted. In the following sections we present the data, the specification, and the empirical results from our test of our theoretical predictions.

4   Data and Descriptive Statistics

The data consists of a yearly and a five-year panel of 141 countries for the period 1960–2010. The database is limited to the 139 countries that the World Bank classifies as "low income," "lower middle income," and "upper middle income," plus Uruguay and Chile. The transfer variable was constructed based on the social assistance in developing countries database by Barrientos et al. (2010) and the social transfers impacts matrix of the ILO's (2010) Global Extension for Social Security Project. Neither of these sources claims to provide a complete list of social transfer programs in developing countries. In Barrientos et al. (2010) programs were selected "on the basis of the availability of information on design features, evaluation, size, scope, or significance" (p. 2). The authors compiled information on large-scale national-level social transfer programs. It can be assumed that this covers the most prominent and important programs in developing countries. Since both sources focus on noncontributory social transfers, the transfer variable captures progressive redistribution to the poorest. The information on transfers extends to 2010. Uruguay and Chile were included in the database for the sake of completeness because their transfer programs are listed in Barrientos et al. (2010).

The dependent variable is a dummy that equals 1 if there is at least one social transfer program in place in a country. Some countries have had several transfer schemes in operation in one year. The programs in the database are not comparable in transfer volume or in the share of the population they reach within a country or across countries. India, with 15 programs, has the highest number of individual transfer schemes in operation. In general, India's schemes are rather narrowly targeted to specific worker groups or local ethnic groups. Mexico, on the other hand, has five transfer programs, of which at least the Oportunidades program is broadly targeted and large in scale. Hence, countries with just one and countries with several transfer schemes in operation are treated the same way; there is only one observation per country and year.

The database includes 118 programs in total. Figure 1 shows the total number of redistributive transfer programs in developing countries over the period 1960–2010. While there were only five programs up until 1973, the number rose to 24 programs in 1990 and then climbed to 118 programs in 2010. Of the 141 countries, 90 (63.83 percent) do not have a program and 51 (36.17 percent) have at least one program. For the year 2010, 58 countries are coded as democracies, 45 are coded as anocracies,[7] and 17 as autocracies. Of the countries coded as democracies, 34 (58.62 percent) have a transfer program. For anocracies and autocracies the number amounts to 14 (31.11 percent) and two (13.33 percent), respectively.

The polity variable is taken from the Center for Systemic Peace's POLITY IV project by Marshall and Jaggers (2010). It classifies countries on a scale of -10 for strongly autocratic to +10 for a fully consolidated democracy. For the inequality measure, we use the Gini index of income inequality before taxes from Solt (2014).

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7   The term anocracy refers to mixed-authority regimes that are neither fully democratic nor fully autocratic (Marshall and Jaggers, 2010).

Figure 1: Number of Redistributive Transfer Programs in Developing Countries
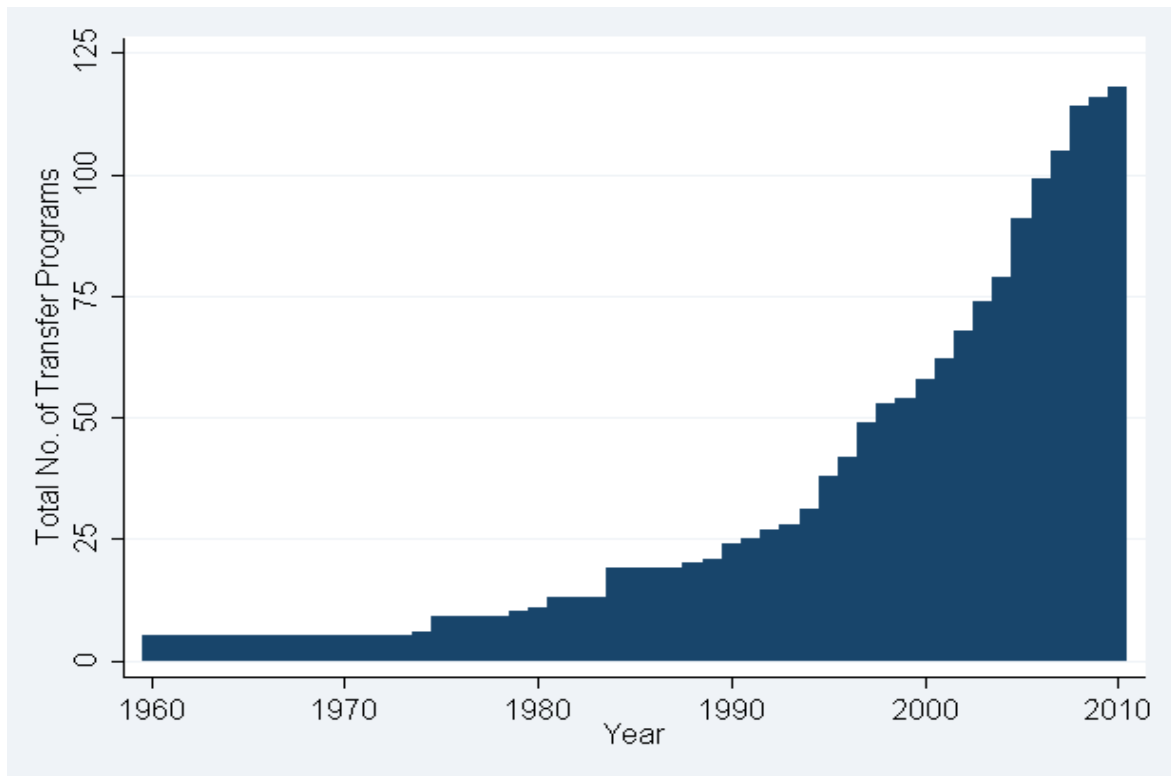
As the inequality data by Solt (2014) offers the broadest coverage while maximizing comparability, it is suitable for cross-country analysis. The control variables are taken from the World Bank Development Indicators Database.

