Self-interest or beliefs? A Multilevel Analysis of Support for Wealth Redistribution across countries

Master Thesis Political Science

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Chapter 1: Introduction

In the last two decades, income inequality has increased in OECD countries (OECD COPE 2017). Increasingly more wealth is concentrated with a smaller group of rich people, while the group of people that are relatively poor has grown larger (ibid.). Higher levels of income inequality have far-reaching consequences for societies. Among other things, an increase in income inequality is found to decrease overall happiness (Oishi & Kesebir 2015), increase violent crime rates (Fajnzylber et. al. 2002) and anti-immigrant sentiments (Jetten et al 2015). Because of the detrimental effects that high levels of income inequality can have on a society, various policy makers attempt to reduce income inequality. A way to reduce income inequality is wealth redistribution. Wealth redistribution is the transfer of wealth via government policies like taxation, social security and public services. By redistributing income via these policies, large income differences are reduced. Public opinion on wealth redistribution policies is heavily contested. In most modern democracies, political parties and their constituents are divided along the lines of the economical left and right (Knutsen 1995). People who identify as left-wing are mostly supportive of wealth redistribution policies, while people who identify as right-wing tend to oppose these policies.

The question of what determines people's preferences for wealth redistribution policies is subject to a long-standing scholarly debate. The two competing theories that are used to explain individual support for wealth redistribution are self-interest theory and cultural theory. Self-interest theory holds that people's policy preferences are mainly determined by their concern for their material well-being. Wealth redistribution transfers wealth from the relatively wealthy to the relatively poor. Therefore, the relatively poor can expect to benefit from wealth redistribution and are assumed to support it. The opposite is expected to be true for the wealthy. According to cultural theory, policy preferences are best predicted by beliefs, values and political ideology. Here, support for wealth redistribution is thought to be affected by values like egalitarianism, altruism or beliefs about self-determination. For example, if someone beliefs that people can get ahead by working hard, they are expected to be less supportive of wealth redistribution. On the other hand, when someone beliefs that getting ahead is a matter of luck and connections, they are expected to support wealth redistribution.

Findings on whether people's self-interest or their beliefs determines their support for wealth redistribution remain inconclusive. Consistent evidence has been found for both self-interest theory and cultural theory predictions. A simple but unsatisfying conclusion to draw from these findings, is that both self-interest and beliefs play a role to some extent. The questions of how both theories compare, or if predictions of both theories are related remain open.

Several studies have compared self-interest and cultural theory predictors in order to see how they stack up (Sears & Funk 1990a, Fong 2001, Alesina & la Ferrara 2004). Other studies have looked at the relation between self-interest and cultural theory predictors. Someone's concerns for their material well-being might affect the beliefs they hold (Owens & Pedulla 2014). Studies comparing of the relative explanatory power of self-interest theory versus cultural theory, as well as studies looking at the relation between predictions of both theories, yield mixed results.

1.1 Scientific relevance

This thesis aims to add to the current literature in three ways. First, it provides an overview of common hypotheses stemming from self-interest and cultural theory. This will serve to illuminate differences in both theoretical approaches and will yield a provisory comparison between the effectiveness of both approaches in explaining support for wealth redistribution. Second, this thesis will make use of multi-level data in order to test the effect of both macro-level and micro-level factors. In a multi-level analysis, there are at least two levels of analysis being considered. In this case, the first level concerns individuals and their characteristics while the second level concerns country specific characteristics. Predictions based on self-interest theory have often been researched at the macro-level. For example, Meltzer & Richard (1981) theorize that when income inequality increases, support for wealth redistribution would increase as well. Since there are more people who would benefit from wealth redistribution when income inequality is high, the median voter would increasingly support it. They test this hypothesis by looking at income inequality levels over time, and compare these to later policy outcomes that are assumed to be a reaction to income inequality (Meltzer & Richard 1983). A problem with studying support for wealth redistribution at the country level, is that rational choice assumptions about individual preferences cannot be tested (Sears, 1993). The macro-level analysis of the relation between income inequality and time-lagged policy outcomes, does not actually test rational choice assumptions, which are about how individuals form preferences. By employing a macro-level analysis to test a micro-level theory, there is the risk of committing an ecological fallacy. An ecological fallacy occurs when findings about aggregate outcomes are assumed to be directly applicable to individuals. In this case, it is incorrectly assumed that the individuals in a country, have the average characteristics of the country they live in. In reality, individuals within a country might form preferences in various ways (Sealey & Anderson 2015). At the same time, factors at the country level, might very well affect individual preferences. These effects are also known as a cross-level effects. In order to take into account both cross-level effects as well as the problem of ecological fallacies this thesis uses a multi-level approach. Lastly, this study adds to the current literature by using a data on a large number of country level observations. By using a merged data from the European Values Survey (EVS) and the World Values Survey (WVS) individual observations from a total 76 countries is analysed. By having a relatively large number of country level observations, cross-level hypotheses can be tested with a reasonable degree of statistical power.

1.2 Societal relevance

Given the effects of income inequality on the overall happiness and violent crime rates in a society, the relevance of understanding support for wealth redistribution is apparent. The issues of redistributing wealth, and to what extent, remain highly contested political issues in democratic countries. Understanding the mechanisms through which people either support or oppose wealth redistribution policies, can provide relevant insights to policy makers concerned with wealth redistribution policies.

1.3 Research questions

This thesis is interested in what can explain variation in support for wealth redistribution. In order to shed light on this topic both individual as well as country-level differences are evaluated. For example, the thesis will look at how income inequality in a country affects support for wealth redistribution. In order for a study of support for wealth redistribution across countries to make sense, levels of support for wealth redistribution need to vary between countries. Therefore the first research question will be descriptive:

To what extent, are levels of support for wealth redistribution different between countries in the period of 2005-2009?

If there is significant variation in support for wealth redistribution across countries the question of why there is variation becomes relevant. The second research question will be explanatory:

To what extent, can differences in support for wealth redistribution between countries in the period of 2005-2009, be explained by self-interest theory and cultural theory?

1.4 Structure of the thesis

Chapter 2 of the thesis will cove the theoretical framework. Within this chapter, the definition of support for wealth redistribution used in this thesis will first be discussed. Next, an overview of previous empirical research on support for wealth redistribution will be provided. In the last part of the theoretical framework, self-interest theory and cultural theory will be more elaboratively discussed and hypotheses are deduced from the base assumptions of both theories. Chapter 3 of the thesis covers the data and measurements used in the analysis. Chapter 4 covers statistical tests of the hypotheses formulated in chapter 2. Lastly, chapter 5 covers the conclusion of this thesis. In this chapter, the research questions will be addressed and findings will be discussed.

Chapter 2: Theoretical Framework

In this section the most important empirical literature on support for wealth redistribution is reviewed. The review is structured by first giving an overview of literature using self-interest explanations. These studies focus on how an individual's concern for their material welfare affects support for wealth redistribution. Second, literature using cultural theory explanations is discussed. These studies focus on how an individual's values and beliefs affect support for wealth redistribution. The last part of this section discusses literature that has compared both theoretical explanations or correlated both self-interested and cultural predictors.

2.1 Definition of support for wealth redistribution

In the general terms, wealth redistribution can be defined the as the transfer of wealth via government policies like progressive taxation, social security and public services. However, wealth redistribution can have varying aims. These different aims affect what it means to speak about wealth redistribution and support for it. First, policies can aim at helping the most poor in a society provide in their basic needs. In this case, wealth redistribution policies are aimed at making sure that the most poor have enough to eat, a place to live and receive necessary healthcare. Alternatively, wealth redistribution policies can have the more ambitious aim of reducing overall income inequality in a society. In this case, policies like progressive taxation are intended to reduce income differences between people with low incomes and those with high incomes.

Normative arguments that underly these different aims of wealth redistribution differ as well. Normative arguments for wealth redistribution aimed at providing for the basic needs of the most poor often appeal to the notion of altruism (Fong 2001). A society should help the most poor because it is considered a good thing to be concerned with the well-being of others.

In this case, income inequality is not necessarily viewed as problematic. However, extreme poverty is considered problematic. According to these arguments, wealth redistribution can be viewed as a form of charity to the poor.

The underlying argument for wealth redistribution aimed at reducing overall income inequality appeals to egalitarianism. A society should reduce overall income inequality because people should have equal opportunities and to some extent, equal incomes. In this case, high levels of income inequality are viewed as inherently unjust. Levels of income inequality are thought to be the result of how a society is organized. Because high levels of income inequality are viewed as unjust a government should correct for this via wealth redistribution policies (Fong 2001).

In this thesis, the latter definition of wealth redistribution is used. Wealth redistribution policies are government policies that aim at reducing overall income inequality. To reflect this definition of support for wealth redistribution, the terms ‘relatively poor’ and ‘relatively wealthy’ will be used throughout this thesis. Someone who is relatively poor has an income that is in the lower deciles of an income distribution in that country. As opposed to someone who is poor in absolute terms, this person might have sufficient means to provide for their basic needs, but is less well-off than the average person in a society.

Someone’s support for wealth redistribution is thus defined as the extent to which someone is sympathetic to government policies that aim to reduce overall income inequality in a country. The measurement of support for wealth redistribution will be further outlined in section 3.3.1.

2.2 Previous research

In this section a brief overview of the relevant literature on support for wealth redistribution is provided. The main findings by authors using self-interest theory and cultural theory are presented. A more comprehensive explanation of the theories can be found in the Theory & Hypotheses section (2.3.) First, previous research based on self-interest theory will be discussed, then research based on cultural theory. Finally, research comparing the two theories will be discussed.

2.2.1 Self-Interest Theory

Empirical literature applying self-interest theory to support for wealth redistribution is based on the assumption that people support policies that are beneficial to their wealth and oppose policies that are detrimental to their wealth. Income inequality in a country, individual income and prospects of upward mobility are thought to affect support for wealth redistribution.

The first self-interest explanation for support for wealth redistribution is related to levels of income inequality in a country. Meltzer and Richards (1981) theorize that more income inequality leads to more support for wealth redistribution. When income inequality rises in a country, there are more people who are relatively poor and who would benefit from wealth redistribution. Because of self-interested utility maximization, the median voter would come to support more redistribution once income inequality rises. In a longitudal study conducted in the United States, they find that when income inequality rises, the level of government wealth redistribution increases as a response (Meltzer & Richards 1983). This approach is criticized in recent literature, because by studying country-level support for wealth redistribution, individual support for wealth redistribution is not directly measured (Sears & Funk 1990a). Therefore, rational choice assumptions, which are about individual preferences, cannot be tested. Even if income inequality affects country level support for wealth redistribution, the assertion that this is because of self-interested utility maximization remains empirically unverified (Sears 1997). Moreover, government policy outcomes might not accurately reflect the levels of support for wealth redistribution in the country (Luebker 2014). A study by Luebker (ibid.) reproduces Meltzer & Richard's approach across 26 countries, and finds no relation between income inequality and policy outcomes.

Kerr (2014) studies the effects of income inequality by looking at the preferences of individuals. Using longitudal survey data, Kerr (2014) finds that increased inequality in a country leads to more support for government wealth redistribution. At the same time, individuals in countries with high inequality, tend to be more accepting of large income differences, thereby somewhat mitigating the first effect. A study by Sealey & Anderson (2015) use a multilevel model to analyse the effects of income inequality on support for wealth redistribution at the country level and the regional level in Canada. They find that income inequality increases support for wealth redistribution at the regional level, while the effect is negative at the country level.

The second explanation based on self-interest theory is that peoples income affects their support for wealth redistribution. Because people are self-interested, they are thought to support policies that are beneficial to their wealth and oppose policies that are costly to them. Since wealth redistribution transfer wealth from the relatively wealthy to the relatively poor, the former group will likely oppose it while the latter group will likely support it. Several studies find that income can at least partly explain support for wealth redistribution. The relatively wealthy are found to support wealth redistribution less (Alesina & Glaeser 2004). In a longitudal study, Owens & Pedulla (2014) find that a sudden reduction in income, because of unemployment, significantly increases individual support for wealth redistribution.

