

Online Appendix for:
Income based inequality in policy congruence

August 8, 2022

1 Additional information about the data

Table 1 provides information on the countries and years included in the dataset.

Table 2 provides information on the issues included in the dataset.

Table 1: Countries and years in the data

Austria	1990, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2011
Belgium	1984, 1985, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2012, 2014, 2015
Bulgaria	1995, 1997, 1999, 2003, 2005, 2008, 2009, 2011
Croatia	2006, 2008, 2009, 2011, 2014
Cyprus	1996, 2004, 2006, 2008, 2009, 2011
Czech R.	1995, 1996, 1999, 2003, 2004, 2006, 2008, 2009, 2011, 2012, 2014
Denmark	1981, 1983, 1984, 1987, 1989, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010, 2013
Estonia	1999, 2005, 2007, 2008, 2009, 2010, 2011, 2013, 2014
Finland	1990, 1995, 1996, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2009, 2010, 2013, 2014
France	1979, 1980, 1981, 1982, 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2013, 2017
Germany	1979, 1980, 1981, 1982, 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2008, 2009, 2010, 2012, 2013, 2014
Greece	1982, 1983, 1984, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2008, 2009, 2010, 2012
Hungary	1995, 1996, 1999, 2002, 2003, 2004, 2006, 2008, 2009, 2010, 2013, 2014, 2015
Iceland	1999, 2005, 2010, 2013, 2014
Ireland	1978, 1981, 1982, 1983, 1984, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013
Italy	1979, 1980, 1981, 1982, 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2009, 2012, 2013
Latvia	1999, 2003, 2004, 2007, 2008, 2009, 2013
Lithuania	1997, 1999, 2008, 2010, 2011, 2013
Luxembourg	1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2008
Netherlands	1982, 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2014
Norway	1982, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014
Poland	1996, 1997, 1999, 2002, 2004, 2005, 2006, 2008, 2010, 2011, 2012, 2013, 2014
Portugal	1987, 1988, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008, 2009, 2011, 2013
Romania	2006, 2008, 2012, 2013
Slovakia	1996, 1998, 1999, 2004, 2005, 2007, 2008, 2009, 2011, 2012, 2014
Slovenia	1995, 1999, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2017
Spain	1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2011, 2012, 2014, 2015
Sweden	1982, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014
Switzerland	1996, 1998, 2003, 2005, 2007, 2008, 2009, 2011, 2013
UK	1979, 1980, 1981, 1982, 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2009, 2010, 2011, 2013

Table 2: Observations and questions by policy area

Policy area	N	Q	Example question/statement
Foreign policy / International relations	449	15	Are you for or against helping third world countries?
Immigration / Multiculturalism	812	34	Legal immigrants should have equal access to public education
Liberties and Rights	517	517	Fascists should be allowed to hold public meetings
Welfare / redistribution / Labor market	641	641	Reducing the working week to create more jobs.
State-Market/Economic affairs	170	170	Public ownership of industry should be expanded.
Environment	199	199	Increase taxes on energy consumption.
Law and order	183	183	More severe penalties should be introduced for acts of terrorism.

Notes: N = country-year-issues; Q = unique questions in policy area. Some example questions are slightly truncated to preserve space.

2 Additional information on the data collection

For each question in each survey, we code whether the policy was implemented at three points in time after the survey (we code the exact month and year of the survey question): 1) by the end of the incumbent government's term, 2) by the end of the successor government's term, and 3) five years after the question was asked. The implementation variables are dichotomous and take the value 1 if a policy is changed and 0 if it is not changed (or if a decision is made in the opposite direction). Thus, the implementation variables are coded 1 if an official government decision was made or an outcome occurred (depending on whether the survey question referred to a decision or an outcome). If no information can be found after exhaustive research, we classify the proposal as not implemented. In cases where the de jure implementation of the policy differs from the de facto implementation, we focus on the official factual data (de jure). We always compare between the three points in time and the time of the survey (e.g., if a decision is made three years after the survey but reversed the following year, it is coded as not implemented after five years). For statements about relative change, we look at the differences between the level in the survey year and each of the three time points. If there has been a relative change in the direction of the policy proposal, the implementation variable is coded 1; otherwise, it is coded 0.

