INTERGENERATIONAL EDUCATIONAL MOBILITY AND PREFERENCES FOR REDISTRIBUTION IN EUROPE*

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Abstract

In this paper, we study how preferences for redistribution vary at the individual level in Europe. Using survey data from a large set of countries, we empirically show that controlling for socio-economic and demographic characteristics, personal intergenerational educational movements play a decisive role in shaping redistributive preferences: individuals with low educational attainment and those born to low-educated parents are more in favor of redistributing incomes. Matching subjects with their experienced country-cohort-gender-specific intergenerational educational mobility estimates, we further show that individuals whose clusters faced better upward educational mobility prospects when growing up are more in favor of equalizing incomes. We offer a parsimonious economic model that accords well with these empirical observations.

Keywords: *Redistributive Preferences; Social Mobility; Economic Inequality; Equality of Opportunity*

JEL Classification: *I20; I24; J62*

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1 Introduction

Economic inequalities have become the center of attention both in academia and public policy debates recently.[1] Redistributive preferences of individuals matter in modern democracies for economic inequalities because of their subsequent implications on political outcomes and public policies.[2] In this paper, we empirically study how preferences for redistribution vary at the individual level in Europe. In doing so, we incorporate the role of individual intergenerational educational movements in a detailed cross-country framework for the first time.

To study individual preferences for redistribution, we use a recent survey micro data set (European Values Study (*EVS*) in 2008) that covers a large and heterogeneous subset of European countries. The results from our cross-country regressions accord well with the previous literature and demonstrate that an individual's income and education correlate significantly with his/her preferences for redistribution: controlling for demographic factors, income and educational attainment correlate negatively with pro-redistributive preferences. In addition, we show novelly that further controlling for income and education, those born to better-educated parents are asymmetrically less in favor of redistributing incomes.

We next use the World Bank's new Global Database on Intergenerational Mobility (*GDIM*) data set that contains information about country-cohort-gender-specific absolute and relative intergenerational educational mobility estimates. We match our subjects in *EVS* with their empirical country-cohort-gender-specific intergenerational educational mobility estimates from *GDIM*. We then show for the first time that subjects whose clusters faced better upward educational mobility prospects when growing up are significantly more in favor of equalizing incomes. Our extensive robustness checks reveal that albeit at different magnitudes, these results are robust over time and geography. We also show that these predictions are in line with economic theory, for which we offer a parsimonious neoclassical economic model that accords well with these empirical observations.

As the first of its kind in investigating the role of intergenerational educational mobility in shaping preferences for redistribution, this paper offers new insights into cross-border determinants of redistributive preferences. We believe that these robust findings are to be taken into account for a better understanding of individual attitudes towards distributional issues in an era of ever-increasing economic inequality concerns.

The rest of the paper is organized as follows. In section 2, we discuss the related literature; in section 3, we describe the data and methodology; in section 4; we report and discuss our findings, and in section 5, we conclude.

[1] Among others, see Piketty (2014), Piketty (2015), Atkinson (2015), Stiglitz (2012), and Milanovic (2016) for recent advances in the study of economic inequalities.

[2] See Höchtl et al. (2012) and Rueda and Stegmueller (2015), among others.

2 Related Literature

This paper relates mainly to two strands of literature. First, it relates to the literature on redistributive preferences. By its subject, this is a diverse and interdisciplinary literature. Its theoretical strand, developed mainly by economists and political scientists, concentrates mostly on why continental European countries have more pronounced redistributive policies than the United States despite their comparable economic performances and inclusive political democracies.[3] A seminal work related to ours is by Hirschman and Rothschild (1973), who propose the "tunnel effect" in understanding individual differences in tolerance for inequality: people tolerate income inequality if they anticipate that unfavorable income gap will decrease in the future.[4] In her empirical scrutiny to test Hirschman and Rothschild (1973)'s claim, Senik (2008) argues that both *positive* and *negative* individual feelings (e.g. *ambition* and *jealousy*) can arise from income inequality in Europe.

The empirical strand of the literature on preferences for redistribution is eclectic and explores several dimensions of potential factors shaping redistributive preferences. The seminal work by Alesina et al. (2011) offers empirical evidence on individual-level determinants of preferences for redistribution and shows that several socio-economic and demographic factors have significant predictive power on individuals' redistributive preferences, while the intergenerational difference in years of schooling could also matter for the case of the United States.[5] Cojocaru (2014b) shows empirically that individuals' expectations of upward mobility reduce their preference for redistribution only when coupled with low risk aversion in the EU member states.[6] Laméris et al. (2020) argue that left-wing individuals prefer redistribution regardless of expected upward income movements, and expected upward income mobility negatively affects support for redistribution only for right-wing individuals. Krawczyk (2010)'s experimental results suggest that in the presence of only limited control over outcomes, individuals demand higher redistribution. Corneo and Grüner (2002) empirically show that pecuniary self-interest is not the only force shaping redistributive preferences, and status effects and public values are also important at the individual level. Kerschbamer and Müller (2020) also show that social (other-regarding) preferences play a key role in shaping redistributive preferences. Bavetta et al. (2019) find that self-positioning in the society, social mobility background, parents' wealth and education are important determinants of perceived inequality. However, how these differ-

[3] A vast majority of this literature attributes the transatlantic differences to the existence of multiple equilibria stemming from economic, political and behavioral foundations. (Alesina and Glaeser, 2004). For some of the seminal works in this literature, see Piketty (1995), Bénabou (2000), Bénabou and Ök (2001), Saint-Paul (2001), Hassler et al. (2003), Alesina and La Ferrara (2005), Alesina and Angeletos (2005) and Bénabou and Tirole (2006).

[4] The term "tunnel effect" comes from a traffic example: in a traffic jam, witnessing another lane unfreeze could make those stuck in the traffic derive instant gratification because of their anticipation that their own lane will also unfreeze gradually. For an elaborate discussion on the tunnel effect, see Ravallion and Lokshin (2000).

[5] Alesina et al. (2011) show that some key individual-level variables affecting redistributive preferences are income, education, age, and race. They further show that an increase in educational mobility correlates positively with pro-redistributive policies. However, their mobility definition is confined to the intergenerational difference in years of schooling, and their conclusions on the implications of intergenerational mobility stem only from their American subjects. For some examples of the recent frontier research on intergenerational mobility in the U.S., see Chetty et al. (2017), Chetty et al. (2018), Chetty et al. (2014), Chetty and Hendren (2018b), Chetty and Hendren (2018a), and for an elaborate discussion on the developments in intergenerational mobility, see Güner (2015), among others.

[6] Using survey data from a large number of transition economies, Cojocaru (2014a) further argues that inequality aversion is tied to fairness concerns.

ences in perceived inequality translate into preferences for redistribution is not investigated by the authors. In a recent paper, Alesina et al. (2018) investigate how beliefs about intergenerational mobility affect preferences for redistribution in France, Italy, Sweden, the United Kingdom, and the United States, and conclude that Americans are more optimistic than Europeans about social mobility, as do Alesina and Glaeser (2004). Alesina et al. (2018) further show that pessimistic information about mobility increases support for redistribution, which varies notably over political polarization. Gimpelson and Treisman (2017) also investigate misperceptions on inequality and report that perceived inequality instead of actual inequality correlates strongly with demand for redistribution.

As a result of the interdisciplinary nature of the subject, empirical researchers other than economists and political scientists also investigate the determinants of redistributive preferences. For instance, Sznycer et al. (2017) show that endorsement of redistribution is predicted by dispositional *compassion*, *envy*, and the *expectation of personal gain from redistribution*, but not a taste for *fairness*. Shariff et al. (2016) demonstrate that individual mobility perceptions significantly shape tolerance for inequality, as well.

This paper also relates to the literature on intergenerational mobility. While economists and political scientists mostly concentrate on the material well-being aspects of social mobility, sociologists study also the interpersonal and psychological aspects of it.[7] Specifically, Sorokin (1959)'s dissociative hypothesis suggests that intergenerational mobility in general and upward mobility, in particular, is associated with a disruptive social experience that comes at the psychological cost of isolation and loneliness. This hypothesis has been empirically tested numerous times since Ellis and Lane (1967), and the literature has documented mixed evidence on the well-being of subjects experiencing intergenerational mobility. [8]

So far, the study of preferences for redistribution has often been confined to limited geographical settings (often a single country); and when not, the role of intergenerational mobility in shaping these preferences has not been examined in detail. In this paper, we fill this gap in the literature by studying redistributive preferences in a cross-country setting, while also incorporating the role of intergenerational educational mobility.

A priori, one could expect educational attainment and income to be negatively correlated with pro-redistributive preferences based on economic grounds, as demonstrated also by our parsimonious model in the Appendix. In addition, as Alesina et al. (2011) also briefly hint, it is reasonable to anticipate that conditional on same parental education, those with low parental education could be more likely to favor redistribution. One plausible reason to expect this is that wealth accumulation over generations, as we show in the Appendix, is a relevant economic factor that can weaken redistributive preferences. Another plausible explanation is Sorokin's dissociative hypothesis: those who have experienced upward mobility are more likely to experience psychological distress and favor transferring economy's resources to those low-income and low-education people with whom they keep ties and feel connected to. In terms of the implications of overall intergenerational mobility estimates that subjects faced as they grew up, it is reasonable to anticipate either direction of correlation with redistributive preferences: Hirschman and Rothschild (1973)'s tunnel hypothesis demonstrate that inequality tolerance, and plausibly preferences for redistribu-

[7] For an extended discussion on intergenerational educational mobility in economics, see Torul and Öztunalı (2017).

[8] See Hadjar and Samuel (2015) for evidence on the negative implications of upward mobility and Chan (2018) for null results.

tion, could increase or decrease over the witnessed economic inequality. Similarly, Sznycer et al. (2017) show that both compassion and envy could shape redistributive preferences; and as such, the experienced degree of hardship in social mobility could either strengthen or weaken individual preferences for redistribution. Our estimation results predict that intergenerational mobility prospects are negatively associated with redistributive preferences empirically, and we show in the Appendix that this result is also in accordance with mainstream economic foundations, as well.