Summary statistics by categories of polity are reported in Table 2. Countries are classified as autocracies if their polity score is below -5, as anocracies if their polity score is between -5 and 5, and as democracies if they have a score above 5. A total of 2,296 observations are coded as autocracies, 1,599 as anocracies, and 1,569 as democracies. The Gini index does not vary much across categories of polity. Inequality is lower in autocracies than in democracies by 3 percentage points. There is also no clear trend discernible in GDP growth. However, it is, predictably, the highest in democracies and, surprisingly, the lowest in anocracies. The share of official development aid received is somewhat lower for democracies. GDP per capita as well as the rates of primary school completion and progression to secondary education are lowest in autocracies and highest in democracies, while the age-dependency ratio and population growth are lowest in democracies and highest in autocracies.

Further summary statistics are reported in the appendix. Table A5 shows the countries that have had a transfer program according to income group[8] at the start date of the transfer. Table A6 presents the countries that have had a transfer program according to polity type. Table A7 lists countries that did not have a transfer program throughout the observed period according to polity type, which is reported as the polity type they had in 2010. Table A8 shows those countries that have had a transfer program according to inequality.

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8 The World Bank classification of income groups is used for this.

Table 2: Descriptive Statistics by Categories of Polity

Polity	polity	gini	gdp_cap	gdp_gro	age_depen	pop_gro	oda	primary	secondary	
Autocracy	-7,56	45,15	1306,92	1,88	83,27	2,30	7,55	60,41	60,58	mean
	-7	43,74	713,34	2,13	87,53	2,46	4,05	59,39	66,21	median
	1,15	11,43	1486,18	6,40	16,43	1,25	10,28	29,18	27,41	sd
	-10	18,63	85,52	-47,31	36,04	-7,60	-0,14	5,54	5,66	min
	-6	90	12451,72	42,02	112,77	11,04	94,95	128,55	100	max
	2296	664	1757	1741	2296	2296	1666	1013	789	N
Anocracy	0,09	47,32	1418,07	1,26	83,94	2,24	7,97	63,22	66,57	mean
	0	46,40	824,65	1,89	86,89	2,48	5,23	63,92	71,42	median
	3,35	8,84	1503,01	6,91	16,08	1,18	9,61	27,14	24,65	sd
	-5	25,35	50,04	-57,67	39,28	-6,49	-0,75	6,52	6,45	min
	5	90	8669,46	91,67	120,82	11,18	99,51	111,59	99,88	max
	1599	836	1488	1456	1599	1598	1359	680	507	N
Democracy	7,87	49,53	2526,44	2,08	72,15	1,73	6,08	81,99	80,45	mean
	8	49,26	2085,05	2,42	72,03	1,85	1,90	88,84	87,53	median
	1,31	8,66	2139,31	4,44	17,31	1,09	11,18	20,44	18,76	sd
	6	21,43	143,78	-40,75	38,35	-2,39	-0,69	14,11	24,72	min
	10	90	11533,82	22,25	111,25	4,78	181,19	124,12	99,84	max
	1569	1143	1474	1502	1565	1568	1377	863	662	N
Overall	-0,89	47,73	1722,89	1,75	80,28	2,12	7,22	68,44	68,85	mean
	-3	47,36	959,99	2,15	84,26	2,31	3,62	72,94	75,41	median
	6,74	9,64	1805,10	6,03	17,37	1,21	10,40	27,73	25,55	sd
	-10	18,63	50,04	-57,67	36,04	-7,60	-0,75	5,54	5,66	min
	10	90	12451,72	91,67	120,82	11,18	181,19	128,55	100	max
	5464	2643	4719	4699	5460	5462	4402	2556	1958	N

5   Specification

According to the model proposed in Section 3, redistribution will be higher in democracies than in autocracies. Further, redistribution should increase with a higher level of initial inequality in democracies but not in autocracies. The model can be tested empirically with the following specification:

$$y_{it} = \beta_0 + \beta_1 polity_{it-1} + \beta_2 ineq_{it-1} + \beta_3 X_{it-1} + u_{it}$$

where y_{it} is a binary variable that indicates whether a country has a transfer program. The main variables on the right-hand side are the polity score, which increases if a country is more democratic, and the inequality measure, which increases if a country's income distribution is more unequal. A positive coefficient on the polity score means that more-democratic countries are more likely to have a redistributive transfer program. A positive coefficient on the inequality variable implies that more-unequal countries are more likely to have a transfer program.

