

## Does the Composition of Government Better Reflect the Preferences of the Rich?

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In recent years, scholars have expressed considerable concern that democratic political systems are more responsive to the preferences of rich citizens than to poor citizens under conditions of economic inequality. However, it is unclear whether there is any association between economic inequality and unequal influence on government. Moreover, despite claims that proportional representation reduces inequalities in representation, there is no evidence that it does. I test these two prominent claims by connecting two types of citizens' preferences to the composition of government in non-presidential systems cross-nationally using the Comparative Study of Electoral Systems (CSES) dataset. While I find evidence that rich citizens gain better representation than the poor more often than the reverse, this gap seems to be at least partly due to the greater number of right-of-centre governments in the dataset. I find no evidence of a connection between economic inequality and inequalities in representation or that proportional representation has any effect on gaps in representation between high- and low-income citizens.

In recent years, many scholars have expressed concern that political systems are more responsive to better-off citizens (e.g. Bartels 2016; Gilens 2012). A particular fear is that, when income gaps between rich and poor get so wide, the voices of less well-off citizens are incapable of influencing a political system dominated by rich citizens. Such worries led the American Political Science Association to appoint a Task Force on Inequality and American democracy in 2002. However, in spite of these widespread concerns about the relationship between economic and political inequalities, political scientists still know little about the relationship between income disparities and differences in political influence. I am aware of only one study that assesses cross-national evidence on the relationship between economic and political inequalities and its findings are inconclusive (Rosset, Giger, and Bernauer 2013). Thus, we still do not know whether there is a bias in the functioning of electoral democracy that gives rich citizens an advantage that grows with widening economic disparities, thus going against the principle of political equality.

Another major gap in our knowledge of what influences political inequalities is the role of formal institutions. A recent study (Guntermann, Dassonneville, and Miller n.d.) showed that compulsory voting is associated with smaller gaps between the influence of the rich and the poor on government. A possibly more important variable to consider is the electoral system. It seems clear that left-wing governments are more common and redistribution is greater in proportional electoral systems, but, in spite of the widely-cited arguments Lijphart (1997) and Iversen and Soskice (2006) linking electoral institutions to the influence of high- and low-income citizens on government, there are still no studies showing that the relative influence of rich and poor citizens on government depends on the electoral system. It is important to distinguish representation from

specific political outcomes. More left-wing government and more redistribution do not mean that the poor necessarily have more influence. As Iversen and Soskice (2015) show, under conditions of higher inequality, citizens' preferences may not correspond to their objective economic conditions. Thus, an assessment of whether the political system better reflects the preferences of the rich than those of the poor requires taking those preferences as given rather than assuming income groups have the preferences we think would be most conducive to their well-being.

In this paper, I fill in these gaps by assessing the extent to which the preferences of high- and low-income citizens are reflected in the composition of government across a variety of democracies. I thus only consider everything that happens from the formulation of preferences by citizens and the formation of government. There are three major relevant stages. These are preference formation, elections, and the government-formation process itself. My assessment of political inequalities is thus exclusively about these stages. Low-income citizens may also be disadvantaged by other processes operating after government formation such as the influence of money on policy-makers.

I assess representation in government using the three criteria used by Guntermann, Dassonneville and Miller. They focus on two approaches used in the comparative literature: ideological congruence, meaning the proximity of citizens' ideological positions to the positions of governments (Huber and Powell 1994) and party preference representation, the relationship between citizens' ratings of parties and their representation in government (Blais, Guntermann, and Bodet 2017). I compare the representation of the richest fifth of citizens to that of the poorest fifth.

I use data from modules 2 to 4 of the Comparative Study of Electoral Systems (CSES). Like previous studies on representation in government, I focus on non-presidential systems in which legislative elections determine which parties end up in government. I first determine whether each of the types of preferences I consider, left-right self-placement and party ratings, differs across income groups. I also assess whether differences in preferences between high- and low-income citizens are related to aggregate income disparities and electoral systems. I then assess how well high- and low-income respondents have been represented by the elections. Finally, I assess whether economic inequalities and proportional representation make a difference to the representation of each income group.

I find that preferences do vary by income and that the preferences of high-income citizens are better reflected in government than those of the poor in less than half of elections. Furthermore, the greater representational advantage enjoyed by the rich may be due to the predominance of right-wing governments in the dataset. Unexpectedly, economic inequalities are not associated smaller representational gaps between high- and low- income citizens. Moreover, differences in the extent to which high- and low-income citizens' preferences are reflected in government are not associated with the electoral system. I conclude that the electoral and government-formation processes are not systematically biased in favour of the rich and that increased economic disparities do not lead to greater advantage by the rich at least during the electoral and government formation processes. Nevertheless, the poor may be disadvantaged at the stage of policy-making.

## **Inequalities and Representation**

Golder and Ferland (2018) decompose the process of representation into several stages from the formation of citizens' preferences, to their relationship to the party system, their representation in the legislature and in government. Ultimately, they consider the extent to which citizens' preferences are reflected in the policies adopted by government. Most work on inequalities and government policy has focused exclusively on the link between citizens' policy preferences and the policies adopted by government (e.g. Bartels 2016; Gilens 2012) or has simply ignored citizens' preferences altogether and has assessed the extent to which political outcomes are those scholars consider most favourable to the poor (i.e. left-wing government and high redistribution). A good example of the second approach is Iversen and Soskice (2006).