3 Data and Methodology

3.1 Data Description

The main data set we use is the European Values Survey (*EVS*) wave in 2008. Due to data limitations, we restrict our working sample to 41 countries and 32,425 respondents.[9] The participants of the *EVS* survey were asked questions about demographics, moral, political, societal, work and family values. In this paper, we focus on the question with the code `v198`, which asks respondents to declare their views on a 1-10 Likert scale ranging from "*Incomes should be made more equal*" to "*There should be greater incentives for individual effort*".[10] The scale for the question is illustrated in Figure 1.

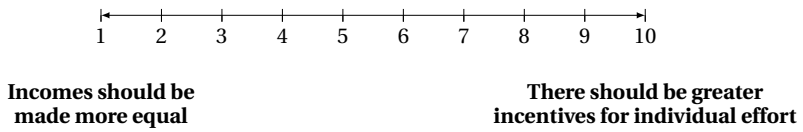

Figure 1: `v198` question card of EVS

The *EVS* 2008 data set contains background information about parental education (in addition to participants' education information). In particular, the *EVS* re-codes parental education as 1-Lower, 2-Middle, 3-Upper via the `International Standard Classification of Education` (`ISCED`) classification: Lower (1) if parent's education corresponds to `ISCED 0,1,2` levels (i.e. lower secondary education or below), Middle (2) if parent's education corresponds to `ISCED 3,4` levels (i.e. secondary and post-secondary education), and 3) Upper (3) if parent's education corresponds to `ISCED 5,6` levels (i.e. tertiary education or above). Using the 3-category classification, we define the *intergenerational educational movement* experienced by the respondent as a combination of his/her and his/her (better-educated) parent's education, e.g. $E = 3|P = 2$ referring to a university-graduate (3) descendant whose *better-educated* parent is a high-school graduate

[9] We use the *EVS* wave in 2008 because it is the *only EVS* wave that contains detailed information about both preferences for redistribution *and* intergenerational education history. For a list of countries in *EVS* 2008, see Table A.1 in Appendix.

[10] Earlier literature relies either directly on `v198` or questions with similar wording to `v198` to measure the respondent's preference for redistribution. See Alesina et al. (2011) for the use of different wording to measure redistributive preferences, and Kerr (2014) and Winthrop et al. (2016) for the use of a question with almost identical wording (from *WVS*) to infer preferences for inequality.

(2).[11]

As briefly discussed, we use the World Bank's Global Database on Intergenerational Mobility (*GDIM*) variables as a proxy for historical upward mobility prospects faced by subjects as they grew up. We use three variables by *GDIM* for our purposes: `1-IGP`: intergenerational persistence in education, i.e. the estimated correlation coefficient via intergenerational years of schooling regressions from microdata, which is a measure of relative intergenerational mobility; `2-MAcatM`: the absolute upward mobility probability measured as the probability of a descendant obtaining a higher education level than his parents or both the descendant and the parent to have the top education level; `3-MAcatC1`: the (conditional) absolute upward mobility in education that measures the probability of a descendant surpassing his parent's education conditional on the parent not being in the top category (i.e. holding a tertiary education degree).[12] We match subjects in the *EVS* data set with the intergenerational mobility variables by *GDIM* based on their country, gender and birth-year cohort (reported in decades by *GDIM*).

3.2 Methodology

In all our econometric specifications, we regress our dependent variable, preference for redistribution (`v198`), to a set of demographic and other control variables via ordinary least squares (OLS) regressions. Our control variables include country-fixed effects, demographic variables (age and sex), household income, intergenerational educational movement dummies, and subjects' country-cohort-gender-specific realized intergenerational educational mobility estimates. Our benchmark specification takes the following form:

$$y_i = \beta_0 + \beta_1 \text{Demographics}_i + \beta_2 \text{Country}_i + \beta_3 \log(\text{Income}_i) + \beta_4 \text{ Education}_i^{m,n} + \beta_5 \text{ GDIM}_i + u_i$$

where Demographics_i denotes the vector of demographic control variables (age and gender) for individual i, Country_i denotes the country-fixed dummy variable, $\log(\text{Income}_i)$ denotes the natural logarithm of PPP-adjusted household income (in Euros), $\text{Education}_i^{m,n}$ denotes the vector of education dummy variables that take the value 1 for subject i whose education level is $n \in \{1,2,3\}$ and better-parent's education is $m \in \{1,2,3\}$ and 0 otherwise, GDIM_i denotes one of the three country-cohort-gender specific intergenerational educational mobility prospect estimates by *GDIM*, and u_i denotes the error term.[13],[14]

[11] For robustness purposes, we also re-do our estimations via a 2-category classification. As displayed in Table A.2, our results are robust to the choice of a more coarse categorization. The fact that parental education in EVS is reported only via a 3-category scale constitutes a binding constraint for finer intergenerational educational mobility definitions.

[12] For the calculation of the absolute mobility measures `MAcatM` and `MAcatC1`, *GDIM* uses a five-level categorization via `ISCED` definitions: 1-less than primary `ISCED 0`, 2-primary `ISCED 1`, 3- lower secondary `ISCED 2`, 4- upper secondary or post-secondary non-tertiary `ISCED 3-4`, and 5-tertiary `ISCED 5-6`. The literature on intergenerational mobility interprets intergenerational persistence as the inverse of upward mobility prospects since a coefficient of 1 implies that on average descendants' years of schooling perfectly mimics parental years of schooling, a coefficient close to 0 suggests parental educational background exhibits no correlation with descendants' educational attainment, thus upward mobility is still possible for those born to low-educated parents. See Corak (2013) for further discussion on intergenerational income mobility.

[13] In our benchmark estimations, we keep age and gender as our demographic controls. We test for other potentially influential demographic variables, such as marital status or number of descendants, and omit them from our estimations after ensuring that they are not significantly correlated with our dependent variable.

[14] We cluster standard errors at the country level to correct for possible country-specific heterogeneities.

4 Results

We report our main findings in Table 1. The five models we report in Table 1 vary over the inclusion of demographic controls and the *GDIM* intergenerational mobility variables, respectively.[15] Our estimation results reveal that in all our model specifications, the dependent variable `v198` increases over educational attainment of descendants *and* their parents. In other words, our findings suggest that controlling for other factors, those with lower educational attainment favor equalizing incomes more than their better-educated counterparts; and conditional on same educational attainment, those born to less-educated parents favor redistribution more. While the more egalitarian preferences of the less-educated is well-documented in the literature, the documentation of the marginal effect of parental education in a cross-country setting is novel by this paper.[16] These findings are robust to the inclusion of additional controls and alternative specifications.[17] As discussed briefly, one possible explanation of this variation is wealth accumulation over generations weakening redistributive preferences, as we discuss in detail in the Appendix. Another plausible explanation could be that those who have experienced upward mobility are more likely to favor transferring the economy's resources to those low-education people with whom they keep ties and empathize with, in accordance Sorokin's dissociative hypothesis. Further research on the causal identification of this discrepancy is warranted.

Our findings further suggest the presence of notable asymmetries in the correlation between redistributive preferences and individuals' educational attainment. In particular, contrary to the seminal work by Alesina et al. (2011), which reports relatively similar estimates on the marginal effect of high school and university graduation for the United States and world-wide, our estimations suggest that the marginal ef-

[15] Our estimation results indicate that the coefficient before age is insignificant (with a coefficient value lower than 0.002 in absolute magnitude) in all our specifications and the coefficient before gender (male dummy) is significant at $p = 0.01$ with a coefficient of 0.168 if one of the *GDIM* variables is controlled for, and 0.157 if not. That females report significantly higher redistributive preferences accords well with the earlier literature. We keep both variables as demographic controls despite their different significance levels to avoid omitted variable bias.

[16] The pairwise t-tests via robust standard errors confirm that higher educational attainment conditional on same parental education significantly raises preferences for redistribution at $p = 0.01$. In addition, conditional on same educational attainment, better-educated parent's higher educational attainment significantly reduces redistributive preferences at $p = 0.05$ in most cases. For instance, under Model 2, the null hypothesis that the coefficient before $E = 2|P = 2$ and $E = 2|P = 1$ is same is rejected with a t-statistic of 4.67 (with a p value of 0.031). Likewise, the null hypothesis that the coefficient before $E = 3|P =1$ and $E = 3|P = 3$ is same is rejected with a t-statistic of 4.35 (with a p value of 0.037). We acknowledge that despite the sizeable magnitude differences, the coefficient before $E = 3|P = 2$ (i.e. 0.472) is not significantly different than $E = 3|P = 3$ (i.e. 0.572).

[17] Throughout our estimations in Table 1, we omit the dummy variables for low-educated individuals. We omit the dummy variable for $(E = 1|P = 1)$ to avoid perfect multicollinearity, and we omit the dummy variables for $(E = 1|P = 2)$ and $(E = 1|P = 3)$ due to their limited empirical frequency and linear dependency. The inclusion of dummy variables for $(E = 1|P = 2)$ and $(E = 1|P = 3)$ results in insignificant coefficients, as we report in Table A.4.

fect of university graduation is considerably higher than that of high school in the case of Europe.[18] In addition, our estimations suggest the presence of sizeable asymmetries in the effects of intergenerational educational movements. For instance, conditional on same educational attainment, e.g. say a high school degree, better-educated parent's completion of university marginally increases subjects' preferences by approximately 0.08 units. Conditional on same parental education, e.g. say a high school degree again, university completion of subjects marginally increases their preferences by approximately 0.23 units.[19] These findings cast doubt on the estimation strategy by Alesina et al. (2011), which formulates intergenerational mobility *symmetrically* merely as the intergenerational difference in years of schooling.

Our cross-country estimation results verify that income correlates with redistributive preferences, as in accordance with the earlier literature and economic theory. In particular, subjects with higher (PPP-adjusted log) income are more likely to favor greater incentives for individual effort, and the marginal effect of income is highly significant and robust over alternative model specifications.