The instructions to coders were straightforward: code whether or not the policy proposal was implemented at the above time points. To assess whether a particular policy proposal was implemented, coders had to refer to different sources depending on the type of policy. For example, some survey questions ask specifically about policy decisions, and for these questions we looked at the minutes of the national parliament. Other questions focus on the implementation of proposals. For these questions we have looked at the relevant sources for the topic in question. For example, these may be budgets, administrative files, or documentation on the closure of nuclear power plants or the construction of an infrastructure project. Also, for some issues that were not implemented, there is simply no source or documentation (as these policy changes were not events).

As with the opinion data, the original response options were coded in different ways. Therefore, following the standard practice in the field (Gilens, 2005, 2012; Schakel, 2021; Elsässer, Hense and Schäfer, 2020) we have harmonized them to vary between 0 (least support) and 100 (most support). We take the average within each group as a measure of support for policy change. Because income was measured in different ways in the different surveys, we also harmonized the income scales by assigning respondents income values that correspond to the middle percentile of their respective income categories, taking into account the distribution of income groups in each survey. This is also the standard way of dealing with this issue in this field (Gilens, 2005, 2012; Schakel, 2021; Elsässer, Hense and Schäfer, 2020). To estimate support for change across income groups, we calculated the average support for each proposal in each country among respondents with a percentile rank in the bottom twenty percent, the middle sixty, and the top twenty of the income distribution. This is our measure of support for the policy proposals among the poor, middle class, and wealthy.

The policy proposals cover a wide range of issues. *Economic* issues mainly concern welfare spending and redistribution, but also state-market regulations and fiscal policies. *Non-economic* issues cover foreign policy, immigration/multiculturalism, liberties and rights, environment policies, and law and order.

3 Further information on congruence in countries

In Figure 1 we plot the congruence level of low- and high-income citizens for each issue respectively in each country (we restrict this illustration to countries with more than 50 observations). To distinguish between issues where high-income citizens are more congruent than low-income citizens, and vice versa, the issues where high-income citizens are more congruent with policy than low-income citizens are blue, and the issues where low-income citizens are more congruent are red. While we can see that there is a high degree of correlation between congruence in income groups, blue dots dominate the graphs — it is more common that high-income citizens are more congruent with policy changes than low-income citizens. In almost all of the countries, there is a larger share of issues where high-income citizens are more congruent with policy than are low-income citizens, the only exception of the countries in the figure where there is more congruence among low-income citizens than high-income citizens is the Czech Republic.

To further illustrate the levels of congruence in the different countries Figure 2 shows bars illustrating the difference in congruence between low- and high-income citizens by country (blue bars=more congruence for high-income citizens, red bars=more congruence for low-income citizens). Again, we only show these graphs for countries with at least 50 observations. The bars illustrate how much one income group ‘dominate’ the other in terms of policy congruence. In all of the countries in the graph, except again the Czech Republic, there is a large amount of policies where the high-income citizens have more congruence than vice versa. Moreover, the high-income citizens are not only better represented when it comes to the number of policies for which they received higher congruence, but they also receive higher levels of congruence in all countries except for Poland. Figure 3 shows kernel density plots where we illustrate the distribution of the income groups over levels of congruence. In most countries the policies are tilted to the right for the high-income citizens, which means that they receive higher levels of congruence.

Figure 1: Issue Congruence for Low- and High-Income Citizens in Different Countries