While extremely useful for gaining an overall picture of the extent to which higher-income citizens are more likely to find their policy preferences adopted in government, the first approach makes it hard to understand where the biases they find are produced. The second approach is useful to understand the relationship between a variety of aggregate variables and the types of governments that are formed and policies that are adopted. It does not, however, allow us to understand whether the problem is that citizens fail to develop preferences that are consistent with their interests or something about the electoral process that is biased against the rich (Bartels 2016; Iversen and Soskice 2015).

Three major explanations for the supposed over-representation of the rich have been proposed. Rich citizens are better represented among policy makers, they have more money to directly influence policy-makers, and they vote more (e.g., Giger, Rosset, and Bernauer 2012).

However, scholars have still been unable to find evidence that any of them are related to inequalities in representation (Lupu and Warner 2017). One reason for this limitation is that scholars have failed to consider that representation occurs in stages. Simply considering the link between policy preferences and policies adopted by governments does not tell us whether any identified inequalities are due to political processes that occur prior to and during elections and government formation or to later processes like lobbying.

My focus is on the link between citizens' preferences and government composition. This part of the process is interesting because it focuses on core aspects of democracy: preference formation by citizens, their expression on election day, and the formation of government. What it leaves out is the process of policy-making, which, while extremely relevant, is less directly connected to elections.

Most comparative studies of representation in government have assessed representation using ideological congruence (e.g., Blais and Bodet 2006; Ferland 2016; Golder and Lloyd 2014; Huber and Powell 1994). These assess the ideological position of government by calculating a government's position as a weighted average of the positions of the parties of which they are composed, where the weights are the proportions of legislative seats of each party among the seats that are occupied by government parties. It then calculates the absolute distance between the government's ideological position and the median survey respondent or, alternatively, the mean absolute distance to survey respondents. I retain this criterion but, in order to assess inequalities across income groups, I consider the distance to each individual survey respondent.

An article by Blais, Guntermann, and Bodet (2017) proposes another comparative approach to assessing representation in government. They assess the relationship between party preferences, that is citizens' like/dislike ratings of parties on scales from 0 to 10, where 0 means they strongly dislike a party and 10 that they strongly like it. Two of their three criteria can be assessed at the individual level. The first is whether a respondent's preferred party is in government. The second is citizens' weighted ratings of government parties compared to opposition parties. They subtract weighted evaluations of parties that are excluded from government from equivalently weighted ratings of parties that enter government, where weights are the proportions of legislative seats held by each party among, respectively, government and opposition parties. The recent study of inequalities in representation by Guntermann, Dassonneville, and Miller (n.d.) focused on these same three criteria.

I focus on four hypotheses that derive from the recent literature on inequalities in policy representation. To begin, given my focus on the impact of contextual variables on representational inequalities, it is important to consider whether preferences actually differ across income groups. One reason the rich may be politically advantaged is if the poor fail to support parties and policies that promote their interests, while the rich do (Bartels 2016; Iversen and Soskice 2015). Bartels (2016) argues that low-income citizens' low political competence prevents them from connecting their interest in greater redistribution to policy preferences pursuing this goal. Iversen and Soskice (2015) show that ideological self-placements differ less between high- and low-income citizens in more unequal societies. They explain this difference by pointing to the lesser opportunities for poor citizens to become informed about politics in such societies.

Relatedly, the major critique of studies of inequalities in policy influence has been that rich and poor citizens have similar preferences on the policy issues such studies focus on (Bashir 2015; Branham, Soroka, and Wlezien 2015; Soroka and Wlezien 2008), thus limiting opportunities for the quality of representation to differ across income groups. The preference questions I focus on in this study are much simpler than the questions on specific policies used in studies of unequal policy influence. They simply require that citizens place themselves on a single ideological scale from left to right or that they rate a party on a scale from 0 to 10. Given their simplicity, I expect these preferences to more clearly reflect differences in interests and values between income groups. However, because greater inequality is associated with fewer opportunities for citizens to learn about politics, I expect preferences to differ less across income groups in societies that are more unequal. I have no expectations about the relationship between electoral systems and the extent to which preferences differ among income groups. Proportional systems foster parties that more clearly focus on individual income group's interests, thus potentially making it easier for citizens to develop preferences. However, they also lead to more parties and often to coalition government, thus complicating preference formulation.

**Hypothesis 1.** Preferences differ between high- and low-income citizens.

**Hypothesis 2.** Preference gaps between high- and low-income citizens are smaller in more unequal societies.

The premise behind most of the recent conducted in the US context including the APSA Task Force is that economic inequalities lead to political inequalities. Much of this concern is derived



from the deviation of reality from the prominent Meltzer-Richard (1981) model of redistribution according to which redistribution should increase as income inequalities increase. However, prominent studies show that the redistribution is actually lower in more unequal societies (e.g. Bénabou 1996; Moene and Wallerstein 2001). A prominent explanation for this surprise deviation is that governments care more about the preference of the rich, particularly when inequality is high (Bartels 2016; Gilens 2012). In this perspective, governments redistribute less despite rising inequalities because they focus more on the preferences of high-income citizens than of other citizens.