The error term that captures all omitted variables and random errors is u_{it}, and the vector of control variables is X_{it-1}. Lake and Huckfeldt (1998) state that "the positive relationship between education and political participation is one of the most reliable results in empirical social science" (p. 567). Following this statement, in a setting with low levels of education among the poor, the median voter will shift to the right of the distribution of income if it is only the educated who vote. Higher levels of education should thus increase redistribution. Education is controlled for with two variables: primary completion rate and progression to secondary schooling. The level of GDP per capita is included as a control variable, because it could be that redistribution becomes affordable with a rising level of income in a country. On the other hand, redistribution is more necessary as a means to protect people from acute poverty in low-income countries. The effect of GDP per capita could also be nonlinear, such that countries with medium income in the sample are most/least likely to have a redistributive transfer program. GDP growth can affect the likelihood that a country has a redistributive transfer program in similar ways to the level of income; however, GDP growth will be systematically lower in richer countries. In order to control for any bias in the sampling of data on social transfer programs towards countries that cooperate more with international organizations such as the ILO and the World Bank, a variable for net official development aid received as a percentage of GNI is included. For the same reason, a dummy variable that equals 1 if a country has been communist at some point is included. Two standard demographic controls are used: age-dependency ratio and population growth. A rising age-dependency ratio means that fewer people are in the labor force and, consequently, that fewer people pay taxes and finance redistributive policies. A high level of population growth can imply that people are relying on their children to provide for them in their old age as opposed to relying on formal redistribution (Bental, 1989). Finally, in order to control for time trends and regional effects, a full set of time and regional dummies is included.

The econometric approach to estimate the model as specified above has to deal with two problems – namely, endogeneity and unobserved heterogeneity. According to the theoretical literature, as summarized in Section 2, the regime type is a determinant of the level of redistribution. As the level of redistribution rises, inequality should decrease. But inequality again determines regime type and thereby the level of redistribution (reverse causality). We deal with the endogeneity problem in three ways: First, lagged values of the right-hand-side variables take into account the fact that current redistribution is determined by earlier levels of the independent variables. Second, a five-year panel which takes an observation every five years is constructed. According to Acemoglu et al. (2013) this approach is more appropriate than taking averages over a five-year period since averages could introduce serial correlation and render results inconsistent.

Third, once a transfer program is in place, it is presumably difficult to obtain the political support to end it. Moreover, a transfer program can affect the level of democracy and inequality only after it has been in place for a certain time. In order to analyze more specifically

the determinants of the adoption of a transfer program as opposed to the determinants of the duration of a transfer program, duration analysis can be applied. For this, a binary variable that equals 1 in the year of adoption of a transfer program and 0 otherwise serves as the independent variable in the same set of regressions as before. All years after the adoption of a program are coded as missing. For all countries with several transfer programs, the one that started earliest is considered. All countries that never adopted a transfer program within the observed time range are coded as 0, while countries that had a transfer program throughout the observed time range are coded as missing.[9]

Finally, redistributive choices across countries are influenced by unobservable factors such as historically and culturally shaped attitudes towards fairness and personal responsibility. In order to deal with the problem of unobserved heterogeneity, we use fixed- and random-effects approaches.[10]

6 Results

This section presents the econometric results. It tests whether higher levels of democracy and inequality increase the likelihood that a country will have a transfer scheme. Further, it analyzes the determinants of the adoption of a transfer scheme as opposed to the determinants of the duration of a transfer scheme.

We begin with the link between democracy and redistribution. Table 3 shows the regression results on the five-year panel with a dummy that equals 1 if a country has a redistributive transfer program and 0 if it has none as the dependent variable. Columns 1 and 4 are estimated by OLS on the pooled data; columns 2 and 5 are estimated by fixed effects; and columns 3 and 6 are estimated by random effects. The latter three columns include the education variables as controls. Since including the control variables for education substantially reduces the number of observations, the regressions with education controls are presented separately.

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9   This approach is also used in the literature on the outbreak versus the duration of civil war. See, for example, Collier et al. (2009).

10 For a correct statistical inference, a model with a binary dependent variable should be estimated using a logit or probit approach. However, a logit regression using fixed effects on a binary dependent variable will eliminate all observations for which y_{it} is always 0 or always 1. In this case, it would only take into account countries that adopted a transfer program within the observed time range and eliminate all countries that never had a transfer program or that had a transfer program in all the years observed. Thus, logit and probit are not used on the panel data; to improve comparability, the regressions on the pooled data are run with OLS. The same regressions using a logit approach (not reported) give similar results to OLS. To correct for heteroscedasticity, robust standard errors are used in all estimations.

Table 3: Polity Variable, Five-Year Panel

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
polity	0.018***	0.014***	0.018***	0.020***	0.036***	0.030***
	(0.004)	(0.005)	(0.004)	(0.006)	(0.009)	(0.007)
gini	0.009***	0.001	0.007**	0.012***	-0.002	0.007**
	(0.002)	(0.003)	(0.003)	(0.004)	(0.005)	(0.003)
gdp_cap	-0.045	0.198*	0.016	-0.095*	0.234*	-0.028
	(0.032)	(0.102)	(0.042)	(0.057)	(0.123)	(0.072)
gdp_growth	0.002	-0.003	-0.000	0.001	-0.012**	-0.007
	(0.003)	(0.002)	(0.002)	(0.007)	(0.006)	(0.005)
age_depen	-0.008***	0.006	-0.001	-0.002	0.000	0.003
	(0.002)	(0.004)	(0.003)	(0.003)	(0.005)	(0.004)
pop_growth	0.033*	0.012	0.027	0.006	-0.020	-0.005
	(0.020)	(0.019)	(0.023)	(0.019)	(0.027)	(0.024)
oda	0.000	0.003	0.001	-0.006	0.016	-0.001
	(0.002)	(0.003)	(0.002)	(0.007)	(0.010)	(0.008)
communist	0.262***			0.427***		
	(0.080)			(0.139)		
primary				0.005**	0.001	0.001
				(0.002)	(0.002)	(0.002)
secondary				0.002	-0.001	0.002
				(0.002)	(0.004)	(0.002)
Observations	438	438	438	185	185	185
R^2	0.407	0.379	0.202	0.536	0.391	0.293