Next, we turn to analyze the effect of intergenerational educational mobility prospects faced by subjects as they grew on redistributive preferences. In Models 3 to 5, we add the *GDIM* mobility variables one by one to our estimations as independent controls to unveil the role of country-cohort-gender specific intergenerational educational prospects. Model 3 shows that subjects favor incentives for individual effort more when their country-cohort-gender specific clusters faced higher intergenerational educational persistence. Similarly, when we control for absolute and conditional absolute upward mobility prospects in Models 4 and 5, we report that higher upward mobility probabilities coincide with more leaning towards equalizing incomes. These novel results are robust over alternative formulations, as well as time and geography.[20]

Sznycer et al. (2017) document that endorsement of redistribution can be shaped by *compassion* and *envy*. Our findings accord well with both motivations: those who have suffered unfavorable mobility prospects are against redistribution (*envy*), and those who have enjoyed decent mobility prospects favor egalitarianism (*compassion*). Sznycer et al. (2017) further argue that the *expectation of personal gain from redistribution* plays a role in shaping redistributive preferences. The two-period neoclassical economic model that such preferences are not at odds economic theory, either. That is, even only prioritizing material well-being could explain why those who face higher intergenerational persistence favor redistribution

[18] It is worthy to note that Alesina et al. (2011) rely on different data sets in their estimation: General Social Survey (*GSS*, all available data from 1972 to 2004) for the case of the United States and World Values Survey (*WVS*, waves 1-4: 1981-84, 1990-94, 1995-98, 1999-2004) for the cross-country estimations. Further, the wording of the *GSS* redistribution question they use is: *"Some people think that the government in Washington should do everything to improve the standard of living of all poor Americans. (1) Other people think it is not the government's responsibility, and that each person should take care of himself. (5) Where are you placing yourself in this?"*, whereas the wording of the *WVS* redistribution question they use asks subjects' to express their views over the scale: *"People should take more responsibility to provide for themselves (1) vs The government should take more responsibility to ensure that everyone is provided for (10)"*. Thus, both differences in the timing of surveys and differences in the wording of questions to proxy for redistributive preferences might account for the differences in the estimated coefficients for the marginal effect of high school and college graduation.

[19] We report the average effects of high school and college graduation in our estimations on Table A.5.

[20] Torul and Öztunalı (2017) show that at the country level, intergenerational educational persistence and upward mobility co-move negatively over time in Europe for cohorts born between 1940 and 1985. Thus, the fact that the coefficients before intergenerational educational persistence and upward mobility estimates have opposite signs signals the robustness of our estimation results. Results by time and geography are available upon request.

less.[21] [22]

Table 1: Regression Results for 9-category representation of educational mobility

Preference for Redistribution (v198)					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
$E=2 \mid P=1$	0.154**	0.143**	0.154**	0.164***	0.165***
	(0.063)	(0.063)	(0.061)	(0.060)	(0.061)
$E=3 \mid P=1$	0.430***	0.427***	0.438***	0.452***	0.455***
	(0.096)	(0.096)	(0.095)	(0.094)	(0.094)
$E=2 \mid P=2$	0.252***	0.244***	0.251***	0.252***	0.252***
	(0.076)	(0.079)	(0.078)	(0.079)	(0.079)
$E=3 \mid P=2$	0.472***	0.472***	0.478***	0.485***	0.487***
	(0.084)	(0.086)	(0.085)	(0.085)	(0.085)
$E=2 \mid P=3$	0.339**	0.330**	0.337**	0.337**	0.337**
	(0.133)	(0.133)	(0.133)	(0.133)	(0.133)
$E=3 \mid P=3$	0.572***	0.572***	0.578***	0.585***	0.587***
	(0.108)	(0.109)	(0.109)	(0.109)	(0.109)
log(Income)	0.180***	0.176***	0.174***	0.173***	0.173***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Intergenerational Persistence (IGP)			0.338**		
			(0.166)		
Cond. Abs. Upward Mobility (MAcatC1)				-0.573**	
				(0.219)	
Abs. Upward Mobility (MAcatM)					-0.696***
					(0.236)
Constant	4.806***	4.714***	4.566***	5.006***	5.112***
	(0.070)	(0.096)	(0.113)	(0.158)	(0.174)
Observations	32,425	32,425	32,425	32,425	32,425
R-squared	0.151	0.152	0.152	0.152	0.152
Demographic Controls	NO	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5 Conclusions

Preferences for redistribution have important implications for political outcomes and public policies. The previous literature studying individual-level determinants of redistributive preferences has shown that socio-economic and demographic characteristics such as age, gender, income, and education are important determinants of redistributive preferences. In this paper, we contribute to the literature by showing other significant factors that were not previously documented: intergenerational educational movements and intergenerational educational mobility prospects. Specifically, we show that *ceteris paribus* i) condi-

[21] Briefly, the proposed model elicits that 1) conditional on same parental education, those with higher educational attainment favor redistribution less (via relying on lower most-preferred tax rates); 2) conditional on same educational attainment, those born to better-educated parents favor redistribution less; and 3) an increase in intergenerational educational persistence can reduce average most-preferred tax rate in the economy. In this model environment, higher taxes monotonically imply higher redistribution. Accordingly, higher most-preferred tax rates can safely be interpreted as greater support for redistribution.

[22] Krawczyk (2010) shows in an experimental setting that when performance (as opposed to sheer luck) is more decisive in the determination of outcomes, support for redistribution decreases. If subjects attribute intergenerational persistence in education to stem from performance, then that they favor redistribution less is in accordance with Krawczyk (2010)'s results. Krawczyk (2010) further discusses the possibility that equality of opportunity in a society could diminish support for redistribution, however he also shows that greater inequality of opportunity did not lead to higher redistribution in his experiments.

tional on same educational attainment, those born to better-educated parents favor redistribution less, and ii) conditional on same intergenerational educational movements, those who grew up in less mobile environments favor redistribution less. We also offer a parsimonious model that accords well with our empirical findings.

There is severe intergenerational educational persistence in several European countries.[23] Under stark educational persistence, it is harder for individuals from low socio-economic backgrounds to attain tertiary education and surpass their parents' education, which is one of the primary means of observed upward social mobility. Our findings via utilizing *GDIM*'s mobility prospect variables deliver some dismal news for the more persistent economies: individuals who grew up in less mobile environments favor equalizing incomes less. Our findings suggest that higher inequality could generate its own inertia by shaping redistributive preferences. In an era of increasing concerns over economic inequalities, further research on the sources and implications of the documented relationship is warranted.

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[23] See Narayan et al. (2018) and Torul and Öztunalı (2017) for different measures of intergenerational educational mobility estimates in Europe.

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Appendix

A Appendix Figures and Tables

Table A.1: Frequencies of Respondent Education Levels by Parental Education

	Parent: Lower			Parent: Middle			Parent: Upper			
Country \ Education	Lower	Middle	Upper	Lower	Middle	Upper	Lower	Middle	Upper	Mean of v198
Albania	39.1%	31.1%	9.1%	2.0%	7.3%	6.4%	0.2%	1.3%	3.5%	3.50
Armenia	11.6%	22.6%	3.1%	1.3%	30.1%	13.2%	0.3%	5.3%	12.5%	6.85
Austria	13.8%	24.1%	2.5%	4.0%	43.3%	6.7%	0.1%	2.4%	3.1%	1.41
Belarus	7.2%	25.5%	7.5%	0.6%	28.8%	17.2%	0.0%	3.9%	9.3%	5.47
Belgium	30.1%	21.2%	11.7%	2.3%	7.7%	12.4%	0.7%	2.4%	11.4%	4.98
Bosnia Herzegovina	23.6%	30.2%	3.4%	3.4%	26.4%	7.8%	0.3%	2.7%	2.3%	3.68
Bulgaria	23.9%	33.5%	4.0%	1.3%	20.2%	10.5%	0.1%	1.6%	4.9%	9.10
Croatia	24.1%	27.6%	5.7%	1.6%	20.7%	11.0%	0.4%	4.5%	4.4%	2.51
Cyprus	36.8%	37.7%	9.1%	0.2%	7.4%	6.4%	0.0%	0.2%	2.2%	3.63
Czech Republic	7.3%	16.5%	0.3%	4.1%	58.0%	9.3%	0.0%	2.1%	2.5%	2.63
Denmark	10.7%	12.8%	9.7%	6.8%	19.5%	17.7%	2.6%	6.3%	13.9%	8.37
Estonia	39.3%	20.5%	15.0%	5.0%	4.2%	5.6%	1.1%	3.2%	6.1%	5.88
Finland	8.1%	15.9%	29.2%	1.0%	8.4%	17.6%	0.5%	3.1%	16.2%	2.78
France	20.5%	30.1%	12.5%	0.8%	10.3%	11.9%	0.8%	3.7%	9.5%	3.91
Georgia	4.0%	12.7%	2.6%	1.0%	32.2%	21.3%	0.1%	5.1%	21.0%	8.98
Germany	7.3%	12.5%	2.9%	3.9%	44.8%	12.3%	0.3%	7.1%	8.7%	2.13
Great Britain	42.4%	11.5%	18.8%	2.4%	2.3%	4.2%	1.9%	4.2%	12.2%	3.90
Greece	44.2%	25.5%	9.9%	1.7%	7.5%	5.8%	0.5%	1.5%	3.2%	2.91
Hungary	21.1%	25.3%	3.2%	2.9%	30.9%	7.9%	0.2%	2.9%	5.5%	3.82
Iceland	11.2%	15.2%	9.2%	5.8%	20.3%	19.9%	1.3%	5.6%	11.4%	3.73
Ireland	38.6%	26.3%	13.5%	1.0%	6.4%	7.4%	0.2%	2.2%	4.4%	4.55
Italy	35.3%	34.5%	9.5%	0.8%	8.9%	6.1%	0.0%	1.9%	3.1%	5.91
Kosovo	19.2%	40.4%	8.1%	0.6%	16.6%	7.6%	0.3%	2.2%	4.9%	3.69
Latvia	13.4%	32.5%	10.1%	2.2%	18.6%	12.2%	0.7%	4.0%	6.2%	7.77
Lithuania	16.2%	24.1%	19.7%	1.1%	9.7%	13.8%	0.5%	3.3%	11.5%	5.04
Macedonia	20.1%	30.8%	7.8%	0.4%	17.1%	11.7%	0.2%	4.7%	7.3%	8.37
Moldova	19.4%	39.8%	7.9%	1.8%	17.5%	9.2%	0.0%	1.4%	2.9%	4.20
Montenegro	19.8%	28.1%	6.2%	1.5%	23.3%	10.2%	0.3%	4.2%	6.4%	6.41
Netherlands	36.3%	16.7%	18.4%	1.5%	4.8%	6.5%	0.9%	3.0%	12.0%	4.05
Norway	22.5%	19.0%	21.5%	2.1%	5.8%	11.8%	1.0%	4.2%	12.2%	5.23
Poland	14.8%	55.1%	7.7%	0.5%	9.6%	5.8%	0.1%	2.1%	4.3%	4.80
Portugal	76.7%	12.7%	5.5%	0.8%	1.2%	1.1%	0.3%	0.5%	1.2%	3.95
Romania	29.2%	37.7%	4.1%	2.2%	18.9%	4.7%	0.1%	0.9%	2.0%	2.19
Russian Federation	13.3%	28.8%	8.3%	1.7%	21.9%	12.6%	0.4%	3.8%	9.1%	7.45
Serbia	24.7%	27.3%	6.9%	1.7%	19.7%	9.5%	0.1%	3.7%	6.3%	3.53
Slovak Republic	18.5%	35.1%	2.4%	1.6%	32.4%	6.7%	0.0%	1.5%	1.9%	5.65
Slovenia	41.6%	23.1%	13.1%	2.0%	7.4%	5.7%	0.3%	1.8%	5.1%	1.77
Spain	48.9%	26.2%	9.8%	0.8%	3.0%	4.0%	0.8%	1.8%	4.6%	2.93
Sweden	18.2%	28.5%	19.4%	1.0%	9.9%	9.7%	0.3%	4.0%	9.0%	2.80
Switzerland	9.4%	16.0%	3.8%	3.1%	37.1%	13.9%	0.4%	5.8%	10.5%	2.98
Turkey	75.2%	13.3%	4.9%	1.5%	1.8%	1.4%	0.4%	0.4%	1.1%	3.60
Ukraine	10.3%	23.3%	14.7%	0.7%	16.1%	13.1%	0.2%	5.7%	16.1%	9.38
All Countries	25.8%	24.7%	9.0%	2.1%	17.9%	9.6%	0.4%	3.1%	7.2%	5.07