**Hypothesis 3.** As economic inequality increases, high-income citizens become better represented relative to low-income citizens.

The final hypothesis is derived from prominent arguments about the beneficial effects proportional electoral systems have for the representation of low-income citizens. Lijphart (1997) argued that proportional representation improves the representation of the poor by boosting their turnout. Iversen and Soskice (2006) clearly showed that there is an association between proportional representation, on the one hand, and left-wing government and greater redistribution, on the other hand. They argue that this difference results from the types of coalitions across income groups proportional and majoritarian systems encourage. On the one hand, proportional systems lead to coalitions between middle-income and low-income citizens. Majoritarian institutions, on the other hand, foster coalitions between middle-income and high-income citizens. As a result, the preferences of the poor have more influence in proportional

systems, in which they are part of the governing coalition, than in majoritarian systems, in which they are excluded from the dominant coalition.

**Hypothesis 4.** The difference between the extent to which high-income citizens' preferences are reflected in government compared to low-income citizens is greater in majoritarian electoral systems than under proportional representation.

### **Data and Methods**

I use data from modules 2 to 4 of the Comparative Study of Electoral Systems (CSES). Like, Guntermann, Dassoneville, and Miller (n.d.), I exclude module 1 because the CSES questionnaire for that module only asked for ratings of six parties. Including it may produce biased estimates of the extent of inequalities if one income group is more supportive of smaller parties, which are excluded from Module 1, than another. My analyses begin with individual variables. Dependent variables are ideological self-placements, party ratings, and each criterion of representation. The individual-level independent variable in all models is a dummy variable indicating that a respondent is in the top income quintile (high income). My analyses exclude other income groups, thus the high-income dummy shows how much better (or worse) represented high-income citizens are than low-income citizens.

As measures of economic inequalities, I use the pre- and post-tax and transfer Gini coefficients from Solt (2019). Like prior work (Dorsch and Maarek 2019), I take the median value of the Solt's imputations for each Gini measure. Data on electoral systems come from Bormann and Golder (2013). In models assessing differences in representation, I also control for GDP per capita from the World Bank (2019), for the average of Freedom House Political rights

and Civil liberties scores (Freedom House 2019-get reference), and for a dummy indicating turnout is compulsory. I also consider two alternative measures of electoral systems: Gallagher's index of disproportionality (Gallagher and Mitchell 2005) and mean district magnitude, both calculated using CSES data.

Each criterion of representation was assessed in ways that are standard in the literature. Ideological congruence was calculated for each respondent by taking the absolute difference between their left-right self-placement and the weighted mean of the positions of government parties (weights are the proportions of seats each party has among government parties). For the second criterion, I determined each survey respondent's preferred party by considering which party they rated highest. Respondents who gave two parties the highest rating were coded as having their preferred party in government if one of those parties entered government. If more than two parties received their top rating, I considered that they did not have a preferred party and coded them as not having their preferred party in government. Respondents who did not give at least two distinct party ratings were excluded from analyses on this criterion (six percent). For criterion three, I calculated weighted ratings of government parties, using the proportion of seats each party got among government parties as weights. I also calculated weighted ratings of non-government parties, using the proportion of seats each party got among opposition parties as weights. I then subtracted the latter from the former. I excluded from analyses using this criterion respondents who did not rate any parties (5.8 percent). Data on government composition come from a variety of sources.<sup>1</sup>

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<sup>1</sup> These are the *European Journal of Political Research's* Political Data Yearbook, the Economist Intelligence Unit and [parlgov.org](http://parlgov.org).

## **Do Preferences Vary by Income?**

To determine whether ideological self-placements and party preferences vary across income groups, I regress ideological self-placements in each election on the high-income dummy, comparing high-income respondents to low-income respondents. I also run regressions of party ratings on the high-income dummy for each of the 595 parties in the dataset. The coefficients on the high-income dummy were significantly different from 0 ( $p < 0.05$ ) in 73 of the 85 ideological self-placement models and in 318 of the 595 (53%) party rating models. Party ratings more frequently differ between rich and poor respondents than ideological self-placements. In 83 of the 86 elections covered by this paper, there is a significant difference in ratings of at least one party. The mean absolute coefficient is 0.15 in ideology models (maximum: 0.77) and 0.16 in party rating models (maximum: 0.78). Thus, most of the time, both ideological self-placements and party ratings differ across income groups. I thus find support for Hypothesis 1.

Do preferences become less distinct as inequality increases? Does proportional representation lead to greater differences in preferences? To answer these questions, I took the absolute values of the high-income coefficients from the preferences models, took the average of the coefficients from ideology models and the absolute values of these coefficients from party preference models and regressed them on my two key independent variables. Table 1 shows the results. As we can see, both pre- and post-tax Gini are associated with smaller ideological gaps between rich and poor, confirming the previous findings by Iversen and Soskice (2015). However, higher Gini coefficients are associated with greater differences in party ratings. Proportional representation is associated with larger differences in three of the four models. These findings only provide support for Hypothesis 2 with respect to ideological positions. Party

ratings actually become more distinct as income disparities increase. The difference in findings for these two measures suggests that a single ideological dimension may be less adequate for summarizing preferences under conditions of greater inequalities.