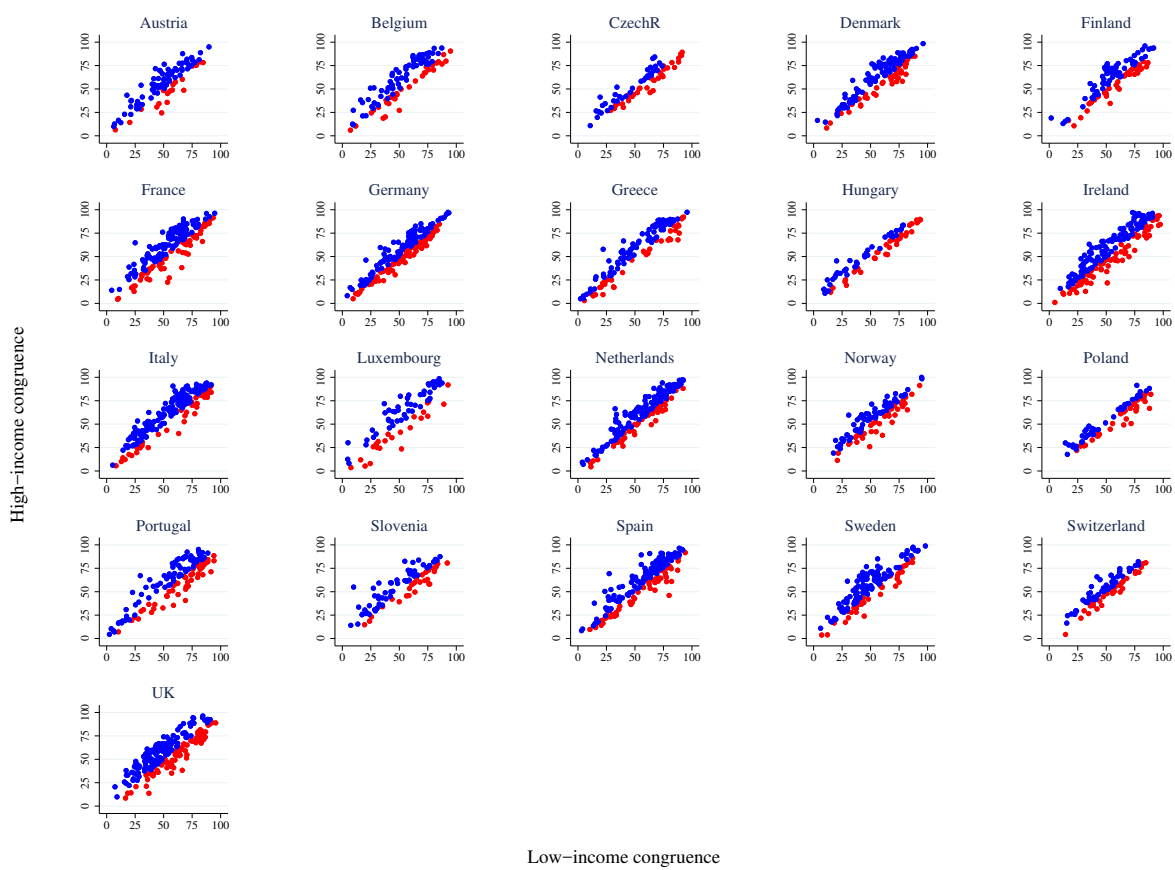


Figure 2: The difference in congruence between low- and high-income citizens by country (blue bars=more congruence for high-income citizens, red bars=more congruence for low-income citizens).