Note: Standard errors in parentheses. OLS regressions include full set of time and regional fixed effects. Fixed- and random-effects regressions include a full set of time fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The coefficient on the lagged polity score is positive and strongly significant in all specifications. This confirms that more-democratic countries have a higher probability of having a transfer program. The coefficient on the lagged Gini variable is positive and significant except in the fixed-effects regressions (columns 2 and 5). If we take into account that fixed effects discards the between-country variation and the Gini index of a country tends to vary little over time, this is not surprising. At least for the between-country variation, there is some evidence that countries with higher inequality are more likely to have a transfer program. The binary variable indicating whether a country was communist in the past has a positive and strongly significant coefficient.[11] Thus, countries with a communist past are more likely to have a transfer program. This shows that the sampling of data on social transfer programs was not biased towards countries that have traditionally cooperated more with international organizations such as the ILO and the World Bank.

The coefficients on the remaining variables are not robust to the different specifications and therefore only allow for very cautious inference. The coefficient on lagged GDP per capita is positive and significant at the 10 percent level in columns 2 and 5 and negative and

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11 The communist dummy variable is not included in the fixed- and random-effects regressions as it does not vary over time and would thus be omitted in the fixed-effects regression. For better comparability between the fixed- and random-effects estimations, it is not included in random effects.

significant at the 10 percent level in Column 4. This indicates that the level effect of GDP is different for the between- and within-country variation. As a country's income rises, the likelihood of it having a transfer program increases. This is evidenced by fixed-effects specifications. Across countries, those with a lower income are more likely to have a transfer program. The effect of lagged GDP growth is negative and significant at the 5 percent level in Column 5. At least within countries, income growth seems to reduce the likelihood that a country will have a transfer program. The coefficient on the lagged age-dependency ratio is negative and highly significant in Column 1. This is very preliminary evidence that, as expected, a higher age-dependency ratio leads to a lower probability that a country will have a transfer scheme. The coefficient on lagged population growth is positive and significant at the 10 percent level in Column 1, but the effect is not strong enough to conclude that higher population growth increases the likelihood of a transfer program. The coefficient on the lagged variable for completion of primary education is positive and significant at the 5 percent level in Column 4 but insignificant in the other two specifications. The effect of the coefficient for the lagged rate of progression to secondary schooling is insignificant in all specifications. Hence, there is not enough support for the hypothesis that higher levels of education lead to an increase in redistribution through an increase in the political participation of the poor. The coefficient on the official development aid received as a percentage of GNI is insignificant in all specifications. Dependence upon development aid does not appear to influence the likelihood of having a transfer program.

Including the controls for education diminishes the number of observations from 438 to 197. The R^2 ranges from 0.2 in Column 3 to 0.54 in Column 4. The F-test rejects the null hypothesis of no joint significance of the explanatory variables in all specifications. The Breusch-Pagan LM test for the existence of random effects and the Wald test for the existence of fixed effects both reject the null hypothesis of no effects. The consistent estimator is therefore either a fixed- or a random-effects model.[12] A test of overidentifying restrictions (Hansen's J statistic)[13] fails to reject the null hypothesis that the overidentification restrictions are valid. Therefore, according to the Hansen test, random effects is the more efficient estimator and the preferred specification.

For the preferred specification, an increase in the polity score by 1 leads to an increase of 3 percentage points in the probability of a transfer scheme, ceteris paribus and on average. A regime change from autocracy to democracy implies an increase of 10 to 20 points on the polity scale,[14] and this happens in 1 percent of all observations. Such a regime change implies a large increase in the probability of having a transfer scheme, from 30 to 60 percentage points.

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12 The results of these tests are the same for all of the subsequent regressions.

13 A test of overidentifying restrictions is also a test of fixed versus random effects. This test is employed with robust standard errors when the Hausman test cannot be used.

14 A regime change from autocracy to democracy implies a change in the polity score of at least -5 to 5 and at most -10 to 10.

In order to minimize the endogeneity problem that arises if an ongoing transfer program influences the level of democracy and inequality, we analyze the determinants of the adoption of a transfer scheme as opposed to the determinants of the duration of a transfer scheme. Table 4 shows the same set of regressions as before except that only the year of the adoption of a transfer program is taken into consideration. All years after the start of a transfer program are discarded. The explanatory variables are the same as before; however, the GDP per capita variable is replaced by the combined average of GDP per capita for the fifth, fourth, and third year prior to the adoption of a transfer. This is to account for the fact that the level of GDP is likely to influence the adoption of a transfer scheme with a lag of more than one year and over a longer period of time than one year.

The coefficient on the lagged polity variable is positive and significant in all specifications except in the OLS regression with education controls (Column 4), where it is positive but insignificant. For the random-effects regression with education controls (Column 6), an increase in the polity score by 1 increases the probability that a country will adopt a transfer scheme by approximately 0.2 percentage points, ceteris paribus and on average. In the event of a regime change from autocracy to democracy, the probability that a country will adopt a transfer scheme increases between 2 percentage points (lower bound) and 4 percentage points (upper bound). The effect is substantially smaller than that in the analysis of the duration of a transfer program. As expected, endogeneity indeed plays an important role in the analysis of the duration of a transfer scheme. Nevertheless, there is robust evidence that more-democratic countries are more likely to adopt a transfer program.