Table 1: Models of Coefficients on Income in Party Preference Models

	Model 1	Model 2	Model 3	Model 4
	DV: ideology coefficient		DV: party rating coefficients	
Intercept	0.16*	0.09*	0.10*	0.09*
	(0.05)	(0.04)	(0.03)	(0.02)
Pre-Tax Gini	-0.32*		0.11*	
	(0.09)		(0.05)	
Proportional Representation	0.11*	0.11*	0.03	0.04*
	(0.04)	(0.04)	(0.02)	(0.02)
Post-Tax Gini		-0.18*		0.18*
		(0.09)		(0.05)
<i>N</i>	85	85	86	86
Adjusted R <sup>2</sup>	0.21	0.12	0.04	0.13
Standard errors in parentheses. *: $p < 0.05$				

Note: Models 1 and 2 are regressions of high-income coefficients from the ideological self-placement models. Models 3 and 4 are regressions of coefficients from the party preference models.

### How Well Are High- and Low-Income Citizens Represented?

I assess the representation of each income group by presenting descriptive statistics on each group's representation as well as by running regressions of measures of representation on the high-income dummy. I first calculate the mean level of representation of each income group on

each criterion then present summary statistics across elections. The mean level of ideological congruence for high-income citizens is 7.7 (range: [5.0,9.1]), while for low-income citizens it is 7.5 (range: [5.1,8.7]) where 0 is the lowest possible value and 10 is the highest possible value. Thus the rich do slightly better on this measure. The average percentage of high-income citizens who find their preferred party in cabinet is 50.5 (range: [18.5,83.2]). For low-income citizens, it is 44.1 (range: [13.8,78.7]). The mean weighted difference between government and opposition parties is 1.00 among high-income respondents and 0.73 among those with low incomes.

To determine whether differences in representation across income groups are significant, for each election, I regress each measure of representation on the high income dummy in individual regressions in each election.<sup>2</sup> I then test the significance of the coefficient on that variable showing how much better or worse represented rich citizens are than the poor. Thirty-nine percent of coefficients on high income are significant and positive in models of ideological congruence, while six percent are significant and negative. In models in which the dependent variable is whether one's preferred party enters cabinet, 48 percent of high-income coefficients are positive and significant and eight percent are negative and significant. Finally, in models of relative weighted government and opposition ratings, 36 percent of coefficients on the high-income dummy are positive and significant, while 22 percent are negative and significant. Thus, there is evidence that the rich are better represented in between about a third and half of elections, while the poor actually do better in some elections, particularly on the third criterion, on which the advantage of high-income respondents is much weaker.

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<sup>2</sup> I run Ordinary Least Squares (OLS) regressions for the first and third criteria and logistic regressions for the second criterion.

High-income citizens thus seem to be more frequently better represented than low-income citizens. However, this is the case in at most just under half of elections. Thus, it is not true that the rich are always overrepresented. The advantage held by the rich is strongly tied to the ideological composition of government. On each criterion, the rich do better when governments are right-of-centre and the poor do better when governments are left-of-centre.<sup>3</sup> Right-of-centre governments are more congruent with the ideological positions of the rich 55 percent of the time on ideological congruence, high-income citizens are more likely to find their preferred parties in government in 67 percent of elections, and the rich do better on comparative government-opposition ratings in 52 percent of elections. Conversely, the rich are only advantaged 13, 16, and nine percent of the time, respectively, on these criteria, under centrist and left-of-centre governments. Because right-of-centre governments are over-represented in the CSES dataset (63 percent are right-of-centre compared to 47 percent in the dataset considered by Iversen and Soskice 2006, for example), it is not appropriate to conclude from these findings that there is a general tendency favouring the rich.<sup>4</sup> A more appropriate conclusion is that high-income citizens are not always better represented than low-income citizens and that the latter are sometimes even better represented than the former. In the rest of this paper, I assess variation in how well each group is represented.

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<sup>3</sup> I assess government positions using the measure described above for ideological congruence. I consider a government to be right-of-centre if its position on the 0 to 10 scale is above 5 and left-of-centre if its position is below 5.

<sup>4</sup> Note that when I reweight the results so that frequencies of left- and right-wing governments are the same as in Iversen and Soskice (2006), the rich only do better 30, 38 and 27 percent of the time. On the third criterion, the poor are better represented than the rich as often as the reverse. Thus, much of the evidence of high-income advantage in the CSES dataset appears to be due to its over-representation of right-of-centre governments.

## **Do Economic Inequalities Increase Political Inequalities? Does Proportional Representation Reduce Political Inequalities?**

We saw above that both ideological self-placements and party ratings vary between high- and low-income citizens most of the time. We also saw that the relative representation of the preferences of rich and poor citizens is variable across elections. What explains variation across elections? Do the rich have more influence in more unequal societies as many American observers would expect (notably Bartels 2016; Gilens 2012; McCarty et al. 2006; Task Force on Inequality and American Democracy 2004)? Does proportional representation increase the influence of the poor on government while reducing that of the rich, as argued by Iversen and Soskice (2006)?