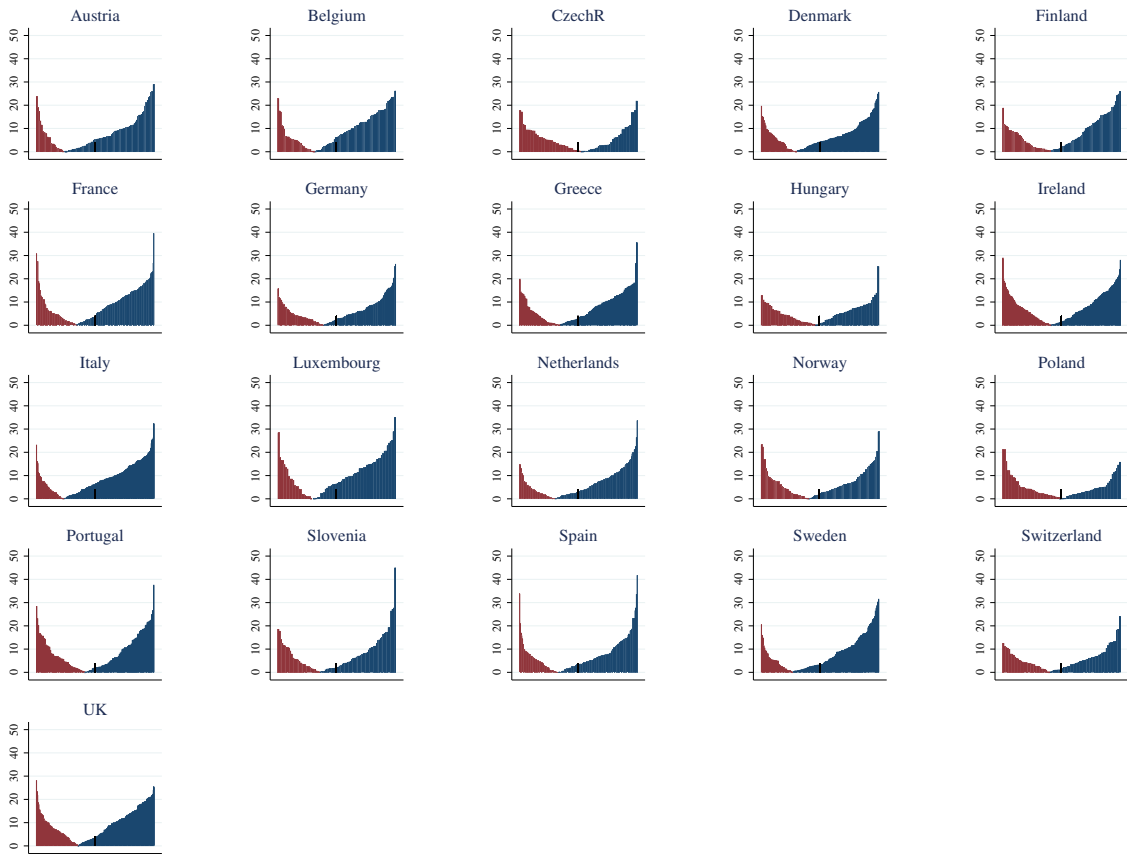
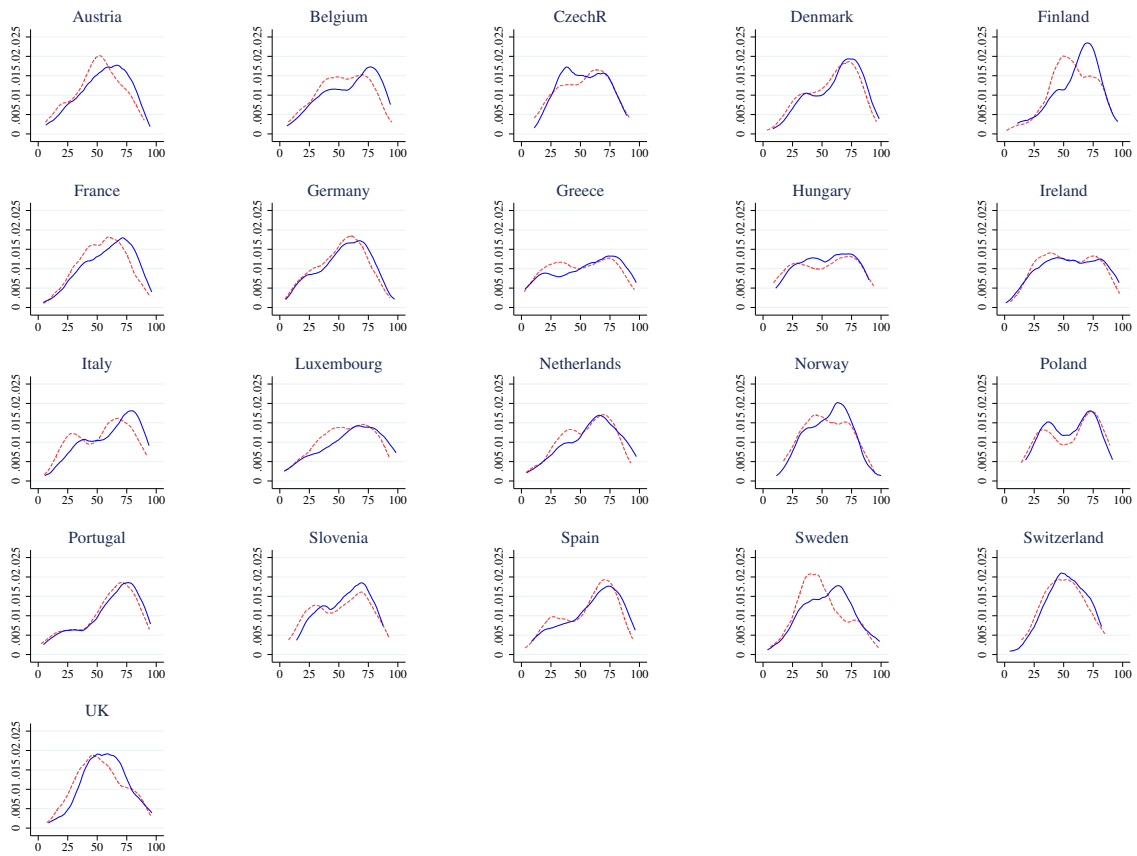