Notes: Table A.1 displays the within-country frequencies of respondents' education levels with along with their (better-educated) parent's education levels. The last column reports country averages by subjects for redistributive preferences.

Table A.2: Preference for Redistribution via 2-Category Mobility

Preference for Redistribution (v198)					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
$E = 2 \mid P = 1$	0.308***	0.312***	0.314***	0.319***	0.321***
	(0.066)	(0.067)	(0.067)	(0.067)	(0.066)
$E = 1 \mid P = 2$	0.165	0.156	0.156	0.151	0.151
	(0.120)	(0.121)	(0.121)	(0.120)	(0.120)
$E = 2 \mid P = 2$	0.420***	0.421***	0.420***	0.423***	0.425***
	(0.100)	(0.099)	(0.099)	(0.099)	(0.099)
log(Income)	0.199***	0.191***	0.190***	0.190***	0.189***
	(0.058)	(0.059)	(0.059)	(0.059)	(0.059)
Intergenerational Persistence (IGP)			0.282		
			(0.178)		
Cond. Abs. Upward Mobility (MAcatC1)				-0.512**	
				(0.232)	
Abs. Upward Mobility (MAcatM)					-0.638**
					(0.248)
Constant	4.918***	4.879***	4.761***	5.150***	5.253***
	(0.053)	(0.074)	(0.105)	(0.146)	(0.164)
Observations	32,425	32,425	32,425	32,425	32,425
R-squared	0.150	0.151	0.151	0.151	0.152
Demographic Controls	NO	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.3: Preference for Redistribution via 2-Category Education

Preference for Redistribution (v198)					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
$P = 2$	0.133*	0.127*	0.126*	0.122	0.122
	(0.075)	(0.074)	(0.074)	(0.074)	(0.074)
$E = 2$	0.300***	0.305***	0.306***	0.311***	0.313***
	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
log(Income)	0.199***	0.191***	0.190***	0.190***	0.189***
	(0.058)	(0.059)	(0.059)	(0.059)	(0.059)
Intergenerational Persistence (IGP)			0.282		
			(0.178)		
Cond. Abs. Upward Mobility (MAcatC1)				-0.512**	
				(0.232)	
Abs. Upward Mobility (MAcatM)					-0.638**
					(0.248)
Constant	4.919***	4.881***	4.763***	5.152***	5.255***
	(0.052)	(0.072)	(0.104)	(0.146)	(0.164)
Observations	32,425	32,425	32,425	32,425	32,425
R-squared	0.150	0.151	0.151	0.151	0.152
Demographic Controls	NO	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.4: Regression Results with Low-Educated Descendant Controls

Preference for Redistribution (v198)					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
$E = 2 \mid P = 1$	0.181***	0.171**	0.182***	0.192***	0.193***
	(0.066)	(0.067)	(0.064)	(0.064)	(0.064)
$E = 3 \mid P = 1$	0.457***	0.455***	0.466***	0.480***	0.482***
	(0.103)	(0.104)	(0.102)	(0.102)	(0.101)
$E = 1 \mid P = 2$	0.238*	0.240	0.242*	0.238	0.238
	(0.141)	(0.143)	(0.143)	(0.143)	(0.143)
$E = 2 \mid P = 2$	0.282***	0.278***	0.284***	0.285***	0.284***
	(0.076)	(0.080)	(0.080)	(0.080)	(0.080)
$E = 3 \mid P = 2$	0.501***	0.504***	0.511***	0.517***	0.519***
	(0.091)	(0.093)	(0.092)	(0.092)	(0.092)
$E = 1 \mid P = 3$	0.126	0.124	0.121	0.117	0.116
	(0.264)	(0.267)	(0.266)	(0.268)	(0.268)
$E = 2 \mid P = 3$	0.369**	0.363**	0.371**	0.370**	0.370**
	(0.137)	(0.137)	(0.138)	(0.137)	(0.138)
$E = 3 \mid P = 3$	0.601***	0.605***	0.611***	0.617***	0.620***
	(0.110)	(0.112)	(0.112)	(0.112)	(0.112)
log(Income)	0.179***	0.174***	0.173***	0.172***	0.171***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Intergenerational Persistence (IGP)			0.340**		
			(0.166)		
Cond. Abs. Upward Mobility (MAcatC1)				-0.571**	
				(0.220)	
Abs. Upward Mobility (MAcatM)					-0.694***
					(0.237)
Constant	4.783***	4.675***	4.526***	4.967***	5.073***
	(0.074)	(0.102)	(0.117)	(0.167)	(0.184)
Observations	32,425	32,425	32,425	32,425	32,425
R-squared	0.151	0.152	0.152	0.152	0.152
Demographic Controls	NO	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A.5: Regression Results without Intergenerational Mobility Controls

Preference for Redistribution (v198)					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
$P = 2$	0.098**	0.103**	0.099**	0.091**	0.090**
	(0.041)	(0.044)	(0.044)	(0.043)	(0.043)
$P = 3$	0.175**	0.179**	0.175**	0.167**	0.166**
	(0.081)	(0.082)	(0.082)	(0.081)	(0.081)
$E = 2$	0.170***	0.161**	0.171***	0.180***	0.181***
	(0.062)	(0.062)	(0.060)	(0.060)	(0.061)
$E = 3$	0.414***	0.413***	0.423***	0.436***	0.439***
	(0.078)	(0.078)	(0.077)	(0.076)	(0.076)
log(Income)	0.179***	0.175***	0.173***	0.172***	0.172***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Intergenerational Persistence (IGP)			0.336*		
			(0.167)		
Cond. Abs. Upward Mobility (MAcatC1)				-0.566**	
				(0.222)	
Abs. Upward Mobility (MAcatM)					-0.689***
					(0.239)
Constant	4.794***	4.689***	4.542***	4.979***	5.084***
	(0.070)	(0.099)	(0.116)	(0.161)	(0.177)
Observations	32,425	32,425	32,425	32,425	32,425
R-squared	0.151	0.152	0.152	0.152	0.152
Demographic Controls	NO	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