While income is consistently found to have an effect on support for wealth redistribution, studies comparing the income effect with cultural theory predictors find this effect to be rather limited. Sears & Funk (1990a) theorize that this limited effect of income might be because asking people about their support for wealth redistribution does not necessarily make people think about the costs and benefits of such policies. They find that when clear costs and benefits are implied in the question measuring support for wealth redistribution, income becomes a better predictor (ibid.). If people are explicitly informed about a policy's consequences for their personal wealth (like tax increases), self-interested affects support for wealth redistribution more.

The third explanation for support for wealth redistribution based on self-interest theory is that people's expectations of upward mobility affect their support for wealth redistribution. Rather than just taking into account their current income levels, people also take their prospect of upward mobility into account (Kahneman & Tversky 1979). The prospect of upward mobility is the expectation of an individual that they (or their offspring) will attain a higher income in the future. When people expect to be upwardly mobile, they will be less likely to support wealth redistribution. While people might benefit from these policies with their current income, these policies will be costly to them in the (near) future. Empirical studies testing these expectations are rather positive. The prospect of upward mobility in a country can be assessed by mobility indexes: calculations which estimate the likelihood for people to be upwardly mobile in a country. Using such an income mobility index, Benabou and Ok (2001) find that poor people are less likely to support wealth redistribution, the more they can expect to be upwardly mobile based on country income mobility. Alesina & Ferrera (2005) use individual demographic characteristics to measure upward mobility at the individual level. They find that measures including individual's age, history of past mobility, education level and subjective expectations of upward mobility perform better than general mobility indexes in explaining support for wealth redistribution.

2.2.2 Cultural theory

In recent decades, explanations from self-interest theory have been challenged by studies using explanations rooted in cultural theory. Here, support for wealth redistribution is thought to be affected by an individual's beliefs, values or political identity. Perhaps because of the prevalence of self-interest explanations in mainstream economics, a large part of cultural theory literature has focussed on demonstrating that self-interest is relatively unimportant in determining support for wealth redistribution. Further, studies have empirically studied the extent to which self-determination beliefs and political identity affect support for wealth redistribution.

Sears & Funk (1990a) argue that the findings from country level studies on inequality and policy outcomes cannot demonstrate that self-interest motivates policy preferences at the individual level. Self-interest is merely assumed and not observed in these studies (For example; Richard & Meltzer 1981). Voting behaviour based on economic self-interest is also known as 'pocketbook voting'. In a survey study Sears & Funk (1990a) find that 'pocketbook voting' only has a marginal effect on policy preferences. Self-interest only seems to matter for policy preferences when the costs & benefits of policies are clear and immediate, for example in tax increases. When the stakes are less clear and immediate, the effects of self-interest are negligible. In the same line, Sears (1997) analyses differences in experimental and survey literature on self-interest and preferences. The effect of self-interest is found to be relatively large in experimental studies, while the opposite is true for survey studies. Sears & Funk conclude that the role of self-interest is most apparent in daily life decisions like those in experimental studies, while values play a bigger role for preferences in the public arena. These studies mainly demonstrate the limited role of self-interest and show that different explanations are necessary to enhance understanding of support for wealth redistribution.

The first cultural theory explanation is that self-determination beliefs affect support for wealth redistribution. A large number of studies have empirically evaluated the effect of self-determination beliefs on support for wealth redistribution. Self-determination can be defined as the extent to which an individual is able to take care of their own welfare. People who believe in self-determination to a large extent, believe that getting ahead is a matter of working hard. People who do not believe in self-determination, believe that getting ahead is largely a matter of luck. Someone is believed to be poor because of environmental circumstances. This means that a person is unable to get out of poverty on their own. Studies have found that people who hold self-determination beliefs tend to oppose wealth redistribution (Fong 2001, Alesina & Glaeser 2004, Alesina & La Ferrara 2004). Conversely, people who believe that poverty is the result of circumstances beyond the control of an individual are more likely to support wealth redistribution (Fong 2001).

Several studies have looked at how the importance people ascribe to certain values is associated with support for wealth redistribution. First, altruism and egalitarian values are found to affect support for wealth redistribution (Kam and Nam 2008). The more people find it important to help others in need (altruism) and that income inequality is low in their country (egalitarianism), the more likely they are to support wealth redistribution. On the other hand, people who ascribe great importance to reciprocity are found to be less likely to support wealth redistribution. Reciprocity is the idea that to receive something (like government support) something needs to be given in return (like hard work). Gilens (2000) finds that the low levels of support for wealth redistribution among United States' citizens is related to their belief that redistribution will benefit the 'undeserving poor'. Furthermore, several studies have found that racism negatively affects support for wealth redistribution (Gilens 2000, Kinder & Sears 1981).

While Inglehart's materialist, post-materialist distinction has not been directly applied to explaining support for wealth redistribution, empirical studies suggest that it might play a role. First, the more materialist someone is, the more they associate with right-wing political parties. Conversely, the more post-materialist someone is, they more they associate with left-wing political parties (Kinder & Sears 1981, Knutsen 1995, Inglehart 1997). Right-wing political parties tend to be opposed to wealth redistribution while left-wing political parties support redistribution policies. Therefore, wealth redistribution could expected to be supported by post-materialists and opposed by materialists.

2.2.3 Comparisons of self-interest theory and cultural theory predictions

In a large number empirical studies into support for wealth redistribution the roles of self-interest theory and cultural theory predictors are both acknowledged. Several studies have looked into their relative importance while others have focussed on how self-interest and cultural theory predictors relate to each other. Most studies comparing the relative importance of self-interest theory predictors find stronger coefficients for cultural predictors (Sears & Funk 1990b, Fong 2001). While income is found to significantly affect support for wealth redistribution, these effects are limited when compared to self-determination beliefs and egalitarian values. A shortcoming in these studies is that self-interest is often only measured by income. Studies using 'the prospect of upward mobility' as a measure of self-interest yield results more favourable to self-interest theory (Alesina & La Ferrara 2004).

Self-interest theory predictors and cultural theory predictors might also be related. Someone's values might be dependent on their self-interest. Owens & Pedulla (2014) find that people who opposed wealth redistribution, will start to support wealth redistribution when they experience a sudden loss of income. They theorize that when people lose their income and wealth redistribution would be beneficial to them, they tend to adjust political views to reflect their self-interest.

2.3 Theory & hypotheses

In this section, self-interest theory and cultural theory will be discussed. Based on these theories, hypotheses on support for wealth redistribution are formulated. In the first part, hypotheses are deduced from self-interest theory. In the second part hypotheses based on cultural theory are deduced. Lastly, a hypothesis will be deduced based on a theoretical synthesis of self-interest theory and cultural theory.

2.3.1 Self-interest theory

Self-interest theory is rooted in rational choice theory. The basic assumption of rational choice theory is that individuals ‘act in their best interest as they perceive it’(Blume & Easley 2007). Individuals are actors who have interests. They want things and prefer certain things over others. Individuals are actors because they can choose between alternative actions. They are rational because they will calculate the costs and benefits of different options and will choose the option that serves their interest best. In other words, given the options available, people will choose the option that will give them the greatest benefit or the most satisfaction (ibid.).

At a basic level, rational choice theory does not define what the interests of individuals are. It merely supposes that people rationally act in their best interest as they perceive it. The most pervasive interpretation of rational choice theory defines peoples interests as egoistic and strictly economical. Individuals want to increase their own welfare. Therefore they prefer choices that benefit their personal wealth. The origins of this definition of interests in rational choice theory can be traced back to the work of the modern philosopher Jeremy Bentham (1789). Bentham argues that people are solely motivated by the mechanisms of 'pain and pleasure'. People want to avoid the former and seek the latter. According to this interpretation of human motivation, interests are physiological. In order to avoid pain and find pleasure, people will seek to acquire and retain material goods that serve this aim (ibid.). People's interests are to increase their own material welfare. This is the most pervasive interpretation of people's interest in rational choice theory. However, at the most basic level, rational choice theory does not restrictively define what people's interest are. Therefore, rational choice theory that uses this interpretation of interests will be referred to as self-interest theory.

Income

Self-interest theory asserts that people's interests are mainly determined by concern for their own wealth. People prefer actions or choices that increase their wealth over alternative choices. Wealth redistribution has consequences for an individual's wealth. It transfers wealth from people with high incomes to those with low or no incomes. Someone's income determines if wealth redistribution is beneficial or detrimental to their wealth. People with low incomes are likely to financially benefit from wealth redistribution policies by receiving social security, or lower tax rates. People with high incomes are likely to pay for wealth redistribution by having to pay higher taxes. This idea is also known as 'pocketbook voting', which means that people vote for policies that are beneficial to their personal wealth. Since people are concerned with their material well-being, and support for wealth redistribution benefits the wealth of people with low incomes and is detrimental to the wealth of people with high incomes, we can extract the following hypothesis:

H1: The higher someone's income, the lower their support for wealth redistribution.

The prospect of upward mobility

People do not only concern themselves with their current material well-being, but also look to the future (Kahneman & Tversky 1979, Benabou & Ok 2001). In trying to asses which option is the most preferable, people do not only look at their current income, but also take expectations of the future into account. In order to determine what best serves the interest of material well-being, people look at their prospect of upward mobility. In social mobility literature, it is assumed that individuals in a society are divided in different socioeconomic strata or classes. Social mobility is the movement of individuals between those different strata (Ultee 1989). The prospect of upward mobility can thus be defined as the likelihood of an individual of moving to a higher social stratum. Someone's prospect of upward mobility can be affected by societal factors as well as by their individual characteristics.

On the level of a society, the overall extent to which individuals move between social strata, indicates the prospect of upward mobility for an individual. The likelihood of people moving between social strata can be captured in country mobility indexes.[1] Most often, intergenerational mobility is calculated. This is the likelihood of an individual moving towards a different social stratum than their parents. In some countries, there is a relatively high chance to move to a higher stratum than your parents, while in other countries there is less mobility.

People's individual upward mobility prospects are better when they live in a country where there is high social mobility. Someone who expects to be upwardly mobile, expects to attain a higher income. As previously argued for hypothesis H1, when someone has a higher income, wealth redistribution is costly to them (because they have to pay taxes). Because

[1] Social mobility indexes have been estimated in various ways. For example, social strata and movement between them has been measured via income, job prestige, or education. In Chapter 3, I further discuss the measurement of social mobility in this thesis.

people are concerned with their material well-being, and wealth redistribution will be costly to people with a high prospect of upward mobility the following hypothesis can be deduced.

H2: The higher social mobility in a country, the lower support for wealth redistribution.

Individual characteristics can also affect the prospect of upward mobility. For example, the prospect of upward mobility can be affected by age and education level. People who are young are more likely to be upwardly mobile. First, young people often work entry-level jobs and earn less than people with many years of experience. Therefore, their income is likely to increase over time. Second, young people have a lot years of working ahead of them. This makes moving up in the 'career ladder' and attaining a job with higher job prestige and income more likely. Given that 1) people take the prospect of upward mobility into account when forming preferences and 2) that young people can realistically expect more upwards mobility we can extract the following hypothesis:

H3: The younger someone is, the lower support for wealth redistribution.

The prospect of upward mobility is also determined by education level. Highly educated people are more likely to increase their income over the years in comparison to low educated people. People who are highly educated have access to jobs to which low educated people do not have access to. These jobs tend to provide higher salaries. Therefore, high education levels increase the likelihood of a person having a high income in the future. Since highly educated people are more likely to increase their income, and people with high incomes have to pay for wealth redistribution we can extract our third hypothesis based on self-interest theory.