The coefficient on the lagged Gini index is positive and significant in specifications 3 and 6. This is very preliminary evidence that greater inequality increases the probability that a transfer scheme will be adopted. The coefficients on the communist dummy are insignificant. Hence, whether or not a country was communist in the past does not affect the adoption of a transfer scheme. The other coefficients are similar to those in the analysis of the duration of a transfer program and smaller throughout. None can be claimed to have a robust effect on the probability that a transfer scheme will be adopted. Including the education variables reduces the number of observations from 1,595 to 663. The general fit of the model increases from 0.05 in Column 3 to 0.12 in Column 4.

As a robustness check, the same regressions as in Table 3 are run on the annual panel instead of the five-year panel. The results are reported in Table A1 of the appendix and confirm the main findings of Table 3. However, the five-year panel is preferable because it reduces the endogeneity problem and because all variables can be expected to influence whether or not a country has a transfer program with more than a one-year lag. For a second check, the polity variable is replaced with a binary variable that equals 1 for democracies and 0 otherwise. This democratic index is taken from Boix et al. (2013) and regressed on the five-year panel. The results are reported in Table A2 of the appendix and again confirm the findings of Table 3. The coefficients on the democracy variable are positive and significant in all

specifications. Based on the random-effects model with controls for education (Column 6), a regime change from autocracy to democracy increases the probability that a country will have a transfer program by 23 percentage points, ceteris paribus and on average. This estimate is quite close to the one made using the polity score's lower bound of a change from autocracy to democracy. Tables A3 and A4 in the appendix report regressions of the polity score and the binary democracy variable without control variables.

When we split the sample into democracies and autocracies, we do not find a significant and robust effect of inequality on the probability that a country will have a transfer scheme. Hence, we cannot confirm that a higher level of initial inequality in democracies leads to more redistribution.

Table 4: Adoption of a Transfer Program

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
polity	0.00162**	0.00389***	0.00242***	0.00137	0.01012***	0.00198**
	(0.00072)	(0.00136)	(0.00063)	(0.00119)	(0.00353)	(0.00093)
gini	0.00063	-0.00030	0.00082**	0.00093	-0.00267	0.00151***
	(0.00040)	(0.00069)	(0.00039)	(0.00066)	(0.00175)	(0.00055)
gdp_cap	-0.01326**	0.05107**	-0.00894*	-0.00811	0.05130	0.00299
	(0.00572)	(0.02550)	(0.00471)	(0.01138)	(0.05886)	(0.01052)
gdp_growth	0.00050	0.00049	0.00052	0.00012	-0.00117	-0.00013
	(0.00053)	(0.00053)	(0.00054)	(0.00132)	(0.00134)	(0.00135)
age_depen	-0.00006	0.00189**	0.00007	0.00042	0.00199	0.00123**
	(0.00043)	(0.00083)	(0.00035)	(0.00067)	(0.00142)	(0.00050)
pop_growth	-0.00330	-0.00282	0.00024	-0.00738	-0.00933	-0.00360
	(0.00312)	(0.00406)	(0.00292)	(0.00686)	(0.00829)	(0.00600)
oda	-0.00102**	0.00043	-0.00103***	-0.00009	0.00325	-0.00019
	(0.00043)	(0.00062)	(0.00038)	(0.00132)	(0.00208)	(0.00127)
communist	-0.01207			-0.00841		
	(0.01404)			(0.02793)		
primary				0.00020	0.00059	-0.00006
				(0.00040)	(0.00120)	(0.00036)
secondary				0.00072*	0.00030	0.00059**
				(0.00042)	(0.00106)	(0.00028)
Observations	1595	1593	1593	663	663	663
R^2	0.066	0.090	0.053	0.103	0.118	0.085

Note: Standard errors in parentheses. OLS regressions include full set of time and regional fixed effects. Fixed- and random-effects regressions include a full set of time fixed effects.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

7 Conclusion

Are redistribution levels higher in democracies? Does inequality lead to more redistribution, depending on regime type? These and other questions about how political institutions influence redistribution and social policies are very important, especially in developing countries, where we often observe high levels of corruption, poor governance, and fragile statehood. In addressing these questions, we have chosen to focus on developing countries, as the literature stresses the shortcomings of standard measures of redistribution such as tax revenues and government spending in these countries. We have suggested that a variety of redistributive transfer programs should be considered, since they seem to be more responsible for redistribution in developing countries, where pre- and post-tax revenues are very similar.

The straightforward and intuitive approach to examining the complex link between democracy, inequality, and redistribution is to consider the incentives of all classes in a society and to study how these classes interact and how the institutional constraints of different political regimes change their bargaining power. To this end, we have designed a simple model to demonstrate how the regime type, specifically, the ruling-class type, affects the probability that a transfer program will be adopted. The model is a stylized mechanism that predicts more redistribution to the poor when the middle class chooses policy. Greater inequality intensifies this tendency in a democracy. In contrast, in an autocracy inequality turns out to be a driver of such programs only when there is a strong revolutionary threat. Hence, we confirm Meltzer and Richard's (1981) theory about redistribution, but in this case via social transfers. This model is only a simplified framework of political motives for social policy choices. Undoubtedly, there is a need for many more studies on particular incentive mechanisms through which political institutions influence social policies in democracies and autocracies.