Figure 3: Kernel density plots for congruence by country (blue bars=high-income citizens, red bars=low-income citizens)



4 Alternative analyses

In the main paper we answer the question “Who got what they wanted?”, but it is equally important to study responsiveness and the question “Whose opinions mattered?” To do the latter, we analyze the relationship between policy support in the different income groups and policy change with OLS regression models with fixed effects for survey year and country, with heteroscedastic-consistent standard errors. We regress the dichotomous dependent variable ‘policy change’ on variables measuring support among the low-, middle- and high-income citizens. Models also include a dummy variable indicating whether the question was about the status quo (as previously described, in those cases, the direction of the variables have been changed to indicate support for policy change). As for the dependent variable, we use the five-year window between the time the survey was fielded and policy change for our main specifications presented in the paper.

Table 3 shows results on the relationship between support in the different income groups and policy change. Since the correlations between the preferences in the different income groups are high (the correlation between support in the lowest and highest income groups is .91), we first present separate models including the preferences of each income group, and then we present results from models with all three income groups. In addition, we present a model including the difference in policy support between the highest and the lowest income group under control for the level of support among the middle-income citizens as the independent variables.

The support in the income groups is coded to theoretically vary between 0 and 10, which means that the coefficients illustrate the effect of a 10 percent change in policy support. In the models including the preferences in the income groups separately, the results show that a 10 percent increase in support among the low-income citizens is associated with a significant increase in the probability of policy change of 2.1 percentage points. The corresponding numbers for middle-income citizens are 2.5 and 3.1 for high-income citizens. Hence, the preferences of the high-income citizens are better reflected in implemented policies than the

preferences of the low-income citizens, although the differences are not very large.

In the fourth model in the table, we include the variables measuring the amount of support in all three income groups simultaneously, and we find a substantially larger coefficient for the high-income citizens, a 10 percent increase in support is associated with an 8 percent increase in the likelihood of policy change. In contrast, the coefficient for the low-income citizens is small and negative. In the last model in the table, we look at the coefficient indicating the difference in support between the high- and low-income citizens under control for the support among the middle-income citizens. The results show that larger support for policy proposals among the high-income citizens than the low-income citizens is associated with a higher likelihood of policy change. When income groups disagree, the high-income citizens' preferences are better reflected in policy changes.

We also provide a series of robustness checks. Table 4 shows results where the time frame window is changed to reflect the end of the governments term, instead of a four year window used in the main analyses. Table 5 shows results where the time frame window is changed to reflect the end of the second term after the question was asked. While the results show somewhat different point estimates, the general patterns in the results are the same — high income citizens appear to have more influence than low-income citizens. In Table 6 we return to the five year window but employ country level weights (so that each country has the same weight) and in Table 7 we use question level weights. And again the overall patterns in the results are very similar to the results from the specifications in the main paper.

Table 3: The relationship between policy support in different income groups and policy implementation

Low income	0.021*			-0.022	
	(0.003)			(0.013)	
Middle income		0.025*		-0.029	0.025*
		(0.003)		(0.019)	(0.003)
High income			0.031*	0.078*	
			(0.003)	(0.011)	
High-Low Diff					0.005*
					(0.001)
Constant	0.054	0.031	-0.011	0.016	0.037
	(0.161)	(0.162)	(0.166)	(0.172)	(0.170)
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R2	0.239	0.244	0.254	0.262	0.260
N	2930	2930	2930	2930	2930

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Table 4: Robustness check 1: end of the incumbent government's term