H4: The higher someone's education level, the lower support for wealth redistribution

The effects of age and education are also expected to interact. While younger people are more likely to be upwardly mobile than older people, this effect is expected to be stronger for highly educated people. A young person with a high education can expect to increase their income more than a young person with low or no education. Someone who is low educated and young, likely has a lower salary than an older colleague with the same level of education. This person can reasonably expect to increase their income toward the level of income of their colleagues over the years. However, the likelihood of moving up toward a better paying career is less than someone who is highly educated. The upward mobility prospect for a young person with a high education is likely better. Based on hypothesis 2 and 3, and the consideration that the education and age effect likely interact, the following interaction hypothesis can be deduced.

H5: The higher peoples education level, the stronger the effect of age on support for wealth redistribution.

Income inequality

Based on a self-interested interpretation of rational choice, several predictions can be made about the effect of country level income inequality on support for wealth redistribution. The first is based on the median-voter hypothesis. In countries with higher income inequality, there are more people with low incomes. Since people with low incomes benefit from wealth redistribution, more people in that country are expected to support wealth redistribution (Richard & Meltzer 1981). In other words, the median voter becomes more supportive of wealth redistribution. Country level inequality is therefore thought to increase country level support for wealth redistribution. This can be formulated as the following macro-level hypothesis.

H6: The more income inequality in a country, the higher support for wealth redistribution.

Income inequality in a country might also affect support for wealth redistribution at the individual level. The more income inequality in a country, the larger difference between the wealthy and the poor. Poor people in a country with high income inequality have even more trouble providing in their daily needs and a comfortable life, than poor people in less unequal countries. This means that the benefits of wealth redistribution are greater for poor people in countries with high income inequality. The reverse should hold true for the wealthy in a country with high income inequality. Their wealth, relative to the rest of the people in the country, is even greater than that of the wealthy in more equal societies. This means that the relative costs of wealth redistribution would be even greater for the wealthy in countries with high income inequality. Since country level inequality affects the costs and benefits of wealth redistribution for individuals, it should influence the individual level effects of income for wealth redistribution. Based on the country-level effects of inequality predicted by hypothesis H6, and the effect of individual income predicted by hypothesis H1, the following cross-level interaction hypothesis can be formulated:

H7: The more income inequality in a country, the stronger the effect of income on support for wealth redistribution.

Income inequality in a country is also expected to interact with the effects of age and education on support for wealth redistribution. Individuals do not only look at their current income, but also take into account their future income prospects (Kahneman & Tversky 1979). Peoples prospect of upward mobility is affected by their age. The younger people are, the better their prospects of upward mobility. Higher income inequality in a country increases the costs of wealth redistribution for the relatively wealthy. Given that 1) people will choose options that are beneficial for them according to self-interest theory, 2) people take into account their future income prospects and 3) higher income inequality increases the costs and benefits of wealth redistribution, the following interaction hypotheses can be deduced.

H8: The more income inequality in a country, the stronger the effect of age on support for wealth redistribution.

The cross-level interaction effect between income inequality and upward mobility prospects on support for wealth redistribution is also expected hold true for education levels. As discussed for hypothesis H4, when someone is highly educated they are more likely to increase their income in the future. When there is more income inequality in a country, the benefits of wealth redistribution are higher for the relatively poor while its costs are higher for the relatively wealthy. Because the highly educated are likely to become relatively wealthy in the near future, and income inequality increases the costs of support for wealth redistribution for the relatively wealthy the following interaction hypothesis can be deduced.

Hypothesis 9: The more income inequality in a country, the stronger the effect of education on support for wealth redistribution.

Hypothesis H5 predicts that someone's education level interacts with the effect of their age on support for wealth redistribution. People who are young are more likely to increase their income and become relatively wealthy in the future. This effect is predicted to be stronger for the highly educated. Someone who is young and has a high level of education can reasonably expect to be more upwardly mobile than someone who is young and low educated. Because income inequality is expected to interact with the prospect of upward mobility a three way interaction hypothesis can be deduced. The strengthening effect of education on the effect of age, is expected to itself be strengthened by higher levels of income inequality.

Hypothesis 10: The more income inequality in a country, the stronger the effect of age on strengthening the effect of education on support for wealth redistribution.

2.3.2 Cultural theory

Cultural theory holds that beliefs produce action (Lichbach 2003). In rational choice theory, actors prefer certain options over others because they expect these options to serve their interests best. Rational choice theory, defined as such, does not explain how interests are formed. People have interests, and observe the world in order to determine which actions serve their interests best.

Cultural theory asserts that interests are not a given, and that people do not merely observe the world but ascribe meaning to it. An individual's understanding of the world cannot be reduced to their sensory experience of the material world. Instead of being a given, people's interests are formed by their how interpret their environment and ascribe value to different goods. The process of ascribing value to different goods happens both subjectively and intersubjectively. That is, people ascribe value based on their own experiences and reasoning, but also look to how others value different goods. Interest are thus formed by people's subjective and intersubjective interpretations of the world, and consists of beliefs, values and political ideologies. These sets of beliefs, values and political ideologies are consolidated in people by a process of classical condition and remain relatively stable throughout a person's adult life (Inglehart 1977, Sears 1993). When applying cultural theory to the question support for wealth redistribution, it is expected to be affected by what people believe, their ideologies and how they prioritize values.

Self-determination beliefs

Beliefs on self-determination are likely to affect support for wealth redistribution. Self-determination beliefs are the extent to which a person beliefs that getting ahead is a matter of hard work (Alesina & La Ferrara 2004). Someone who beliefs in self-determination, beliefs that an individual's welfare is determined by how hard they work and thus dependent on an individual's choices. To the contrary, someone who does not believe in self-determination, beliefs that an individual's welfare is determined by circumstances external to the individual and dependent on environmental constraints. The idea of self-determination is nicely captured by the concept of 'the American dream'; the idea that someone can come from nothing and can achieve 'the top' by working hard.

Support for wealth redistribution is defined as the extent to which care for the poor is thought of as the government's responsibility vis-à-vis the individuals responsibility. Self-determination beliefs are likely to affect support for wealth redistribution. People who believe that an individual's welfare is a result of their own actions, are more likely believe care for the poor is their own responsibility and thus less likely to support wealth redistribution. On the other hand, people who believe that an individual's welfare is dependent external circumstances are more likely to support wealth redistribution. Since welfare is believed to be dependent on external circumstances, it cannot be an individual's responsibility to lift themselves out of poverty. Therefore, people who believe being poor is a matter of bad luck, are more likely to support wealth redistribution. These considerations lead to the first hypothesis based on cultural theory.

H11: The more someone holds self-determination beliefs, the lower support for wealth redistribution.

The relation between self-determination beliefs and social mobility.

Someone's self-determination beliefs are essentially their beliefs about the level of social mobility in a country. When someone beliefs in self-determination, they believe that individuals can get ahead by working hard. In other words, people can be upwardly mobile.

Levels of social mobility in a country, determine the extent to which self-determination beliefs hold true in that country. It is assumed here, that people base their beliefs at least partly on empirical observation. Therefore, people's self-determination beliefs are expected to be affected by the actual possibility of self-determination in their country (i.e. social mobility). In H2 and H11 it was stated that social mobility and self-determination beliefs negatively affect support for wealth redistribution. Based on these considerations, the following cross-level interaction hypothesis can be formulated.

H12: The higher country-level upward mobility, more people hold of self-determination beliefs which decreases support for wealth redistribution.

Materialism & Post-Materialism

Another predictor of support for wealth redistribution might be the distinction between materialists and post-materialists. This distinction is based on Inglehart's (1977) value change theory. Inglehart uses the pyramid of Maslow to explain differences in value priorities. The pyramid of Maslow structures people's needs and interests hierarchically. At the bottom of the pyramid are the most basic needs like food and security. Only once these needs are fulfilled will people be concerned with needs higher up the pyramid. These needs (like love, a sense of community, ideas about fairness and other-regarding interests) are non-material and can be subsumed as self-actualization needs. The bottom of the pyramid represent material needs, while the higher layers represent post-material needs. Value change theory holds that people's value priorities throughout life are mainly determined in in their formative years. If people's material needs where in jeopardy in their formative years, (i.e. food or security where not guaranteed) they will likely be more concerned with material needs for the rest of their life. On the other hand, people growing up in relative wealth and safety, do not have to concern themselves about their material needs in their formative years. This leads to them being more concerned with post-material values. Since peoples value priorities are determined by people's formative years and stay relatively stable throughout their live, we can distinguish individuals that are materialists from those that are post-materialist.

The materialist, post-materialist distinction could have varying implications for individual support for wealth redistribution. First, post-materialists are thought to prioritize other-regarding values. Other-regarding values are those values that are related to someone's concern with the well-being of others they are not directly related to. For example, values like egalitarianism and altruism. Wealth redistribution aims to improve the well-being of those who are relatively poor. Because post-materialist are more likely to be concerned with the well-being of others they are more likely to support wealth redistribution. This leads to the second hypothesis in line with cultural theory:

H13: The more postmaterialist someone is, the higher support for wealth redistribution

2.3.3 A synthesis between self-interest and cultural theory

In order to theoretically synthesize self-interest and cultural theory perspectives, a rational choice theory needs to be interpreted less restrictive than in self-interest theory. Rational choice theory holds that people have interests and prefer the choices that serve their interest best. At a basic level, rational choice theory does not tell us anything about what these interests are, and how they are formed. In self-interest theory, and mainstream economics, interest are rather stringently interpreted in egoistic and economic terms. According to this interpretation, a person's interests can be mostly reduced to their financial welfare. However, rational choice theory does not necessitate a purely economic interpretation of interests. Interests can be economical, but might also be non-material and other-regarding. People might prefer a job they find meaningful over a job that yields the highest income and people might prefer a policy that aligns with their values over a policy that is financially beneficial to them. While choices based on these interests are non-material interests, they are by no means non-rational (Blume & Easley 2007).

In this way, it is easy to see how cultural theory does not have to contradict rational choice theory. Rational choice theory tells us that people prefer some choices over others because of their interests. Cultural theory tells us that people's interests are partially formed by cultural conditioning and can be affected by non-material and non-egoistical considerations or beliefs. Off course, this leaves us with a theory on individual interests that is extremely broad. It does not really predict anything more than; peoples interests are likely to consist of material interests and non-material (belief driven) interests. Questions on how material and non-material interests interact, and which interests are prioritized by whom, remain unanswered in this framework. In the next paragraph, an alternative interpretation of the effects of post-materialism on support for wealth redistribution is suggested. This interpretation could shed light on which people material interests or values matter more.

Materialism & post-materialism as synthesis for self-interest and cultural theory

An alternative interpretation of the distinction between materialists and post-materialists might explain both how self-interest and values affect support for wealth redistribution. Materialists are thought prioritize their material well-being. This expectation is in line with self-interest theories' prediction about the interests of individuals in general. For materialists, their income is expected to affect their support for wealth redistribution more than their values would. Post-materialists on the other hand, are thought to prioritize non-material values. They are therefore more likely to be affected by their values or beliefs. This expectation is in line with cultural theories' prediction that beliefs produce interests. For materialists, self-interest predictors can be expected to affect their support for wealth redistribution more than cultural theory predictors would.

This interpretation of materialism and post-materialism differs from the previous interpretation in that it does not assume post-material values to be necessarily altruistic and egalitarian. Instead it is suggested that the preferences of post-materialists are affected more by what they believe. In other words, they prioritize post-material values. These beliefs can either lead them to support or oppose wealth redistribution. For example, someone who is post-materialist, poor, and who believes that getting ahead is a matter of hard work, is likely to oppose wealth redistribution. On the other hand, someone who is post-materialist, wealthy, and beliefs that getting ahead is a matter of luck, is more likely to support wealth redistribution. Because both people in the examples are post-materialists, their beliefs are expected to affect their policy preferences more than their material self-interest. Based on the income hypothesis (1) and the self-determination hypothesis (9) the distinction between materialists and post-materialist allows for deducing the following interaction hypotheses.

H14: The more materialist someone is, the stronger the effect of self-interest on support for wealth redistribution.

2.4 Overview of hypotheses

Table 2.1. provides an overview of all the hypotheses formulated in this chapter. These hypotheses will be empirically tested in chapter 4.

