CULTURE AND REDISTRIBUTION

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Abstract

My dissertation empirically examines whether characteristics of one's social groups influence an individual's preferences for redistribution. I begin by focusing on the socioeconomic status of the ethnic and religious groups one belongs to. First, I develop a theoretical framework where an individual's identity is strengthened by the status of their group. Then, utilizing data from the US General Social Survey, I find evidence that the average incomes of one's ethnic and religious groups are negatively correlated with one's preferences for redistribution. Controlling for household income, and a number of other individual-level characteristics and additional controls, I find that a standard deviation increase in the average income of one's social groups correlates to a weakening of an individual's preferences for redistribution by seven to eight percentage points. This result is robust to the inclusion of rich controls and alternate measures of group status, as well as a number of robustness checks, such as sample restrictions and the use of additional data. I then examine the relative importance a culture places on individualism vs. collectivism. Utilizing data from the European Social Survey, I find evidence that immigrants who were born in countries with a more individualistic culture tend to have weaker preferences for redistribution in their residence country. A standard deviation increase in the individualism of one's home country culture correlates to a weakening of an individual's preferences for redistribution by twelve percentage points. This relationship appears to be as strong as that between household income and preferences for redistribution (eleven percentage points). This result is robust to the inclusion of rich controls and the use of sample restrictions. The relationship appears to be stronger among immigrants who vote, belong to an ethnic minority and live in a country with a relatively high number of ethnic minorities. I also find that the relationship between preferences for redistribution and i) household income and ii) education is stronger among immigrants born in a country with an individualistic culture. Moreover, my analysis suggests that this trait is transmitted across generations, and bears some influence on the preferences for redistribution of second-generation immigrants as well.

Dedication

I dedicate my dissertation work to my family and friends, without whom this could not have been completed. Each of them has provided me with an incalculable amount of love, support and patience and I will always be grateful.

Special thanks to my parents, Gina and Joe; from a young age, you instilled in me the importance of education and did everything possible to ensure that I'd have the opportunities that you did not. Thank you so much for believing in me and for the incredible patience you both showed while waiting for me to fulfill the potential that you saw. To my siblings, Jim and Sonia; the two of you have provided me with more life lessons than I could possibly imagine. Jim, I wouldn't be the rational and logical person I am today without your guidance. Sonia, you showed me that with perseverance, anything can be accomplished. To Dan, Nathan and Carmen; you are each very important to me and have helped shape me into the person I am today. And to my friends; thanks for providing me with countless opportunities to recharge and reenergize, away from my work.

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Chapter 1: Group status and individual preferences for redistribution

1.1 Introduction

As social beings, the groups that we as humans identify with play an important role in our lives. These groups vary in a number of ways. A basic characteristic of any social group is its socioeconomic status. Groups also vary in the degree to which its members support redistributive policies. It is intuitive to suggest that, on average, wealthier groups tend to be less supportive of redistributive policies than poorer groups. What is less clear is whether or not this is simply because wealthy groups are comprised of wealthy individuals who, due to their own economic self-interest, have relatively weak preferences for redistribution. This paper begins to answer this question by empirically examining the relationship between the socioeconomic status of one's group and one's preferences for redistribution. Through regression analysis of US General Social Survey data, I find that the average income of one's ethnic and religious groups has a negative and significant relationship with one's preferences for redistribution (captured by their response to a general question regarding redistributive policies in the US). A standard deviation increase in the average income of one's social group is associated with preferences for redistribution that are seven to eight percentage points weaker, all else being equal. While causality issues (in particular, omitted variable bias) can never be fully overcome, I attempt to minimize these issues by controlling for a comprehensive set of individual and group level traits. These include household income, education (of the individual, their parents and their spouse), age, marital status, work status, prospects for social mobility and the individualism-collectivism of one's group. Nevertheless, the relationship retains its statistical and economic significance. I also find that this relationship is quite robust to different variables for group socioeconomic status, different variables for an individual's voting preferences and a number of sample restrictions (according to household income, continent of ancestry, religious denomination, number of generations respondent's family has lived in the US and respondent's attendance of religious services).

The empirical results provide evidence that an individual belonging to a relatively poor group is expected to have stronger preferences for income redistribution than an otherwise identical individual who belongs to a relatively wealthy social group, in spite of the fact that more redistribution may not directly help the individual (and may actually decrease the individual's own level of consumption). This is precisely the type of contradiction that identity economics may be able to explain. Specifically, "identity can explain behaviour that appears detrimental," (Akerlof and Kranton 2000) such as redistribution preferences that are stronger than one's income level would suggest were optimal, because "identity changes the payoffs from one's own actions" (Akerlof and Kranton 2000).

These findings produce some important implications. The relationship between group socioeconomic status and an individual's preferences for redistribution has not, to the best of my knowledge, been established empirically in the literature. This paper attempts to fill that gap. Moreover, my paper's results suggest that individuals make choices which are not entirely driven by economic self-interest. Rather, the results suggest that individuals also consider the effects those choices have on members of their social groups. As such, the findings serve to support the theory of identity economics, specifically the inclusion of group characteristics into the utility function. In doing so, the results lend further weight to the emerging idea that economists could examine economic choices beyond the traditional prism of economic self-interest. Finally, I provide evidence that group status not only influences one's preferences for redistribution but also their voting choice, which could have implications for government policy.

This paper primarily relates to the work done by Klor and Shayo (2010). Klor and Shayo (2010) use experimental testing to examine the relationship between group status and voting decisions. In their study, undergraduate students were split into two groups of nine. At the beginning of each round (there were forty rounds in total), each group was randomly assigned an income distribution such that one group was "poor" and the other group was "rich". Each student was then randomly assigned a gross income and notified of their group's mean income and the mean income of the two groups together. They were then asked to choose a preferred tax rate between two options: 20% and 40%. Klor and Shayo found that, on

average, those who were assigned to the "poorer" group were roughly twenty percent more likely to prefer the high tax rate than those who were assigned to the "richer" group, after controlling for their gross incomes. The authors note that "given that the groups we used are extremely weak, it is not improbable that in real life situations individuals consistently forego personal gains for the wellbeing of their groups" (Klor and Shayo 2010). This paper relates to their research by using regression analysis on survey data to provide evidence that their experimental results hold in the real world. In doing so, it looks at the way in which the socioeconomic status of people's actual social groups are correlated with their actual preferences for redistribution.

The concept of group identification has a basis in social identity theory. Like identity economics, social identity theory emphasises the idea that part of an individual's self-image is derived from membership in social groups. In one experiment, researchers had test subjects cooperate and compete with one another on either a one-on-one basis or in groups. They found that test subjects experienced similarly large increases in self-esteem whether they were working on their own or in groups, suggesting that individuals evaluate themselves in terms of their membership in social groups in a meaningful way (Hogg et al 1986). On the basis of these and other findings, Turner (the pre-eminent social identity theorist) concluded that "shared social identifications, therefore, should tend to induce a form of cooperation between group members that verges on altruism, since others' needs are perceived as one's own" (Turner 1989).

When one incorporates a group's identity into their own self-identity, as argued in identity economics and social identity theory, a common result is ethnocentric altruism. The negative relationship between group status and one's preferences for redistribution is one such example. Individuals belonging to low-income groups may exhibit altruistic behaviour (consciously or not) by having preferences for redistribution that are stronger than their own characteristics would suggest was optimal. The sociobiological theory of ethnic nepotism explains such altruism by extending W. D. Hamilton's theory of kin selection (Hamilton 1964). Kin selection allows us to understand why an individual is altruistic towards its closest family; since an individual's family members share many of its genes, even actions of

self-sacrifice by the individual can ensure that its genes propagate in the future. As a result, genes for altruism spread through the population. Given that our prehistoric ancestors lived in groups of family members (both immediate and distant), they may have eventually evolved to be altruistic to their broader social group, rather than limiting their altruism to their immediate family. With those same genes transplanted into the present day, it's possible that modern humans still feel heightened levels of altruism to those they identify (consciously or not) as fellow group members (Salter 2003).

Examples of ethnocentric altruism abound in the literature. A study based in Moscow found that ethnic Russians were most generous to Russian beggars, followed by beggars of the genetically related Moldavian ethnicity and, lastly, beggars of the genetically distant Romani ethnicity (Butovskaya et al 2000). Cross-country regressions reveal a significant, negative relationship between the racial heterogeneity of a country and its level of welfare spending relative to GDP, suggesting that voters are less inclined to support welfare spending if the benefits are not necessarily going to be enjoyed by members of their racial group (Alesina et al 2001). Finally, micro-level regressions have shown that an individual's support for welfare spending is positively related to the share of welfare recipients in their local area that belong to the same racial group (Luttmer 2001). In each case, individuals are showing some degree of preferential treatment to members of their own group.

This paper also relates to a number of recent papers which examine preferences for redistribution using survey data (Luttmer 2001, Alesina et al 2001, Alesina and Giuliano 2009a, Giuliano and Spilimbergo 2009, Luttmer and Singhal 2011). These papers include some basic results which allude to a relationship between these preferences and the socioeconomic status of one's groups. Virtually every paper which has examined redistribution preferences in the US includes a control for race. Each time, black individuals are shown to have stronger preferences for redistribution than white individuals, all else being equal (Luttmer 2001, Alesina et al 2001). A number of papers, using simple binary variables, have found that membership in different religions have differing effects on an individual's redistribution preferences as well (Alesina and Giuliano 2009a, Giuliano and Spilimbergo 2009). My paper takes this analysis one step further by examining a specific difference across these ethnic and religious groups,

socioeconomic status. These findings corroborate a number of stylized facts presented by Lipset (1960) which showed that individuals who belong to ethnic or religious minorities have long held strong voting preferences for leftist political parties. These preferences were typically stronger than non-minorities of comparable income and education levels. This paper also relates to a great deal of literature which has empirically examined the relationship between some economic choice an individual makes and some characteristic of their group. Preferences for redistribution appear to be correlated with one's birth country's preferences for redistribution (Alesina and Giuliano 2009a, Luttmer and Singhal 2011) and recession in one's region during early adulthood (Giuliano and Spilimbergo 2009, Alesina and Giuliano 2009a). The varying importance of family ties among ethnic groups has been shown to influence an individual's labour choices (Alesina, Algan, Cahuc and Giuliano 2013) and level of political participation (Alesina and Giuliano 2009b).

The paper is organized as follows. The next section presents a theoretical framework to help understand how group identification can influence a person's preferences for redistribution. Section three outlines the sources from which this paper's data was derived and discusses the methodology used in the empirical analysis. Section four presents the empirical findings. Section five concludes.

1.2 Theoretical Framework

The focus of this paper is to examine the empirical relationship between a group's socioeconomic status and the preferences for redistribution chosen by individual group members. While there may be a number of different reasons for this relationship, the idea that individuals identify with their group and are aware of their group's status seems particularly relevant. As such, it is useful to clarify the basic manner in which one's preferences for redistribution, typically viewed as a choice based on economic self-interest, can be influenced by an individual's identification with their social group and awareness of the group's socioeconomic status.

The theoretical framework is based on the original Meltzer-Richard model (1981), with some modifications. The key difference is the assumption that an individual's utility is determined by the

weighted sum of their own consumption level, c_i, as well as the average consumption level of their social group, c_g, which is taken to represent a group's socioeconomic status:

$$u_i = u(c_i, c_g) = u(\gamma c_i + (1-\gamma)c_g)$$

For simplicity, I take the lead of Klor and Shayo (2010) and use a utility function in which an individual's consumption and their group's status are additively separable. The utility function is increasing and strictly concave for both c_i and c_g, which are normal goods. The relative importance of one's own consumption level and the average consumption level of one's group is equal to the exogenous parameter $\gamma \in (0,1)$.

Identity economics provides the primary motivation for incorporating group status into the utility function. Akerlof and Kranton (2000) argue that "utility depends on [an individual's] identity or self-image" and that "a person assigned a category with higher social status may enjoy an enhanced self-image." Thus, Akerlof and Kranton suggest that, through one's self-image, increases in the socioeconomic status of one's social groups can serve to increase one's utility. This assumption allows us to eventually conclude that group income (and, more broadly, socioeconomic status) negatively affects a person's preferences for redistribution.

There are *N* individuals in the economy and N_g individuals in group g. As in the Meltzer-Richard model (1981), each individual receives one unit of labour and some level of productivity, α_i, which differs across individuals. For simplicity, I assume that individuals do not have a choice between labour and leisure. Instead, they supply their unit of labour inelastically. As a result, α_i can be taken to represent individual *i*'s pre-tax income. Each group's mean income is denoted by α_g, whereas the mean income level across all individuals in the economy is denoted by $\bar{\alpha}$. Individual income, α_i, is determined by the distribution $F(\cdot)$ which has a leftward skew, such that $\bar{\alpha} > \alpha_m$ (mean income is greater than median income). For the sake of simplicity, both *N* and N_g are assumed to be large enough that $\frac{\partial \bar{\alpha}}{\partial \alpha_i} = \frac{1}{N} \cong 0$ and $\frac{\partial \alpha_g}{\partial \alpha_i} = \frac{1}{N_g} \cong 0$.

The government imposes a linear income tax t to finance lump sum transfers r that results in a wastage equal to wt^2 per person which captures the distortionary cost of taxation (Alesina and Giuliano 2009a). This term is used in the literature to represent the decrease in labour supplied and, thus, tax revenue caused by an increase in the tax rate. This gives us the government budget constraint:

$$Nr = \sum \alpha_i t - Nwt^2$$

which can be simplified to a per worker basis:

$$r = \bar{\alpha}t - wt^2$$

There is no saving in this economy. An individual's consumption is equal to their after-tax income plus the size of the lump sum transfers (Meltzer and Richard 1981). Substituting in the per worker government budget constraint gives us individual i's budget constraint:

$$c_i = \alpha_i(1-t) + r = \alpha_i(1-t) + \bar{\alpha}t - wt^2$$

We will assume that all individuals have some non-zero level of income ($\alpha_i > 0 \; \forall \; i \in N$) and, thus, that all individuals have some non-zero level of consumption ($c_i > 0 \; \forall \; i \in N$).

We can use the individual's budget constraint to derive the average consumption level of group g:

$$c_g = \frac{\sum_{i \in g} c_i}{N_g}$$

$$= \frac{\sum_{i \in g}(\alpha_i(1-t) + \bar{\alpha}t - wt^2)}{N_g}$$

$$c_g = \alpha_g(1-t) + \bar{\alpha}t - wt^2$$

With these equations for c_i and c_g, we can derive the preferred tax rate of individual i who is a member of group g (t_{ig}) by determining the tax rate t that maximizes individual i's utility:

$$\max_{t \in [0,1]} u(c_i, c_g) = \max_{t \in [0,1]} u\left(\gamma\alpha_i(1-t) + (1-\gamma)\alpha_g(1-t) + \bar{\alpha}t - wt^2\right)$$

$$0 = \frac{\partial u}{\partial t} = u'\left(\gamma\alpha_i(1-t_{ig}) + (1-\gamma)\alpha_g(1-t_{ig}) + \bar{\alpha}t_{ig} - wt_{ig}{}^2\right)\left(-\gamma\alpha_i - (1-\gamma)\alpha_g + \bar{\alpha} - 2wt_{ig}\right)$$

$$t_{ig} = \frac{\bar{\alpha} - \gamma\alpha_i - (1-\gamma)\alpha_g}{2w}$$

Taking partial derivatives shows us that individual i's preferred tax rate is negatively affected by, individual i's own income (the key result of the Meltzer-Richard (1981) model):

$$\frac{\partial t_{ig}}{\partial \alpha_i} = \frac{-\gamma}{2w} < 0$$

and by the average income of individual i's group g:

$$\frac{\partial t_{ig}}{\partial \alpha_g} = \frac{-(1-\gamma)}{2w} < 0$$

The introduction of group-level consumption into an individual's utility function allows us to see that individuals who belong to richer groups can be expected to have weaker preferences for redistribution. This is the focus of my paper.

1.3 Data and Methodology

I estimate the preferences for redistribution of individual *i* (who belongs to group *g*) with the following specification,

$$RedistributionPreferences_{ig} = \beta_0 + \beta_1 GroupStatus_g + \mathbf{X_i}\,\boldsymbol{\beta_2} + \varepsilon_i$$

where $RedistributionPreferences_{ig}$ are the preferences for redistribution of individual *i* (who belongs to group *g*), $GroupStatus_g$ is the socioeconomic status of the group *g* to which individual *i* is a member of, $\mathbf{X_i}$ is a set of control variables relevant to individual *i* and ε_i is an error term. $GroupStatus_g$ varies only across groups, not across years. All regressions are run using OLS. Standard errors are corrected for heteroskedasticity and clustered by ethnic or religious group.