Empirically, we have used a new data set with information on noncontributory social transfer programs to the poor in developing countries and have found strong evidence that more-democratic countries are more likely to have transfer programs. The effect remains robust when we take only the year in which the transfer program was adopted into account. We have found preliminary evidence that a greater level of inequality leads to a greater likelihood that a country has (and will adopt) a transfer program. However, the effect of inequality is not stronger for democracies than for autocracies. The persistence of the inequality data and cross-country analysis do not allow for the proper identification of the exact relationship between inequality and redistributive transfers. The limitations of the data also make it difficult to capture the detailed mechanisms and channels behind the adoption of transfer programs. In this sense, within-country evaluation and natural experiments are more promising for revealing the true effects and causality. Despite the fact that we have certainly simplified democratic settings as well as redistributive decisions, we have contributed to a debate that is extensive, inconclusive, and ongoing.

The fact that regime type and political institutional constraints do play a role in determining social policy choices opens up interesting avenues for further political economy re-

search. Anti-poverty programs might be initiated based on social motives such as efficiency and equity, but they might also be driven by political mechanisms such as vote buying in democracies or the securing of loyalty in autocracies. Further, political constraints may create biases in social policies, not only at the approval stage but also at the implementation stage. For example, high levels of corruption and red tape are also products of a political system and can even undermine the efficiency of good social policy choices. Hence, further research with good identification strategies is needed to highlight specific patterns and channels of influence between political institutions and social choices.

Bibliography

Acemoglu, D., and J. A. Robinson (2006). *Economic Origins of Dictatorship and Democracy*. New York: Cambridge University Press.

Acemoglu, D., J. A. Robinson, S. Naidu, and P. Restrepo (2013). *Democracy, Redistribution and Inequality*. NBER working paper. 19746.

Aidt, T., J. Dutta, and E. Loukoianova (2006). Democracy Comes to Europe: Franchise Extension and Fiscal Outcomes 1830–1938. *European Economic Review* 50 (2): 249–283.

Aidt, T. S., and P. S. Jensen (2008). Tax Structure, Size of Government, and the Extension of the Voting Franchise in Western Europe, 1860–1938. *International Tax and Public Finance* 16 (3): 362–394.

Alesina, A., and D. Rodrik (1994). Distributive Politics and Economic Growth. *The Quarterly Journal of Economics* 109 (2): 465–490.

Ansell, B., and D. Samuels (2014). *Inequality and Democratization: An Elite-Competition Approach*. New York: Cambridge University Press.

Barrientos, A. (2013). *Social Assistance in Developing Countries*. New York: Cambridge University Press.

Barrientos, A., M. Nino-Zarazua, and M. Maitrot (2010). *Social Assistance in Developing Countries Database*. MPRA Paper. 26403.

Bental, B. (1989). The Old Age Security Hypothesis and Optimal Population Growth. *Journal of Population Economics* 1 (4): 285–301.

Besley, T. J. (1997). Political Economy of Alleviating Poverty: Theory and Institutions. In: M. Bruno and B. Pleskovic (eds), *Annual World Bank Conference on Development Economics 1996*. Washington, D.C.: World Bank.

Boix, C. (2003). *Democracy and Redistribution*. New York: Cambridge University Press.

Boix, C., M. Miller, and S. Rosato (2013). A Complete Dataset of Political Regimes, 1800–2007. *Comparative Political Studies* 46 (12): 1523–1554.

Borge, L.-E., and J. Rattso (2004). Income Distribution and Tax Structure: Empirical Test of the Meltzer-Richard Hypothesis. *European Economic Review* 48 (4): 805–826.

Chu, K.-Y., H. R. Davoodi, and S. Gupta (2000). *Income Distribution and Tax and Government Social Spending Policies in Developing Countries*. International Monetary Fund.

Collier, P., A. Hoeffler, and D. Rohner (2009). Beyond Greed and Grievance: Feasibility and Civil War. *Oxford Economic Papers* 61 (1): 1–27.

Downs, A. (1957). An Economic Theory of Political Action in a Democracy. *Journal of Political Economy* 65 (2): 135–150.

Finseraas, H. (2009). Income Inequality and Demand for Redistribution: A Multilevel Analysis of European Public Opinion. *Scandinavian Political Studies* 32 (1): 94–119.

Galasso, V., and P. Profeta (2002). The Political Economy of Social Security: A Survey. *European Journal of Political Economy* 18 (1): 1–29.

Houle, C. (2009). Inequality and Democracy: Why Inequality Harms Consolidation But Does Not Affect Democratization. *World Politics* 61 (04): 589–622.

ILO (2010). *Global Extension of Social Security: The Social Transfers Impacts Matrix*. Online: <www.socialsecurityextension.org/>.

Iversen, T., and D. Soskice (2009). Distribution and Redistribution: The Shadow of the Nineteenth Century. *World Politics* 61 (03): 438–486.

Kaufman, R. R., and A. Segura-Ubiergo (2001). Globalization, Domestic Politics, and Social Spending in Latin America: A Time-Series Cross-Section Analysis, 1973–1997. *World Politics* 53 (04): 553–587.

Kenworthy, L., and L. McCall (2008). Inequality, Public Opinion and Redistribution. *Socio-Economic Review* 6 (1): 35–68.