Table 2.1 Overview of hypotheses.

Number	Hypothesis
1	The higher someone's income, the lower support for wealth redistribution
2	The more social mobility in a country, the lower support for wealth redistribution
3	The younger someone is, the less lower support for wealth redistribution
4	The higher someone's education, the lower support wealth redistribution
5	The higher someone's education, the stronger the effect of age on support for wealth redistribution
6	The more income inequality in a country, the higher support wealth redistribution
7	The more income inequality in a country, the stronger the effect of income on support for wealth redistribution
8	The more income inequality in a country, the stronger the effect of age on support for wealth redistribution
9	The more income inequality in a country, the stronger the effect of education on support for wealth redistribution
10	The more income inequality the stronger the effect of education on strengthening the effect of age on support for wealth redistribution.
11	The more someone holds self-determination beliefs, the lower support wealth redistribution
12	The more upward mobility in a country, the more people old self-determination believes, which decreases support for wealth redistribution
13	The more postmaterialist people are, the higher support for wealth redistribution
14	The more materialist people are, the stronger the effect of income on support for wealth redistribution

Chapter 3: Data & methods

In this chapter the research method, data and operationalization of variables in this thesis will be discussed. First, the reason for using a quantitative research method will be explained. Second, some features of the data and criteria for omitting countries from analysis are discussed. Third, the operationalization of variables is outlined. The last part of this chapter, will discuss the theoretical and methodological considerations for using a multilevel moddeling approach in the next chapter.

3.1 Research approach

The aim of this thesis is to explain variation in support for wealth redistribution across individuals and countries. In order to gain insight on support for wealth redistribution, the hypotheses formulated in Chapter 2 need to be empirically tested. In order to do so, quantitative methods will be used. This approach is suitable for the research aims for two reasons. First, the hypotheses formulated in chapter two are about a population of people between 2005 and 2009. Since it is virtually impossible to gather information on the entire population, a sample taken from the population needs to be used. Effects of independent variables (X's) on the dependent variable (Y) found in the sample need to be generalized to the population. Quantitative methods allow for such generalization by calculating the significance of effects found in the sample. Effects are significant when the probability of finding them in the sample while they are not present in the population is sufficiently low. The threshold for probability is usually set at an alpha of <.05. this means that the chance of findings effects in the sample that are not present in the population is lower than 5%. If this is the case, the null-hypothesis (that there is no effect in the population) can be rejected and the alternative hypothesis (that there is an effect) is supported. The second reason for using a quantitative approach is that it allows for controlling for factors that affect both the independent and dependent variables, but are not explained by the theories being tested. In this way, the effects of independent variables that are theorized can be distinguished from spurious effects.

3.2 Data

In this section an overview of the data and why it was chosen is outlined. Data will be used from the World Values Suvery (WVS), the European Values Study (EVS) and several sources of World Bank data for country level measurements.

3.2.1 World values survey & European Values survey integrated dataset

This thesis uses an integrated dataset by combining wave 5 of the WVS (2005-2009) and wave 2008 of the EVS. The WVS is a cross-national survey that has been conducted throughout the world over 4-year periods from 1981 (WVS 2015). The EVS has been conducted once every 9 years from 1981 (EVS 2015).

Data from WVS wave 5 was collected by face to face surveys in the period between 2005 and 2009. The WVS data will be merged with data from EVS wave 2008, which was collected by face to face surveys in the period between 2008 and 2009. Integrating WVS and EVS data from these waves yields a large dataset with 82 country observations and 150.256 individual observations (EVS 2015, WVS 2015). Unfortunately, some countries need to be omitted because of lacking Gini-coefficient estimates. These cases are discussed in more detail in the following section. In total 6 country observations are omitted, reducing the amount of country observations to 76. The total number of valid observations on the dependent variable (support for wealth redistribution) is 139.184.

The large number of country level observations is the main reason for using WVS & EVS integrated data. This allows for analysing multi-level effects with reasonable statistical power. Both survey's include a large number of variables on beliefs, cultural values and policy preferences. Further, the fact that a 'materialist/ post-materialist index is included, makes use of the WVS/EVS integrated dataset preferable over possible alternatives.

There is some sampling bias in the WVS/EVS integrated dataset for some European countries. The integrated dataset provides weights in order to correct for over- or underrepresentation of certain demographics per country, like gender, age, rural-urban and education level (WVS/EVS 2015). In order to reduce sampling bias, these weights will be applied.

3.2.2 World Bank data

Several country-level data from the world bank will be used in the analysis. In order to measure country level income inequality World Bank Gini coefficient estimates will be used. (World Bank 2016). The data is 'obtained from primary household surveys provided by country government statistical agencies and World Bank country departments' (ibid.). A drawback of using worldwide Gini coefficient estimates, is that estimation methods vary between countries, and estimates based on data provided by government statistical agencies might not always be reliable. In order to reduce bias as much as possible, no other sources than the World Bank are used for Gini-coefficient estimates.

Some countries need to be omitted from analysis because there are no World Bank Gini-coefficient estimates available. This goes for Andorra, Hong Kong and Taiwan. For other countries, World Bank estimates are available, but not for the period of 2005-2010. For Trinidad and Tobago only a 1992 estimate was available. Because there is a 13 year difference between this estimate and the period of 2005 and 2010, Trinidad and Tobago is omitted from analysis. For other countries there are Gini-coefficient estimates for years close the period of 2005-2010. Data on these countries will be retained in the analysis. This concerns Gini-coefficient estimates for Ghana (2012), India (2011), Indonesia (2013) and Iraq (2012). While using these estimates is not optimal, Gini-coefficient estimates remain relatively stable over years. Therefore, these estimates are assumed to be fairly reliable indicators of Gini-coefficients in the time period of 2005-2010 for the purpose of this thesis. In order to retain a good number of country-level observations, and because 2011 to 2013 is close to the right time period, these countries are included in analysis.

In order to get measurements of social mobility, data from the World Bank Global Database on Intergenerational Mobility (GDIM) is used. This dataset provides estimates on absolute and relative intergenerational mobility for cohorts between 1940 and 1989 (GDIM 2018). Cohorts are groups of people born in a certain 10-year period. In this study data on the 1980's cohort will be used. The 1980's cohort, is the generation of people which is born between 1980 and 1989 (ibid.). Estimates include both income mobility and educational mobility. Because data on intergenerational income mobility is only available for half of the countries included in this study, estimates of intergenerational mobility will be used. Unfortunately, there is no data on social mobility available for Luxembourg and Malta. This means that analyses including social mobility have a slightly reduced sample size.

One of the control variables used in the analysis of the data, is net migration rates. Net migration rates are defined as the difference between the number of people entering and leaving a country per year. The World Bank provides estimates of migration rates on a 5 year period between 2007 and 2012 (World Bank 2017) and on the total number of inhabitants in countries (World Bank 2016). The mean value of these estimates is used in the analyses. Unfortunately, there is no net migration rate data available for Kosovo. This means that analyses including net migration rates have a slightly reduced sample size.

Another macro-control variable will be gross domestic product (GDP) per capita. World Bank data is also used for GDP per capita statistics. The data provided by the World Bank is a collection of national accounts of GDP, divided by number of people living in those countries. Because the EVS/WVS survey data used was collected over the period of 2005-2010, the mean value of GDP per capita over those years is used in the analysis.

3.3 Operationalization of Variables

In this section the operationalization of variables used in the analysis is outlined. For each variable the definition and coding will be discussed. When necessary, brief arguments for the choice of a variable of alternatives are presented. The variable name as used in the dataset is added in parentheses.

3.3.1 Dependent variable: Support for wealth redistribution

The dependent variable in this thesis is individual **support for wealth redistribution**. In the WVS/EVS dataset this is measured by the variable labelled 'income equality' (E035) [2]. For clarity, this variable has been relabelled to 'Support for wealth redistribution'.

Respondents were asked to rate, on a 1-10 scale, to what extent they think that income should be more equally distributed in their country. A score of 1 on this variable means that a

[2] Alternatively 'governments responsibility to provide for the poor' (E037) could be used. Here, respondents were asked to rate to what extent they agree that the government should provide for the poor. However, this variable does not correspond to support for wealth redistribution as defined in Chapter 2. Wealth redistribution policies are government policies to reduce income inequality across a society. Policies that aim to provide for the poor do not necessarily have the aim to reduce income inequality across a society. Therefore the 'income inequality' indicator best serves the aims of the thesis.

respondent completely agrees that incomes should be more equal while a score of 10 means that a respondents thinks that incomes should be more inequal. Respondents who did not indicate to what extent they agreed that income should be more equal were coded as missing.

The aim of this study is to increase understanding of support for wealth redistribution. The original coding of this variable is rather counterintuitive to interpret for this purpose. A higher value on the variable indicates less support for wealth redistribution. Therefore the variable has been reverse coded. For the recoded variable a score of 1 indicates that incomes should be more unequal and a score of 10 indicates that incomes should be more equal. Support for wealth redistribution is a discrete variable with an interval measurement level.

3.3.2 Independent variables: Macro-level

Income inequality is measured by the world bank estimates of the GINI-coefficient (gini). The Gini-coefficient is a statistical measure indicating the extent to which income is distributed among people in a country. It is bounded between 0 and 1, The higher the Gini-coefficient the more unequal income is distributed in a country. A Gini-coefficient of 0 indicates that everyone's income is equal in a country. A Gini-coefficient of 1 indicates complete inequality; i.e. all income in a country is earned by one person. The Gini-coefficient variable is a continuous variable with a ratio measurement level.

Social mobility is measured by relative intergenerational educational mobility (socmob). This is a world bank estimate which is a coefficient from regressing (OLS) a child years of schooling on the highest years of schooling of their parents (GDIM 2018). The variable indicates the effect of one additional year of schooling of the parent, on the years of schooling of a child. This index has been selected for two reasons. First, it measures relative mobility. This ensures that overall changes in access to education do not bias the measurement. A practical reason to select this variable is that it is available for all countries used in the analysis.[3] Values on the social mobility variable can range from 0 to 1. A value of 0 indicates extremely high social mobility. In this case, an additional year of school of the parent does not affect the schooling of a child. Conversely, a value of 1 indicates extremely low social mobility. In this case the years of schooling of a child are directly dependent on the years of schooling of the parent.

3.3.2 Independent variables: Micro-level

An individual's **income** is measured by the indicator 'income scale' (X047). This variable indicates in which decile of a countries income distribution someone's income is. Respondents ranked their household income before taxes, on a 10-point income scale specific to their country. A value of 1 means that a person is in the lowest decile of the income scale, while a value of 10 means a person is in the highest decile. This indicator has been selected for two reasons. First, because a relative income scale translates across countries well. Second because it is hypothesized that relative income affects support for wealth redistribution, this income scale nicely captures whether someone is relatively poor or wealthy in their country. The 'income scale' variable is a discrete variable with an interval measurement level. [4]

Age is measured by the ratio variable labelled Age (X003). For most countries, all respondents are 18 years or older. The few respondents who were younger than 18 are omitted. Therefore, the age variable has a minimum of 18.

[3] Alternatively relative intergenerational income mobility could have been selected. Here, the effect of 1 decile increase in income of the parents is regressed on the income of the child. However, there were no World Bank estimates available for half of the countries in the analysis.

[4] Alternatively, monthly household income corrected for purchasing power in Euro's (X047D) could have been used. While this indicator also translates across countries well, it captures absolute instead of relative wealth. Since it is hypothesized that someone's relative income affects support for wealth redistribution in chapter 2, this indicator is not suitable for the aims of this study.