Low income	0.016*			-0.005	
	(0.003)			(0.012)	
Middle income		0.018*		-0.028	0.018*
		(0.003)		(0.018)	(0.003)
High income			0.022*	0.053*	
			(0.003)	(0.011)	
High-Low Diff					0.003*
					(0.001)
Constant	0.033	0.020	-0.006	0.007	0.024
	(0.159)	(0.160)	(0.163)	(0.167)	(0.165)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R2	0.181	0.184	0.189	0.192	0.190
N	2923	2923	2923	2923	2923

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Table 5: Robustness check 2: The end of the government term following the incumbent government term

Low income	0.023*			-0.013	
	(0.003)			(0.013)	
Middle income		0.027*		-0.040*	0.027*
		(0.003)		(0.020)	(0.003)
High income			0.033*	0.082*	
			(0.003)	(0.011)	
High-Low Diff					0.005*
					(0.001)
Constant	0.025	0.004	-0.038	-0.015	0.011
	(0.161)	(0.162)	(0.166)	(0.172)	(0.170)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R2	0.217	0.222	0.233	0.240	0.237
N	2907	2907	2907	2907	2907

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Table 6: Robustness check 3: country weights

Low income	0.017*			-0.010	
	(0.004)			(0.014)	
Middle income		0.021*		-0.037	0.022*
		(0.004)		(0.021)	(0.004)
High income			0.026*	0.070*	
			(0.004)	(0.013)	
High-Low Diff					0.004*
					(0.001)
Constant	0.078	0.060	0.022	0.035	0.056
	(0.162)	(0.162)	(0.165)	(0.171)	(0.169)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R2	0.258	0.261	0.267	0.272	0.270
N	2907	2907	2907	2907	2907

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Table 7: Robustness check 4: question level weights

Low income	0.019*			-0.027	
	(0.004)			(0.017)	
Middle income		0.024*		-0.037	0.024*
		(0.004)		(0.026)	(0.004)
High income			0.031*	0.090*	
			(0.004)	(0.014)	
High-Low Diff					0.006*
					(0.001)
Constant	-0.049	-0.077	-0.116	-0.085	-0.071
	(0.080)	(0.080)	(0.080)	(0.080)	(0.081)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R2	0.214	0.219	0.230	0.243	0.241
N	2930	2930	2930	2930	2930

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Table 8: Majoritarian congruence rates.

	Low income	Middle income	High Income
Majoritarian congruence rates	40	51	48

5 Responsiveness and the impact of economic inequality, voter turnout and finance regulations

We will now look at the four hypotheses on the factors potentially driving unequal responsiveness in more detail. In Figure 4 we illustrate the relationship between inequality in congruence (high-income congruence minus low-income congruence) and the four variables: voter turnout, income inequality, union density, and campaign regulations. For each of the variables, we show scatter plots overlaid with quadratic prediction lines that takes non-linearity into account.

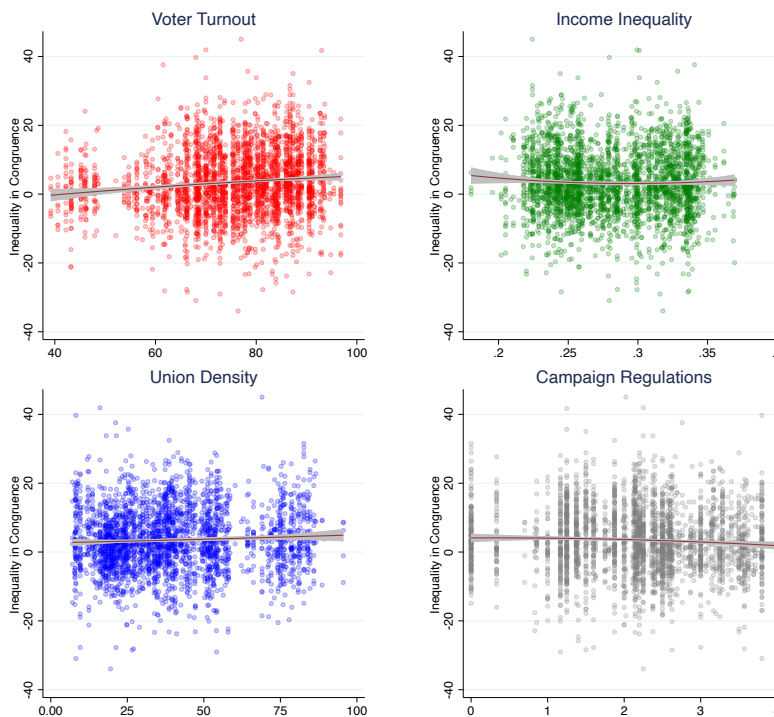
In the top left graph in Figure 4, we examine whether the level of voter turnout affects inequality in congruence. We find no strong relationship between turnout and the level of congruence. In the top right graph, we also look at whether economic inequality drives the relationship. Accordingly, the greater the economic inequality, the more difficult it is for low-income citizens to make their voices heard, and the stronger the ties between economic and political elites. Again, we estimate income inequality using data from SWIID, and for this analysis we are taking the average of the country ginis. Strikingly, we find no strong relationship between inequality in policy congruence and income inequality. In the bottom left graph, we look at the relationship with union density, but again find no relationship. Finally, in the bottom right graph we look at analyses with campaign finance regulations and again the results show no strong relationship.