I answer these questions by first considering scatterplots with measures of inequality and of electoral disproportionality, on the one hand, on the x axis and differences between the mean score on each criterion of high- and low-income respondents on the y axis, on the other hand. Note that variables on the vertical axis are scaled so that higher values indicate better representation of high-income respondents.<sup>5</sup> Figure 1 shows plots of inequalities in representation by the pre-tax Gini coefficient. All scatterplots include a least-squares regression line. As we can see, there is negative relationship (solid line) between the pre-tax Gini coefficient and each of the measures of representation. Plots with post-tax Gini coefficients are similar (see supplementary materials). This strongly goes against the argument that increased inequalities benefit the rich politically. Instead, I find that high-income citizens are less advantaged by the composition of government in more unequal societies. Note though that there

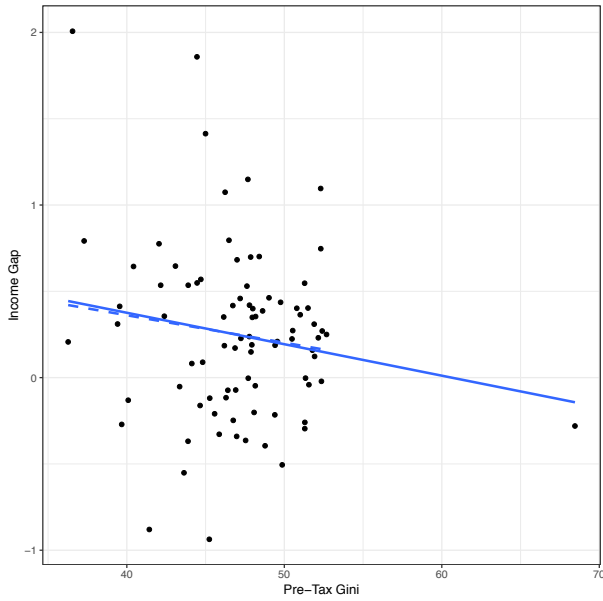
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<sup>5</sup> The y axis simply shows differences between the mean score for the rich and the poor on each criterion.

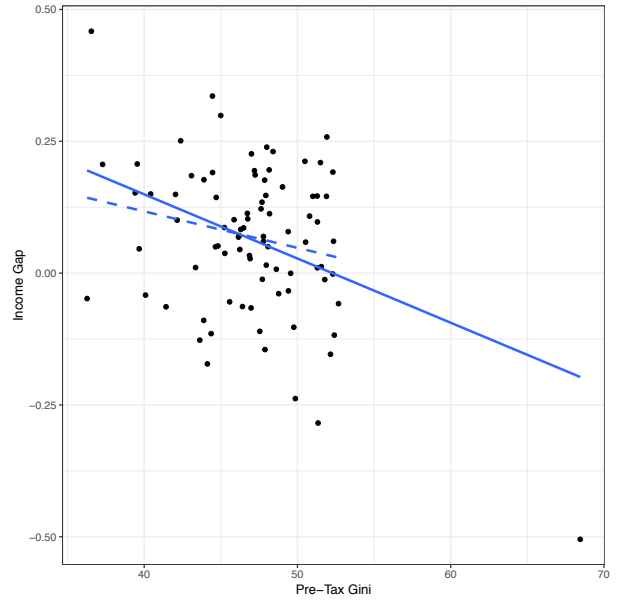


is a strong outlier on the x-axis, where the poor are also politically advantaged, particularly on Criterion 3, that potentially influences the regression lines presented in Figure 1. The outlier is South Africa 2014. While the relationships weaken somewhat when excluding South Africa (dashed line), they remain negative.

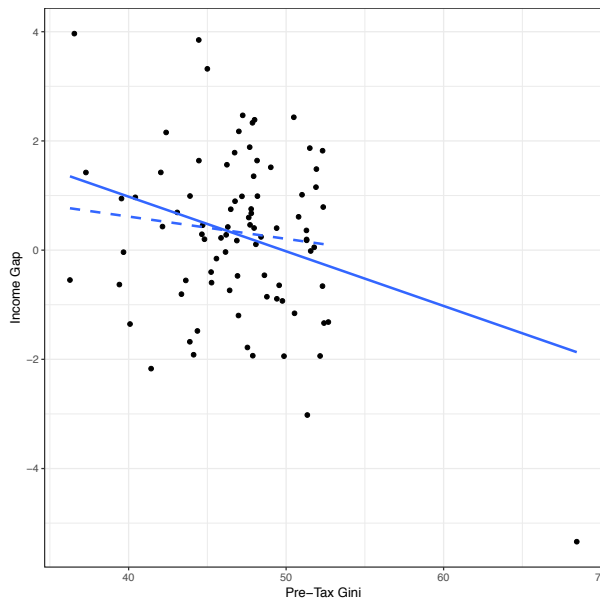
Figure 1: Gini Coefficient and Income Gaps in Representation