Education level is measured by people's highest educations on the ISCED. The ISCED is the International Standard of Education, which allows for comparisons of education levels across countries (UNESCO n.d.). The ISCED runs from 0 to 7, were a 0 means someone has not adequately completed elementary education and a 7 means that a person finished higher tertiary education (MA or higher). The ISCED scale distinguishes completed education from incomplete education per education level. For a large number of countries there are no observations of a score of 0 (which indicates no completed elementary education). Further, for China and Colombia, there are no observations of incomplete education on all levels. In order to make sure that education level measurements are comparable across countries, the 'recoded education' variable (X025r) provided in the WVS/EVS dataset is used. Here ISCED scores are divided into three categories; lower, middle and upper education levels (EVS/WVS 2015). The education variable is of ordinal measurement level. This means that there is a meaningful hierarchy between different values of the variable, but that the distance in difference between lower and middle education, is not necessarily the same as the distance in difference between middle and higher education. Because education is a ordinal variable and in order to simplify interpretation of the education effects, two dummy variables were computed representing the three groups. Low education level was chosen as the reference category.

Self-determination beliefs are measured by the variable 'Hard work brings success' (E040). Respondents were asked to rate on a 1-10 scale to what extent they agree with the statements: 'in the long run, hard work usually brings a better life' versus 'hard work does not bring success, it is a matter of luck or connections'. A score of 1 indicates that people believe that hard work brings success, while a score of 10 indicates that people believed that success is a matter of luck or connections. In order to make interpretation of the effects of self-determination more intuitive, the original variable has been reverse coded. For the recoded variable, the higher the value the more people hold self-determination beliefs. Respondents who did not indicate the extent to which they agreed with either statement where coded as missing. The self-determination variable is a discrete variable with an interval measurement level.

Post-materialism is measured by the variable "Post-materialist index 12-item" (Y001)[5]. The Post-materialist index indicates the extent to which someone can be seen as post-materialist. Respondents are presented with a total of 12 types of government aims over three questions. In every question respondents are presented with a set of 4 government aims and are asked to choose which government aim they find the most important and which they find the second-most important.[6] Some government aims are interpreted as materialist while others as post-materialist. For example, the aims of 'A high level of economic growth' and 'making sure our country has strong defence forces are considered materialist. The aims of 'trying to make our cities more beautiful' and 'protecting freedom of speech' are considered post-materialists. Based on the 6 items that are selected by the respondent a total post-materialism score is calculated. There are five possible scores on the post-materialist index variable. A score of 1 indicates that someone is materialist, a score of 5 indicates that someone is post-materialist, while a score of 3 indicates that someone is 'mixed'. The variable is interpreted as a continuous variable of ordinal measurement level [7]. There is a meaningful hierarchy between values. An

[5] Alternatively, Inglehart's original post-materialism index could have been used. Here respondents are presented with a 4-item list only once. However, scores on the 4-item index are found to be affected by changes in the economic situation of a country. For example, someone who would be a post-materialist on the 12-item index, might be mixed or materialist on the 4-item index because of high inflation rates. The 12-item index is found to be less susceptible these differences in the economic situation of a country (Inglehart 1990, Inglehart 1997).
[6] See Appendix A1 for the three sets of items presented to respondents.
[7] Alternatively, it would make theoretical sense to dummy code the post-materialism variable with the groups materialist, mixed and post-materialist. This is possible for the 4-item index where there are only three possible values indicating the three groups. However, since the 12-item index is used, which has five possible values, dummy coding would not make sense. It is impossible to subsume the values of 2 and 4 under one of the three groups. A value of 2 means that someone is between materialist and mixed. A value of 4 means someone is between mixed and post-materialist. In order to retain this meaning, the post-materialist variable is operationalized as continues.

individual with a score of 2 is more post-materialist than someone with a score of 1 but less post-materialist than someone with a score of 3.

3.3.3 Control variables

At the macro level, **GDP per capita** (gdppc) and **migration rates** (migrat) control variables will be used. Increased migration rates in a country are found to affect support for wealth redistribution (Burgoon 2012). Migration negatively affects the perceived benefits of redistribution policies (Gilens 1995) and reduces altruism and solidarity in a society (Luttmer 2001, Jetten et al 2015). Since migration rates affect the dependent variable and the independent variables of both self-interest theory and cultural theory, migration rates are being controlled for. The migration rate variable indicates net migration rate. Net migration rate is the number of people migration toward a country in a year, subtracted by the number of people emigrating out of the country. In order to compare across countries, the migration rate statistic is divided by the total number of inhabitants in a country and multiplied by 1000. The mean net migration rate over the years between 2007 and 2012 is used. The migration rate variable can be both negative and positive. A value of 0 signifies that the number of people immigration towards a country and the number of people emigrating out of a country balances out. A positive value on this variable signifies net immigration, while a negative number signifies net emigration. Theoretically, the net migration variable is not bounded.

GDP per capita is found to affect support for wealth redistribution as well (Brueckner & Lederman 2017). From a rational choice perspective, this might be because when the average absolute wealth per person increases in a country, the relatively poor are less interested in smaller income differences. The GDP per capita variable is constructed by using country GDP estimates based on the total yearly income of the inhabitants of a country in dollars, and dividing these values by the number of inhabitants of a country. This yields the mean yearly income for inhabitants in a country. Theoretically, the GDP per capita variable has a lower bound of 0 and does not have an upper bound.

A dummy variable for **sex** (male) is included as a micro-level control. Overall, men are found to be less supportive of wealth redistribution than woman (Fong 2001). The variable can have the value 1 or 0. A value of 1 indicates that someone is male. A value of 0 indicates that someone is female.

Because rational choice theory and cultural theory are competing theories, it is interesting to know how the effects of predictors corresponding to both theories compare to each-other. In the most complex models estimated, cultural theory effects will control for rational choice effects and vice versa.

3.4 Research methods

The most common way to estimate the effects of the independent variables on the dependent variable is multiple regression, also known as ordinary least squares (OLS) regression. With OLS regression the average effect of the independent variables (X's) on the dependent variable (Y) is estimated by calculating the linear regression line which minimizes the sum of squared errors. The basic multiple regression formula is:

$Y = \beta_0+\beta_1X_1+\beta_2X_2.......+\beta_kX_k+\varepsilon$ (Formula 1)

β_0 is the intercept in formula 1, this is the value of Y when all X's have a value of 0. $\beta_2X_2.......+\beta_kX_k$ indicate the slope effects of various X's, these indicate how much the predicted value of Y changes with an increase of a value X by 1. ε indicates the error term, which is indicates variance that cannot be explained by the effect of X on Y. One of the assumptions that needs to be met in OLS regression is the assumption of independent errors. This means that the value of ε for an observation, does not correlate with the value of ε for other observations.

The assumption of independent errors is likely violated when using the EVS/WVS integrated dataset. The EVS/WVS integrated dataset has a nested, or multilevel data structure. This means that observations are hierarchically structured in groups. In this case, people are nested in countries. At the macro-level several countries are observed, within these countries there are micro-level observations on individual respondents. The country in which people live, is expected to significantly affect the way people respond to the survey questions indicating the dependent and micro-level independent variables. This means that the assumption of independent errors would be violated. In a multilevel data structure, the error term for a micro-level observation within a group, will likely correlate with the errors for other observations in that group. In the case of this thesis, it would be possible to predict someone's support for wealth redistribution based on the country they live in.

When the assumption of independent errors is violated in multilevel data, it means that the effects of between-group and within group variance are mixed up. When values of Y are correlated within groups, this is known as intraclass correlation. If intraclass correlation is high, standard OLS regression likely yields biased estimates. Estimated standard errors will likely be smaller than they should be, thereby increasing the chance of making a type 1 error. A type 1 error occurs when the null-hypothesis that there is no effect is rejected, while it should not have been rejected.

This problem could be solved by estimating a fixed effects model; here country dummies are created, thereby fixing between group variance. A fixed-effects model is suitable when only micro-level hypotheses are tested. However, such an approach would make it impossible to estimate the effects of macro-level variables. This is problematic for a number of the hypotheses in this thesis, because they concern cross-level hypotheses. These hypotheses predict something about country level effects. In order to test cross-level hypotheses, estimating the effects of macro-level variables is required.

Because empirically testing the hypotheses formulated in chapter 2 requires estimation of both macro and micro-level effects, and because the assumption of independent errors is likely violated in nested data, multilevel model will be estimated. Multilevel models distinguish between observations on different levels. In this case there are two levels. Level 1 consists of micro-level observations, i.e. people. Level 2 consists of macro level observations i.e. countries. Multilevel models are able to deal with the problem of intraclass correlation while still enabling estimation of macro-level effects. The unexplained variation here is divided between a fixed (macro-level) error term and a random (micro-level) error term. Splitting the variance between the two levels of observation allows for separate estimation of micro and macro-level effects. In this way between-group and within group-effects are not at risk of being mixed up.

The formula for a basic 2-level multilevel model with one independent variable is as following:

$$\mathrm{Y_{ij}} = \gamma_{00} + \gamma_{10}\mathrm{X_{1ij}} + \mathrm{u_{0j}} + \mathrm{e_{ij}} \qquad \text{(Formula 2)}$$

In formula 2, $\mathrm{Y_{ij}}$ is the dependent variable. ‘i’ indicates an individual observation at the micro-level, ‘j’ indicates a macro-level observation. For example, $\mathrm{Y_{12}}$ indicates Y for individual 1 in country 2. γ_{00} is the intercept in this case when the values of $\gamma_{10}\mathrm{X_{1ij}}$ are kept at zero. Essentially γ_{00} is the mean intercept, also known as the grand mean. $\gamma_{10}\mathrm{X_{1ij}}$ indicates the slope effects of X_1 in each group ‘j’. $\mathrm{u_{0j}}$ refers to the error term at the group level while $\mathrm{e_{ij}}$ refers to the error term at the individual level. $\gamma_{10}\mathrm{X_{1ij}}$ delineates the slope effect of a micro-level effect, if a macro-level effect were included in the model, W is used instead of X. Macro-level effects are noted in multilevel formula's as $\gamma_{01}W_{1j}$.

The model indicated by formula 2 is a random-intercept fixed slope model. In this model it is assumed that while different countries have different intercepts, the slope effect of the X's is similar across countries. For example, the intercept value of support for wealth redistribution is expected to vary across countries, but the effect of the X's on increase or decrease support for wealth redistribution at the same rate in each country. An increase of 1 decile in income (X_1) is assumed to decrease support for wealth redistribution Y by the same rate across countries. However, this might not accurately represent the actual slope effects of X's. The slope effects of X's might vary across countries. This is also known as causal heterogeneity. Causal heterogeneity exist when differences at the macro-level interact with effects at the micro-level. For example, it is possible that in some countries, the effect of income on support for wealth redistribution can be very negative, while its effect might be less pronounced or even positive in other countries.

In chapter two, several cross-level interaction hypotheses were formulated. For example, hypothesis *5* states: *The more income inequality in a country, the stronger the effect of income on individual support for wealth redistribution.* The hypothesis implies that the micro-level slope effect of income X_1 is affected by the macro-level effect of income inequality W_1. A cross-level interaction hypothesis takes *causal heterogeneity* into account. A random-intercept fixed slope model does not allow for empirically testing *causal heterogeneity*.

Random slope effects can be estimated by using a random-intercept random slope model. In this model an additional random term $u_{1j}X_{ij}$ is included. $u_{1j}X_{ij}$ indicates variance of slopes of X between groups. A random-intercept random slope model with one micro-level independent variable thus looks like this:

$Y_{ij} = \gamma_{00} + \gamma_{10}X_{1ij} + u_{0j} + u_{1j}X_{ij} + e_{ij}$ (Formula 3)

In the next chapter it is empirically tested whether estimating a multi-level model is warranted by the data by estimating and comparing null-models.