Table 9: The relationship between congruence and income inequality, campaign finance regulations and voter turnout.

	P10	P90	P10	P90	P10	P90	P10	P90
	Congr.	Congr.	Congr.	Congr.	Congr.	Congr.	Congr.	Congr.
Income Inequality	1.590	-4.859						
	(32.984)	(31.415)						
Campaign regulations			-1.392	-1.120				
			(1.061)	(1.062)				
Voter turnout					5.818	1.321		
					(9.444)	(8.765)		
Union density							0.300	-0.768
							(9.550)	(8.857)
N	2930	2930	2927	2927	2930	2930	2704	2704

Notes: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

Figure 4: Mean levels of Issue Congruence for Low- and High-Income Citizens in Different Countries



We also models where we examine whether the four factors affect not only *inequality* in congruence but also *levels* of congruence between low- and high-income citizens. For

each explanation, we estimate two models where we use A) the level of congruence for P10, and B) the congruence for P90 as our respective dependent variables. The two dependent variables indicate whether the *level* of congruence for the low- and high-income citizens, respectively, are affected by the independent variables. Table 9 shows the results from the models. The four variables do not appear to be related to the levels of congruence in the respective groups. The estimates are largely insignificant. Hence, both for the differences in congruence, and the absolute levels, we find no strong relationships with the four explanations discussed in this paper. We have also estimated models with the difference between p90 and p10 as dependent variable and all the four main independent variables included at the same time together with country and year level dummies, all the coefficients in such a model are large and insignificant except for campaign contributions for which we find a significant and negative estimate.

6 Taking clustering by issues into account

An issue with the dataset is that the data is clustered within different issues. In the main paper we do not take this into account in the analyses. To see how it affects the results we present the results from the two main tables in the paper after having taken the this into account. Table 10 presents the levels of congruence after first having calculated averages by country-issues. The trends and general patterns are the same as in the main paper but the differences are somewhat smaller. In table 11 we present results regarding the impact of the four explanatory factors but here we include issue fixed effects in addition to country- and year-fixed effects. As in the main paper we find no evidence of any significant associations.

Table 10: Support for change and congruence in different income groups. Means averaged over issues (and standard errors in parentheses).

	Low income	Middle income	High Income
Support for change	51.53 (0.50)	50.46 (0.50)	49.26 (0.51)
Policy congruence	53.58 (0.49)	54.74 (0.48)	56.14 (0.48)

Table 11: The relationship between congruence and income inequality, campaign finance regulations and voter turnout with issue-, year- and country-fixed effects

	P90-P10 Congr.	P90-P10 Congr.	P90-P10 Congr.	P90-P10 Congr.
Income Inequality	-4.498 (13.169)			
Campaign regulations		-1.033 (0.656)		
Voter turnout			-3.798 (3.309)	
Union density				-3.711 (3.427)
N	2930	2927	2930	2704

Note: * denote statistical significance at the 5% level. Entries are for OLS regressions with heteroscedastic-consistent standard errors in parentheses.

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