a) Criterion 1: Ideological Congruence



b) Criterion 2: Preferred Party in Cabinet



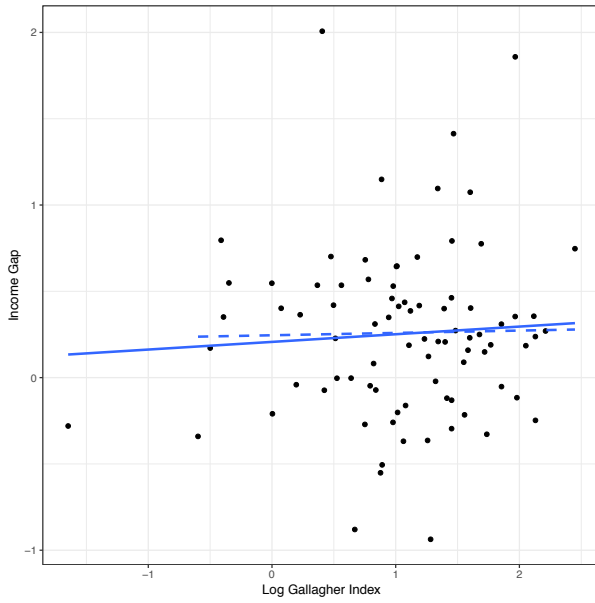
c) Criterion 3: Government-Opposition Scores

Note: the solid line is a least-squares regression line including all elections. The dashed line excluded South Africa 2014

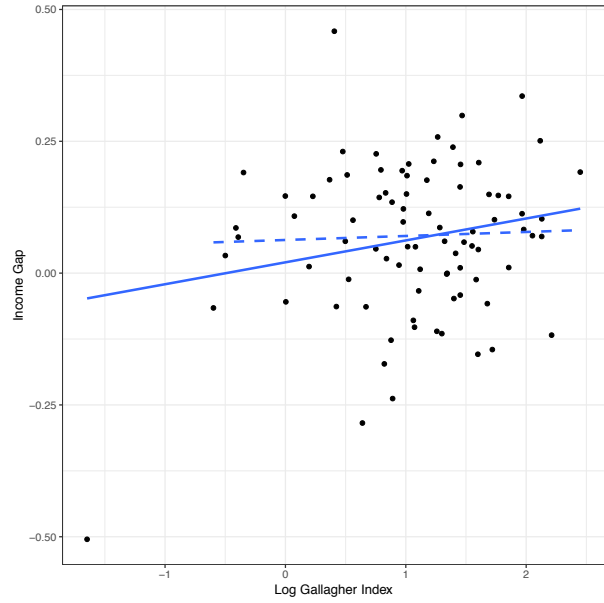
I next consider the relationship between the electoral system and inequalities in representation. Figure 2 plots relationships between the gap in representation by rich and poor citizens on each criterion and the logged Gallagher index, an overall measure of the extent to which the electoral system is disproportional (Gallagher and Mitchell 2005). Higher values indicate the electoral system is more majoritarian (i.e. less proportional). As we can see, there is a positive relationship (solid line) between electoral disproportionality and the extent to which better-off citizens are better represented on each criterion. However, much of that relationship appears to be caused by the outlier identified above. When I exclude South Africa 2014 from the least-squares regression line (dashed line), the relationships are all essentially flat.

I also assess the relationship between electoral systems and inequalities in representation by plotting gaps in representation between high- and low-income citizens against another continuous measure of electoral systems, logged mean district magnitude (Log MDM). Unlike Gallagher's index, higher values of Log MDM represent greater proportionality. It represents the mean district size in each election. Scatterplots showing the relationship between logged mean district magnitude and each measure of income gaps in representation show that the relationship between the two is essentially flat and is slightly positive when excluding the outlier identified above (see Figure A2 in supplementary materials). Thus, the relationship between this variable and income gaps in representation casts doubt on the argument that proportional representation reduces inequalities in political outcomes.

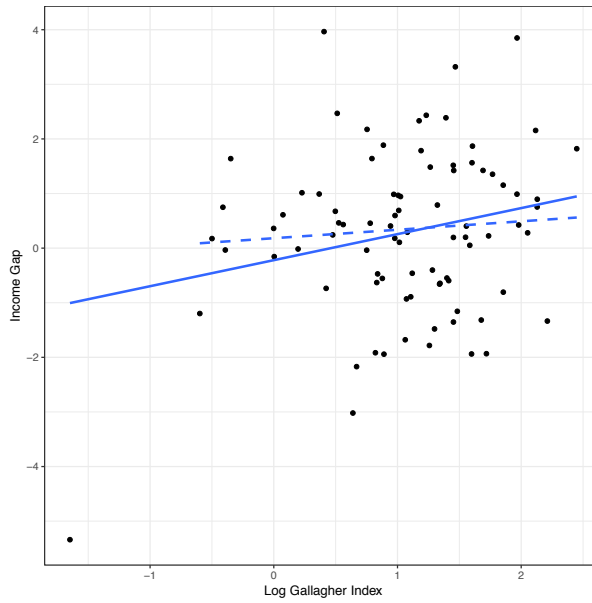
Figure 2: Disproportionality and Income Gaps in Representation



a) Criterion 1: Ideological Congruence



b) Criterion 2: Preferred Party in Cabinet



c) Criterion 3: Government-Opposition Scores

Note: the solid line is a least-squares regression line including all elections. The dashed line excludes South Africa 2014

I also consider the relationship between the dichotomous measure of electoral systems and inequalities in representation. As shown in Table 2, there is essentially no difference in gaps in high- and low-income representation between proportional and non-proportional electoral systems. Gaps are actually slightly smaller in non-proportional systems on two of the criteria.