3.5 Data centering

In regular OLS regression, the scaling of independent variables does not affect estimates. However, this is the case in multilevel regression models. In order to prevent this, micro-level independent variables will be group mean centered. For each individual, the country mean value of an independent variable will be subtracted from the individual value. For example the mean age of respondents in Argentina is 42.550. This number will be subtracted from the age of every Argentinian individual. Mean centering for age has the counterintuitive effect that people's age can be indicated in negative values. A negative value in a group mean centered age variable indicates that someone is younger than the mean respondent in their country. The only independent variables that have not been mean centered are dummy variables for education. Another upside of mean centering is that it makes intercepts and coefficients more intuitive to interpret. The intercept in the models estimated can be interpreted as the predicted value on support for wealth redistribution when all independent variables are kept at 0. Because the independent variables are mean centered, a value of 0 indicates the mean value for that variable. If independent variables were not mean centered in a model were the independent variable age is included, the intercept indicates the predicted value for support for wealth redistribution when someone is 0 years old. It is arguably more informative to know the predicted value on support for wealth redistribution for someone with a mean age instead of someone who is 0 years old. Therefore, mean centered variables were used in all models.

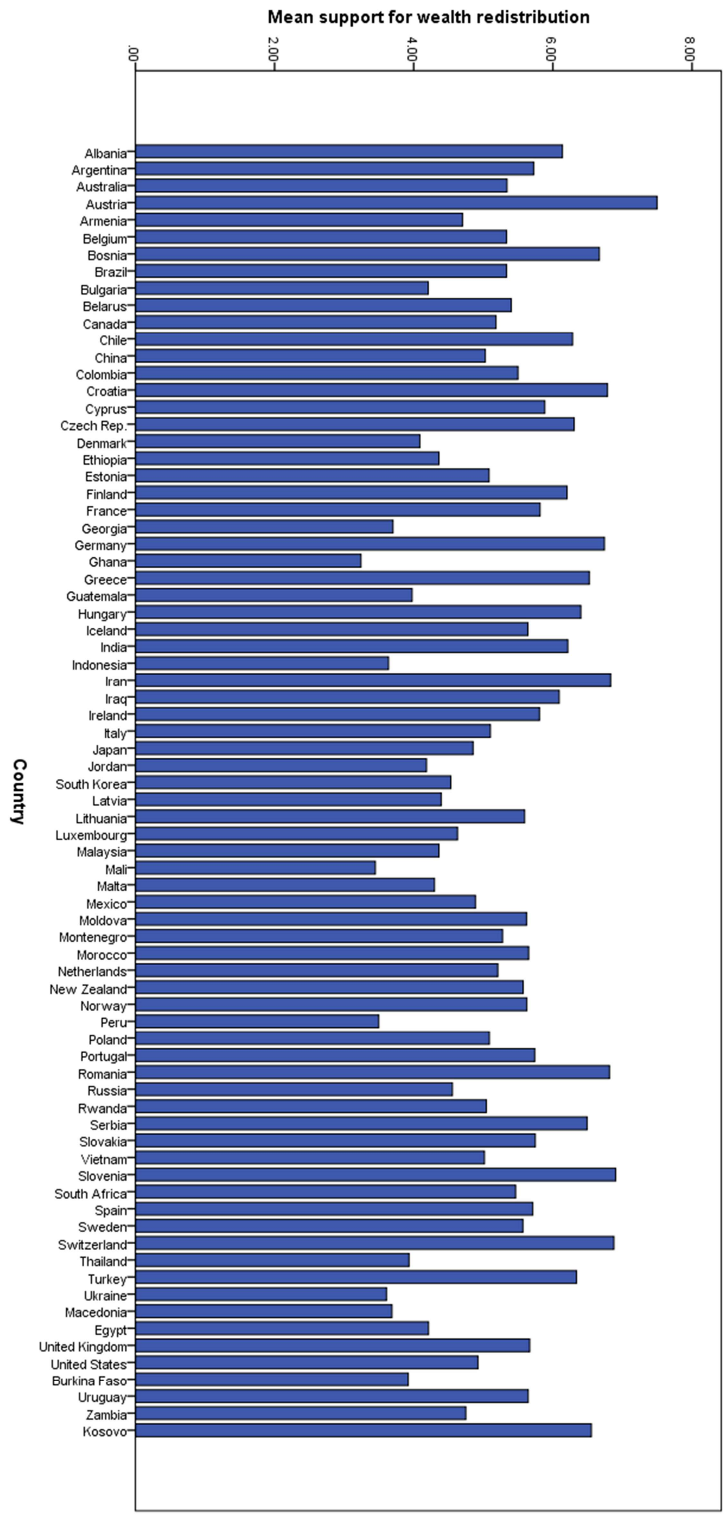
Chapter 4: Analysis

In this chapter the hypotheses formulated in chapter 2 are tested by using the models discussed in chapter 3. First some descriptive information on how support for wealth redistribution varies between people and countries will be provided. Second the expectation that multilevel regression is required will be testing by comparing OLS and multilevel null-models. Finally, models will be estimated that allow for testing the hypotheses of this thesis. Because some coefficient estimates are rather small, values of estimates will be noted to 3 decimals in this chapter.

4.1 Descriptive analysis

The first research question of this thesis is "*To what extent, are levels of support for wealth redistribution different between countries in the period of 2005-2009?"*. For the support for wealth redistribution variable, a value of 10 indicates complete support for wealth redistribution and a value of 1 indicates complete opposition. Figure 4.1 gives an overview of how mean support for wealth redistribution varies across countries. There is noticeable variation on mean support for wealth redistribution between countries. For most countries mean support for wealth redistribution varies between 4.000 and 6.000. The overall mean for support for wealth redistribution is 5.362. Mean support for wealth redistribution in Austria is exceptionally high at 7.497. Mean support for wealth redistribution in Ghana is the lowest, with a mean value of 3.241. These differences in mean support for wealth redistribution indicate that country-level differences need to be taken into account when analysing support for wealth redistribution. The assumption that there is significant country level variation is statistically tested in the next paragraph.

Figure 4.1 Mean support for wealth redistribution per country.



Source: EVS/ WVS integrated dataset (2015).

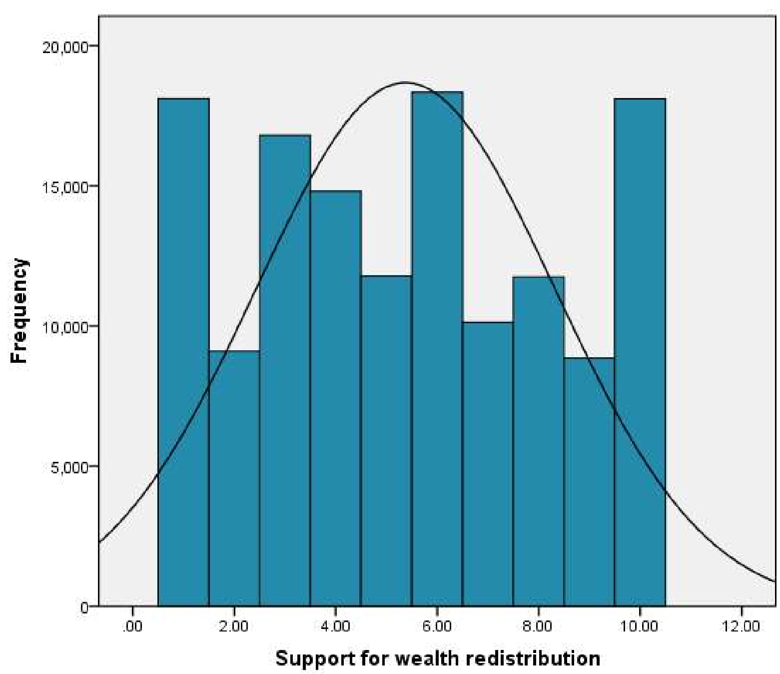
Table 4.2: Descriptive statistic on all operationalized variables

	Valid N.	Min.	Max.	Mean	Standard Deviation
Dependent variable					
Support for wealth redistribution	137784	1.000	10.000	5.362	2.943
Macro-level					
Income Inequality	142746	0.237	0.630	0.357	0.081
Social mobility	137237	0.174	0.836	0.397	0.134
Micro-level					
Income	70545	1.000	10.000	4.545	2.336
Age	142492	18.000	108.000	43.502	17.160
Middle education ref. low	135208	0.000	1.000	0.458	0.498
High education ref. low	135208	0.000	1.000	0.228	0.420
Self-determination beliefs	71563	1.000	10.000	6.728	2.828
Post-Materialism	66212	0.000	5.000	1.998	1.185
Controls					
Macro-level					
Migration rate	141145	-77.470	91.730	2.899	23.415
GDP per capita	142746	274.196	99750.953	19405.223	21185.750
Micro-level					
Male ref. female	142649	0.000	1.000	0.486	0.500

Source: EVS/WVS integrated dataset (2015), World Bank GINI-estimates (2016) & World Bank GDIM (2017).

Table 4.2 gives an overview of descriptive statistics on all operationalized variables. What is noticeable, is that a sizable amount of individual observations for the income, self-determination beliefs and post-materialism variables are missing. For post-materialism, only 66212 observations are available. This is less than half than the observations for the dependent variable support for wealth redistribution. Fortunately, this is not due to the lack of observations on these variables for entire countries. A large number of missing values on a variable might indicate sampling bias. For example, people might not want to report their income because they are unemployed, while at the same time, the fact that they are unemployment affects their support for wealth redistribution. Ignoring these potential effects might bias the results of analyses using the income variable. However, the main reason for the number of missing values on the income, self-determination beliefs and post-materialism variables is that respondents were not asked these questions in the WVS/EVS survey. For missing values on income, only 2578 respondents did not answer the question, while 66465 respondents were not presented with the question in the first place. Because the number of people who did not report their income when asked accounts for only 1.800% of the total sample size, the risk of these missing values affecting the analyses is fairly small.

Figure 4.3: Distribution of individual support for wealth redistribution



Source: EVS/WVS integrated dataset (2015)

Figure 4.3 shows a histogram that illustrates the frequency distribution of individual support for wealth redistribution. A normal distribution curve has been superimposed over the figure for easy comparison. As is clearly visible, the distribution is heavy tailed. A large number of respondents either completely supported or opposed wealth redistribution.

4.2 Null Models & intraclass correlation

In the previous chapter I have outlined theoretical arguments for using a multi-level model. These expectations need to be empirically tested in order to assess whether a multi-level model is warranted by the data. First, there needs to be a sufficient amount of intraclass correlation. Second, the multilevel model needs to fit the data significantly better than a single level model.

In order to do calculate intraclass correlation a multilevel null-model is estimated. A null-model is a model with no independent variables in it. Intraclass correlation is the proportion of variance caused by level two. Therefore to calculate intraclass correlation, level two variance is divided by the total variance. For support for wealth redistribution intraclass correlation found to be at 11.233%. The second step is testing whether a multilevel model fits the data significantly better than a single level model. This is done by a deviance test. The deviance test is significant at the < 0.001 level. Therefore the null-hypothesis; that there is no between group variation can be rejected. In other words, a multilevel model explains the data significantly better.

4.3 Modelling approach

To test the hypotheses formulated in chapter 2, several modelling approaches were used. First, standard OLS regression models were estimated to test micro-level hypotheses. Second, random intercept fixed slope models were used to test cross-level hypotheses. Finally, random intercept random slope models were used to test cross-level interaction hypotheses.

4.3.1 Fixed effects models

Several hypotheses only suppose micro-level effects. This concerns the bivariate hypotheses H1, H3, H4, H11 and H13 and the interaction hypotheses H5 and H14. Standard OLS regression models were estimated. Country dummies were used to control for country level variation.[8] This model is also known as a fixed effect model. Fixed effects models are appropriate for micro-level hypotheses since they are not concerned with macro level effects. An advantage of using a fixed-effects model in this situation, is that the country dummies automatically control for macro-level effects. Dummy variables were included for all countries except one reference country. Belgium was selected as reference country. This choice was made because the mean value for support for wealth redistribution in Belgium is 5.389. This is the closest to the overall mean of support for wealth redistribution which is also 5.389 (rounded). This makes interpreting the intercept more intuitive. Since all independent variables except education dummies are mean-centered, the intercept is the base estimate of support for wealth redistribution when someone lives in Belgium, received low education and has average values on all other independent variables. The coefficient for each country dummy, gives the change in base support for wealth redistribution when someone lives in that particular country. However, country dummies are only used as control variables in the fixed-effects model. Aside from country dummies, gender was included as a control variable in all models. While there are observations for the income variable for each country in the analysis, the income variable

[8] In order to check the robustness of findings, a random intercept fixed slope model was estimated with migration rate and GDP per capita as macro-level control variables. The results can be found in Appendix A2. Overall, both the direction of coefficients and significance levels are similar as in the fixed effects model.

is missing for a fairly large number of respondents. Out of the total of number of 137784 retained observations, only 71563 had valid observations on the income variable.