The General Social Survey (GSS), a sociological survey conducted by the National Opinion Research Center (NORC) at the University of Chicago (Davis and Smith 2009) since 1972, asks individuals a number of questions covering a number of topics. While the GSS has been running since 1972, I use data from the years 1983 to 2008, as some relevant questions were omitted in the first few years that the survey was conducted. Of interest to this paper, the GSS asks respondents a number of demographical questions, as well as questions pertaining to redistribution preferences. The variable I use for an individual's preferences for government redistribution is based on the following question: "Some

people think that the government in Washington should do everything possible to improve the standard of living of all poor Americans; they are at Point 1 on this card. Other people think it is not the government's responsibility, and that each person should take care of himself; they are at Point 5." In order to simplify the meaning of my results, I converted this variable such that higher values of this variable correspond to stronger preferences for government redistribution. In my sample, the average respondent has preferences for redistribution slightly greater than three (Table 1.1). That is, the average respondent is slightly in favour of redistribution.

Table 1.1: Descriptive Statistics, Summary of Variables

Variable	N	Mean	SD	Min	Max
Dependent Variables					
Individual preference for redistribution	14494	3.08	1.15	1	5
Respondent's political ideology	24987	3.89	1.36	1	7
Respondent's political party identification	27847	4.25	2.01	1	7
Respondent's preference for income equality	16768	4.25	1.94	1	7
Voted for Democrat presidential candidate in last election	16862	0.49	0.50	0	1
Key Explanatory Variables					
Average income of respondent's ethnic group	14494	43060	5792	31529	58838
Average view towards homosexuality of respondent's ethnic group	14494	2.16	0.20	1.86	2.89
Average income of respondent's religious group	12142	43361	6067	24611	59429
Average view towards homosexuality of respondent's religious group	12142	1.75	0.35	1.10	3.26
Average income of respondent's ethnic group (Census)	14494	57526	11791	35194	88133
Average income of respondent's religious group (Pew)	11899	58241	6105	45125	75725
Control Variables					
Household income	14494	43102	28128	427	128125
Has a child in the household	14494	0.71	0.45	0	1
Size of household	14494	2.60	1.44	0	11
Male	14494	0.46	0.50	0	1
Age	14494	44.81	16.81	18	89
Black	14494	0.12	0.32	0	1
Married	14494	0.53	0.50	0	1
Unemployed	14494	0.03	0.17	0	1
Highest Level of Education Completed					
Graduate Degree	14494	0.08	0.26	0	1
Bachelor's Degree	14494	0.17	0.37	0	1
Associate's Degree	14494	0.06	0.25	0	1
High School	14494	0.53	0.50	0	1
Spouse's Highest Level of Education Completed					
More than high school	14494	0.16	0.37	0	1
High school	14494	0.28	0.45	0	1
Less than high school	14494	0.08	0.27	0	1
Self-employed	14494	0.11	0.32	0	1
Union member	14494	0.19	0.39	0	1
Father completed more than high school	14494	0.15	0.35	0	1
Father completed high school	14494	0.30	0.46	0	1
Mother completed more than high school	14494	0.12	0.33	0	1
Mother completed high school	14494	0.43	0.50	0	1
Lives in an urban area	14494	0.30	0.46	0	1
Lives in a suburban area	14494	0.34	0.48	0	1
Spouse is currently employed	14494	0.30	0.46	0	1
Respondent ever worked	14494	0.26	0.44	0	1
Respondent foreign born	14494	0.09	0.29	0	1
One or more parents foreign born	14494	0.11	0.32	0	1
One or more grandparents foreign born	14494	0.25	0.43	0	1
Attends religious services at least once a month	14494	0.50	0.50	0	1
Ever unemployed for more a month	14494	0.29	0.46	0	1
Respondent's family income at age 16	10170	2.81	0.88	1	5
Respondent's occupational prestige > father's occupational prestige	11600	0.49	0.50	0	1
IC rating of respondent's ethnic group	11980	7.07	1.45	2	8.95

Derivation of Group Socioeconomic Status

In any given regression, group *g* represents one of two group types: ethnicity and religion. A person's ethnicity is determined by their answer to the following question: "From what countries or part of the world did your ancestors come? If more than one country named, which one of these countries do you feel closer to?". The full list of ethnicities included in the regressions is found in Table 1.2. The majority of ethnicities included are based on a specific country of origin (i.e. Germany, Russia, India), though some more general ethnicities were included as well (i.e. Arabic, Latinos from a country not specifically mentioned, American Indian). A person's religion is determined by the question: "What is your religious preference?" In most cases, a person's religious preference is a denomination of Christianity. The full list of religious groups included in the regressions is found in Table 1.3. The mean religious and ethnic group income levels in my sample are quite similar (roughly $43 000), both to each other and to the mean household income (Table 1.1).

Thus, $GroupStatus_g$ takes on one of two values in the different baseline regressions: the average income of one's ethnic group or the average income of one's religious group. The income of each ethnic group and religious group are derived from the respondents' answers. For instance, in the full GSS data set, 323 respondents identified themselves as having Danish ancestry. Among those 323 respondents, 252 reported their income, the average of which was $47 098. As a side note, all incomes have been adjusted for inflation with a base year of 2000. Thus, in regressions where *g* was individual *i*'s ethnic group, each individual who identified themselves as having Danish ancestry would have had $GroupStatus_g$ equal to $47 098. The same methodology was used when *g* represented religious groups. In robustness checks, $GroupStatus_g$ will also capture a group's average education level and socioeconomic index (a measure developed by the GSS).

Table 1.2: Descriptive Statistics, Ethnic Group Summary

Country/Region of Origin	Continent of Origin	Average Redistribution Preferences (GSS)			Average Income (GSS)		
		N	Mean	SD	N	Mean	SD
Africa	Africa	1835	3.74	1.14	3139	31617	25144
American Indian	Americas	900	3.18	1.23	1526	33195	25183
Arabic	Asia	43	3.40	1.18	74	42504	32614
Austria	Western Europe	112	2.97	1.23	186	46922	31147
Belgium	Western Europe	37	2.97	1.07	60	42804	27933
Canada (French)	Americas	269	3.10	1.19	431	45762	27703
Canada	Americas	131	2.96	1.30	227	41580	26969
China	Asia	101	3.05	1.04	171	58838	36372
Czechoslovakia	Eastern Europe	256	3.05	1.18	422	44317	29834
Denmark	Western Europe	160	2.96	1.09	252	47098	30027
England and Wales	Western Europe	2659	2.88	1.09	4476	46727	29429
Finland	Western Europe	73	3.07	1.13	146	42560	30225
France	Western Europe	412	3.09	1.11	719	43641	28878
Germany	Western Europe	3467	2.90	1.10	5833	44586	28339
Greece	Western Europe	86	3.02	1.20	142	54232	31381
Hungary	Eastern Europe	105	3.02	1.11	190	45941	28399
India	Asia	104	3.44	1.21	157	50746	33848
Ireland	Western Europe	2434	3.02	1.15	4120	45579	29466
Italy	Western Europe	1106	3.09	1.17	1828	47843	29469
Japan	Asia	63	2.97	1.20	109	51153	32432
Lithuania	Eastern Europe	53	2.94	1.23	98	42494	28234
Mexico	Americas	747	3.43	1.20	1334	33180	24663
Netherlands	Western Europe	324	3.01	1.17	542	42380	28284
Norway	Western Europe	377	2.95	1.10	647	43372	27500
Other Spanish	Americas	216	3.46	1.20	358	36054	26230
Philippines	Asia	91	3.35	1.21	173	48803	31552
Poland	Eastern Europe	567	3.08	1.19	962	47044	28731
Portugal	Western Europe	58	3.19	1.08	103	46945	33108
Puerto Rico	Americas	228	3.71	1.14	359	31529	25218
Romania	Eastern Europe	35	3.26	1.15	54	42258	26312
Russia	Eastern Europe	274	3.13	1.14	461	52963	33089
Scotland	Western Europe	698	2.82	1.12	1151	46122	28768
Spain	Western Europe	221	3.25	1.29	365	41700	29320
Sweden	Western Europe	326	2.94	1.07	554	46433	28566
Switzerland	Western Europe	96	2.88	1.05	151	45165	31608
West Indies	Americas	24	3.71	1.04	44	32209	28850
West Indies (Non-Spanish)	Americas	122	3.55	1.23	172	39075	27630
Yugoslavia	Eastern Europe	73	3.04	1.05	144	48051	31604

Table 1.3: Descriptive Statistics, Religious Group Summary

Denomination	Religion	Average Redistribution Preferences (GSS)			Average Income (GSS)		
		N	Mean	SD	N	Mean	SD
7th Day Adventist	Other	99	3.38	1.18	144	36974	26802
African Methodist Episcopal Church	Methodist	102	3.50	1.22	163	30326	24461
African Methodist Episcopal Zion Church	Methodist	41	3.73	1.25	61	30157	25529
American Baptist Association	Baptist	320	3.31	1.16	506	33301	26794
American Baptist Churches in the U.S.A	Baptist	148	3.28	1.27	229	31589	25532
American Lutheran Church	Lutheran	343	2.90	1.04	477	41963	25292
Apostolic Faith	Other	17	3.94	1.14	40	27278	20977
Assembly of God	Other	148	3.00	1.12	272	36630	26276
Brethren Church	Other	27	3.22	0.97	48	41618	22896
Catholic	Catholic	6106	3.13	1.17	10269	44801	29052
Christian Reform	Other	46	2.91	0.98	79	42336	27749
Christian Scientist	Other	29	3.07	1.36	47	34147	25884
Church of Christ	Other	300	2.89	1.20	471	36579	27425
Church of God in Christ	Other	32	3.69	1.20	52	24611	19116
Churches of God	Other	132	3.23	1.26	219	30733	22876
Congregationalist	Other	135	2.96	1.10	242	50457	30015
Disciples of Christ	Other	45	3.02	1.03	81	39510	25366
Episcopal Church	Episcopalian	571	2.93	1.16	950	53652	32329
Evangelical Lutheran	Lutheran	140	2.94	1.04	195	46767	26024
First Christian	Other	30	2.87	1.04	57	40864	26098
Free Will Baptist	Other	35	3.60	1.22	62	27795	22663
Holiness; Church of Holiness	Other	64	3.83	1.18	132	25957	23046
Jehovah's Witnesses	Other	165	3.33	1.21	271	33204	24728
Jewish	Jewish	488	3.09	1.12	791	58874	33564
Lutheran Church in America	Lutheran	116	3.06	0.95	167	50149	30134
Lutheran Church--Missouri Synod	Lutheran	347	2.85	1.03	532	45760	27518
Missionary Baptist	Other	43	3.51	1.20	61	25340	22139
Mormon	Other	360	2.74	1.18	569	42136	27796
National Baptist Convention of America	Baptist	111	3.66	1.23	152	34461	29184
National Baptist Convention, U.S.A., Inc	Baptist	75	3.53	1.20	99	35860	27466
Nazarene	Other	99	3.01	1.05	155	39341	27268
Other Presbyterian Churches	Presbyterian	84	2.79	1.08	131	46827	30760
Pentecostal	Other	363	3.50	1.20	628	33029	24168
Pentecostal Holiness	Other	34	3.21	1.30	71	27537	20095
Presbyterian Church (U.S.A)	Presbyterian	84	2.82	1.00	120	52899	30424
Presbyterian Church in the U.S.A	Presbyterian	194	2.74	1.06	280	54495	32024
Quaker	Other	26	3.04	1.00	43	48365	33391
Reformed	Other	34	2.94	1.37	51	37502	22634
Southern Baptist Convention	Baptist	1937	3.08	1.21	2856	38951	26507
Unitarian, Universalist	Other	73	3.03	0.97	120	59429	33223
United Church of Christ	Other	94	3.00	0.99	173	50994	27160
United Methodist Church	Methodist	1465	2.89	1.09	2159	44887	28690
United Presbyterian Church in the U.S.A	Presbyterian	250	2.86	1.03	368	48979	30807
Wisconsin Evangelical Lutheran Synod	Lutheran	77	2.99	1.08	117	43859	26966

Control Variables

The set of control variables (X_i) in the baseline regressions includes a basic suite of variables that are specific to the individual including income, gender, age, education, race, marital status, parent's education, employment status, household size and whether or not the individual is self-employed, a union member, has children in the household, lives in an urban area or lives in a suburban area. I introduce as controls a set of interacting binary variables for a person's region of residence and year of survey. This set of control variables is used by many other authors in regressions involving redistribution preferences (Alesina and La Ferrara 2005, Fong 2000).

I also include a variable which controls for the social liberalism of one's ethnic/religious group by measuring the average view towards homosexuality of each of these groups. The GSS asks respondents the following question: "What about sexual relations between two adults of the same sex--do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?" An answer of "always wrong" corresponds to a 1 while "not wrong at all" corresponds to a 4. Using the same methodology as for $GroupStatus_g$, I take the average response to this question as reported by a group's members and treat that average as the group's tolerance to homosexuality. In this case, higher values correspond to a greater tolerance towards homosexuality and, thus, a greater degree of social liberalism. Thus, for respondents of the Jewish faith, this variable takes on a value of 2.9 (indicative of the social liberalism of most Jewish-Americans) whereas, for respondents of the more socially conservative Mormon faith, this variable takes on a value of 1.32. In my sample, the mean view towards homosexuality of ethnic and religious groups were both around two (Table 1.1), capturing the generally negative views towards homosexuality present in the US during the period of time covered (1983 to 2008).

This control variable is useful in these regressions as an individual's group appears to have two distinct effects on one's views towards income redistribution. On the one hand, belonging to a well-to-do group suggests that fellow group members are less likely to benefit from increased redistribution. On the other hand, group's with a higher average income level tend to be more socially liberal. In American

politics, a tangible connection is observed between one's social views and one's economic views; the more socially liberal one is, the more likely they are to have other liberal political views such as a strong preference for income redistribution. Table 1.4 displays the results of a two OLS regressions in which the average redistribution preferences of the ethnic and religious groups in the sample are regressed against their average income and average view towards homosexuality. The coefficients suggest that an extra standard deviation in the average income of an ethnic or religious group corresponds to average preferences for redistribution which are seventy-five and one hundred percentage points weaker. On the other hand, an extra standard deviation in an ethnic or religious group's average views towards homosexuality correspond to average preferences towards redistribution which are twenty-five and fifty percentage points stronger.

Table 1.4: Dual Effect of Group Status on Redistribution Preferences
Dependent Variable: Average Redistribution Preferences of Group

	(1)		(2)	
	Coefficient	(SE)	Coefficient	(SE)
Average Income of Ethnic Group (000s)	-0.028 ***	(0.006)		
Average Views Towards Homosexuality of Ethnic Group	0.257 *	(0.145)		
Average Income of Religious Group (000s)			-0.038 ***	(0.006)
Average Views Towards Homosexuality of Religious Group			0.367 ***	(0.112)
Constant	3.832 ***	(0.313)	-1.903 ***	(0.137)
Observations	38		44	
Adjusted R^2	0.3853		0.6208	

Notes:
*** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

The results capture two important correlations: 1) the negative (and statistically significant) correlation between a group's average income and its preferences for income redistribution and 2) the positive (and statistically significant) correlation between a group's social liberalism and its preferences for income redistribution. Thus, the socioeconomic status of one's group appears to have two distinct connections to one's redistribution preferences. On the one hand, belonging to a relatively rich group is associated with a weaker preference for income redistribution as it is expected to decrease the income of

your average fellow group member. This relationship is the central focus of this paper. On the other hand, belonging to a relatively rich group is also associated with more socially liberal views, views which are correlated with stronger preferences for income redistribution. Thus, controlling for the social liberalism of one's groups helps to isolate the (more relevant) negative relationship between the socioeconomic status of one's group and an individual's redistribution preferences.

In order to examine the underlying channels driving the relationship between group status and one's preferences for redistribution, I will utilize two variables for an individual's prospects for social mobility. The first of these is the individual's family income when they were sixteen years old. Individuals were asked the following question: "Thinking about the time when you were 16 years old, compared with American families in general then, would you say your family income was-far below average, below average, average, above average, or far above average?" This variable takes on values from one to five, with higher values corresponding to a higher family income at age sixteen. The respondents in my sample viewed themselves, on average, as belonging to a family which had a slightly below average socioeconomic status when they were sixteen years old (Table 1.1). The second variable is whether or not an individual's occupational prestige is greater than their father's was. The occupational prestige of each individual and their father was determined by matching their reported occupation with an index (from zero to one hundred) measuring an occupation's prestige developed by the NORC itself. Roughly half of my sample has a higher occupational prestige than their father (Table 1.1).