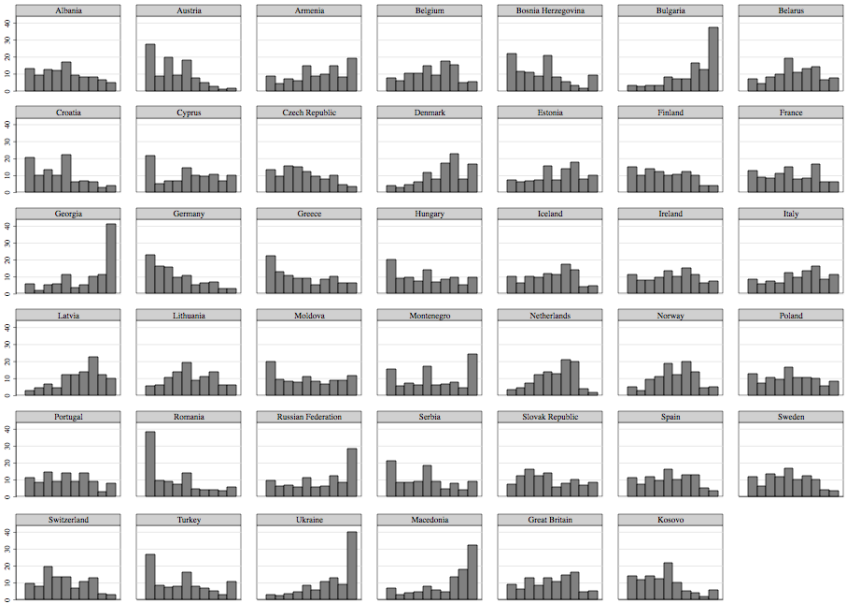
Table A.6: Summary Statistics

Country	% Female	Mean Age	PPP-Adjusted Monthly HH. Income (in Euros)	% Children with low Edu.	% Children with Middle Edu.	% Children with High Edu.	% Parents with Low Edu.	% Parents with Middle Edu.	% Parents with High Edu.	Mean IGP	Mean MAcatM	Mean MAcatC1
Albania	51.81%	46.35	612.43	41.33%	39.72%	18.95%	79.33%	15.63%	5.04%	0.44	0.66	0.65
Armenia	41.31%	48.81	302.65	13.21%	57.99%	28.80%	37.34%	44.59%	18.07%	0.38	0.40	0.36
Austria	44.00%	50.82	1725.95	17.89%	69.79%	12.32%	40.42%	54.00%	5.58%	0.39	0.42	0.38
Belarus	38.13%	47.67	766.65	7.84%	58.11%	34.05%	40.17%	46.62%	13.21%	0.24	0.56	0.49
Belgium	49.09%	51.34	1996.52	33.12%	31.31%	35.57%	63.07%	22.41%	14.52%	0.35	0.68	0.66
Bosnia Herzegovina	45.06%	45.75	585.80	27.25%	59.28%	13.46%	57.11%	37.57%	5.32%	0.45	0.57	0.57
Bulgaria	44.05%	52.64	591.39	25.33%	55.29%	19.38%	61.34%	32.04%	6.62%	0.52	0.59	0.56
Croatia	40.28%	50.55	1070.08	26.18%	52.78%	21.05%	57.37%	33.33%	9.29%	0.50	0.63	0.62
Cyprus	47.51%	53.17	1755.80	36.92%	45.26%	17.82%	83.63%	13.96%	2.41%	0.37	0.76	0.76
Czech Re.	44.38%	52.50	1177.43	11.33%	76.56%	12.11%	24.13%	71.28%	4.58%	0.41	0.26	0.21
Denmark	53.38%	51.22	2147.87	20.04%	38.61%	41.35%	33.12%	43.99%	22.89%	0.35	0.59	0.56
Estonia	33.56%	53.32	897.76	45.41%	27.82%	26.77%	74.76%	14.82%	10.42%	0.28	0.62	0.59
Finland	51.02%	49.28	2788.26	9.58%	27.43%	62.99%	53.29%	26.95%	19.76%	0.27	0.68	0.66
France	46.56%	51.89	1848.81	22.07%	44.05%	33.88%	63.12%	22.94%	13.94%	0.35	0.65	0.63
Georgia	36.35%	49.35	294.83	5.12%	50.00%	44.88%	19.28%	54.52%	26.20%	0.40	0.65	0.60
Germany	47.71%	52.12	1640.22	11.60%	64.42%	23.98%	22.80%	61.07%	16.12%	0.37	0.38	0.32
Great Britain	42.69%	53.26	2043.46	46.75%	18.02%	35.23%	72.73%	8.93%	18.34%	0.26	0.63	0.60
Greece	43.09%	52.96	1377.31	46.43%	34.60%	18.97%	79.69%	15.06%	5.24%	0.47	0.71	0.71
Hungary	46.42%	49.55	726.05	24.22%	59.13%	16.65%	49.65%	41.68%	8.68%	0.50	0.48	0.46
Iceland	49.46%	47.24	2183.46	18.30%	41.12%	40.58%	35.69%	46.01%	18.30%	0.34	0.57	0.54
Ireland	39.07%	49.11	1964.85	39.80%	34.89%	25.31%	78.38%	14.74%	6.88%	0.36	0.72	0.70
Italy	51.26%	50.96	1743.03	36.09%	45.27%	18.64%	79.23%	15.85%	4.93%	0.46	0.70	0.70
Kosovo	52.22%	44.85	412.08	20.19%	59.20%	20.61%	67.76%	24.84%	7.40%	0.42	0.53	0.54
Latvia	34.02%	50.97	777.72	16.25%	55.18%	28.57%	56.05%	33.04%	10.91%	0.28	0.62	0.62
Lithuania	46.07%	50.23	862.59	17.84%	37.15%	45.01%	60.05%	24.63%	15.31%	0.22	0.69	0.65
Macedonia	58.03%	47.34	1104.25	20.67%	52.53%	26.81%	58.66%	29.15%	12.18%	0.61	0.56	0.55
Moldova	44.37%	50.48	201.12	21.19%	58.83%	19.98%	67.22%	28.48%	4.30%	0.29	0.71	0.69
Montenegro	43.30%	47.64	781.60	21.60%	55.56%	22.85%	54.21%	34.89%	10.90%	0.48	0.55	0.54
Netherlands	47.04%	54.93	2298.75	38.71%	24.46%	36.83%	71.33%	12.81%	15.86%	0.35	0.70	0.71
Norway	53.28%	49.54	2505.36	25.63%	28.96%	45.41%	62.93%	19.79%	17.28%	0.36	0.64	0.60
Poland	45.36%	49.68	1254.49	15.38%	66.86%	17.76%	77.60%	15.84%	6.56%	0.39	0.63	0.61
Portugal	40.25%	54.60	1798.93	77.73%	14.44%	7.83%	94.93%	3.07%	2.00%	0.60	0.64	0.64
Romania	45.04%	51.82	667.60	31.56%	57.57%	10.87%	71.04%	25.89%	3.07%	0.56	0.67	0.66
Russian Fed.	32.93%	50.47	505.98	15.49%	54.53%	29.99%	50.38%	36.31%	13.30%	0.26	0.73	0.71
Serbia	47.41%	49.47	682.15	26.53%	50.77%	22.70%	58.91%	30.94%	10.15%	0.48	0.54	0.53
Slovak Republic	39.16%	55.88	852.98	20.10%	68.90%	10.99%	56.02%	40.63%	3.35%	0.35	0.44	0.41
Slovenia	45.80%	51.45	1711.16	43.84%	32.28%	23.87%	77.78%	15.02%	7.21%	0.42	0.52	0.50
Spain	46.12%	50.00	1811.40	50.55%	31.02%	18.42%	84.90%	7.89%	7.20%	0.44	0.75	0.74
Sweden	47.81%	50.76	2283.69	19.59%	42.40%	38.02%	66.01%	20.62%	13.36%	0.27	0.72	0.72
Switzerland	47.03%	50.93	2733.78	12.87%	58.91%	28.22%	29.21%	54.08%	16.71%	0.34	0.56	0.51
Turkey	42.78%	44.09	504.37	77.06%	15.53%	7.41%	93.41%	4.69%	1.90%	0.62	0.58	0.58
Ukraine	37.62%	51.56	483.27	11.18%	45.01%	43.81%	48.20%	29.84%	21.96%	0.27	0.76	0.70

Table A.7: GDIM Mobility Variables (`IGP`, `MAcatM` & `MAcatC1`) by Country & Decade