4.3.2 Random intercept fixed slope models

Several hypotheses in this thesis suppose cross-level effects. Here, macro-level independent variables are expected to affect support for wealth redistribution. Hypothesis H2 predicts that country-level social mobility negatively affects support for wealth redistribution. Hypothesis H6 poses that income inequality positively affects support for wealth redistribution. Since these hypotheses are concerned with macro-level effects, a fixed-effects model is not suitable. This would eliminate all macro-level variation. In order to estimate cross-level effects multi-level models need to be estimated.

Because these hypotheses only concern macro-level independent variables, a random intercept fixed slope models was estimated to test both hypotheses. In a random intercept fixed slope model it is assumed that variables have different means in a country, but that the slope effect of independent variables on the dependent variable is similar across countries (i.e. fixed). All random intercept fixed slope models include the control variable gender. The country level controls (migration rate and GDP per capita) were gradually included. The macro-level variables only vary at the country level. Because of the limited number of country-level observations (76), the statistical power of macro-level variables is rather limited. If controls variables are included all at once, some interesting effects might be missed because of limited statistical power.

4.3.3 Cross-level interaction hypotheses

In order to test cross-level interaction hypotheses random intercept random slope models were estimated. In a random intercept random slope model, country means are allowed to vary as well as the slope effects of independent variables. This modelling approach is suitable for cross-level interaction hypotheses. A cross-level interaction hypothesis states that a macro-level predictor strengthens or weakens the effect of a micro-level predictor on the dependent variable. In other words, macro-level effects influence the slope of micro-level effects. Control variables were included gradually.

4.4 Explanatory analysis

In this section, the findings of the different statistical tests of the hypotheses formulated in chapter 2 are discussed. In chapter 2, the hypotheses have been formulated in the order of the theories discussed. However, for clarity on the statistical tests, the hypotheses will be discussed in the order of the different types of models estimated.

4.4.1 Micro-level hypotheses

Table 4.4 shows the estimates for micro-level effects on support for wealth redistribution. Several models were estimated corresponding to the micro-level hypotheses. In M5, all micro-level independent variables are included. Here, variables corresponding to rational choice hypotheses and cultural theory hypotheses control for each other. In this way, it becomes visible what the effects of rational choice predictors on the independent variables are when taking the effects of cultural theory predictors into account and vice versa.

Hypothesis H1 predicted that the higher someone’s income, the less they support wealth redistribution. This hypothesis is quite consistently supported by the findings. The coefficient for income is negative and significant at an alpha of <0.001 in all models. In model M5, where all other micro-level variables are controlled for, the coefficient is the largest at -0.121. This means that for each 1 decile increase in income, support for wealth redistribution decreases by 0.121 points.

Hypothesis H3 predicted that the younger people are, the less they will support wealth redistribution. This hypothesis is only partially supported by the data. No significant relation was found in model M1, while age was significant in model M2 at an alpha of <0.001 and in model M5 at an alpha of <0.010[9]. The difference between the model M1 and M2 is that the age-education interaction variable was included. In model 5 all other micro-level variables and interaction terms were included. The findings indicate that while there is a slight age effect, its effects only become visible when the effects of the age-education interaction term are controlled for. While the coefficients for age in models M2 and M5 are in the direction that was hypothesized, its coefficients are fairly weak. In model M2, for each year increase in age, support for wealth redistribution increases by 0.005 points.

Hypothesis H4 predicted that the higher someone's education, the less they will support wealth redistribution. This hypothesis is supported by the findings. In all models in which they were included, the middle education and high education dummies have significant negative coefficients at an alpha of <0.001. In line with H4, the coefficient for the high education dummy is the largest. In model M5 its coefficient is -0.467. This means that when someone is highly educated, the predicted value for support for wealth redistribution is 0.467 points lower than for someone who is low educated.

[9] In model M1 age was only just not significant with a p-value of 0.056.

Table 4.4: Country fixed-effects estimates of micro-level effects on support for wealth redistribution between 2005 and 2009. (Continued on next page)

Model	M1	M2	M3	M4	M5
Intercept	5.785	5.754	4.303	4.207	7.151
	(0.058)	(0.059)	(0.052)	(0.051)	(0.071)
Income (centered)	-0.115***	-0.114***		-0.141***	-0.121***
	(0.005)	(0.005)		(0.005)	(0.006)
Age (centered)	0.001	0.005***			0.004**
	(0.001)	(0.001)			(0.001)
Education (dummy)					
Low	Reference	Reference	Reference	Reference	Reference
Middle	-0.253***	-0.262***			-0.272***
	(0.028)	(0.029)			(0.031)
High	-0.412***	-0.420***			-0.444***
	(0.035)	(0.035)			(0.038)
Self-determination beliefs (centered)			0.008		0.006*
			(0.004)		(0.004)
Post-materialism (centered)			0.030**	0.038***	0.076***
			(0.010)	(0.010)	(0.011)

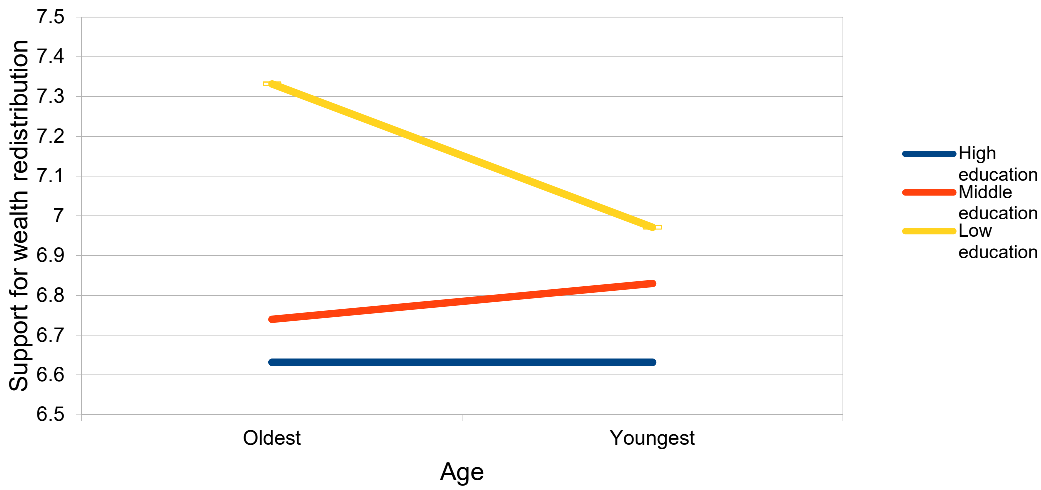
Age* Middle education		-0.005**			-0.004*
		(0.002)			(0.002)
Age * High education		-0.005**			-0.005**
		(0.002)			(0.002)
Postmaterialism* Income				0.011*	0.010*
				(0.004)	(0.004)
R2	0.118	0.118	0.109	0.122	0.126
N individuals	62690	62690	63002	59649	53717
N countries	76	76	76	76	76

Standard errors in parentheses. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; two-tailed. Source: EVS/ WVS integrated dataset (2015). Country dummies included but not reported.

Hypothesis H5 predicted that the higher someone's education, the stronger the effect of age on support for wealth redistribution. While a significant interaction effect is found for the interaction terms in both models M2 and M5, the coefficients for both interact terms are negative. This means that the age effect is actually weakened by the effects of education. Based on model M5, a one year increase in age for someone who has low education increases support for wealth redistribution by 0.004 points. The coefficients for the education dummies indicate how much support for wealth is lower for someone with a mean age who had middle or high education as opposed to low education. The interaction term for age and middle education is -0.004 while the interaction term for age and high education is -0.005. The interaction terms indicate how much the age coefficient changes by each 1 point increase in middle and high education respectively. Because the education variables are dummy variables, a 1 point increase in the middle or high education variable means that someone is middle or highly educated as opposed to low educated. The interaction terms can thus be interpreted as follows. When someone is middle educated the age coefficient is -0.004 points lower than for the low educated. For the highly educated the effect of age is -0.005 points lower than for the low educated.

This is clearly visible in figure 4.5 (based on model M5 estimates). For low educated people the age effect is clearly negative. The younger someone is, the less they support wealth redistribution. However, for the middle educated, the age effect is reversed. The younger they are, the more they support wealth redistribution. For the highly educated, the age effect is completely negated by the interaction term. The effect of age on support for wealth redistribution is stronger for people with low education and weaker for people with middle or high education. The effects of education thus weaken the effects of age, which is the opposite of what was predicted by hypothesis H5.

Figure 4.5: Age effect estimates per education level



Source: EVS/ WVS integrated dataset (2015).

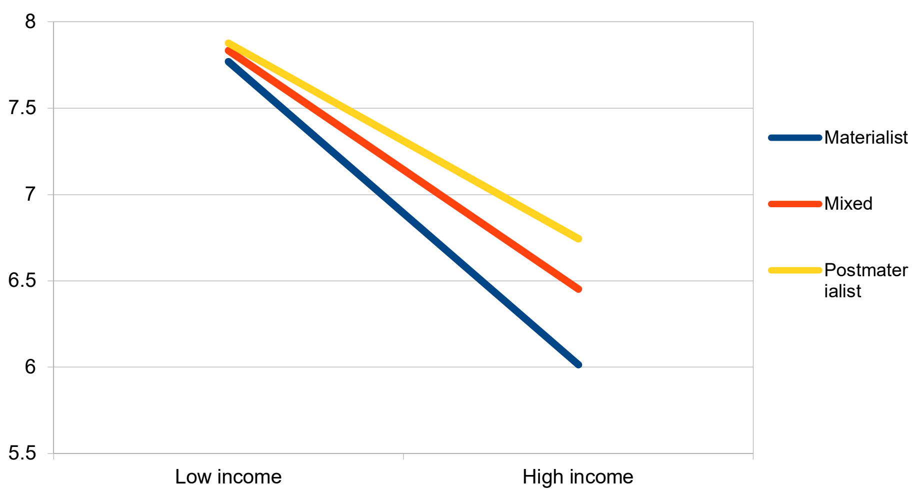
Hypothesis 11 predicted that the more people hold self-determination beliefs, the less they will support wealth redistribution. This hypothesis is not supported by the findings. Model M5 shows slight but significant positive coefficient of 0.011 at an alpha of <0.010. However, this effect is opposite to the prediction of hypothesis H11.

Hypothesis 13 predicted that the more postmaterialist people are, the more they support wealth redistribution. This hypothesis supported by the findings. Positive coefficients have been found in all fixed effects models where the postmaterialist variable was included. However, while the findings show a consistent positive effect of post-materialism, the coefficients are rather small. The effects of post-materialism are most pronounced in M5 where the other micro-level variables are used as controls. Here the coefficient for post-materialism is 0.076 at an alpha of <0.001.

Hypothesis 14 predicted that the more materialist people are, the stronger the negative effect of income on support for wealth redistribution. This hypothesis is supported by the findings. The interaction term for income and post-materialism is positive and significant at an alpha of <0.001 in both M4 and M5. The interaction term indicates how much the slope effect of income changes with a 1 point increase in post-materialism. Because base effect of income is negative, post-materialism reduces the negative effect of income on support for wealth redistribution. The post-materialism variable is mean centered. Based on model M5, this means that the coefficient for income of -1.21 indicates how much support for wealth redistribution decreases when someone has a mean score on the post-materialism index, which is about 2 (rounded). For every point increase on the post-materialism index the slope of income changes by 0.001 point. Therefore, for someone who has a value of 3 (i.e. mixed) on the post-materialism index, the negative effect of income is estimated at about -1.20.