I also use a variable to control for the importance of individualism vs. collectivism in a person's culture. The variable was taken from a paper by Suh et al (1998) in which the authors assigned a number of countries a rating from one to ten. Higher values of this rating correspond to a stronger emphasis on individualism in that country's culture. The rating is an average of two separate ratings developed independently by Geert Hofstede and Harry Triandis, two leading experts in the field of social psychology. Hofstede based his rating on responses to cross-country surveys he conducted on employees of IBM. Triandis based his rating on his own analysis of empirical research and his personal interactions with individuals in the countries rated. In our sample, the most collectivist culture belongs to China (with

an IC rating of 2) while the most individualist cultures belong to England, Wales and Scotland (with an IC rating of 8.95). The average respondent descended from a relatively individualistic culture (7.07).

1.4 Results

In all regressions, standard errors are corrected for heteroskedasticity and clustered by ethnic or religious group. All specifications include region-year dummies (excluded for brevity). All available observations are used in every regression. To begin with, the theoretical framework suggests (as did Meltzer and Richard (1981)) that increases in an individual's income have a decreasing effect on their redistribution preferences. The regression results presented in Table 1.5 confirm that the wealthier one is, the weaker their redistribution preferences. Specifically, one extra standard deviation of household income correlates to preferences for redistribution which are thirteen percent weaker. This result is in line with the literature. For instance, Alesina and Giuliano (2009a) found that an extra standard deviation of household income was associated with redistribution preferences that were ten percentage points weaker. Similarly, more educated individuals tend to have weaker redistribution preferences. In particular, an extra standard deviation of the high school diploma binary variable is associated with redistribution preferences that are eleven percentage points weaker. Alesina and Giuliano (2009a) found that the same variable was correlated to redistribution preferences that are thirteen percentage points weaker.

Males, the self-employed and married individuals are more likely to have weak preferences for redistribution. An extra standard deviation of each variable is associated with preferences for redistribution which are six, four and two percentage points weaker, respectively. Individuals with an educated father tend to also have weaker preferences for redistribution. Having a father with at least a high school diploma is associated with preferences for redistribution that are about two percentage points weaker. On the other hand, African-Americans and unionized workers are more likely to have strong redistribution preferences. An extra standard deviation of each of these variables is associated with preferences for redistribution which are thirteen and three percentage points stronger, respectively.

Finally, individuals living in larger households tend to have stronger preferences for redistribution. The relationship is estimated to have a magnitude of three percentage points.

Table 1.5: Group Status and Preferences for Redistribution
Dependent Variable: Subjective preference for income redistribution

	(1)		(2)	
	Coefficient	(SE)	Coefficient	(SE)
Average income of respondent's ethnic group (0000s)	-0.154 ***	(0.033)		
Average view towards homosexuality of respondent's ethnic group	0.353 ***	(0.072)		
Average income of respondent's religious group (0000s)			-0.130 **	(0.055)
Average view towards homosexuality of respondent's religious group			0.319 ***	(0.090)
Household income (0000s)	-0.052 ***	(0.005)	-0.052 ***	(0.004)
Has a child in the household	-0.008	(0.030)	-0.007	(0.037)
Size of household	0.023 ***	(0.008)	0.029 ***	(0.010)
Male	-0.137 ***	(0.013)	-0.129 ***	(0.020)
Age	0.008	(0.005)	0.008 **	(0.004)
Age squared (0000s)	-1.426 ***	(0.446)	-1.484 ***	(0.398)
Black	0.458 ***	(0.030)	0.467 ***	(0.049)
Married	-0.036 *	(0.019)	-0.027 *	(0.014)
Unemployed	0.088	(0.063)	0.066 *	(0.037)
Highest Level of Education Completed				
Graduate Degree	-0.076	(0.050)	-0.203 ***	(0.041)
Bachelor's Degree	-0.289 ***	(0.035)	-0.354 ***	(0.063)
Associate's Degree	-0.200 ***	(0.045)	-0.233 ***	(0.055)
High School	-0.225 ***	(0.035)	-0.256 ***	(0.042)
Self-employed	-0.128 ***	(0.023)	-0.130 ***	(0.026)
Union member	0.107 ***	(0.030)	0.096 ***	(0.018)
Father completed more than high school	-0.054 **	(0.023)	-0.089 ***	(0.032)
Father completed high school	-0.048 **	(0.021)	-0.044 **	(0.017)
Mother completed more than high school	-0.035	(0.037)	-0.025	(0.033)
Mother completed high school	-0.023	(0.022)	-0.051 ***	(0.017)
Lives in an urban area	0.045	(0.027)	0.057 ***	(0.019)
Lives in a suburban area	-0.001	(0.032)	0.019	(0.013)
N	15087		12647	
Adjusted R^2	0.0950		0.0906	

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Regression includes US region-year dummies. "Less than high school" is the omitted education variable. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

The key prediction of the theoretical framework is that increases in the average income of one's group would serve to decrease one's redistribution preferences. In column 1 of Table 1.5, the average income of one's ethnic group is regressed against one's redistribution preferences. The results show that the higher the income of the average member of one's ethnic group, the weaker one's own redistribution

preferences will be. The results suggest that a standard deviation increase in the average income of one's ethnic group weakens one's preferences for redistribution by eight percentage points. The social liberalism of one's ethnic group also has a significant relationship with one's preferences for redistribution. Belonging to a more socially liberal ethnic group is associated with preferences for redistribution which are six percentage points stronger. In column 2, the average income of one's religious group is regressed, along with the same set of control variables, against one's preferences for redistribution. The results show that the wealthier one's religious group, the weaker one's own redistribution preferences. The magnitude of this relationship is roughly seven percentage points. The social liberalism of one's religious group has a positive and significant relationship with one's preferences for redistribution, in line with expectations. The magnitude of this relationship is ten percentage points.

These results provide confirming evidence for the theoretical framework's prediction that $\frac{\partial t_i}{\partial \alpha_g} < 0$, when g represents one's ethnic or religious group. Specifically, the results suggest that the average income of one's ethnic and religious groups are correlated with redistribution preferences that are between seven and eight percentage points weaker. While the magnitudes of these correlations are somewhat smaller than that of an individual's income or own education level, they are larger than the magnitudes associated with being a male, self-employed, unemployed, a unionized worker, an urban resident or having an educated father. While I do not intend to measure the relative importance of one's own income vs. the average income of one's group in the utility function, these magnitudes point to the possibility that group income is about half as relevant to an individual as their own income (from the theoretical framework, $\gamma \cong 0.67$). A priori, my expectation was that γ would be much closer to one. The magnitudes of these two key relationships are comparable with those of the variables discussed in the literature review. Living through a recession in one's early adulthood (Giuliano and Spilimbergo 2009) or having a history of unemployment or other personal trauma (Alesina and Giuliano 2009a) are each associated with preferences for redistribution that are two to five percentage points stronger. The average

preference for redistribution in the home country of one's parents is associated with preferences for redistribution that are seven percentage points stronger (Luttmer and Singhal 2011).

Robustness Analysis

In order to determine the robustness of these results, I rerun the baseline regressions with a more comprehensive set of control variables (Table 1.6); using alternative measures of group status (Table 1.7); using alternative measures of political ideology (Table 1.8); and under a variety of sample restrictions (Table 1.9).

While the baseline regressions include a large set of control variables, it is always possible that the results are being driven by omitted variables. I first attempt to alleviate this concern by using a comprehensive set of control variables (following the methodology of Luttmer and Singhal (2011)). In addition to the baseline control variables, I include third-order polynomials for household income and binary variables which capture whether or not the respondent's spouse is currently working, whether the respondent has ever worked, the generation the respondent's family migrated to the US, whether the respondent attends religious services at least once a month, the respondent's main activity in the last week, the spouse's level of education, whether the respondent has ever been unemployed for a month, the respondent's occupation and the respondent's industry.

Table 1.6 displays the results of regressions including this more expansive set of control variables alongside ethnic group income (Row 1a) and religious group income (Row 1b) and the original baseline controls. These results suggest that the relationship between group income and one's preferences for redistribution is robust to this comprehensive set of control variables. The new controls appear to explain very little of the relationship found in the baseline results. Both ethnic and group income are correlated to preferences for redistribution which are seven percentage points weaker. The controls themselves produce some intuitive results. All else equal, the generation in which a respondent's family migrated to the US has a significant relationship with one's preferences for redistribution. Those born outside the US appear to have stronger preferences for redistribution than those born in the US. Among this group of people, those with at least one foreign born parent have stronger preferences for redistribution than those

whose parents were born in the US. Finally, among this group of individuals, those with at least one foreign born grandparent have stronger preferences for redistribution than those whose grandparents were born in the US. Individuals who attend religious services at least once a month tend to have weaker preferences for redistribution, while those who have ever experienced a month of unemployment tend to have stronger preferences for redistribution, all else equal.

While there are a number of possible explanations for the relationship between group income and one's preferences for redistribution, each of these falls into one of two categories. On the one hand, individuals may be directly influenced by their group's status, as posited by this paper's theoretical framework. In this case, group status would have a causal relationship with one's preferences for redistribution. Identity economics suggests that members of groups with low status experience a diminished self-image (Akerlof and Kranton 2000). Policies that redistribute income are expected to disproportionately increase the incomes of members of these low status groups. Thus, an individual can attempt to enhance their self-image through the support of redistributive policies which disproportionately help increase their group members' incomes and, more broadly, the socioeconomic status of their group (Wichardt 2008). Lipset (1960) posited that leftist voting is often the response of individuals who, after exhausting other possible means to attain it, still lack a desired level of social status. Similarly, an individual who belongs to a low status group may be more likely to support redistribution due to in-group altruism, given that members of their group will, on average, experience a net benefit from more expansive redistributive policies. A number of examples of in-group altruism support the presence of such a channel (Butovskaya et al 2000, Alesina et al 2001, Luttmer 2001). On the other hand, individuals may not be influenced by their group's status. In this case, group status is correlated with one's preferences for redistribution only because it is also correlated with some omitted variables. While it is difficult to provide positive evidence of the former, it is somewhat easier to directly examine the latter. In turn, I include three more control variables to the comprehensive set in order to examine whether or not the empirical relationship between group income and one's preferences for redistribution is driven by omitted variable bias.

Table 1.6: Group Status and Preferences for Redistribution, Alternative Specifications
Dependent Variable: Subjective preference for income redistribution

	Coefficient	(SE)	Adjusted R^2	N
1) Comprehensive Controls				
a) Average income of respondent's ethnic group (0000s)	-0.128 ***	(0.028)	0.1009	14494
b) Average income of respondent's religious group (0000s)	-0.123 **	(0.051)	0.0957	12142
2) Comprehensive Controls + Family income at 16				
a) Average income of respondent's ethnic group (0000s)	-0.146 ***	(0.038)	0.1000	10170
Family income at 16	-0.014	(0.011)		
b) Average income of respondent's religious group (0000s)	-0.116 **	(0.057)	0.0930	8564
Family income at 16	-0.029 **	(0.011)		
3) Comprehensive Controls + Greater job prestige than father				
a) Average income of respondent's ethnic group (0000s)	-0.143 ***	(0.037)	0.0930	11600
Greater job prestige than father	-0.034	(0.027)		
b) Average income of respondent's religious group (0000s)	-0.137 **	(0.056)	0.0940	9838
Greater job prestige than father	-0.028	(0.024)		
4) Comprehensive Controls + IC rating of ethnic group				
a) Average income of respondent's ethnic group (0000s)	-0.117 ***	(0.026)	0.0736	11980
IC rating of ethnic group	-0.012	(0.008)		
b) Average income of respondent's religious group (0000s)	-0.113 *	(0.061)	0.0787	8165
IC rating of ethnic group	-0.006	(0.006)		

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Comprehensive controls includes the baseline controls as well as third-order polynomials for household income and controls for whether or not the spouse is currently working, whether the respondent has ever worked, the generation the respondent's family migrated to the US, whether the respondent attends religious services at least once a month, the respondent's main activity in the last week, the spouse's level of education, whether the respondent has ever been unemployed for a month, the respondent's occupation and the respondent's industry. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

One such omitted variable is an individual's prospects for social mobility (Benabou and OK 2001). On the one hand, individuals who identify with wealthy groups may perceive themselves to be more likely to experience upward mobility and, thus, have weaker preferences for redistribution, reflecting their expectation of higher future incomes. Similarly, individuals who identify with relatively poor groups may feel that they are more likely to experience a falling or stagnating income and, thus,

have stronger preferences for redistribution than their individual characteristics would predict, reflecting the uncertainty they may feel about the future. Another potentially omitted variable is a cultural attitude of social groups, the importance of individualism vs. collectivism in one's culture. Cultures that value individualism are typically wealthier than those which value collectivism. Moreover, it is intuitive to expect that a voter who values individualism is likely to have weaker preferences for redistributive policies than a voter who values collectivism (Quattrociocchi 2014). This raises the possibility that individuals who identify with wealthier groups are more likely to have an individualistic mentality and, thus, have weaker preferences for redistribution.

As intuition would suggest, individuals raised in wealthier families tend to have weaker preferences for redistribution (Table 1.6, Row 2). The magnitude of this relationship is estimated to be about one to two percentage points. The significance of this relationship is, however, inconsistent. The second variable controlling for social mobility produces similar results. While individuals whose job prestige is greater than their father's tend to have weaker preferences for redistribution (one to two percentage points), the relationship is not statistically significant (Row 3). Finally, I control for the individualism-collectivism of one's culture by including a rating developed by social psychologists intended to quantify this particular cultural trait. I assign each individual a rating for individualism-collectivism based on the ethnic group they identify with, though only for respondents who've identified with a specific country of origin (rather than a region). Unfortunately, there is no such rating for different religious denominations. As expected, the IC rating of one's ethnic group appears to have a negative relationship with one's preferences for redistribution. This relationship, too, has a magnitude of about one to two percentage points and is not statistically significant.

These regressions provide evidence that the baseline results are robust to the inclusion of variables that control for an individual's intergenerational mobility and the individualism-collectivism of one's culture. In each regression, ethnic or religious group income has a negative and significant relationship with one's preferences for redistribution. When controlling for social mobility, the magnitude of the relationship is six to seven percentage points. This magnitude falls to about four to five

percentage points when I control for cultural individualism-collectivism. However, it is worth noting that this decreased magnitude is entirely due to the restricted sample. Similar coefficients for group income are produced when the regressions in Row 4 are rerun without controlling for the IC rating of one's ethnic group (but utilising the same restricted sample). These results provide evidence that these two channels are not driving the relationship between group income and one's preferences for redistribution.

The robustness of the baseline results is further tested through the use of alternative variables intended to capture a group's socioeconomic status (Table 1.7). In each regression, the baseline controls are used, with group income being replaced by each alternate variable. Five alternate variables were used to examine the relationship between ethnic group status and one's preferences for redistribution. The first of these is the mean income of an ethnic group using data from the 2011 US Census. The results suggest that this variable has a negative and significant relationship with one's preferences for redistribution, with a magnitude of six percentage points. Three variables capturing the average level of education in each ethnic group are individually included in the baseline regression. Each of these was derived using GSS data, in the same fashion as the group income variables. The results show that the relationship between group status and one's preferences for redistribution holds when we equate ethnic group status to each ethnic group's high school completion rate, mean years of schooling and mean level of education completed. In each case, I find a negative and significant coefficient with magnitudes in the range of three to five percentage points. The final alternate group variable is the mean socioeconomic index (SEI) of each ethnic group. The SEI is an occupation specific index constructed by the NORC. Researchers regressed an occupation's prestige score against the mean income and education level of individuals in that occupation, using the results to estimate each occupation's SEI. As with the other GSS-derived group variables, I computed this variable by taking the mean SEI of all members of each ethnic group. I find that ethnic group mean SEI has a negative, significant relationship with one's preferences for redistribution, with a magnitude of five percentage points. Finally, rather than examine mean ethnic group income at the level of the ethnicity, I examine it at the region level (Africa, Americas, Asia, Western Europe and Eastern Europe). I find that, even when using broader ethnic group definitions, there

is a negative and significant relationship between mean ethnic group income and one's preferences for redistribution. Individuals descending from a region with a higher mean income have preferences for redistribution which are typically six percentage points weaker.