Kenworthy, L., and J. Pontusson (2005). Rising Inequality and the Politics of Redistribution in Affluent Countries. *Perspectives on Politics* 3 (03): 449–471.

Knutsen, C. H., and M. B. Rasmussen (2014). *The Autocratic Welfare State: Resource Distribution, Credible Commitments and Political Survival*. Working Paper. Online at SSRN: <http://ssrn.com>.

Lake, R., and R. Huckfeldt (1998). Social Capital, Social Networks, and Political Participation. *Political Psychology* 19 (3): 567–584.

Leon, G. (2014). Strategic Redistribution: The Political Economy of Populism in Latin America. *European Journal of Political Economy* 34, 39–51.

Lübker, M. (2007). Inequality and the Demand for Redistribution: Are the Assumptions of the New Growth Theory Valid? *Socio-Economic Review* 5 (1): 117–148.

Lupu, N. and J. Pontusson (2011). The Structure of Inequality and the Politics of Redistribution. *American Political Science Review* 105 (02): 316–336.

Marshall, M. G., and K. Jaggers (2010). Polity IV Project: Political Regime Characteristics and Transitions, 1800–2010. Online: <www.systemicpeace.org/polity/polity4.htm>.

Mejía, D., and C.-E. Posada (2007). Populist Policies in the Transition to Democracy. European *Journal of Political Economy* 23 (4): 932–953.

Meltzer, A., and S. Richard (1981). A Rational Theory of the Size of Government. *The Journal of Political Economy* 89 (5): 914–927.

Mulligan, C. B., R. Gil, and X. Sala-i-Martin (2004). Do Democracies Have Different Public Policies than Non-Democracies? *Journal of Economic Perspectives* 18 (1): 51–74.

Niskanen, W. A. (2003). Autocratic, Democratic, and Optimal Government. Cheltenham, U.K.: Edward Elgar.

Scheve, K., and D. Stasavage (2010). The Conscription of Wealth: Mass Warfare and the Demand for Progressive Taxation. *International Organization* 64 (04): 529–561.

Scheve, K., and D. Stasavage (2012). Democracy, War, and Wealth: Lessons from Two Centuries of Inheritance Taxation. *American Political Science Review* 18 (1): 81–102.

Solt, F. (2014). *The Standardized World Income Inequality Database.* Working Paper. SWIID Version 5.0, October 2014. Online: <http://myweb.uiowa.edu/fsolt/papers/Solt2014.pdf>.

Appendix

Table A1: Polity Variable, Annual Panel

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
polity	0.017***	0.010**	0.011**	0.024***	0.025***	0.026***
	(0.002)	(0.005)	(0.004)	(0.002)	(0.006)	(0.006)
gini	0.006***	0.000	0.001	0.005***	-0.006*	-0.004
	(0.001)	(0.003)	(0.002)	(0.001)	(0.003)	(0.003)
gdp_cap	-0.023*	0.195*	0.118**	-0.058**	0.032	-0.003
	(0.014)	(0.102)	(0.056)	(0.024)	(0.116)	(0.056)
gdp_growth	0.002	-0.002	-0.002	0.003	-0.003	-0.003
	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)
age_depen	-0.006***	0.006*	0.004	-0.004***	-0.000	0.001
	(0.001)	(0.003)	(0.003)	(0.001)	(0.005)	(0.003)
pop_growth	0.011	-0.012	-0.009	0.013	-0.008	-0.001
	(0.007)	(0.012)	(0.010)	(0.011)	(0.015)	(0.014)
oda	-0.002	0.003*	0.001	0.001	0.008***	0.007***
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
communist	0.230***			0.405***		
	(0.036)			(0.058)		
primary				0.005***	0.003	0.003
				(0.001)	(0.002)	(0.002)
secondary				0.000	0.002	0.002
				(0.001)	(0.003)	(0.002)
Observations	2288	2286	2286	975	975	975
R^2	0.380	0.388	0.122	0.451	0.363	0.197

Note: Standard errors in parentheses. OLS regressions include full set of time and regional fixed effects. Fixed- and random-effects regressions include a full set of time fixed effects.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A2: Binary Democracy Variable, Five-Year Panel

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
democracy	0.168***	0.132**	0.170***	0.237***	0.247*	0.233**
	(0.049)	(0.062)	(0.052)	(0.084)	(0.124)	(0.091)
gini	0.010***	0.001	0.007**	0.015***	-0.007	0.009***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.006)	(0.003)
gdp_cap	-0.049	0.176	0.012	-0.104*	0.103	-0.053
	(0.032)	(0.106)	(0.042)	(0.058)	(0.140)	(0.068)
gdp_growth	0.003	-0.002	-0.000	0.004	-0.006	-0.004
	(0.003)	(0.002)	(0.002)	(0.007)	(0.005)	(0.005)
age_depen	-0.008***	0.005	-0.001	-0.001	-0.003	0.002
	(0.002)	(0.004)	(0.003)	(0.003)	(0.006)	(0.004)
pop_growth	0.028	0.010	0.019	0.001	-0.016	-0.003
	(0.019)	(0.017)	(0.019)	(0.022)	(0.027)	(0.025)
oda	0.000	0.004	0.001	-0.007	0.008	-0.003
	(0.002)	(0.002)	(0.002)	(0.006)	(0.009)	(0.006)
communist	0.250***			0.419***		
	(0.084)			(0.148)		
primary				0.005**	0.001	0.002
				(0.002)	(0.002)	(0.002)
secondary				0.002	-0.002	0.002
				(0.002)	(0.004)	(0.002)
Observations	448	448	448	189	189	189
R²	0.373	0.362	0.162	0.506	0.278	0.261