	IGP										MAcatM										MAcatC1									
Decade	1940		1950		1960		1970		1980		1940		1950		1960		1970		1980		1940		1950		1960		1970		1980	
Sex / **Country**	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
Albania	0.64	0.52	0.33	0.54	0.38	0.40	0.42	0.44	0.38	0.40	0.61	0.57	0.73	0.72	0.69	0.64	0.64	0.62	0.65	0.71	0.61	0.58	0.72	0.71	0.67	0.64	0.64	0.63	0.65	0.69
Armenia	0.29	0.46	0.28	0.32	0.50	0.29	0.36	0.37	0.52	0.45	0.56	0.53	0.48	0.48	0.36	0.32	0.27	0.24	0.42	0.35	0.57	0.51	0.49	0.51	0.30	0.32	0.26	0.19	0.29	0.24
Austria	0.41	0.33	0.43	0.39	0.44	0.42	0.24	0.31	0.52	0.38	0.49	0.26	0.48	0.37	0.49	0.39	0.41	0.39	0.48	0.51	0.43	0.25	0.44	0.34	0.45	0.36	0.38	0.34	0.42	0.39
Belarus	0.11	0.17	0.31	0.21	0.26	0.19	0.38	0.20	0.31	0.32	0.54	0.54	0.59	0.62	0.55	0.56	0.46	0.54	0.53	0.61	0.51	0.52	0.49	0.62	0.50	0.54	0.31	0.43	0.40	0.47
Belgium	0.46	0.35	0.41	0.37	0.28	0.34	0.42	0.28	0.26	0.36	0.63	0.63	0.67	0.70	0.70	0.70	0.68	0.77	0.59	0.69	0.63	0.63	0.65	0.69	0.71	0.69	0.62	0.76	0.54	0.61
Bosnia Herzegovina	0.41	0.59	0.39	0.63	0.26	0.46	0.42	0.47	0.36	0.53	0.64	0.41	0.70	0.49	0.66	0.59	0.59	0.49	0.55	0.63	0.65	0.41	0.70	0.49	0.68	0.60	0.59	0.50	0.53	0.61
Bulgaria	0.57	0.54	0.49	0.50	0.36	0.51	0.49	0.59	0.53	0.63	0.75	0.66	0.74	0.76	0.59	0.64	0.41	0.47	0.38	0.48	0.75	0.66	0.74	0.75	0.60	0.62	0.38	0.43	0.30	0.41
Croatia	0.45	0.76	0.37	0.57	0.43	0.42	0.52	0.50	0.45	0.46	0.70	0.61	0.75	0.67	0.69	0.66	0.56	0.57	0.53	0.61	0.71	0.60	0.79	0.68	0.70	0.65	0.54	0.53	0.49	0.59
Cyprus	0.35	0.66	0.38	0.40	0.26	0.40	0.40	0.31	0.21	0.20	0.70	0.61	0.80	0.72	0.92	0.82	0.78	0.79	0.72	0.77	0.70	0.61	0.80	0.73	0.91	0.82	0.76	0.78	0.71	0.76
Czech Republic	0.36	0.40	0.49	0.41	0.34	0.36	0.44	0.51	0.44	0.32	0.32	0.19	0.28	0.20	0.23	0.25	0.23	0.21	0.31	0.38	0.30	0.18	0.23	0.17	0.18	0.20	0.16	0.14	0.18	0.33
Denmark	0.45	0.42	0.36	0.28	0.29	0.39	0.45	0.45	0.24	0.16	0.54	0.46	0.58	0.61	0.53	0.61	0.58	0.63	0.58	0.77	0.53	0.44	0.55	0.61	0.57	0.61	0.51	0.52	0.51	0.72
Estonia	0.29	0.23	0.30	0.19	0.29	0.29	0.39	0.22	0.29	0.34	0.78	0.81	0.68	0.77	0.54	0.67	0.43	0.58	0.37	0.59	0.81	0.82	0.69	0.80	0.55	0.64	0.35	0.52	0.26	0.47
Finland	0.34	0.32	0.29	0.28	0.27	0.20	0.30	0.26	0.27	0.22	0.70	0.74	0.72	0.75	0.68	0.77	0.61	0.73	0.51	0.63	0.69	0.75	0.73	0.76	0.67	0.75	0.58	0.69	0.44	0.56
France	0.54	0.51	0.35	0.35	0.29	0.32	0.37	0.26	0.27	0.25	0.61	0.58	0.62	0.59	0.66	0.70	0.66	0.75	0.62	0.72	0.59	0.57	0.61	0.59	0.67	0.67	0.64	0.73	0.58	0.66
Georgia	0.32	0.26	0.50	0.28	0.30	0.40	0.64	0.38	0.45	0.45	0.78	0.71	0.70	0.68	0.62	0.67	0.54	0.61	0.45	0.66	0.76	0.70	0.69	0.70	0.60	0.66	0.40	0.51	0.35	0.57
Germany	0.37	0.44	0.36	0.33	0.53	0.36	0.34	0.38	0.20	0.39	0.46	0.22	0.44	0.31	0.43	0.34	0.39	0.37	0.44	0.46	0.41	0.20	0.39	0.27	0.37	0.28	0.33	0.27	0.37	0.36
Great Britain	0.35	0.29	0.22	0.33	0.25	0.30	0.31	0.23	0.17	0.18	0.59	0.45	0.66	0.56	0.71	0.70	0.65	0.68	0.65	0.69	0.57	0.42	0.66	0.53	0.70	0.68	0.61	0.65	0.56	0.66
Greece	0.68	0.57	0.62	0.54	0.44	0.39	0.46	0.36	0.30	0.34	0.65	0.53	0.72	0.65	0.80	0.80	0.76	0.81	0.66	0.75	0.63	0.51	0.72	0.65	0.82	0.79	0.77	0.81	0.63	0.74
Hungary	0.50	0.43	0.36	0.46	0.40	0.46	0.53	0.63	0.60	0.59	0.64	0.59	0.52	0.51	0.45	0.52	0.36	0.38	0.40	0.47	0.64	0.59	0.52	0.50	0.43	0.50	0.31	0.34	0.33	0.41
Iceland	NA	NA	0.06	NA	0.44	0.27	0.30	0.37	0.28	0.33	NA	NA	0.58	NA	0.51	0.61	0.45	0.68	0.34	0.72	NA	NA	0.60	NA	0.44	0.57	0.45	0.63	0.26	0.60
Ireland	0.40	0.45	0.30	0.36	0.30	0.34	0.35	0.33	0.38	0.38	0.59	0.67	0.76	0.73	0.73	0.78	0.68	0.75	0.71	0.77	0.56	0.66	0.76	0.72	0.73	0.79	0.65	0.73	0.67	0.73
Italy	0.57	0.58	0.54	0.55	0.43	0.49	0.34	0.42	0.31	0.35	0.70	0.62	0.83	0.77	0.72	0.76	0.68	0.73	0.59	0.61	0.71	0.63	0.83	0.79	0.73	0.75	0.69	0.74	0.55	0.59
Kosovo	0.35	0.72	0.32	0.46	0.18	0.48	0.36	0.49	0.28	0.51	0.72	0.30	0.76	0.44	0.64	0.50	0.56	0.43	0.57	0.51	0.73	0.30	0.76	0.44	0.66	0.52	0.56	0.44	0.58	0.51
Latvia	0.30	0.38	0.21	0.05	0.25	0.29	0.19	0.40	0.38	0.42	0.67	0.72	0.66	0.69	0.59	0.67	0.43	0.63	0.46	0.66	0.71	0.73	0.70	0.73	0.57	0.69	0.43	0.59	0.38	0.64
Lithuania	0.22	0.32	0.14	0.18	0.09	0.16	0.22	0.29	0.24	0.34	0.80	0.80	0.68	0.81	0.62	0.70	0.58	0.61	0.53	0.71	0.81	0.80	0.73	0.82	0.63	0.71	0.54	0.50	0.38	0.59
Macedonia	0.74	0.71	0.52	0.62	0.53	0.74	0.46	0.74	0.45	0.63	0.71	0.59	0.64	0.53	0.65	0.44	0.50	0.42	0.60	0.59	0.72	0.60	0.64	0.54	0.65	0.43	0.49	0.40	0.58	0.54
Moldova	0.26	0.38	0.20	0.25	0.22	0.18	0.19	0.24	0.42	0.51	0.82	0.81	0.79	0.85	0.76	0.78	0.54	0.59	0.44	0.62	0.82	0.83	0.79	0.87	0.77	0.78	0.51	0.57	0.38	0.56
Montenegro	0.43	0.50	0.40	0.63	0.38	0.51	0.43	0.43	0.65	0.43	0.67	0.57	0.69	0.47	0.56	0.54	0.42	0.48	0.46	0.60	0.69	0.58	0.70	0.46	0.55	0.55	0.42	0.47	0.40	0.55
Netherlands	0.44	0.49	0.39	0.49	0.26	0.26	0.38	0.29	0.24	0.30	0.74	0.59	0.73	0.63	0.75	0.68	0.67	0.73	0.71	0.72	0.75	0.59	0.74	0.63	0.77	0.70	0.67	0.73	0.77	0.71
Norway	0.27	0.46	0.30	0.36	0.41	0.45	0.41	0.43	0.23	0.31	0.69	0.59	0.67	0.62	0.56	0.68	0.57	0.74	0.58	0.72	0.68	0.58	0.66	0.63	0.51	0.65	0.50	0.65	0.50	0.62
Poland	0.42	0.30	0.42	0.36	0.43	0.37	0.39	0.52	0.37	0.32	0.76	0.79	0.61	0.70	0.48	0.61	0.46	0.59	0.52	0.77	0.75	0.80	0.60	0.71	0.45	0.60	0.42	0.57	0.47	0.73
Portugal	0.56	0.62	0.57	0.68	0.65	0.57	0.71	0.67	0.51	0.44	0.56	0.50	0.65	0.58	0.57	0.63	0.68	0.73	0.69	0.84	0.55	0.49	0.66	0.58	0.56	0.64	0.69	0.72	0.70	0.84
Romania	0.54	0.51	0.49	0.62	0.42	0.52	0.52	0.54	0.56	0.81	0.70	0.57	0.86	0.73	0.67	0.75	0.58	0.69	0.57	0.64	0.70	0.57	0.87	0.74	0.68	0.73	0.56	0.68	0.48	0.58
Russian Federation	0.28	0.26	0.15	0.22	0.14	0.19	0.27	0.26	0.40	0.42	0.68	0.81	0.75	0.83	0.74	0.72	0.62	0.70	0.63	0.80	0.71	0.89	0.80	0.88	0.86	0.76	0.57	0.69	0.38	0.53
Serbia	0.57	0.66	0.35	0.51	0.42	0.39	0.42	0.54	0.41	0.49	0.70	0.53	0.67	0.55	0.64	0.54	0.42	0.43	0.44	0.48	0.71	0.53	0.68	0.56	0.64	0.54	0.41	0.42	0.40	0.47
Slovak Republic	0.28	0.26	0.33	0.38	0.30	0.28	0.44	0.43	0.33	0.45	0.64	0.51	0.52	0.48	0.39	0.44	0.32	0.35	0.38	0.41	0.65	0.51	0.51	0.47	0.36	0.43	0.27	0.30	0.33	0.30
Slovenia	0.37	0.43	0.38	0.42	0.40	0.51	0.50	0.55	0.24	0.46	0.62	0.43	0.49	0.47	0.48	0.55	0.42	0.64	0.47	0.68	0.62	0.42	0.49	0.45	0.47	0.52	0.38	0.60	0.46	0.65
Spain	0.68	0.49	0.56	0.44	0.42	0.42	0.39	0.35	0.39	0.22	0.61	0.51	0.78	0.71	0.82	0.85	0.81	0.82	0.71	0.83	0.60	0.51	0.78	0.71	0.84	0.85	0.82	0.82	0.69	0.83
Sweden	0.34	0.26	0.23	0.22	0.29	0.23	0.33	0.31	0.22	0.30	0.78	0.78	0.75	0.81	0.66	0.75	0.62	0.71	0.60	0.74	0.79	0.80	0.79	0.85	0.68	0.75	0.60	0.69	0.56	0.67
Switzerland	0.37	0.31	0.33	0.39	0.27	0.28	0.35	0.43	0.32	0.43	0.67	0.36	0.64	0.50	0.66	0.52	0.65	0.57	0.53	0.50	0.63	0.35	0.60	0.48	0.63	0.47	0.57	0.48	0.47	0.38
Turkey	NA	NA	0.51	0.64	0.59	0.59	0.50	0.49	0.46	0.66	NA	NA	0.52	0.48	0.63	0.56	0.70	0.54	0.81	0.64	NA	NA	0.52	0.48	0.65	0.54	0.70	0.54	0.80	0.64
Ukraine	0.24	0.23	0.26	0.17	0.22	0.15	0.29	0.38	0.34	0.43	0.90	0.79	0.78	0.82	0.74	0.80	0.58	0.73	0.68	0.77	0.90	0.81	0.78	0.81	0.68	0.76	0.54	0.67	0.51	0.55

Figure A.1: Distribution of Redistributive Preference Responses (v198) by Country



Notes: Figure A.1 displays the distribution of responses for redistributive preferences, as shown in Figure 1.