Table 1.7: Group Status and Preferences for Redistribution, Alternative Group Variables
Dependent Variable: Subjective preference for income redistribution

	Coefficient	(SE)	Adjusted R^2	N
Ethnic Group Variable				
Average income of respondent's ethnic group, Census (0000s)	-0.055 ***	(0.019)	0.0942	15087
High school completion rate of respondent's ethnic group	-0.857 ***	(0.174)	0.0946	15087
Average years of schooling of respondent's ethnic group	-0.063 **	(0.026)	0.0938	15087
Average level of education of respondent's ethnic group	-0.142 *	(0.084)	0.0934	15087
Average socioeconomic index of respondent's ethnic group	-0.015 **	(0.006)	0.0940	15087
Average income of respondent's region (0000s)	-0.135 ***	(0.028)	0.0933	15087
Religious Group Variable				
Average income of respondent's religious group, Pew (0000s)	-0.150 ***	(0.047)	0.0910	12396
High school completion rate of respondent's religious group	-0.899 ***	(0.205)	0.0915	12647
Average years of schooling of respondent's religious group	-0.107 ***	(0.016)	0.0918	12647
Average level of education of respondent's religious group	-0.262 ***	(0.050)	0.0911	12647
Average socioeconomic index of respondent's religious group	-0.014 **	(0.005)	0.0905	12647
Average income of respondent's religion (0000s)	-0.235 **	(0.068)	0.0824	10701

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Baseline controls used in each regression. "Respondent's region" refers to one of: Africa, Americas, Asia, Western Europe and Eastern Europe. "Respondent's religion" refers to one of: Catholic, Jewish, Baptist, Methodist, Lutheran, Presbyterian, and Episcopalian. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Next, I examine the robustness of the baseline religious group status results with a similar set of alternate variables. As the US Census does not enquire about a person's religious group, I instead use the results of the 2007 Pew Forum US Religious Landscape Survey as my external data source for religious group mean income. I find that increases in this variable are associated with preferences for redistribution which are eight percentage points weaker, in line with the baseline results. As was the case with ethnic groups, belonging to a more educated religious group is correlated with weaker preferences for redistribution. The relationship has a magnitude in the range of six to eight percentage points. Members of religious groups with a higher mean SEI have preferences for redistribution which are six percentage

points weaker. One additional variable was used in the case of religious groups, the mean income of each religion. Thus far, all regressions have examined religious groups at the lowest possible level (Catholicism, Judaism and a number of Protestant sub-denominations). In this case, I calculate mean income at the level of the religion (Catholicism, Judaism, Baptist, Methodist, Lutheran, Presbyterian and Episcopalian). The results suggest that this variable is associated with preferences for redistribution that are ten percentage points weaker. Taken together, the results of Table 1.7 support the idea that the baseline results hold even when group status is measured using non-GSS sources, education or SEI rather than income and with broader group definitions.

I use eight regressions to examine whether group status is correlated to other political preferences or choices that are similar in nature to preferences for redistribution (Table 1.8). To reiterate, the dependent variable used in the baseline regressions captures a respondent's preference for the government to do more or do less to improve the living standards of the poor. This is the GSS question most commonly used in the literature to capture a person's preferences for redistribution. The GSS also asks respondents to what extent they believe the government should reduce income differences between rich and poor. While a very similar question, this variable is only moderately correlated to our baseline question (ρ=0.39). I find that both ethnic and religious group mean income have a negative and significant relationship with this alternate redistribution variable. The magnitude of each of these relationships is three percentage points, about half of the size of the baseline results. Next, I use dependent variables which capture an individual's political views in a more general way. Respondents of the GSS are asked to describe themselves as conservatives or liberals, using a seven-point scale. Higher values of this variable correspond to a more liberal political ideology. I find that group status has a relatively strong correlation with this variable, with a magnitude roughly twice as large as the baseline results. Increases in ethnic and religious group income are associated with a political ideology which is sixteen and twenty percentage points more conservative. GSS respondents are also asked to identify themselves as Republicans or Democrats, once more on a seven-point scale. Individuals belonging to

wealthier groups are more likely to identify with the Republican Party, all else equal. This relationship is statistically significant, with a magnitude of four to five percentage points.

Table 1.8: Group Status and Preferences for Redistribution, Alternative Dependent Variables

	Ethnic Group Income	(SE)	Adjusted R^2	N
Dependent Variable				
Government should reduce income inequality	-0.088 **	(0.037)	0.0553	24987
Political ideology	-0.375 ***	(0.087)	0.1285	27847
Party identification	-0.141 **	(0.057)	0.1010	16768
Voted for Democrat in last presidential election	-0.111 ***	(0.026)	0.1673	16862
	Religious Group Income	**(SE)**	**Adjusted R^2**	**N**
Dependent Variable				
Government should reduce income inequality	-0.103 *	(0.051)	0.0634	20101
Political ideology	-0.443 **	(0.183)	0.1393	22283
Party identification	-0.151 **	(0.061)	0.1000	13584
Voted for a Democrat in last presidential election	-0.052 *	(0.028)	0.1786	14224

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Baseline controls used in each regression. Higher values of "Political ideology" represent more liberal political views. Higher values of "Party identification" represent stronger identification with the Democratic Party. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Finally, I examine whether group status is correlated to an individual's actual voting choices. While a person's preferences can be very descriptive, it is their choices at the voting booth which ultimately influence policy. Thus, it is useful to determine the extent to which these voting choices are correlated to their group's status. I capture an individual's voting choice using a simple binary variable, equal to one if they voted for the Democrat candidate in the most recent Presidential election and zero if they voted the Republican candidate. I find that group status has a negative and significant relationship with the likelihood that one voted for a Democratic presidential candidate. Individuals belonging to wealthier ethnic and religious groups are twelve and six percentage points more likely to vote for a Republican presidential candidate. These results suggest that the baseline results are robust to the use of

alternate methods of capturing one's preferences for redistribution. Moreover, they show that group status is not only correlated with one's political preferences, but one's actual voting choices as well.

As a final check for robustness, I rerun the baseline regressions on a variety of samples which are restricted in some way (Table 1.9). I find that ethnic group mean income continues to have a negative and significant relationship with one's preferences for redistribution when the sample is restricted by the respondent's household income. This relationship also holds when the sample is restricted to respondents who are third-generation Americans (defined as being born in the US, with American born parents and grandparents), respondents whose family migrated to the US more recently (defined as being foreign born or having at least one foreign born parent/grandparent) and respondents who identified with a specific country of origin (as opposed to a broader geographic region). The relationship is also quite robust to the exclusion of respondents whose ethnic group descends from a given geographic region. The coefficient is negative in each of the five regressions and statistically significant in all but one. Religious group income has a similarly robust relationship with one's preferences for redistribution. The negative and significant relationship produced in the baseline regressions holds when the sample is restricted by the respondent's household income and attendance of religious services, as well as when the sample excludes respondents belonging to a given religion. These findings suggest that the baseline results are not being driven by a particular group of respondents. Rather, the baseline results can be replicated within a number of subsets of the overall sample.

Table 1.9: Group Status and Preferences for Redistribution, Sample Restrictions

	Ethnic Group Income	(SE)	Adjusted R^2	N
Respondent's household income below median	-0.107 ***	(0.033)	0.0848	7649
Respondent's household income above median	-0.198 ***	(0.056)	0.0759	7438
Respondent is at least a third-generation American	-0.182 ***	(0.047)	0.1217	7862
Respondent's family immigrated to US recently	-0.127 ***	(0.033)	0.0693	7225
Respondent's ethnic group is a specific country	-0.154 ***	(0.034)	0.0659	12598
Region of Origin Omitted				
Western Europe	-0.120 **	(0.048)	0.0836	4937
Eastern Europe	-0.153 ***	(0.033)	0.1006	14014
Africa	-0.140 ***	(0.032)	0.0703	13631
Americas	-0.110	(0.070)	0.0943	12992
Asia	-0.179 ***	(0.029)	0.0976	14774
	Religious Group Income	**(SE)**	**Adjusted R^2**	**N**
Respondent's household income below median	-0.136 *	(0.077)	0.0794	6392
Respondent's household income above median	-0.104 *	(0.055)	0.0783	6255
Respondent attends religious services at least once a month	-0.145 **	(0.070)	0.0977	7103
Respondent attends religious services less than once a month	-0.110 **	(0.051)	0.0823	5544
Religion Omitted				
Catholic	-0.094 *	(0.049)	0.1119	7784
Baptist	-0.208 ***	(0.048)	0.0857	10429
Methodist	-0.142 **	(0.061)	0.0882	11280
Lutheran	-0.136 **	(0.058)	0.0921	11740
Presbyterian	-0.108 *	(0.059)	0.0902	12115
Episcopal	-0.128 **	(0.058)	0.0892	12201
Judaism	-0.125 **	(0.057)	0.0923	12279

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Baseline controls used in each regression. "Respondent's family immigrated to US recently" refers to those who are either foreign-born themselves or have at least one parent or grandparent who are foreign-born. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Heterogeneity

As a final analysis of the data, I examine whether the relationship between group status and one's preferences for redistribution is heterogeneous in some meaningful way (Table 1.10). Each row of Table 1.10 corresponds to a single regression in which group income is interacted with a dummy variable that captures some trait of the respondent. These tests for heterogeneity focus on traits which speak to an

individual's assimilation into American society or identification with their group. I find that ethnic group income has a stronger relationship with the preferences for redistribution of respondents with above median incomes, who voted in the last election (though not significant), and whose family's American ancestry goes back at least three generations. Similarly, religious group income appears to have a stronger relationship with the preferences for redistribution of voters and multi-generation Americans. These findings point to the possibility that the relationship between group status and one's redistribution preferences may be stronger for those who are more assimilated into American society. This idea can be viewed as either compatible or incompatible with the paper's underlying theory that individuals are aware of their group's status and are influenced by it when determining their preferences for redistribution. On the one hand, well assimilated individuals may be particularly frustrated or bothered by their group's lack of status and strengthen their preferences for redistribution to a greater degree than less-assimilated individuals. On the other hand, one might expect that more assimilated individuals are less likely to identify with their ethnic groups (in particular).

Unfortunately, the GSS does not ask respondents to clarify their attachment to their ethnic groups. This makes it very difficult to determine whether those with a stronger attachment to their ethnic group have redistribution preferences which are more strongly influenced by their group's income. The GSS does ask respondents how often they attend religious services. This question can be used to capture an individual's attachment to their religious group. I find that those who attend weekly religious services have preferences for redistribution which are more strongly influenced by their religious group's mean income. Of note, the coefficient of both variables in each of the seven regressions is negative and significant, further highlighting the robustness of the baseline results.

Table 1.10: Group Status and Preferences for Redistribution, Heterogeneity

	Ethnic Group Income	(SE)	Adjusted R^2	N
Household income				
Household income above median	-0.162 ***	(0.033)	0.0953	15087
Household income below median	-0.146 ***	(0.033)		
p-value on test of equal coefficients		0.0266		
Voting				
Respondent voted in last election	-0.144 ***	(0.038)	0.0907	11153
Respondent did not vote in last election	-0.127 ***	(0.045)		
p-value on test of equal coefficients		0.1230		
Children in the household				
Respondent has children	-0.172 ***	(0.039)	0.0952	15087
Respondent does not have children	-0.106 ***	(0.028)		
p-value on test of equal coefficients		0.0594		
Generations in the US				
Respondent's family immigrated to US recently	-0.138 ***	(0.031)	0.0956	15087
Respondent is at least a third-generation American	-0.152 ***	(0.030)		
p-value on test of equal coefficients		0.0053		
	Religious Group Income	(SE)	Adjusted R^2	N
Household income				
Household income above median	-0.130 **	(0.054)	0.0905	12647
Household income below median	-0.130 **	(0.057)		
p-value on test of equal coefficients		0.9414		
Voting				
Respondent voted in last election	-0.117 **	(0.055)	0.0860	9438
Respondent did not vote in last election	-0.099 *	(0.055)		
p-value on test of equal coefficients		0.0021		
Children in the household				
Respondent has children	-0.131 **	(0.055)	0.0905	12647
Respondent does not have children	-0.128 *	(0.068)		
p-value on test of equal coefficients		0.9475		
Attendance of religious services				
Respondent attends religious services at least once a month	-0.131 **	(0.054)	0.0905	12647
Respondent attends religious services less than once a month	-0.129 **	(0.056)		
p-value on test of equal coefficients		0.7995		

Notes: Robust standard errors adjusted for clustering by ethnic/religious groups are in parentheses. Baseline controls used in each regression. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

1.5 Conclusion

This paper examines the relationship between an individual's preferences for redistribution and the socioeconomic status of their social groups. I find that members of groups with higher mean incomes tend to have weaker preferences for redistribution, all else being equal. Given the importance of redistributive policies in political discourse, and the fact that (to some degree at least) these policies reflect the preferences of voters, it is useful to better understand the manner in which individuals arrive at these preferences. While group status seems an obvious determinant of one's preferences for redistribution, this paper is the first to examine the relationship in detail using regression analysis on survey data. The findings also establish a relationship between group status and an individual's actual voting choice, further connecting this paper to real world policy. More generally, the findings of this analysis provide support for the broader idea that individuals make choices which are not entirely driven by economic self-interest.

This paper attempts to further extend the concepts of identity economics into the field of political economy, as suggested by Akerlof and Kranton (2000). In the theoretical framework, individuals identify with their social groups and are aware of their group's status. As a result, our identities are positively influenced by the status of our social groups. When the status of one of our groups is relatively low, we experience losses in identity. Income redistribution can be a tool to improve the status of our social groups, raising a group with a below-average income closer to the mean. Thus, individuals belonging to groups with a relatively low socioeconomic status may seek to improve their own identity by choosing stronger preferences for income redistribution. This choice may ultimately be driven by self-interest (seeking to obtain more personal status by improving the status of a group one identifies with) or by more altruistic motives (seeking to help individuals who identify with the same group). In using survey data to examine the relationship between group socioeconomic status and individual redistribution preferences, I also expand on recent work in the field of political economy. Klor and Shayo (2010), in particular, found a correlation between the two in an experimental setting using groups divided by program of study. This

paper begins to look at this relationship in the real world, examining the connection between an individual's actual preferences for redistribution and the socioeconomic status of groups that they may identify very closely to.

Regression analysis shows that an extra standard deviation of group-level socioeconomic status is associated with preferences for redistribution that are seven to eight percentage points weaker. This paper's results suggest that group status is correlated with redistribution preferences to a degree that is roughly equal to that of an individual's own history, whether in terms of cultural influences, economic experiences or personal hardships, as determined by the political economic literature. This result is robust to: i) different measures of group status, ii) different measures of one's preferences for redistribution, iii) a number of sample restrictions and iv) the inclusion of a number of other explanatory variables. One such set of explanatory variables proxy for an individual's prospects for social mobility. These variables were included as robustness checks due to the possibility that an individual's prospects for social mobility were spuriously correlated to group income, on the one hand, and an individual's preferences for redistribution, on the other. I also include a variable which captures the importance of individualism-collectivism in one's culture, another factor that may be driving the paper's key relationship. These robustness checks suggest that group status is not correlated to an individual's redistribution preferences due to some omitted variables, supporting (though certainly not proving) the idea that status exerts a causal effect on these preferences.

Increasing levels of diversity in Europe mean that countries like Germany, France and the UK will look more and more like the United States. Further research can focus on the relationship between preferences for redistribution and the socioeconomic status among ethnic and religious groups in those countries. The regression analysis conducted in this paper also suggests that a religious group's social liberalism is at least as correlated to a member's preferences for redistribution as its average income. Going forward, it would be interesting to examine this relationship and better understand whether or not there exist some factors that simultaneously influence our economic and social policy preferences.

Chapter 2: Cultural individualism-collectivism and preferences for redistribution

2.1 Introduction

There exists considerable cultural variation across countries. There is also a great deal of variation in preferences for redistribution across countries. It seems intuitive that culture may be an important determinant of a person's preferences for redistribution. The presence of a relationship between culture and preferences for redistribution is supported by recent work. Luttmer and Singhal (2011) show that the preferences for redistribution among European immigrants are influenced by the average preferences for redistribution in those immigrants' home countries. What remains to be examined are the specific cultural characteristics which influence an immigrant's taste for redistribution even after they've left their home country. This paper begins to tackle this question by providing evidence that the relative importance a culture places on individualism and collectivism explains a great deal of the relationship between a person's culture and their preferences for redistribution.