Table 2: Inequalities in Representation in Proportional and Non-Proportional Systems

	Proportional	Non-Proportional
Criterion 1	0.25	0.23
Criterion 2	6.60	4.55
Criterion 3	0.27	0.30

I assess the impact of each independent variable in a more systematic way running multi-level regression models of each measure of representation on the high-income dummy variable.<sup>6</sup> I allow the coefficient on that dummy variable to vary and I model it using macro level variables. Doing so involves creating a cross-level interactions between each macro variable and individual-level income. Table 3 shows models for ideological congruence. The first three models show how Pre- and Post-Tax Gini coefficients as well as proportional representation condition the gap in ideological congruence between high- and low-income citizens. We can see that there is no relationship between any of these variables and the extent to which the rich are better represented than the poor. Models 4 and 5 consider both the conditioning impact of proportional representation, on the one hand, and pre- and post-tax Gini coefficients, on the other

<sup>6</sup> Note that I exclude South Africa 2014 from all models considering the impact of macro-level moderators, because that election is a clear outlier.

hand, as well as controls. As we can see, these variables still have no impact on the extent to which high-income citizens are better represented than the poor.

Table 3: Models of Ideological Congruence

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	7.23*	7.50*	7.58*	6.99*	7.09*
	(0.22)	(0.15)	(0.21)	(0.38)	(0.38)
High Income	0.42*	0.28*	0.21	0.37	0.14
	(0.16)	(0.11)	(0.15)	(0.28)	(0.28)
Pre-Tax Gini	0.80			0.76	
	(0.62)			(0.63)	
Post-Tax Gini		-0.04			0.75
		(0.65)			(0.90)
Proportional Representation (PR)			-0.10	0.06	0.09
			(0.22)	(0.24)	(0.25)
GDP per capita				0.67	0.71
				(0.46)	(0.48)
Freedom House				-0.19	-0.53
				(0.62)	(0.68)
Compulsory Voting (CV)				0.20	0.20
				(0.29)	(0.30)
High Income*Pre-Tax Gini	-0.49			-0.47	
	(0.46)			(0.48)	
High Income*Post-Tax Gini		-0.12			0.18
		(0.48)			(0.69)
High Income*PR			0.05	0.03	0.05
			(0.16)	(0.18)	(0.19)
High Income*GDP per capita				0.11	0.16
				(0.34)	(0.35)
High Income*Freedom House				-0.05	-0.03
				(0.47)	(0.52)
High Income*CV				-0.05	-0.09
				(0.22)	(0.22)
N respondents	37094	37094	37094	37094	37094
N elections	84	84	84	84	84

\*:  $p < 0.05$ . Note that continuous independent variables were rescaled from 0 to 1.

Table 4 shows the results of models of whether a respondent's highest-rated party is in government. These are multi-level logistic regressions analogous to the linear models of congruence. As we can see, neither inequality measure nor the proportional representation

dummy significantly condition the extent to which better-off citizens are politically advantaged relative to the poor. That is true in both models in which they appear as the only macro-level variable as well as in models with a full set of macro variables.

Table 4: Models of Inclusion of Preferred Party in Government

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-0.38*	-0.43*	-0.57*	-1.15*	-1.10*
	(0.15)	(0.10)	(0.13)	(0.21)	(0.22)
High Income	0.60*	0.46*	0.23	0.86*	0.55*
	(0.17)	(0.11)	(0.15)	(0.25)	(0.26)
Pre-Tax Gini	0.34			0.51	
	(0.43)			(0.35)	
Post-Tax Gini		0.82			0.55
		(0.42)			(0.53)
Proportional Representation (PR)			0.35*	0.58*	0.60*
			(0.14)	(0.14)	(0.15)
GDP per capita				0.37	0.40
				(0.26)	(0.29)
Freedom House				0.75*	0.49
				(0.34)	(0.39)
Compulsory Voting (CV)				0.43*	0.43*
				(0.18)	(0.18)
High Income*Pre-Tax Gini	-0.89			-0.89*	
	(0.48)			(0.40)	
High Income*Post-Tax Gini		-0.79			-0.10
		(0.46)			(0.62)
High Income*PR			0.09	-0.14	-0.13
			(0.16)	(0.16)	(0.18)
High Income*GDP per capita				-0.19	-0.15
				(0.31)	(0.34)
High Income*Freedom House				-0.36	-0.19
				(0.40)	(0.47)
High Income*CV				-0.52*	-0.56*
				(0.21)	(0.22)
N respondents	45722	45722	45722	45722	45722
N elections	85	85	85	85	85

Table 5 shows the results of models of comparative government opposition ratings. Like models of congruence, these are linear models. Once again, neither inequality measure has any influence on gaps in representation. However, using this criterion of representation, we can see that, when controlling for the degree of income inequality, proportional representation has a

positive and nearly significant effect in Model 4, controlling for the Pre-Tax Gini coefficient, and a positive and significant effect in Model 5, when controlling for the Post-Tax Gini measure. While the fact that this result only appears when controlling for measures of inequality should make us cautious about concluding that proportional representation increases representation gaps between high- and low-income citizens, this finding clearly goes against the argument that proportional representation improves political outcomes for the poor.