Figure A.2: Distribution of Intergenerational Educational Movements by Country

Notes: Figure A.2 displays the histogram of descendants' 3-category educational attainment (1: low; 2: medium, 3: high) conditional on 3-category parental education. The nine bars are respective frequencies (in %) of Parental Education and Descendant Education pairs: {1,1},{1,2},{1,3},{2,1},{2,2},{2,3},{3,1},{3,2},{3,3}, e.g. the sixth bar denotes the frequency of descendants who graduated from university (i.e. 3: higher) and whose *better-educated* parent is a high-school graduate (i.e. 2: middle).

Appendix B: A Parsimonious Model

Consider a two-period model environment, where each generation lives only for one period. Assume that each individual has one offspring. Assume further that there are only two types of individuals with regards to education: half of the population has *H*igh level of educational attainment (denoted by e_H), and the other half has *L*ow educational attainment (denoted by e_L) with $e_H > e_L$. Assume that the total population is normalized to unity. Suppose that intergenerational education follows a symmetric Markovian process $\Gamma(e_{t+1}|e_t)$ as follows:

$$\Gamma(e_{t+1}|e_t) = \begin{array}{c} \\ e_L \\ e_H \end{array} \begin{array}{c} \begin{array}{cc} e_L & e_H \end{array} \\ \begin{bmatrix} p & 1-p \\ 1-p & p \end{bmatrix} \end{array}$$

where $\Gamma(e_{t+1}|e_t)$ implies a conditional intergenerational educational persistence probability of $p \in [0,1]$, and an intergenerational educational correlation coefficient of $2p-1$.

For the sake of simplicity suppose income is a (linear) product of education and constant inelastic labor supply $\bar{l}$, i.e. $y = e\bar{l}$ so that $y_L = e_L\bar{l}$ and $y_H = e_H\bar{l}$. Suppose that both high and low-educated individuals start the world with zero net asset positions, i.e. $a_0^L = a_0^H = 0$, where the superscript denotes dynastic education history and the subscript denotes the period of the asset choice decision.

For the sake of further simplicity, suppose that there is no government intervention in the first period, and as such, there is no taxation, redistribution or provision of a public good. Assume further that agents in the first period expect the second period to be a *laissez-faire* economy, as well. Both low and high-educated agents are equally altruistic and care about the well-being of their offsprings. Accordingly, the expected two-dynastic utility of households with the education level of e_1 is as follows:

$$V(e_1) = u(c_1) + \beta \mathbb{E}_1 [u(c_2)]$$

where

$$\mathbb{E}_1 [u(c_2)] = \begin{cases} p\ u(c_2^{LL}) + (1-p)\ u(c_2^{LH}) & \text{if } e_1 = e_L \\ p\ u(c_2^{HH}) + (1-p)\ u(c_2^{HL}) & \text{if } e_1 = e_H. \end{cases}$$

Period 1 budget constraint requires:

$$c_1^i + a_1 = a_0^i R + y^i$$

where $i \in \{L, H\}$, and R denotes the gross real interest rate. Period 2 budget constraint of the low-educated households ($e_1 = e_L$) require:

$$\begin{aligned} c_2^{LL} &= a_1^L R + y_L \quad \text{if } e_2 = e_L \\ c_2^{LH} &= a_1^L R + y_H \quad \text{if } e_2 = e_H \end{aligned}$$

Similarly, period 2 budget constraint of the high-educated households ($e_1 = e_H$) require:

$$\begin{aligned} c_2^{HL} &= a_1^H R + y_L \quad \text{if } e_2 = e_L \\ c_2^{HH} &= a_1^H R + y_H \quad \text{if } e_2 = e_H \end{aligned}$$

Without loss of generality, suppose $\beta = R = 1$. Then, the Euler equation requires that:

$$u'(c_1) = \mathbb{E}_1\, u'(c_2)$$

holds. For the case of the low-educated household, optimal intertemporal allocation requires:

$$u'(c_1^L) = \mathbb{E}_1\, u'(c_2^L) = p\; u'(c_2^{LL}) + (1-p)\; u'(c_2^{LH})$$

Likewise, for the case of the high-educated household, optimality requires:

$$u'(c_1^H) = \mathbb{E}_1\, u'(c_2^H) = p\; u'(c_2^{HH}) + (1-p)\; u'(c_2^{HL})$$

Assuming logarithmic utility $u(c) = \log(c)$ for the sake of a closed-form solution, the optimal asset allocations implied by the Euler equation after ruling out negative values of consumption require:[24,25]

$$a_1^L(e_L) = \frac{p\,y_L - p\,y_H - y_L - y_H}{4} + \frac{\sqrt{[p(y_H - y_L)]^2 + (y_H - 3y_L)^2 + p(-10y_L^2 + 8y_H y_L + 2y_H^2)}}{4}$$

$$a_1^H(e_H) = \frac{p\,y_H - p\,y_L - y_L - y_H}{4} + \frac{\sqrt{[p(y_H - y_L)]^2 + (3y_H - y_L)^2 + p(-10y_H^2 + 8y_H y_L + 2y_L^2)}}{4}$$

Suppose, despite the expectations, the second period features a *government*, which collects taxes to finance redistribution and provides a public good. Specifically, the government taxes labor income (y_2) and asset holdings inherited from the previous generation a_2 at the same rate τ, and uses α fraction of the collected tax revenue for redistribution (hence equalizing incomes) and the remaining $1-\alpha$ fraction for the provision of a public good, over which all agents have identical preferences defined by $v(g)$.[26] Thus, after the introduction of the government, preferences of the second-generation households follow:

$$V(a_1, e_2) = u(c_2) + v(g)$$

where the public good also displays diminishing marginal utility, i.e. $v(g)$ satisfies $v'(g) > 0$ and $v''(g) <$

[24] The curious reader could verify that due to the strict concavity of the logarithmic utility function, the asset choices rank as $a_1^L(e_L) < 0 < a_1^H(e_H)$. This ranking is more evident when the utility function takes a quadratic form $u(c) = c - \frac{b}{2}c^2$, which requires $a_1^L(e_L) = \frac{(1-p)(y_L - y_H)}{2} < 0 < a_1^H(e_H) = \frac{(1-p)(y_H - y_L)}{2}$. Of course, the simplicity of the closed-form solution under the quadratic utility is due to the lack of precautionary savings when $u'''(c) = 0$. We proceed with logarithmic utility due to its desirable implications for the most-preferred tax calculations.

[25] A natural prediction of the model, $a_1^L(e_L) < a_1^H(e_H)$ requires that conditional on same educational background, those born to better-educated parents are better off. We check if this conjecture of the model has support in the data: for the 41 countries in our sample, we compare whether average incomes of university graduates born to university-graduate parents are more than those who are born to parents with below-secondary school degrees. In 34 our of 41 countries, we verify this is indeed the case, the exceptions being Austria, Denmark, Greece, Ireland, Italy, Macedonia, and Norway.

[26] Our assumption that the first-generation agents expect no government presence in the second period is for the sake of simplicity: we introduce the first period only to construct intergenerational history and with wealth heterogeneity. Alternatively, if the first-generation agents expected a second-period tax rate $\check{\tau}$, possibly via a rational-expectations politico-economic equilibrium, then $a_1^L(e_L)$ and $a_1^H(e_H)$ would be distorted by $\check{\tau}$, and the absolute distance between $a_1^L(e_L)$ and $a_1^H(e_H)$ would differ, yet our qualitative conclusions would still carry through.

0.[27] After the government's involvement via proportional taxation, redistribution and provision of a public good, the budget constraint of the household requires:

$$c_2 = (1-\tau)(a_1 + y_2) + r$$

where r refers to the rebate by the government.

Given the Markov chain transition probability matrix and that half of the previous generation is high and the other half is low-educated, the measure of the population with education histories $\{HH, HL, LH, LL\}$ are $\{\frac{p}{2}, \frac{1-p}{2}, \frac{p}{2}, \frac{1-p}{2}\}$, respectively. Accordingly, the total tax revenue by the government equals:

$$\mathcal{T} = \tau\left(\frac{a_1^L(e_L) + a_1^H(e_H)}{2} + \frac{y_H + y_L}{2}\right) = \tau(\overline{a_1} + \overline{y})$$

As discussed, suppose the government has to keep a balanced budget and allocates α fraction of the tax revenue for redistribution and the remaining $1-\alpha$ fraction to provision of a public good:

$$r = \alpha\mathcal{T} = \alpha\tau(\overline{a_1} + \overline{y})$$

$$g = (1-\alpha)\mathcal{T} = (1-\alpha)\tau(\overline{a_1} + \overline{y})$$

The most-preferred tax rate of the household with the asset position a_1 and labor income y_2 would then satisfy:

$$\max_{\{\tau\}} = u(c) + v(g) = u(\underbrace{[(1-\tau)(a_1+y_2)]}_{\text{post-tax income \& asset}} + \underbrace{\alpha\tau(\overline{a_1}+y)}_{\text{redistribution } (r)}) + v(\underbrace{[(1-\alpha)\tau(\overline{a_1}+y))]}_{\text{public good } (g)})$$

Note that as common in the literature, the household internalizes the role of tax rate on his post-tax income, as well as on the rebate and the public good when deciding on his most-preferred tax rate. The interior solution to the above problem yields:[28,29]

$$\frac{v'(g)}{u'(c)} = \frac{a_1 + y_2}{(1-\alpha)(\overline{a_1} + \overline{y})} - \frac{\alpha}{1-\alpha}$$

Note that the most-preferred tax rate can be used as a proxy for redistribution since redistribution monotonically increases over the tax rate in this model.