I examine the relationship between the individualism-collectivism of an immigrant's home country and their own preferences for redistribution using data from the European Social Survey (ESS) collected from twenty-nine countries over the years 2002 to 2008. This data provides detailed information on thousands of immigrants who have moved to a European country from any other country in the world, including their self-reported preferences for redistribution, various socioeconomic characteristics and their country of birth. Based on their country of birth, I assign each immigrant their home country's individualism-collectivism (IC) rating.

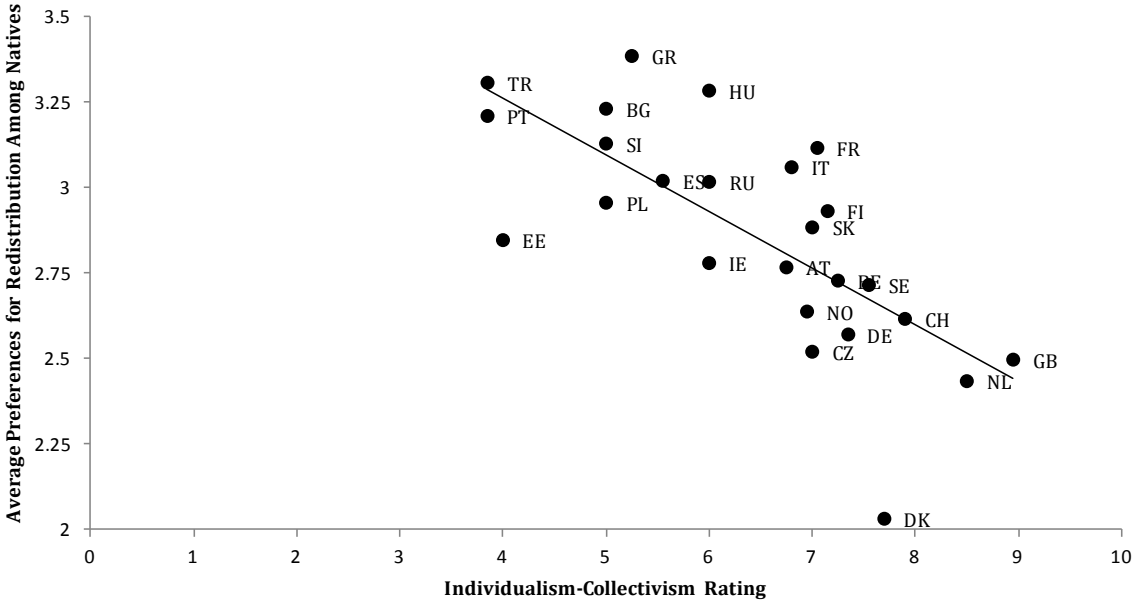
This rating (Suh et al 1998) was developed using the input of two eminent social psychologists (Geert Hofstede and Harry Triandis) and captures the relative importance a culture places on individualism vs. collectivism. The rating was developed over years of research using both objective and subjective inputs. Suh and his coauthors neatly capture the key difference between people in individualistic and collectivist cultures. Like those in individualistic cultures, "collectivist individuals

certainly are aware of and describe their internal attributes. The critical point, however, is that such internal features of the self are not necessarily regarded as the most diagnostic characteristics of an individual, and are seldom accepted as legitimate reasons for one's actions in collectivist cultures" (Suh et al 1998). Empirical work by social psychologists corroborates the idea that internal attributes are more important to those from individualistic cultures. For instance, it has been found that the level of happiness of a person in an individualistic culture is relatively more correlated with their self-focused feelings compared to a person from a collectivist culture. Self-esteem has a larger positive effect on happiness among those from individualist cultures (Kitayama and Markus 1995; Diener and Diener 1995; Campbell et al 1996). Internal emotional conflict similarly tends to have a larger negative effect on happiness for people from cultures that value individualism (King and Emmons 1990; Katz and Campbell 1994; Suh 1994).

Social psychology literature suggests that, at their core, individuals of all cultures are aware of their personal skills, emotions and interests. However, it posits that cultures differ with regards to the extent that these personal attributes determine an individual's choices. In individualistic cultures, typically found in Western Europe and North America, people are encouraged to utilize their skills to the fullest in pursuit of the maximum possible happiness. Those in collectivist cultures, predominantly found in Asia and Africa, are instead taught to be aware of the way in which they fit into and interact with society. I posit that this fundamental cultural difference influences an individual's preferences for policies that redistribute income from rich to poor. A person raised in a collectivist culture is hardwired to consider the interests of their group when making a decision. Thus, it is intuitive to view these collectivist minded people as more likely to prefer redistributive policies (higher tax rates, a larger welfare state, etc.) that may not necessarily help them, but could help members of their society. Individualistic minded people, on the other hand, would intuitively have weaker preferences for redistributive policies (prefer lower tax rates, smaller welfare state, etc.) which could help society at large, but may negatively affect their own interests.

I find evidence of the existence of a large and significant relationship between the individualism of a country's culture and the average preferences for redistribution among natives of that country. This relationship is evident in Figure 2.1. The horizontal axis of Figure 2.1 measures the individualism-collectivism rating of an ESS member country (a higher rating implies a greater degree of individualism), while the vertical axis measures the average preferences for redistribution among natives in that country. Countries with a more individualistic culture are more likely to be made up of natives with weak preferences for redistribution. A standard deviation increase in a country's IC rating is associated with average preferences for redistribution which are three-quarters of a standard deviation weaker.

Figure 2.1: Preferences for Redistribution by Country's IC Rating

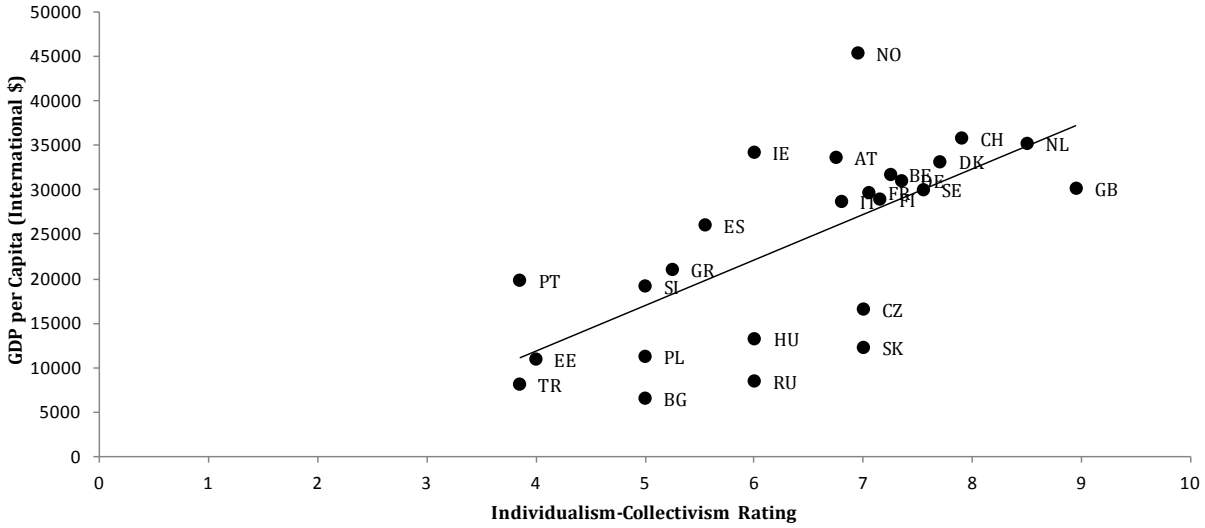


Notes: Average preferences for redistribution among natives derived from responses to survey question in ESS. An answer of five indicates strong support for redistribution, an answer of one indicates weak support. Higher values of the I-C Rating indicate a country with a more individualistic culture. The regression line has a slope of -0.166 with a standard error of 0.03. The adjusted R^2 equals 0.49.

It is possible that this relationship is being driven by a third variable, a country's income level. Conventional wisdom suggests that individualist countries tend to be wealthier, and vice versa. This is corroborated by Figure 2.2. A standard deviation increase in a country's IC rating is associated with a sixty seven percentage point increase in per capita GDP. Moreover, wealthier countries tend to be made up of people with high incomes and are likely less reliant on a welfare state to provide a safety net.

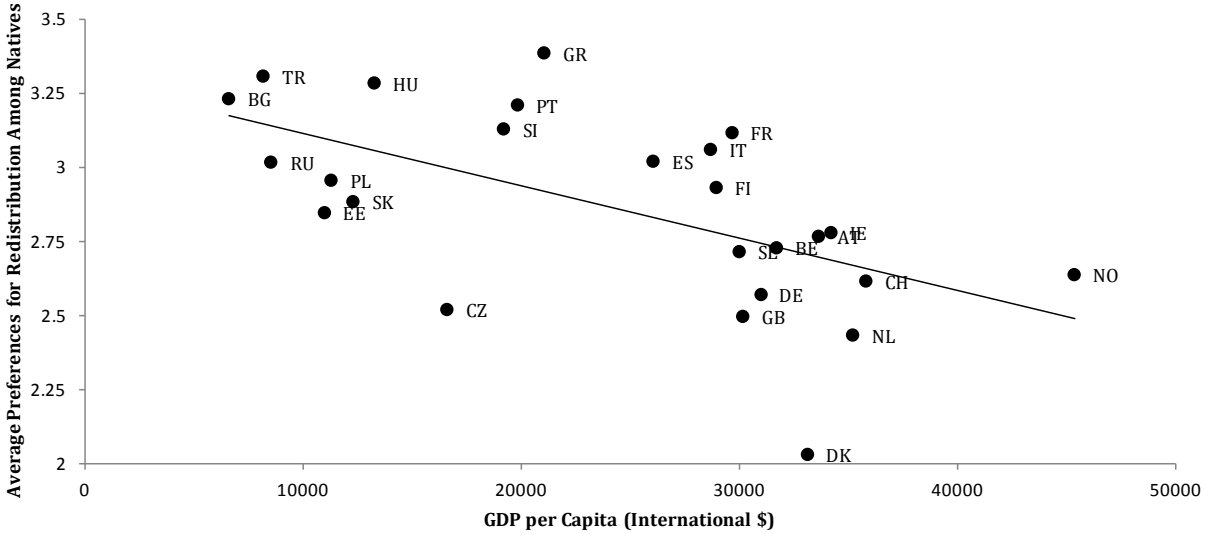
Figure 2.3 shows that wealthier countries tend to be made up of people with weaker preferences for redistribution. Per capita GDP is associated with average preferences for redistribution which are sixty six percentage points weaker.

Figure 2.2: GDP per Capita by Country's IC Rating



Notes: GDP per capita is taken from the World Development Indicators database. It measures GDP in terms of international dollars using 2005 prices. Higher values of the I-C Rating indicate a country with a more individualistic culture. The regression line has a slope of 5100 with a standard error of 1181. The adjusted R^2 equals 0.42.

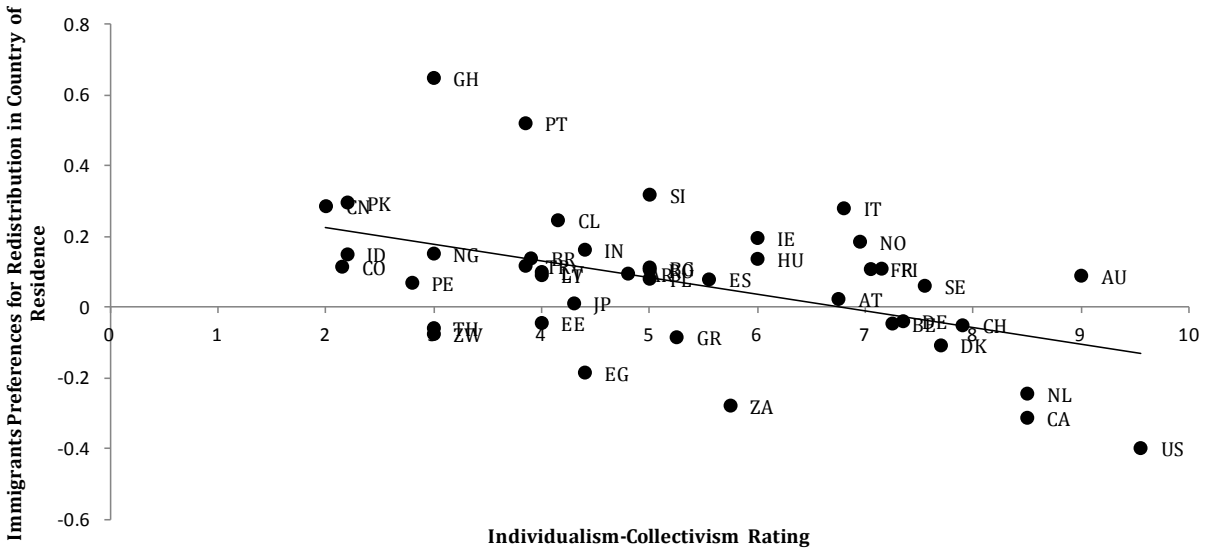
Figure 2.3: Preferences for Redistribution by Country's GDP per Capita



Notes: GDP per capita is taken from the World Development Indicators database. It measures GDP in terms of international dollars using 2005 prices. Average preferences for redistribution among natives derived from responses to survey question in ESS. An answer of five indicates strong support for redistribution, an answer of one indicates weak support. The regression line has a slope of -0.000018 with a standard error of 0000005. The adjusted R^2 equals 0.31.

In order to more accurately determine whether a culture's individualism-collectivism has any relationship with the preferences for redistribution of its members, I focus on a specific group of people: immigrants. Immigrants allow me to compare individuals of different cultures while controlling somewhat for differences in their socioeconomic environment. Figure 2.4 shows that immigrants who were born in more individualistic cultures are more likely to have weaker preferences for redistribution than the natives of their country of residence. The horizontal axis of Figure 2.4 measures the IC rating of an immigrant's home country, while the vertical axis measures the preferences for redistribution among immigrants from that country (captured by the average difference between preferences for redistribution of immigrants from said country and the average preferences for redistribution of natives in those immigrants' country of residence). Immigrants who were born in countries with a more individualistic culture tend to have preferences for redistribution that are half a standard deviation weaker, when compared to natives in the country they currently reside.

Figure 2.4: Immigrant Preferences for Redistribution by Birth Country IC Rating



Notes: Immigrant preferences for redistribution is measured in deviation from the mean preference among in the country of residence. It is then averaged over all countries in which immigrants from a given birth country currently reside. Higher values of the I-C Rating indicate a country with a more individualistic culture. The regression line has a slope of -0.047 with a standard error of 0.013. The adjusted R^2 equals 0.22.

This relationship is confirmed through regression analysis, where a number of relevant economic and demographic factors are controlled. The results suggest that an extra standard deviation in the

individualism-collectivism rating of an immigrant's home country is associated with preferences for redistribution that are thirteen percentage points weaker. These results imply that this relationship has a magnitude as large as that between household income and one's preferences for redistribution (eleven percentage points). Moreover, this magnitude is as large as that which exists between the average preferences for redistribution in an immigrant's home country and an immigrant's preferences for redistribution (eleven percentage points) as determined by Luttmer and Singhal (2011). Further analysis confirms that this relationship is robust to a variety of specifications and samples. While causality cannot be definitively proven, concerns that the relationship is driven by omitted variable bias are alleviated as best as possible through the use of a broad set of control variables. In particular, I attempt to control for a variety of characteristics of one's birth country including cultural attitudes (views on the trustworthiness, fairness and helpfulness of people, the importance of family and the degree to which luck influences success), institutional factors (accountability, corruption, stability and effectiveness of government, regulatory quality and rule of law) and various social indices developed by the social psychologist Geert Hofstede.

I also find evidence that the relationship is stronger for voters, those belonging to immigrant groups which identify as ethnic minorities and those living in countries with a higher share of ethnic minorities. Moreover, I find that the relationship holds when I use an alternate measure for a country's individualism-collectivism, the prevalence of a genetic allele which tends to be more common in individualistic cultures. Culture also appears to influence the relationships that other variables have with one's preferences for redistribution in a manner which supports my hypothesis. Both household income and education have a stronger relationship with preferences for redistribution among immigrants born in individualistic countries. This suggests that self-interest serves as a greater motivator for these cultural individualists. I find evidence that cultural individualism-collectivism may be transmitted across generations, as the preferences for redistribution of second-generation immigrants appear to be correlated to the level of individualism-collectivism in their parent's birth country.