Note: Standard errors in parentheses. OLS regressions include full set of time and regional fixed effects. Fixed- and random-effects regressions include a full set of time fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Polity Variable, Five-Year Panel, No Controls

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
polity	0.021***	0.021***	0.021***	0.014***	0.009**	0.013***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)
gini	0.008***	-0.002	0.004	0.006***	0.000	0.005**
	(0.002)	(0.004)	(0.003)	(0.002)	(0.003)	(0.003)
Observations	526	526	526	526	526	526
R²	0.141	0.106	0.133	0.340	0.319	0.196

Note: Standard errors in parentheses. The last three columns include time and regional fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Binary Democracy Variable, Five-Year Panel, No Controls

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	FE	RE	OLS	FE	RE
democracy	0.235***	0.303***	0.273***	0.107**	0.081	0.124**
	(0.041)	(0.062)	(0.052)	(0.045)	(0.067)	(0.053)
gini	0.011***	-0.003	0.004	0.008***	-0.000	0.006**
	(0.002)	(0.005)	(0.003)	(0.002)	(0.004)	(0.003)
Observations	510	510	510	510	510	510
R^2	0.113	0.095	0.095	0.316	0.319	0.150

Note: Standard errors in parentheses. The last three columns include time and regional fixed effects.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Countries with a Transfer Program by Income Group

Low income	Lower-middle income	Upper-middle income
Afghanistan	Egypt, Arab Rep.	Argentina
Bangladesh	Honduras	Botswana
Bolivia	Indonesia	Brazil
Burkina Faso	Nicaragua	Chile
Cambodia	Paraguay	Colombia
China	Philippines	Costa Rica
Ghana	Thailand	Dominican Republic
India		Ecuador
Kenya		El Salvador
Lesotho		Guatemala
Liberia		Maldives
Malawi		Mexico
Mali		Panama
Mozambique		Peru
Nepal		Swaziland
Nigeria		Uruguay
Pakistan		
Rwanda		
Sierra Leone		
Sri Lanka		
Tanzania		
Uganda		

Note: Countries are reported according to the year of their first transfer program.

Table A6: Countries with a Transfer Program by Polity Type

Autocracy	Anocracy	Democracy
Bangladesh	Burkina Faso	Afghanistan
Chile	Cambodia	Argentina
China	Egypt, Arab Rep.	Bolivia
Ethiopia	Indonesia	Botswana
Mozambique	Mexico	Brazil
Swaziland	Nepal	Brunei
	Nigeria	Colombia
	Rwanda	Costa Rica
	Tanzania	Dominican Republic
	Uganda	Ecuador
		El Salvador
		Ghana
		Guatemala
		India
		Jamaica
		Kenya
		Lesotho
		Maldives
		Mali
		Nicaragua
		Pakistan
		Panama
		Paraguay
		Peru
		Philippines
		Sierra Leone
		Thailand
		Trinidad and Tobago
		Uruguay

Note: Countries are reported according to the year of their first transfer program.

Table A7: Countries without a Transfer Program by Polity Type

Autocracy	Anocracy	Democracy
Azerbaijan	Algeria	Albania
Belarus	Angola	Benin
Cuba	Armenia	Bulgaria
Eritrea	Bhutan	Burundi
Iran, Islamic Rep.	Cameroon	Cape Verde
Kazakhstan	Central African Republic	Comoros
Korea, Dem. Rep.	Chad	Georgia
Lao PDR	Congo, Dem. Rep.	Guinea-Bissau
Libya	Congo, Rep.	Guyana
Morocco	Cote d'Ivoire	Hungary
Myanmar	Djibouti	Kosovo
Syrian Arab Republic	Fiji	Lebanon
Turkmenistan	Gabon	Macedonia, FYR
Uzbekistan	Guinea	Malaysia
Vietnam	Haiti	Moldova
	Iraq	Montenegro
	Jordan	Romania
	Kyrgyz Republic	Senegal
	Madagascar	Serbia
	Mauritania	Solomon Islands
	Niger	Timor-Leste
	Papua New Guinea	Turkey
	Somalia	Ukraine
	Sudan	
	Suriname	
	Tajikistan	
	Togo	
	Tunisia	
	Venezuela, RB	
	Yemen, Rep.	
	Zimbabwe	

Note: The polity type is reported for the year 2010.

Table A8: Countries with a Transfer Program by Level of Inequality

15.71–40.76	40.77–47.06	47.07–52.98	52.99–90.00
Bangladesh	Argentina	Colombia	Bolivia
Egypt, Arab Rep.	Burkina Faso	Costa Rica	Botswana
Indonesia	Cambodia	Dominican Rep.	Brazil
Pakistan	China	Guatemala	Chile
	El Salvador	India	Ecuador
	Maldives	Mexico	Honduras
	Mali	Nigeria	Jamaica
	Nepal	Paraguay	Kenya
	Sierra Leone	Peru	Malawi
	Sri Lanka	Philippines	Nicaragua
	Tanzania	Thailand	Panama
	Uganda	Sri Lanka	Rwanda
		Uruguay	Swaziland

Note: Countries are reported according to the year of their first transfer program.
Countries in the sample are evenly distributed across quartiles.

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