I also consider models of each measure of representation replacing the proportional representation dummy with the logged Gallagher Index and logged mean district magnitude presented in the supplementary materials. Using these alternative measures, I, similarly, find that electoral systems have no effect on income gaps in representation. There is thus no support for the argument that proportional representation reduces gaps in representation between high- and low-income respondents.



Tables 5: Models of Comparative Government Opposition Ratings

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	0.42 (0.41)	0.45 (0.27)	0.31 (0.37)	-0.39 (0.71)	-0.51 (0.69)
High Income	0.77 (0.44)	0.61* (0.29)	0.29 (0.39)	1.42 (0.74)	1.00 (0.73)
Pre-Tax Gini	0.81 (1.17)			0.80 (1.18)	
Post-Tax Gini		1.18 (1.18)			1.64 (1.67)
Proportional Representation (PR)			0.43 (0.40)	0.80 (0.44)	0.89* (0.45)
GDP per capita				0.10 (0.87)	0.24 (0.88)
Freedom House				-0.25 (1.09)	-0.88 (1.19)
Compulsory Voting (CV)				1.04 (0.55)	1.00 (0.55)
High Income*Pre-Tax Gini	-1.28 (1.25)			-1.20 (1.25)	
High Income*Post-Tax Gini		-1.36 (1.26)			-0.12 (1.79)
High Income*PR			0.07 (0.43)	-0.45 (0.46)	-0.43 (0.47)
High Income*GDP per capita				-0.39 (0.91)	-0.33 (0.93)
High Income*Freedom House				-0.24 (1.15)	-0.02 (1.26)
High Income*CV				-1.30* (0.58)	-1.36* (0.59)
N respondents	43048	43048	43048	43048	43048
N elections	85	85	85	85	85

## Conclusion

In this paper, I assess concerns that income inequality is bad for democracy because it makes government more responsive to the preferences of better off citizens. I also test a prominent argument that proportional representation improves the representation of the poor relative to the rich. I do so by assessing the extent to which governments better reflect the preferences of better-

off citizens in a comparative perspective. I do so by assessing the extent to which two types of preferences are reflected in government: ideological positions and party ratings. First, I show that both types of preferences differ between the highest and lowest income quintiles in most elections. Second, I show that in between a third and a half of elections, the richest fifth of citizens gain better representation than the poorest fifth. However, that overall advantage for better-off citizens appears to be at least partly accounted for by the over-representation of right-of-centre governments in the dataset. Third, I test the relationship between economic inequalities and proportional representation, on the one hand, and inequalities in representation. I find no evidence that greater income inequalities are associated with greater inequalities in who influences government composition. I also find no evidence that proportional representation reduces inequalities in representation between rich and poor citizens.

My analyses only address part of the link between citizens and the policies that are adopted by government. I only consider whether rich and poor citizens have distinct preferences and whether the preferences of the rich have more influence over the composition of government. It is possible that, when inequalities are strong, the rich are able to influence policy-makers to get the policies they want. This is particularly problematic given that the richest citizens (i.e. the top 1%) have policy preferences that are very distinct from other citizens (Page, Bartels, and Seawright 2013). Nevertheless, my results show that electoral democracy works most of the time. The rich are over-represented in government following at most just under half of elections. Moreover, whatever advantage they have is no greater as inequalities increase, even though the poor's preferences become increasingly distinct from those of the rich. Thus, the electoral process and government formation do not appear to be affected by economic inequalities. In

sum, while we should worry about the influence citizens with lots of money may have on policy outcomes, the processes leading to the formation of government does not appear to be systematically biased against the poor even under conditions of strong inequalities.

Another perhaps surprising finding is that proportional representation is not associated with better representation of low-income citizens relative to the rich. According to influential arguments (Iversen and Soskice 2006; Lijphart 1997), electoral proportionality is supposed to improve the representation of the poor. I find no support for these arguments. What is supported is the finding that compulsory voting reduces income gaps in representation. Scholars and concerned citizens looking at institutional solutions to reduce inequalities in representation should probably consider mandatory voting rather than proportional representation.

In sum, I have found only weak evidence that political systems are biased in favour of the rich. There is no evidence that that bias is any higher in societies that are more unequal or where the electoral system is majoritarian. These results suggest that debate about the political implications of growing economic inequalities should focus on what happens after elections are held and government is formed. Potential inequalities in political outcomes may exist if the very wealthy individuals who are becoming wealthier over time use their money to influence elected officials. Future comparative work should focus on this possibility. For now, what we do know is that the electoral and government formation processes are not affected by economic inequalities.

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