This paper primarily contributes to the literature by providing one explanation for the relationship Luttmer and Singhal (2011) found between home country culture and an immigrant's preferences for redistribution. It also begins a line of research which examines the manner in which the individualism-collectivism of a person's culture influences their economic choices. The existence of such a relationship has a number of implications. Such a relationship has the potential to influence a country's economic and immigration policy as the voting preferences of the populace are shaped not only by their present economic circumstances but the cultural beliefs they have inherited from their home country. This paper also adds to the growing literature showing that economic choices cannot be entirely explained by economic self-interest. Instead, culture has an important role to play in influencing a number of such choices. Fernandez (2010) provides a detailed review of this literature, as well as a thorough explanation of the epidemiological approach, the empirical strategy used in this and similar papers.

In a nutshell, the epidemiological approach focuses on immigrants to determine whether some cultural attribute (which varies across immigrant's country of origin) correlates to some economic choice, holding constant the economic environment (the immigrant's country of residence) in which the choice is made. Economists have examined the relationship between culture and a number of economic choices using the epidemiological approach, including savings (Carroll, Rhee and Rhee 1994), female labour force participation (Antecol 2000; Fernandez 2007; Fernandez 2013; Fernandez and Fogli 2009), fertility (Blau 1992; Guinnane, Moehling and Ó'Gráda 2006; Fernandez and Fogli 2006, 2009) and a host of others. In most cases, the authors examine immigrants who've moved to a specific country. This paper follows other recent work (Luttmer and Singhal 2011; Alesina and Giuliano 2009b) by examining immigrants who've moved to a number of a different host countries across Europe. This practice is seen to strengthen the empirical analysis as it helps to avoid any selection bias that may exist when using one country of residence.

In the following section, I examine the data and methodology used in the empirical analysis. Section three presents the results of this analysis. Section four concludes.

2.2 Data and Methodology

In order to examine the relationship between the cultural individualism-collectivism of one's home country and one's preferences for redistribution, I estimate the preferences for redistribution of individual *i* (who was born in country *b* in geographic region *g*, resides in country *c* and responded to the European Social Survey in round *r*),

$$RedistributionPreferences_i = \beta_0 + \beta_1 ICRating_b + \mathbf{X_i}\boldsymbol{\beta_2} + \theta_{rc} + \gamma_g + \varepsilon_i$$

where $RedistributionPreferences_i$ captures the strength of individual *i*'s preferences for redistribution, $ICRating_b$ is the individualism-collectivism rating of home country *b*, $\mathbf{X_i}$ is a set of control variables relevant to individual *i*, θ_{rc} is a fixed effect for the interaction between ESS round *r* and residence country *c* of individual *i* , γ_g is a fixed effect for the geographic region of birth of individual *i* and ε_i is an error term. Standard errors are corrected for heteroskedasticity and clustered by country of birth.

The primary source of data is the European Social Survey (ESS). The ESS is conducted biennially by the European Science Foundation. I use data from the first four rounds that were conducted (2002, 2004, 2006 and 2008). The baseline sample includes immigrants from fifty-five countries, distributed across all six continents, who have migrated to one of twenty-five (mostly) European countries.

Survey respondents are given the statement "the government should take measures to reduce differences in income levels" and asked whether they strongly agree, agree, neither agree nor disagree, disagree or strongly disagree. The dependent variable, a person's preferences for redistribution, is derived by their response. A response of strongly disagree is given a value of one, while a response of strongly agree is given a value of five. Thus, higher values of this variable correspond to stronger preferences for redistribution.

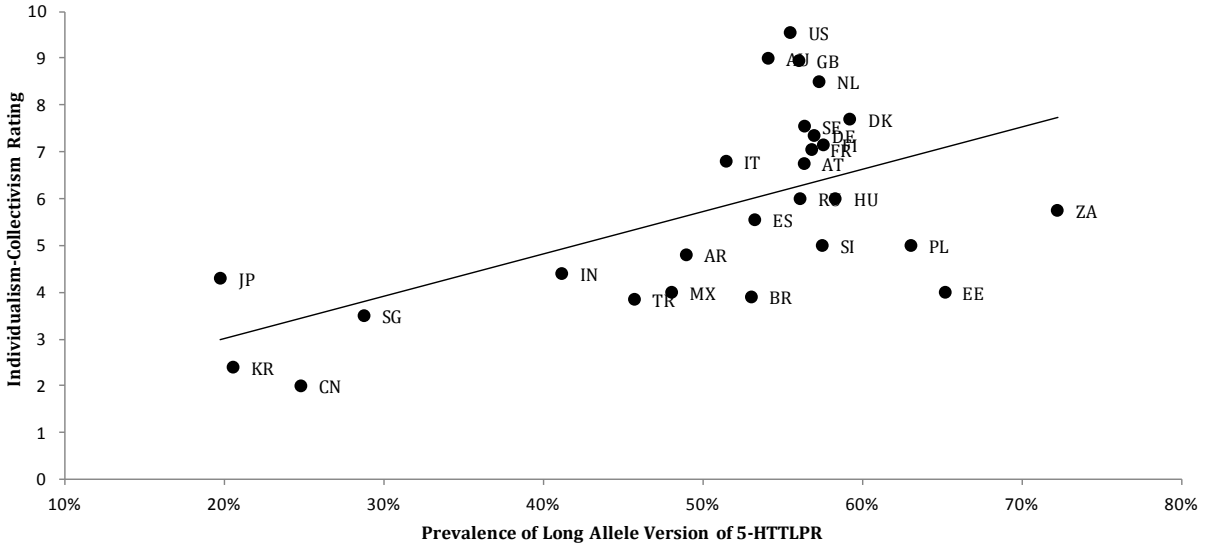
The cultural individualism-collectivism in the immigrant's birth country, $ICRating_b$, is captured by a rating that was developed by Suh et al (1998), using the input of two eminent social psychologists,

Geert Hofstede and Harry Triandis. Hofstede captured a country's individualism objectively, using the results of surveys conducted on IBM employees across a broad set of countries in the 1960s. Triandis' approach was more subjective. He rated a number of countries on a scale of one (most collectivist) to ten (most individualistic) on the basis of empirical research as well as observations of everyday behaviour of individuals in various countries. $ICRating_b$ is the mean of these separate ratings. It takes on values from one to ten, where higher values represent a more individualistic culture. Thus, the null hypothesis is that $\beta_1 < 0$. In this context, an individualistic culture is one which accepts and emphasises the need for individuals to act on their own self-interest. On the other hand, a collectivist culture places greater emphasis on the importance of individuals making choices which consider the broader society.

When examining robustness, I use an alternate variable to capture a country's individualism-collectivism. This variable was taken from a paper by Chiao and Blizinsky (2010). While human behaviour is influenced by a vast number of genes, one of particular importance is the serotonin transporter gene, which regulates the concentration of serotonin in various parts of the brain. A particular region of this gene, known as 5-HTTLPR, governs the concentration of serotonin in a person's synaptic cleft (the area between the brain's synapses). There exists two different versions of this particular region of the serotonin transporter gene, a short allele version and a long allele version. Individuals with the short allele version have a relatively higher concentration of serotonin in the synaptic cleft and are more susceptible to a variety of negative affective disorders, including anxiety and depression. Chiao and Blizinsky propose that societies with a relatively high prevalence of the short allele version of 5-HTTLPR (and a relatively high prevalence of negative affective disorders) evolved a more collectivist culture. With less emphasis on the individual, those who were more susceptible to negative affective disorders became less likely to actually suffer from them. Countries with a high prevalence of the long allele version, on the other hand, evolved an individualistic culture. Figure 2.5 neatly captures this correlation. Countries in East Asia simultaneously have a low prevalence of the long allele version of 5-HTTLPR and a low individualism rating, while countries in Europe have both a high prevalence of the long allele version of 5-HTTLPR and a high individualism rating. This variable represents the percentage of a

country's population which possesses the long allele version of 5-HTTLPR, and indirectly captures the importance of individualistic attitudes and behaviours in a given culture.

Figure 2.5: Country's IC Rating vs its Prevalence of the Long Allele Version of 5-HTTLPR



Notes: Higher values of the I-C Rating indicate a country with a more individualistic culture. The regression line has a slope of 9.03 with a standard error of 2.52. The adjusted R^2 equals 0.31.

The set of control variables (X_i) is expansive and accounts for a number of individual characteristics. In the baseline regressions, these individual characteristics include the immigrant's age, gender, education, income, employment status, marital status and urban/rural residence. I also control for the log GDP per capita of the immigrant's home country, taken from the World Development Indicators database. It measures log GDP in terms of international dollars using 2005 prices. This ensures that any relationship between the individualism-collectivism of one's home country and one's preferences for redistribution is not being driven by the income level in one's home country. That is, I control for the possibility that wealthier countries tend to i) have a more individualistic culture and ii) produce citizens that have relatively weak preferences for redistribution.

Robustness checks include increasingly expansive sets of control variables which, among other things, control for an immigrant's assimilation into their residence country, religious affiliation and intensity, parent's education, occupation and industry, as well as a number of birth country characteristics.

Gini coefficients were taken from the UN-WIDER database and capture the extent of income inequality in one's birth country. A number of variables describing the institutions of one's birth country were taken from the World Governance Indicator database. These variables include voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. These variables range from -3.5 to 3.5, with higher values corresponding to higher quality institutions. Utilizing responses to the ESS itself, three variables were constructed which capture the beliefs held by natives of one's birth country with respect to the extent to which people believe that others can be trusted, try to be fair and try to be helpful. Higher values of these variables correspond to more positive views of society.

Two additional variables were constructed from responses to the World Values Survey (WVS), a survey similar to the ESS but with an international (rather than simply European) scope. These variables have been used in the broader political economy literature to capture important cultural attitudes. Respondents were asked to describe how important family was in their lives, from very important (one, on a scale of one to four) to not important at all (four). Family ties in one's birth country were derived by taking the weighted mean of these responses, inverting the values so that higher values of this variable correspond to stronger family ties. Respondents were also asked the extent to which they believed that luck (ten, on a scale of one to ten) or hard work (one) led to success. For each country, I took the weighted mean of responses to this question. Higher values of this variable correspond to a culture that believes that success comes mainly from luck.

Four variables capturing certain cultural attitudes were taken from Geert Hofstede's database on national culture. The Power Distance Index captures how accepting a society is of hierarchical order and inequality. The Uncertainty Avoidance Index captures the degree to which a society prefers to avoid uncertainty and change. Long term vs. Short term Orientation captures the extent to which a society embraces the future and its willingness to abandon tradition. Indulgence vs. Restraint captures a society's willingness to allow people to have fun and enjoy their lives, rather than obey a strict code of social norms.

Table 2.1: Descriptive Statistics, Immigrants by Countries of Birth and Residence

Country	Immigrants from Birth Country			Number of Immigrants into Residence Country				
	N	IC Rating	Prev. of Long Allele	Round 1	Round 2	Round 3	Round 4	Total
Argentina	52	4.8	48.96	0	0	0	0	0
Australia	47	9	54.09	0	0	0	0	0
Austria	87	6.75	56.35	81	67	69	0	217
Belarus	94	4	N/A	0	0	0	0	0
Belgium	140	7.25	N/A	80	75	78	95	328
Brazil	98	3.9	53.04	0	0	0	0	0
Bulgaria	59	5	N/A	0	0	8	0	8
Canada	55	8.5	N/A	0	0	0	0	0
Chile	33	4.15	N/A	0	0	0	0	0
China	37	2	24.8	0	0	0	0	0
Colombia	40	2.15	N/A	0	0	0	0	0
Cyprus	0	N/A	N/A	0	0	29	0	29
Czech Republic	92	7	N/A	40	52	0	20	112
Denmark	56	7.7	59.2	33	37	41	54	165
Egypt	50	4.4	N/A	0	0	0	0	0
Estonia	30	4	65.19	0	0	0	216	216
Finland	63	7.15	57.55	44	18	27	44	133
France	391	7.05	56.82	0	48	61	66	175
Germany	656	7.35	56.97	111	117	116	126	470
Ghana	16	3	N/A	0	0	0	0	0
Greece	45	5.25	N/A	64	83	0	29	176
Hong Kong	13	4.75	N/A	0	0	0	0	0
Hungary	73	6	58.29	0	23	0	15	38
Iceland	14	7	N/A	0	0	0	0	0
India	120	4.4	41.15	0	0	0	0	0
Indonesia	80	2.2	N/A	0	0	0	0	0
Ireland	65	6	N/A	0	97	148	231	476
Israel	0	N/A	N/A	369	0	0	337	706
Italy	339	6.8	51.46	10	16	0	0	26
Japan	10	4.3	19.75	0	0	0	0	0
Korea, Republic of	22	2.4	20.55	0	0	0	0	0
Latvia	31	4	N/A	0	0	0	0	0
Lithuania	33	4	N/A	0	0	0	0	0
Luxembourg	0	N/A	N/A	241	265	0	0	506
Mexico	8	4	48.04	0	0	0	0	0
Nepal	3	3	N/A	0	0	0	0	0
Netherlands	143	8.5	57.28	92	84	70	90	336
Nigeria	46	3	N/A	0	0	0	0	0
Norway	28	6.95	N/A	81	53	74	66	274
Pakistan	75	2.2	N/A	0	0	0	0	0
Peru	24	2.8	N/A	0	0	0	0	0
Poland	325	5	63.04	21	16	11	14	62
Portugal	321	3.85	N/A	23	33	22	24	102
Romania	234	5	N/A	0	0	0	0	0
Russian Federation	692	6	56.09	0	0	30	22	52
Singapore	11	3.5	28.76	0	0	0	0	0
Slovakia	106	7	N/A	0	0	0	0	0
Slovenia	15	5	57.48	0	0	0	0	0
South Africa	66	5.75	72.21	0	0	0	0	0
Spain	119	5.55	53.25	23	46	44	77	190
Sweden	137	7.55	56.37	121	0	0	0	121
Switzerland	36	7.9	N/A	222	227	199	237	885
Thailand	23	3	N/A	0	0	0	0	0
Turkey	303	3.85	45.71	0	0	0	0	0
United Kingdom	410	8.95	56.02	113	77	102	149	441
United States	165	9.55	55.47	0	0	0	0	0
Zimbabwe	13	3	N/A	0	0	0	0	0

Table 2.2: Descriptive Statistics, Summary of Variables

Variable	N	Mean	SD	Min	Max
Individual preference for redistribution	6244	2.262	1.067	1	5
Birth country IC rating	6244	6.071	1.822	2	9.55
Birth country log GDP per capita	6244	9.764	0.714	7.03	10.64
Birth country Gini coefficient	6244	35.207	8.723	23	73.3
Birth country prevalence of long allele version of 5-HTTLPR	4495	54.909	6.481	19.75	72.21
Household income	6244	6.617	2.781	1	12
Age	6244	47.558	16.669	18	95
Male	6244	0.463	0.499	0	1
Education					
Less than High School	6244	0.111	0.314	0	1
High School	6244	0.483	0.500	0	1
Vocational School	6244	0.025	0.155	0	1
University	6244	0.382	0.486	0	1
Partner's Education					
No Partner	6244	0.375	0.484	0	1
Less than High School	6244	0.074	0.261	0	1
High School	6244	0.300	0.458	0	1
Vocational School	6244	0.019	0.136	0	1
University	6244	0.226	0.418	0	1
Primary Income Source					
Wages and Salary	6244	0.625	0.484	0	1
Self-Employed	6244	0.060	0.238	0	1
Pension	6244	0.214	0.410	0	1
Unemployment Benefits	6244	0.032	0.177	0	1
Social Benefits	6244	0.048	0.214	0	1
Investment	6244	0.007	0.084	0	1
Other	6244	0.014	0.116	0	1
Married	6244	0.554	0.497	0	1
Has a child in the household	6244	0.428	0.495	0	1
Ever unemployed for more than 12 months	6244	0.125	0.330	0	1
Lives in an urban area	6244	0.257	0.450	0	1
Region of Birth: Africa	6244	0.031	0.172	0	1
Region of Birth: Asia	6244	0.112	0.315	0	1
Region of Birth: Europe (EU-15)	6244	0.476	0.499	0	1
Region of Birth: Europe (Post EU-15)	6244	0.160	0.366	0	1
Region of Birth: Europe (Non-EU)	6244	0.138	0.345	0	1
Region of Birth: Latin America	6244	0.041	0.198	0	1
Region of Birth: North America	6244	0.035	0.184	0	1
Region of Birth: Oceania	6244	0.008	0.086	0	1

Descriptive statistics regarding the birth and residence countries of immigrants in the baseline sample are displayed in Table 2.1. Descriptive statistics of all key variables are displayed in Table 2.2.