Lemma 1 *Under logarithmic utility, conditional on same parental educational background, high-educated households prefer lower tax rates than their low-educated counterparts.*

Proof of Lemma 1. The closed-form solution for the most-preferred tax rate when the utility functions are

[27] We introduce a public good in order to ensure that most-preferred tax rate of the more-endowed and/or the better-educated households do not hit the corner solution, zero, and thus a ranking by interior solutions can be attained.

[28] In order to ensure that even the high-endowed and high-educated individuals desire at least some taxation, the limiting condition $\lim_{g\to 0} v'(g) = \infty$ would suffice.

[29] Note that both the numerator $v'(g)$ and the denominator $u'(c)$ of the most-preferred tax equation are positive. Thus, for all households to have interior solution (over most-preferred taxes $\tau \in [0,1]$), we assume that $\frac{a_1+y_2}{(1-\alpha)(\overline{a_1}+\overline{y})} > \frac{\alpha}{1-\alpha}$ and $\frac{a_1+y_2}{(1-\alpha)(\overline{a_1}+\overline{y})} < 1 + \frac{\alpha}{1-\alpha}$ for all possible values of a_1, and y_2.

of the natural logarithmic form $u(c) = \log(c)$ and $v(g) = \log(g)$ is

$$\tilde{\tau}(a_1, y_2) = \frac{1}{2\left[1 - \alpha\left(\frac{\overline{a_1}+\overline{y}}{a_1+y_2}\right)\right]}$$

Assuming interior solution, $\tilde{\tau}(a_1^L, y_H) < \tilde{\tau}(a_1^L, y_L)$ and $\tilde{\tau}(a_1^H, y_H) < \tilde{\tau}(a_1^H, y_L)$ hold true based on the above solution closed-form solution. Accordingly, using the history notation, $\tilde{\tau}^{LH} < \tilde{\tau}^{LL}$, and $\tilde{\tau}^{HH} < \tilde{\tau}^{HL}$.

Lemma 2 *Under logarithmic utility, conditional on same educational attainment, households born to high-educated parents prefer lower taxes than their counterparts born to low-educated parents.*

Proof of Lemma 2. First, note that $a_1^H > a_1^L$ as long as $p < 1$. Assuming interior solution again, it is clear from the closed-form solution for the most-preferred tax rate that $\tilde{\tau}(a_1^H, y_H) < \tilde{\tau}(a_1^L, y_H)$ and $\tilde{\tau}(a_1^H, y_L) < \tilde{\tau}(a_1^L, y_L)$. Then, it immediately follows that, $\tilde{\tau}^{LH} < \tilde{\tau}^{HH}$, and $\tilde{\tau}^{HL} < \tilde{\tau}^{LL}$.

Lemma 3 *Under logarithmic utility, an increase in intergenerational educational persistence can raise average most-preferred tax rate in the economy.*

Proof of Lemma 3. First, note that under any conventional utility function with $u'(\cdot) > 0$ and $u''(\cdot) < 0$; $a_1^H(e_H) > 0 > a_1^L(e_L)$ holds. In addition, the third derivative of the utility function governs the level of the asset choices (thus also with their sum). If $u'''(\cdot) = 0$ as in the case of a quadratic utility function, $u(c) = c - \frac{b}{2}c^2$, asset choices satisfy:

$$a_1^L(e_L)^{\text{QUAD}} = \frac{(1-p)(y_L - y_H)}{2} < 0 < a_1^H(e_H)^{\text{QUAD}} = \frac{(1-p)(y_H - y_L)}{2}$$

Thus, $a_1^L(e_L)^{\text{QUAD}} + a_1^H(e_H)^{\text{QUAD}} = 0$. The reason for this result is clear: when $u'''(\cdot) = 0$, there is no impetus for *precautionary savings*, i.e. savings due only to the existence of uncertainty. As a result, households decide on their asset levels with only the intention to smooth their consumption over the two periods when their preferences can be represented by a quadratic utility function. When $u'''(\cdot) > 0$ as in the case of most utility functions, the natural logarithm included, the precautionary impetus kicks in, and the low-educated household does not borrow as much as in the case with quadratic utility, $a_1^L(e_L)^{\text{QUAD}} < a_1^L(e_L)$. Also, the high-educated households saves up more than the amount under quadratic utility, $a_1^H(e_H)^{\text{QUAD}} < a_1^H(e_H)$. As a result, when $u'''(\cdot) > 0$, total assets in the beginning of the second period is strictly positive, $\overline{a_1} = \frac{a_1^H(e_H) + a_1^L(e_L)}{2} > 0$.

When intergenerational educational persistence p is higher (and above 0.5 so that intergenerational educational correlation $2p - 1$ is non-negative as in the data), future income uncertainty of both types diminishes and the asset choices of both types get closer to zero: high-educated agents save less and low-educated agents borrow less. The rationale behind this behavior is that as a result of higher persistence, the descendant of the high-educated type is also more likely to receive a high draw, hence his parent has less motivation for bequeathing wealth than in the less-persistent case. Likewise, the descendant of the low-educated type is also more likely to receive a low draw, hence his parent does not borrow nearly as much

in the low-persistence world in order to limit his descendant's debt burden. This negative relationship between intergenerational persistence and the absolute value of asset holdings is clearest under the case of the quadratic utility function, ($a_1^L(e_L)^{\text{QUAD}} = \frac{(1-p)(y_L-y_H)}{2}$ & $a_1^H(e_H)^{\text{QUAD}} = \frac{(1-p)(y_H-y_L)}{2}$) where asset holding decisions are free of precautionary savings. In the case logarithmic utility, the presence of precautionary impetus complicates asset choice decisions, which respond to an infinitesimal increase in persistence as follows:

$$\frac{d\ a_1^L(e_L)}{d\ p} = \frac{y_L}{4} - \frac{y_H}{4} + \frac{\left(y_H - y_L\right)\left(y_H + 5\,y_L + p\,y_H - p\,y_L\right)}{4\sqrt{[p(y_H-y_L)]^2 + (y_H - 3y_L)^2 + p(-10y_L^2 + 8y_H y_L + 2y_H^2)}}$$

$$\frac{d\ a_1^H(e_H)}{d\ p} = \frac{y_H}{4} - \frac{y_L}{4} - \frac{\left(y_H - y_L\right)\left(5\,y_H + y_L - p\,y_H + p\,y_L\right)}{4\sqrt{[p(y_H-y_L)]^2 + (3y_H - y_L)^2 + p(-10y_H^2 + 8y_H y_L + 2y_L^2)}}$$

The careful reader could confirm that 1) $\frac{d\ a_1^L(e_L)}{d\ p} > 0$ & $\frac{d\ a_1^H(e_H)}{d\ p} < 0$, and 2) $|\frac{d\ a_1^L(e_L)}{d\ p}| < |\frac{d\ a_1^H(e_H)}{d\ p}|$. In other words, when future uncertainty is lower (as a result of higher persistence, p), asset holdings get closer to zero, yet the drop in high-educated agent's saving is higher than the drop in low-educated agent's borrowing. Accordingly $|\frac{d\ \overline{a_1}}{d\ p}| < 0$, i.e. average asset holdings is lower when persistence is higher. Then, the closed-form solution for the most-preferred tax rate $\tilde{\tau}(a_1, y_2) = \frac{1}{2\left[1-\alpha\left(\frac{\overline{a_1}+\overline{y}}{a_1+y_2}\right)\right]}$ requires the most-preferred tax rates of those born to low-educated parents $\tilde{\tau}^{LL}$ & $\tilde{\tau}^{LH}$ to unambiguously decrease over persistence, since $\overline{a_1}$ decreases and $a_1^L(e_L)$ increases over p. In the case of those born to high-educated parents, the drop in $a_1^L(e_L)$ can be faster than the drop in $\overline{a_1}$, and most-preferred tax rates of those born to high-educated parents $\tilde{\tau}^{HL}$ & $\tilde{\tau}^{HH}$ can increase over p. Finally, higher in persistence induces distributional implications: when persistence is higher, the share of low-educated descendants born to low-educated parents, and the share of high-educated descendants born to high-educated parents ($\frac{p}{2}$ and $\frac{p}{2}$) are also higher, while the shares of descendants whose education differs from that of their parents ($\frac{1-p}{2}$ for both cases) are lower. As a result of these rich interactions, average most-preferred tax rate, $\overline{\tilde{\tau}} \equiv \frac{p}{2}\,\tilde{\tau}^{LL} + \frac{1-p}{2}\,\tilde{\tau}^{LH} + \frac{p}{2}\,\tilde{\tau}^{HH} + \frac{1-p}{2}\,\tilde{\tau}^{HL}$ can decrease over intergenerational persistence, p.

In order to illustrate these important channels in action, we provide a numerical example. Suppose that we fix the parameter values as follows: $\alpha = 0.2; y_L = 0.5; y_H = 1.5$; and vary only intergenerational persistence in education. The model's predictions under two different persistence levels are then as follows:

Table B.1: Simulation Results

	a_1^L	$a_1^{L\text{QUAD}}$	a_1^H	$a_1^{H\text{QUAD}}$	$\overline{a_1}$	$\tilde{\tau}^{LL}$	$\tilde{\tau}^{HL}$	$\tilde{\tau}^{LH}$	$\tilde{\tau}^{HH}$	$\overline{\tilde{\tau}}$
$p = 0.70$	-0.058	-0.150	0.250	0.150	0.096	0.992	0.707	0.590	0.572	0.742
$p = 0.80$	-0.037	-0.100	0.190	0.100	0.077	0.934	0.727	0.586	0.573	0.734

Thus, higher intergenerational persistence in education raises average most-preferred tax rate in the model economy, as in accordance with our empirical findings.