2.3 Results

Table 2.3 presents regression results which help describe the relationship between cultural individualism-collectivism and an immigrant's preference for redistribution. Immigrants whose birth country has a relatively individualistic culture are significantly less likely to support redistribution. A standard deviation increase in the IC rating of one's birth country is associated with preferences for redistribution which are thirteen percentage points weaker. Immigrants born in countries with a relatively high log GDP per capita tend to be more supportive of redistributive policies. This result is in line with Luttmer and Singhal (2011). Those authors opted not to attach any economic significance to the result, as they found the magnitude and statistical significance to be inconsistent across samples and specifications. Having found the same to be true, I too treat it only as a useful control variable.

Broadly speaking, the other control variables produce intuitive results which are in line with the literature. Older individuals, urban residents, those receiving social benefits and individuals with a history of unemployment tend to have stronger preferences for redistribution. Males, married individuals, the self-employed and those who primarily live off of investment income tend to have weaker preferences for redistribution. As expected, the coefficients for income and education are both negative. Those with a university education are significantly less likely to support redistribution than those without one. The same holds for wealthier individuals. In particular, an extra standard deviation of household income is associated with preferences for redistribution which are eleven percentage points weaker. This result suggests that, in terms of determining a person's preferences for redistribution, the individualism-collectivism of one's birth country culture might be as relevant a factor as one's own income level. In order to better isolate the effect of household income on preferences for redistribution, Luttmer and Singhal (2011) run a regression in which the other income-related control variables (education, spouse's education, primary income source) are removed. Column 2 displays the results of this regression. An extra standard deviation of household income is associated with preferences for redistribution which are

thirteen percentage points stronger. Birth country IC rating is associated with a fourteen percentage point decrease in redistribution support, corroborating my earlier observation.

Table 2.3: Individualism-Collectivism and Preferences for Redistribution
Dependent Variable: Subjective preference for income redistribution

	(1)		(2)	
	Coefficient	(SE)	Coefficient	(SE)
Birth Country IC Rating	-0.075 ***	(0.022)	-0.086 ***	(0.024)
Birth Country log GDP per capita	0.013	(0.044)	0.021	(0.045)
Household income	-0.041 ***	(0.007)	-0.049 ***	(0.005)
Age	0.004 ***	(0.001)	0.005 ***	(0.001)
Male	-0.067 **	(0.029)	-0.074 **	(0.029)
Married	-0.122 **	(0.056)	-0.079 **	(0.038)
Education				
High School	-0.010	(0.048)		
Vocational School	0.073	(0.093)		
University	-0.130 **	(0.055)		
Spouse's Education				
Less than High School	0.109	(0.066)		
High School	0.092 **	(0.045)		
Vocational School	0.032	(0.088)		
University	0.025	(0.043)		
Primary Income Source				
Self-Employed	-0.208 ***	(0.057)		
Pension	0.032	(0.039)		
Unemployment Benefits	0.038	(0.077)		
Social Benefits	0.093 *	(0.052)		
Investment	-0.374 **	(0.153)		
Other	-0.280 *	(0.148)		
Has a child in the household	0.046	(0.036)	0.055	(0.034)
Ever unemployed for more than 12 months	0.172 ***	(0.038)	0.159 ***	(0.039)
Lives in an urban area	0.091 ***	(0.029)	0.059 **	(0.028)
N	6244		6841	
Adjusted R^2	0.1098		0.1045	

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include Region of Birth and Residence Country-Round dummies. "Less than high school" is the omitted education variable. "Not married" is the omitted spouse education variable. "Salary and wages" is the omitted income source. Regressions include interaction dummies for residence country-round. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10%

The relationship between cultural individualism-collectivism and preferences for redistribution can be examined in another way. My main hypothesis is that immigrants from individualist cultures

should be more likely to consider their own interests relative to those from collectivist cultures. If this is true, I would expect to find that the relationship between income and preferences for redistribution would be stronger for those individualist immigrants. In order to test this theory, I interact each immigrant's household income with a dummy capturing whether they were born in an individualist country or a collectivist country. Individualist countries are those with an IC rating greater or equal to six, while collectivist countries are those with an IC rating less than six. I then rerun the regression in Table 2.3, Column 1, replacing birth country IC rating and household income with these two interaction variables. The relationship between household income and preferences for redistribution appears to be twice as large for immigrants from individualist countries (Table 2.4, Row 1). A test on equal coefficients confirms that this is a statistically significant difference. I repeat this exercise once more, this time examining education as opposed to income. In all other regressions, I use education dummy variables to better capture the nuances associated with each level of education one might complete. In this case, I use a linear variable for education equal to one for those with less than a high school education and five for those with a university education. I interact each immigrant's education level with a dummy capturing whether they were born in an individualist country or a collectivist country and rerun the regression in Table 2.3, Column 1, this time replacing the dummies for own education with these two interaction variables. The relationship between education and preferences for redistribution also appears to be twice as large for immigrants from individualist countries (Table 2.4, Row 2), with the difference being confirmed by a test of equal coefficients.

Table 2.4: Self-Interest and Preferences for Redistribution, by Birth Country IC Rating
Dependent Variable: Subjective preference for income redistribution

	Coefficient	(SE) *p* -value	Adjusted R^2	N
1. Household income				
Individualist birth country	-0.054 ***	(0.008)	0.1100	6244
Collectivist birth country	-0.025 ***	(0.008)		
p -value on test of equal coefficients		0.0069		
2. Education level				
Individualist birth country	-0.066 ***	(0.015)	0.1085	6244
Collectivist birth country	-0.025 *	(0.015)		
p -value on test of equal coefficients		0.0197		

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include the control variables used in Table 2.3, Column 1. Individualist countries have an IC rating greater than or equal to six, while collectivist countries have an IC rating less than six. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Robustness Analysis

The robustness of this relationship is examined through the use of a variety of specifications (Table 2.5), the inclusion of a number of birth country control variables (Table 2.6), sample restrictions (Table 2.7) and alternate variables (Tables 2.8 and 2.9). This analysis provides further support for the empirical validity of the relationship between the individualism-collectivism of a person's culture and their own preferences for redistribution. The various specifications differ considerably from the first one to the last. In the first specification of Table 2.5, I regress an individual's subjective preference for redistribution only against their home country's IC rating and two sets of dummies. One set interacts the ESS round in which the immigrant participated in the survey and the immigrant's country of residence, while the other captures the geographic region in which the respondent's birth country is located. Home country IC rating is estimated to have a significant relationship with one's preferences for redistribution with a magnitude of fifteen percentage points. Under the second specification (the same specification used in Table 2.3, Column 1), the magnitude of the relationship is thirteen percentage points. Moreover, all else being equal, respondents from Africa, Asia, North America or a European country outside of the EU's original fifteen members tend to have weaker preferences for redistribution than those from a EU-15

nation, all else equal. The opposite is true for respondents from Australia. These results were consistent across all specifications.

The third specification expands the control variable set further by including a quadratic term for age, third-order polynomials for household income and dummies which capture whether or not the spouse is currently working, whether the respondent has ever worked, whether the respondent is a linguistic minority in their residence country, how recently the respondent immigrated and the respondent's religious preference. Under this specification, the key relationship has a magnitude of twelve percentage points. Moreover, this specification provides some evidence that, all else being equal, immigrants who have arrived in their residence country in the last ten years have weaker preferences for redistribution than immigrants who have lived in their residence country longer than ten years.

It stands to reason that the preferences for redistribution of individuals in different countries may respond differently to variation in income levels (Luttmer and Singhal 2011). In order to control for this scenario, the fourth specification includes third-order polynomials for income which are interacted with the immigrant's country of residence (in addition to the controls used in the third specification). This specification also includes dummies that capture whether the respondent attends religious services at least once a month, whether the respondent voted in the most recent national election and whether the respondent is a citizen of their residence country. The key relationship is similarly robust to the inclusion of these new control variables. Its magnitude is estimated at eleven percentage points. This specification produces an interesting secondary finding that voters tend to have weaker preferences for redistribution than non-voters, all else being equal.

Table 2.5: Individualism-Collectivism and Preferences for Redistribution, Alternative Specifications
Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE)	Adjusted R^2	N
Specification 1	-0.089 ***	(0.018)	0.0772	9972
Specification 2	-0.075 ***	(0.022)	0.1098	6244
Specification 3	-0.069 ***	(0.020)	0.1147	6244
Specification 4	-0.067 ***	(0.019)	0.1174	6244
Specification 5	-0.054 ***	(0.018)	0.1239	6244

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Specification 1 includes only region of birth and ESS round-country of residence dummies as controls. Specification 2 includes the same controls as the baseline regressions in Table 2.3, Column 1. Specification 3 includes the baseline controls as well as a quadratic term for age, third-order polynomials for log household income and controls for whether or not the spouse is currently working, whether the respondent has ever worked, whether the respondent is a linguistic minority in their residence country, how recently the respondent immigrated, the respondent's religious preference. Specification 4 includes the same controls as #3, but interacts the third-order polynomials for log household income with the respondent's country of residence. This specification also includes dummies that capture whether the respondent attends religious services at least once a month, whether the respondent voted in the most recent national election and whether the respondent is a citizen of their residence country. Specification 5 includes the same controls as #4, as well as controls for the respondent's main activity in the last week, the Gini coefficient of the respondent's birth country, whether they belong to a union, the education level of the respondent's mother and father, the respondent's occupation and the respondent's industry. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

The final specification is the most comprehensive and includes the variables in specification four as well as controls for the respondent's main activity in the last week, the Gini coefficient of the respondent's birth country, whether they belong to a union, the education level of the respondent's mother and father, the respondent's occupation, the respondent's industry and the geographic region of the respondent's birth country. The magnitude of the key relationship is nine percentage points. While the relationship's magnitude decreases with more and more controls, it is still relatively large and it retains its statistical significance (at the 99% level). The new control variables produce fairly unsurprising results. Professionals and those working in the financial industry tend to have weaker preferences for redistribution, all else being equal. The same can be said for individuals with an educated father. On the

other hand, union members and unemployed workers who were looking for a job tend to have stronger preferences for redistribution.

In order to better determine whether the observed relationship between individualism-collectivism and one's preferences for redistribution truly exists, and is not being driven by some omitted variables, I include a number of birth country variables to the last (and most comprehensive) specification used in Table 2.5. While Luttmer and Singhal (2011) find evidence that culture influences one's preferences for redistribution, it remains to be seen which exact aspects of one's birth country is driving this. This paper provides evidence that the relationship is driven in part by the individualism-collectivism of one's birth country. However, there are a number of other possible factors. In turn, I include variables capturing a handful of cultural attitudes (views on the trustworthiness, fairness and helpfulness of people, the acceptance of hierarchical order, the avoidance of uncertainty and change, the embracement of the future and the enjoyment of life, the importance of family and the degree to which luck influences success) and institutional characteristics (accountability, corruption, effectiveness and stability of government, regulatory quality and rule of law) of one's birth country into the most comprehensive specification used in Table 2.5 in order to better understand if this paper's relationship is being driven by omitted variable bias. The results of these regressions are found in Table 2.6. In each case, the birth country IC rating retains its statistical significance. Ranging in magnitude from seven to thirteen percentage points, the relationship appears to retain its economic significance as well. Nevertheless, there may yet be some still omitted variables driving the relationship. Of the fifteen newly included birth country variables, three produced coefficients that were statistically significant (all at the ninety-five percent confidence level). Immigrants born in countries with a short term oriented (traditionalist) culture appear to have stronger preferences for redistribution, as do those from countries with strong family ties and a high level of government accountability.

Table 2.6: Individualism-Collectivism and Preferences for Redistribution, Birth Country Control Variables
Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE)	Adjusted R^2	N
ESS: People can be trusted	-0.075 ***	(0.021)	0.1202	4731
ESS: People try to be fair	-0.073 ***	(0.021)	0.1203	4731
ESS: People try to be helpful	-0.077 ***	(0.022)	0.1202	4731
Hofstede: Power distance index	-0.044 *	(0.022)	0.1226	4923
Hofstede: Uncertainty avoidance index	-0.083 **	(0.033)	0.1228	4923
Hofstede: Long term vs. short term normative orientation	-0.051 **	(0.022)	0.1227	5083
Hofstede: Indulgence vs. restraint	-0.061 **	(0.025)	0.1220	5008
WVS: Family ties	-0.051 ***	(0.019)	0.1276	5513
WVS: Luck determines success more than hard work	-0.056 **	(0.023)	0.1271	5476
WGI: Voice and accountability	-0.059 ***	(0.017)	0.1243	6244
WGI: Control of corruption	-0.054 ***	(0.018)	0.1238	6244
WGI: Government effectiveness	-0.054 ***	(0.018)	0.1238	6244
WGI: Political stability and absence of violence	-0.050 ***	(0.017)	0.1240	6244
WGI: Regulatory quality	-0.052 ***	(0.019)	0.1238	6244
WGI: Rule of law	-0.055 ***	(0.018)	0.1238	6244

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Each specification includes includes the same controls as the baseline regressions in Table 2.3, Column 1, as well as a quadratic term for age, third-order polynomials for log household income interacted with the respondent's country of residence, controls for whether or not the spouse is currently working, whether the respondent has ever worked, whether the respondent is a linguistic minority in their residence country, how recently the respondent immigrated, the respondent's religious preference, dummies that capture whether the respondent attends religious services at least once a month, whether the respondent voted in the most recent national election, whether the respondent is a citizen of their residence country, the respondent's main activity in the last week, the Gini coefficient of the respondent's birth country, whether they belong to a union, the education level of the respondent's mother and father, the respondent's occupation and the respondent's industry. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

The relationship is also robust to a variety of sample restrictions (Table 2.7). In each of these regressions, the third specification of Table 2.5 was used. These restrictions include omitting immigrants

from the two, five and twelve countries with the highest and lowest IC ratings or those from an Eastern Bloc country. Regressions were also run on samples composed only of immigrants from European countries, non-European countries, countries with an above average IC rating and countries with a below average IC rating. In each case, the relationship is statistically significant and has a magnitude between seven and thirteen percentage points, comparable to the original regressions.

Table 2.7: Individualism-Collectivism and Preferences for Redistribution, Sample Restrictions
Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE)	Adjusted R^2	N
Two highest/lowest IC rating countries omitted	-0.067 ***	(0.021)	0.1085	5955
Five highest/lowest IC rating countries omitted	-0.072 ***	(0.025)	0.1103	5170
Twelve highest/lowest IC rating countries omitted	-0.075 ***	(0.021)	0.1068	3957
Eastern Bloc countries omitted	-0.069 ***	(0.022)	0.1197	4460
Respondent born in Europe	-0.083 ***	(0.024)	0.1104	4834
Respondent born outside of Europe	-0.051 *	(0.026)	0.1388	1410
Respondent's home country has IC rating ≥ 6	-0.089 **	(0.032)	0.1152	3795
Respondent's home country has IC rating < 6	-0.072 **	(0.030)	0.1120	2449

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include the control variables used in Table 2.5, Specification 3. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Thus far, the level of individualism-collectivism present in a country has been captured by a rating developed by social psychologists. Recent work in various fields of biology suggest that a culture's level of individualism-collectivism is strongly correlated to the frequency of the long allele version of a particular region (5-HTTLPR) of the serotonin transporter gene within that culture's population (Chiao and Blizinsky 2010). Individuals with the long allele version are less susceptible to a variety of negative affective disorders, including anxiety and depression, than those with the short allele version. Thus, while populations with a high frequency of the short allele version evolved more collectivist cultures (which put

less social pressure on the individual, making them less likely to suffer from the negative affective disorders they may have been prone to), populations with a high frequency of the long allele version evolved more individualistic cultures.

As a final robustness check, the regressions of Tables 2.3 and 2.4 are rerun using the prevalence of the long allele version of 5-HTTLPR in the respondent's birth country in place of the individualism-collectivism rating. The prevalence of the long allele version is used instead of the short allele version as it is positively correlated with a country's IC rating and, thus, makes for a more straightforward replacement. A higher prevalence of the long allele version is synonymous with a lower prevalence of the short allele version, and vice versa, as those are the only two possible types of allele. The results of these regressions are displayed in Tables 2.8 and 2.9. These regressions corroborate the baseline results. Individuals born in countries with a higher prevalence of the long allele version of 5-HTTLPR tend to have weaker preferences for redistribution (Table 2.8). In this regression, the broadest set of control variables (taken from Table 2.5, Specification 5) are used. An extra standard deviation of this variable is associated with preferences for redistribution which are thirteen percentage points weaker. Moreover, both household income and education have a stronger relationship with the preferences for redistribution of those born in countries with a high prevalence of the long allele version of 5-HTTLPR (Table 2.9). A country is considered to have a high prevalence of the long allele version if at least fifty-six percent of the population possesses it. This threshold splits the set of birth countries for which data is available in half. Moreover, the specification from the baseline regression (Table 2.3, Column 1) is used.

Table 2.8: Individualism-Collectivism and Preferences for Redistribution, Genetic Data
Dependent Variable: Subjective preference for income redistribution

Explanatory Variable	Coefficient	(SE)	Adjusted R^2	N
Prevalence of long allele version of 5-HTTLPR in birth country	-0.021 ***	(0.004)	0.1220	4495

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include the control variables used in Table 2.5, Specification 5. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Table 2.9: Self-Interest and Preferences for Redistribution, Genetic Data
Dependent Variable: Subjective preference for income redistribution

	Coefficient	(SE) *p* -value	Adjusted R^2	N
1. Household income				
High prevalence of long allele version of 5-HTTLPR in birth country	-0.056 ***	(0.009)	0.1125	4495
Low prevalence of long allele version of 5-HTTLPR in birth country	-0.025 **	(0.010)		
p -value on test of equal coefficients		0.0048		
2. Education level				
High prevalence of long allele version of 5-HTTLPR in birth country	-0.144 ***	(0.045)	0.1034	4495
Low prevalence of long allele version of 5-HTTLPR in birth country	-0.094 **	(0.046)		
p -value on test of equal coefficients		0.0271		

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include the control variables used in Table 2.3, Column 1. A country is considered to have a high prevalence of the long allele version of 5-HTTLPR if at least 56% of its population possesses that allele. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Heterogeneity

It is unlikely that all immigrants are influenced to the same degree by the individualism-collectivism of their ancestral culture. Luttmer and Singhal (2011) provide a useful template for examining the heterogeneity of culture's relationship with preferences for redistribution among immigrants. They interact their cultural variable with a variety of dummies which capture some aspect of the immigrant, their group or their residence country. In Rows 1, 2, 3 and 4 of Table 2.10, I interact birth country IC rating with dummies that capture whether an immigrant has lived in their country of residence for more than twenty years, is a citizen of their country of residence, voted in the last national election or has children in the household. Luttmer and Singhal (2011) found that culture had a larger influence on the preferences for redistribution of recent immigrants, non-citizens, non-voters and those without children in the household. I find less conclusive evidence that birth country IC rating has a heterogeneous relationship with immigrant's preferences for redistribution, though I do find that the relationship is stronger among voters than non-voters. In each case, the individual coefficients themselves are statistically significant. These results suggest that the influence of cultural individualism-collectivism on

one's preference for redistribution persists even after living in a residence country for decades and becoming a citizen.

Rows 5 and 6 examine how the relationship differs in magnitude for immigrants who are linguistic or ethnic minorities. An immigrant is considered a linguistic minority if the language they speak at home is spoken by less than thirty percent of the native population in their residence country. While it would be straightforward to use the respondent's self-reported ethnic minority status, Luttmer and Singhal (2011) were justifiably concerned that this subjective variable may be correlated with omitted variables. Instead, they constructed a variable equal to the share of immigrants from an immigrant's birth country living in the same residence country who identify as ethnic minorities. An immigrant is considered an ethnic minority if this variable is above median across all immigrant groups in each country of residence. The relationship appears to be stronger for immigrants who speak a minority language at home (though the difference is not statistically significant) and whose group members identify as ethnic minorities. Luttmer and Singhal (2011) came to similar conclusions, pointing out that minorities may have more trouble assimilating into their new country's culture, which leads them to be more influenced by their birth country's culture.

Row 7 examines whether the preferences for redistribution of immigrants belonging to relatively large immigrant groups are more or less influenced by their birth country's IC rating. Luttmer and Singhal (2011) found that culture, in a general sense, had a much stronger relationship with the preferences for redistribution of immigrants from larger groups. My results suggest that group size has little effect on the strength of the relationship between the individualism-collectivism of one's culture and an immigrant's preferences for redistribution. While the coefficient for immigrants belonging to smaller groups is slightly larger, the difference is not statistically significant. Finally, I examine how this relationship varies depending on the characteristics of an immigrant's residence country. The preferences for redistribution of immigrants living in countries with a high proportion of ethnic minorities tend to be more strongly influenced by their birth country's IC rating (Row 8). Luttmer and Singhal (2011) found the same result when examining culture more generally. This result is intuitive as countries with a large

proportion of ethnic minorities are likely more multicultural, with less pressure being put on immigrants to assimilate into their residence country's culture. Luttmer and Singhal (2011) similarly determined that culture's influence on preferences for redistribution was stronger for those living in countries with a high fraction of immigrants. However, the difference across low- and high-immigrant countries wasn't as strong as the difference between low- and high-ethnic minority countries. This, too, is intuitive as some of those immigrants may have a culture or speak a language that is not too far removed from that of their residence country. Thus, compared to those immigrants who identify as ethnic minorities, immigrants in general may find it easier to assimilate into their new country's culture. I come to a similar conclusion. Those living in high-immigrant countries do not appear to be more strongly influenced by their birth country's IC rating (Row 9).

Table 2.10: Individualism-Collectivism and Preferences for Redistribution, Heterogeneity

Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE)	Adjusted R^2	N
		p -value		
1. Time lived in residence country				
Has lived in residence country for ≤ 20 years	-0.077 ***	(0.023)	0.1146	6244
Has lived in residence country for > 20 years	-0.062 ***	(0.019)		
p -value on test of equal coefficients		0.2127		
2. Citizenship				
Citizen of residence country	-0.069 ***	(0.020)	0.1142	6232
Non-citizen of residence country	-0.069 ***	(0.021)		
p -value on test of equal coefficients		0.9084		
3. Voting				
Voted in last national election	-0.036 ***	(0.010)	0.1136	6244
Did not vote in last national election	-0.028 **	(0.012)		
p -value on test of equal coefficients		0.0280		
4. Children in the household				
Has children in the household	-0.074 ***	(0.023)	0.1144	6244
Does not have children in the household	-0.066 ***	(0.021)		
p -value on test of equal coefficients		0.6097		
5. Language spoken				
Speaks the dominant language at home	-0.057 **	(0.022)	0.1149	6244
Speaks a minority language at home	-0.088 ***	(0.025)		
p -value on test of equal coefficients		0.2315		
6. Fraction of immigrant group identifying as ethnic minority				
Fraction below median	-0.065 ***	(0.020)	0.1155	6244
Fraction above median	-0.079 ***	(0.020)		
p -value on test of equal coefficients		0.0115		
7. Fraction of immigrant group within residence country				
Fraction below median	-0.073 ***	(0.019)	0.1146	6244
Fraction above median	-0.067 ***	(0.022)		
p -value on test of equal coefficients		0.4792		
8. Fraction of residence country identifying as ethnic minority				
Fraction below median	-0.047 **	(0.021)	0.1157	6244
Fraction above median	-0.094 ***	(0.021)		
p -value on test of equal coefficients		0.0319		
9. Fraction of residence country identifying as immigrant				
Fraction below median	-0.063 ***	(0.020)	0.1145	6244
Fraction above median	-0.075 ***	(0.023)		
p -value on test of equal coefficients		0.5179		

Notes: Robust standard errors adjusted for clustering by birth country are in parentheses. Regressions include the control variables used in Table 2.5, Specification 3. Methodology borrowed from Luttmer and Singhal (2011): "Immigrant groups are defined both by country of birth and by country of residence. Thus, the population fraction of immigrant group is measured as the ratio of immigrants from a particular birth country to the total population in their country of residence. In rows 6 through 9, the median is taken over all immigrants from ESS countries in the ESS dataset. A language is defined as dominant if more than 30 percent of the native population speaks it as a primary language in the home." *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

Intergenerational Transmission of Culture

Thus far, I have examined the manner in which an immigrant's birth country culture influences their preferences for redistribution. It is also worth exploring the degree to which an immigrant's culture influences the preferences for redistribution of their locally born children. To do so, I employ two strategies used earlier in this paper. However, instead of using a sample of first-generation immigrants, I use samples of second-generation immigrants. To begin, I construct three new samples which include individuals who were born in their country of residence but either i) have a foreign-born father (2698 respondents), ii) have a foreign-born mother (2695 respondents) or iii) have foreign-born parents with the same country of birth (963 respondents). In each regression, reported in Table 2.11, I use the control variables used in Table 2.5, Specification 5. I find that the three samples produce similar results. In each case, the sign of the coefficient is the same as the baseline results. Individuals whose parent(s) were born in countries with more individualistic cultures tend to have weaker preferences for redistribution in their country of residence (Rows 1 to 3). The magnitudes of these relationships vary from six to nine percentage points, though the coefficient is only statistically significant for those with a foreign-born father. Similarly, individuals whose parent(s) were born in countries with a high prevalence of the long allele version of 5-HTTLPR tend to have weaker preferences for redistribution (Rows 4 to 6). These relationships vary in magnitude from seven to fifteen percentage points. However, once more, the coefficient is accurately estimated in only one case (foreign-born mother). These results suggest that a second-generation immigrant's preferences for redistribution may be influenced by the individualism-collectivism of their ancestral culture in the expected manner, though said influence is weaker than in the case of first-generation immigrants, who were directly exposed to their ancestral culture.

Table 2.11: Individualism-Collectivism and Preferences for Redistribution, Second Generation
Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE)	Adjusted R^2	N
1. IC rating of father's birth country	-0.038 *	(0.019)	0.1478	2698
2. IC rating of mother's birth country	-0.038	(0.028)	0.1430	2695
3. IC rating of parents' birth country	-0.059	(0.052)	0.2082	963
4. Prevalence of long allele version of 5-HTTLPR in father's birth country	-0.013	(0.009)	0.1425	2006
5. Prevalence of long allele version of 5-HTTLPR in mother's birth country	-0.030 ***	(0.008)	0.1601	2026
6. Prevalence of long allele version of 5-HTTLPR in parent's birth country	-0.021	(0.013)	0.1909	725

Notes: Robust standard errors adjusted for clustering by parent's birth country are in parentheses. Regressions include the control variables used in Table 2.5, Specification 5. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

As discussed earlier, culture may not only directly influence one's preferences for redistribution but may also affect the way other factors influence these preferences. In particular, I found that first-generation immigrants born in relatively individualist countries had preferences for redistribution that were more strongly influenced by self-interest (income and education) than those born in relatively collectivist countries (Table 2.4). In Table 2.12, I repeat these regressions, this time interacting each second-generation immigrant's household income and education level with a dummy capturing whether their father/mother was born in an individualist country or a collectivist country. Individualist countries are those with an IC rating greater or equal to six, while collectivist countries are those with an IC rating less than six. These four regressions produce very consistent results. In each case, a second-generation immigrant's household income or education level is associated with weaker preferences for redistribution. However, the magnitude of these relationships is larger for those whose father/mother was born in an individualist country, with the difference being statistically significant in all four regressions. These results suggest that second-generation immigrants whose parents were born in relatively individualist countries have preferences for redistribution that are more strongly influenced by self-interest than those descending from relatively collectivist countries. Together, the results of Tables 2.11 and 2.12 support the possibility that cultural individualism-collectivism is transmitted across generations, and influences the preferences for redistribution of both first- and second-generation immigrants. While the direct effect

of cultural individualism-collectivism on a second-generation immigrant's preferences for redistribution appears weaker than in the case of first-generation immigrants, this cultural trait appears to strongly influence the degree to which both first- and second-generation immigrants, and their preferences for redistribution, are motivated by self-interest.

Table 2.12: Self-Interest and Preferences for Redistribution, by IC Rating of Parent's Birth Country
Dependent Variable: Subjective preference for income redistribution

	IC Rating Coefficient	(SE) *p* -value	Adjusted R^2	N
1. Household income				
Father born in Individualist country	-0.057 ***	(0.010)	0.1269	2699
Father born in Collectivist country	-0.042 ***	(0.014)		
p -value on test of equal coefficients		0.0745		
2. Household income				
Mother born in Individualist country	-0.066 ***	(0.011)	0.1264	2695
Mother born in Collectivist country	-0.046 ***	(0.012)		
p -value on test of equal coefficients		0.0082		
3. Education level				
Father born in Individualist country	-0.055 ***	(0.016)	0.1237	2699
Father born in Collectivist country	-0.014	(0.022)		
p -value on test of equal coefficients		0.0124		
4. Education level				
Mother born in Individualist country	-0.072 ***	(0.022)	0.1237	2695
Mother born in Collectivist country	-0.020	(0.022)		
p -value on test of equal coefficients		0.0005		

Notes: Robust standard errors adjusted for clustering by parent birth country are in parentheses. Regressions include the control variables used in Table 2.3, Column 1. Individualist countries have an IC rating greater than or equal to six, while collectivist countries have an IC rating less than six. *** denotes significance at the 1% level, ** denotes significance at the 5% level and * denotes significance at the 10% level.

2.4 Conclusion

When an individual migrates from their homeland, they bring along with them a culture that bears an influence on the new lives which they seek to create. A culture which is formed by a collection of different cultural attitudes. My analysis focuses on one such cultural trait, individualism-collectivism. Simply put, social psychology theory posits that those from individualistic cultures tend to be more

motivated by internal attributes and self-interest, whereas those from collectivist cultures are more likely to consider others when making personal decisions. I find that cultural individualism-collectivism has a significant influence on the preferences for redistribution of immigrants. This influence is significant in both a statistical and economic sense, as it appears to be as important as one's own income. Moreover, this influence holds i) in a variety of samples, ii) in spite of the inclusion of numerous controls and iii) when an alternate independent variable is used. The individualism-collectivism of an immigrant's home country appears to have a stronger relationship with the redistribution preferences of voters, those belonging to ethnic minority groups and those currently living in relatively multicultural countries. This relationship also seems to persist into the second-generation. Cultural individualism-collectivism also has an indirect influence on an immigrant's preferences for redistribution, as those born in more individualistic countries (or whose parents were born in more individualistic countries) tend to be more strongly influenced by self-interest. Own income and education appear to have a stronger relationship with one's preferences for redistribution among immigrants from individualistic cultures. This result also holds for second-generation immigrants who were born locally, but have foreign-born parents.

Through these empirical findings, I am able to make a number of contributions to the literature. At a basic level, these results add further weight behind the argument that an individual's preferences for redistribution are not simply determined by their own self-interest and the socioeconomic environment within which they live. Rather, these preferences are also influenced by a cultural attitude which they've inherited at birth. Simultaneously, this finding helps develop a prior line of research while establishing a new line of its own. Luttmer and Singhal (2011) showed that culture, in general, has a significant influence on immigrants' preferences for redistribution. My results offer a specific channel through which culture bears this influence. While it may ultimately be the case that the relationship between individualism-collectivism and preferences for redistribution is being driven by some omitted variables, I have made efforts to deal with this issue by using a large set of control variables capturing details of both the individual survey respondents and the respondent's birth country. I also find evidence suggesting that this cultural trait is transmitted across generations and bears some influence on the redistribution

preferences of second-generation immigrants. It also seems fruitful to further research the relationship between the prevalence of the long/short allele versions of 5-HTTLPR in one's birth country and one's preferences for redistribution (or various other economic choices and preferences).

These findings have useful implications both across and within countries. First, cross-country differences in individualism-collectivism provide an explanation for (at least part of) the variation in redistributive policies around the world. Second, the influx of migrants into a country will have some effect on that country's culture. While immigrants do much of the assimilation, the local culture of an immigrant's new home itself often adopts some of the cultural attitudes and practices of their new residents. In particular, immigrants have the potential to influence the balance between individualism and collectivism that exists in their new country's culture. As this cultural balance changes, so too can the preferences for redistribution of the citizenry and, consequently, the country's redistributive policies. More fundamentally, my analysis suggests that this particular cultural trait may determine how relevant self-interest is to an individual's economic choices. Given the central importance of self-interest in economics, this represents a promising line of research going forward.

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