The interaction effect is illustrated in figure 4.6. The more post-materialist people are, the less strong the income effect becomes. As predicted by hypothesis H13, the negative effect of income is most strong for materialists. For post-materialists, the negative effect of income is present but weaker than for people who scored mixed or materialist.

Figure 4.6: Income effect estimates per degree of post-materialism.



Source: EVS/ WVS integrated dataset (2015).

4.4.2 Cross-level hypotheses

To test hypotheses H2 and H6 random intercept fixed slope models were estimated. Table 4.7 shows the estimates for cross-level effects on support for wealth redistribution. Hypothesis H2 predicted that the more social mobility in a country, the less support for wealth redistribution. No support has been found for this hypothesis. Model M6 estimates the effects of social mobility with all control variables. Model M9 includes the Income equality variable as well. The social mobility variable is not significant in any of the estimated models.

Table 4.7: Random intercept fixed slope estimates of macro-level effects on support for wealth redistribution between 2005 and 2009.

Model	M6	M7	M8	M9
Intercept	4.975 (0.477)	6.40 (0.51)	5.975 (0.597)	5.667 (0.795)
Social Mobility	0.274 (0.975)			0.162 (0.973)
Income Inequality		-2.859* (1.379)	-2.139 (1.466)	-1.613 (1.487)
N individuals	134596	137702	136101	134500
N countries	73	76	75	73

Standard errors in parentheses. * p < 0.05; ** p < 0.01; *** p < 0.001; two-tailed. Source: EVS/WVS integrated dataset (2015), World Bank GINI-estimates (2016), World Bank GDIM (2017).

Hypothesis H6 predicted that the more income inequality in a country, the more support for wealth redistribution. No support has been found for this hypothesis. Model M7 estimates the effects of income inequality without the control variable GDP per capita. In this model, there is a significant negative coefficient for income inequality at an alpha of <0.05. However, the direction of this effect is opposite to the hypothesized direction. This suggests that when income inequality increases, support for wealth redistribution decreases. Model M8 includes all control variables. The inclusion of the GDP per capita control variable yields an insignificant coefficient for income inequality.

4.4.3 Cross-level interaction hypotheses

A random intercept random slope model was estimated in order to test cross-level interaction hypotheses. Table 4.5 shows the estimates for all micro-level variables, macro-level variables and cross-level interaction terms. The presented models M10 to M14 include all control variables. While building these models, control variables have incrementally been included. However, the addition of control variables did not affect the significance of coefficients.

No support has been found for the cross-level interaction hypotheses. Hypothesis H7 predicted that the higher the level of income inequality in a country, the stronger the effect of income on support for wealth redistribution. This hypothesis is not supported. No significant coefficients have been found for the interaction term. The same applies to hypothesis H8 and H9. Hypothesis H8 predicted that more income inequality makes the effect of age on support for wealth redistribution stronger. Hypothesis H9 predicted that more income inequality makes the effect of education on support for wealth redistribution stronger. No significant coefficients have been found.

Hypothesis H10 is a three-way interaction hypothesis. Hypothesis H10 predicted that the more income inequality in a country, the stronger the strengthening of the effect of age (on support for wealth redistribution) by the effect education. No support has been found for this hypothesis. The three-way interaction terms for both the middle and high education dummy are not significant by far.

Table 4.5: Random intercept random slope estimates of cross-level interaction effects on support for wealth redistribution between 2005 and 2009 (Continued on next pages. 3 pages in total)

Model	M10	M11	M12	M13	M14
Intercept	5.114	5.863	6.134	5.9788	5.396
	(0.635)	(0.595)	(0.602)	(0.593)	(0.609)
Macro-level					
Income inequality	-0.431	-1.917	-2.090	-1.828	-0.774
	(1.500)	(1.465)	(1.494)	(1.475)	(1.446)
Micro-level					
Income (centered)	-0.248**				-0.226**
	(0.074)				(0.068)
Age (centered)		0.010		0.008	-0.005
		(0.005)		(0.007)	(0.009)
Education (dummy)					
Low			Reference	Reference	Reference
Middle			-0.312	-0.246	-0.326
			(0.163)	(0.175)	(0.228)
High			-0.741**	-0.687**	-0.415
			(0.239)	(0.247)	(0.321)
Interaction terms					
Income inequality * Income	0.255				0.277

	(0.190)				(0.176)
Income inequality * Age		-0.013		-0.010	0.021
		(0.014)		(0.019)	(0.023)
Income inequality * Middle education			-0.067	-0.166	0.175
			(0.442)	(0.473)	(0.579)
Income inequality * High education			0.205	0.130	-0.012
			(0.653)	(0.675)	(0.828)
Middle education * Age				0.000	0.009
				(0.005)	(0.008)
High education * age				-0.005	0.004
				(0.007)	(0.010)
Income inequality * Middle education * Age				-0.014	-0.031
				(0.015)	(0.019)
Income inequality * High education * Age				-0.003	-0.017
				(0.020)	(0.026)
Random effects					
country level variance	0.705	0.877	0.879	0.864	0.661
	(0.003)	(0.144)	(0.146)	(0.143)	(0.133)
individual level variance	7.723	7.651	7.543	7.517	7.580
	(0.139)	(0.029)	(0.029)	(0.029)	(0.043)
	0.0125				0.010

slope variance of income effect	(0.003)				(0.002)
slope variance of age effect		0.000		0.000	0.000
		(0.000)		(0.000)	(0.000)
slope variance of middle education effect			0.053	0.059	0.062
			(0.013)	(0.014)	(0.019)
slope variance of high education effect			0.124	0.128	0.124
			(0.027)	(0.028)	(0.037)
N individuals	69381	139067	132481	132382	63611
N countries	75	75	75	75	75

Standard errors in parentheses. * p < 0.05; ** p < 0.01; *** p < 0.001; two-tailed. Source: EVS/WVS integrated dataset (2015), World Bank GINI-estimates (2016) & World Bank GDIM (2017)

Hypothesis H12 is a mediation hypothesis stating that higher social mobility in a country makes people hold self-determination beliefs more which in turn negatively affects support for wealth redistribution. No model was estimated to test this hypothesis. Previous tests in this thesis have found no significant effects for self-determination beliefs and social mobility individually. One of the requirements for a mediation hypothesis to be supported, is that hypotheses that make up the components of the mediation are supported. Since hypothesis H11 on self-determination beliefs and hypothesis H2 on social mobility are not supported by the findings, there is no support for the mediation hypothesis H12 by default.

4.4.4 Overview of hypotheses

Table 4.6 provides an overview of all hypotheses tested and notes whether they were supported or refuted by the empirical tests in this chapter.

Table 4.6: Summary of findings

Hypothesis		Findings
1	The higher someone's income, the lower support for wealth redistribution	Supported
2	The more social mobility in a country, the lower support for wealth redistribution	Refuted
3	The younger someone is, the less lower support for wealth redistribution	Partially supported
4	The higher someone's education, the lower support wealth redistribution	Supported
5	The higher someone's education, the stronger the effect of age on support for wealth redistribution	Refuted
6	The more income inequality in a country, the higher support wealth redistribution	Refuted
7	The more income inequality in a country, the stronger the effect of income on support for wealth redistribution	Refuted
8	The more income inequality in a country, the stronger the effect of age on support for wealth redistribution	Refuted
9	The more income inequality in a country, the stronger the effect of education on support for wealth redistribution	Refuted
10	The more income inequality the stronger the effect of education on strengthening the effect of age on support for wealth redistribution.	Refuted
11	The more someone holds self-determination beliefs, the lower support wealth redistribution	Refuted
12	The more upward mobility in a country, the more people old self-determination believes, which decreases support for wealth redistribution	Refuted
13	The more postmaterialist people are, the higher support for wealth redistribution	Supported
14	The more materialist people are, the stronger the effect of income on support for wealth redistribution	Supported

Chapter 5: Conclusion and Discussion

In this chapter, the main findings of this thesis are summarized. First, the conclusion outlines the results from the explanatory analysis and discusses their implications for the theoretical framework. Finally, the discussion will briefly discuss some shortcomings of the research design and will make suggestions for future research.

5.1 Conclusion

This thesis aimed to investigate what explain individual support for wealth redistribution. The first research question was descriptive and asked: *"To what extent are levels of support for wealth redistribution different between countries in the period of 2005-2010?".* As seen in the analysis, there is significant difference between countries in support for wealth redistribution levels. The second research question was explanatory and asked: "*To what extent, can differences in support for wealth redistribution between countries in the period of 2005-2009, be explained by self-interest theory and cultural theory?".*

The theoretical framework that was developed distinguished between two theories that explain support for wealth redistribution: self-interest theory and cultural theory. This thesis tested 14 hypotheses based on predictions made by these theories. Self-interest theory predicts that support for wealth redistribution is affected by people's material interests. People who expect to gain material benefits from wealth redistribution were expected to support wealth redistribution. Wealth redistribution was expected to be opposed by people who will likely pay for these policies. Cultural theory predicted that support for wealth redistribution is affected by the beliefs and values people hold. People who believe in that hard work pays off (i.e. in self-determination) were expected to oppose wealth redistribution. Further, people who have a post-materialist value orientation were expected to support wealth redistribution.

The analysis in this thesis offers a couple of interesting insights. First, self-interest has a consistent impact on individual support for wealth redistribution. Second, self-interest factors at the country level do not seem to affect support for wealth redistribution. Third, peoples' value orientation impacts support for wealth redistribution as well. Post-materialists are slightly more supportive of wealth redistribution. Finally, someone's value orientation on the post-materialist index affects how much self-interest determines their support for wealth redistribution.

The findings on self-interest theory suggest that individual characteristics matter most, while country-level factors seem to have no impact. People who are relatively wealthy, or who expect to become relatively wealthy in the future, tend to support wealth redistribution less. Concerning current wealth, someone's own income has a strong impact on support for wealth redistribution. Considering the strong empirical evidence for this expectation in previous research, this finding is unsurprising. However, income inequality in a country is not found to affect support for wealth redistribution. No support has been found for Richard & Meltzer's (1981) median voter hypothesis, which predicted that higher levels of income inequality would increase overall support for wealth redistribution. When a countries GDP per capita is not taken into account, income inequality was found to have negative effect on support for wealth redistribution. However, these results cannot really be interpreted as a causal effect. High income inequality in a country is more likely to be the result of already low support for wealth redistribution, instead of its cause (Sealy & Anderson 2015). A longitudal study is required to test these expectations. Further, it was hypothesized that income inequality enhances the negative effects of income, age and education. This does not seem to be the case.

Concerning the prospect of upward mobility, age marginally affects support for wealth redistribution, while someone's education has a large impact. Interestingly, the age effect differs across education levels. People who are highly educated have the lowest overall level of support for wealth redistribution. However, their support for wealth redistribution does not increase as they get older. People with low education are generally more supportive of wealth redistribution and tend to support wealth redistribution more when they get older. While these findings contradict the age education interaction hypothesis, these findings can still be explained within a self-interest theory framework. As theorized earlier, young people and highly educated people have better prospects of upward mobility. When people get older, the prospect of upward mobility diminishes. It makes sense that this is the case for the low educated. Career paths that are available to people who are low educated tend to reach an income ceiling earlier. This is different for the highly educated. Upward income mobility still remains relatively likely when they get older (Machin et al 2012).

Country-level mobility did not affect support for wealth redistribution in the analysis. This might be due to the fact that relative intergenerational education mobility does not accurately capture country-level mobility. On the other hand, the fact that country-level self-interest predictors do not affect support for wealth redistribution is in line with theoretical expectations by Sears (1990a). Generally, people are more aware of the factors impacting their daily life, like their own income and their prospects on the job-market. However, people tend to be less aware of the levels of income inequality and social mobility in their country. While economists and political scientists might be aware of these statistics, most people are not. Because people have clear and complete knowledge of their daily life, but are less aware of country-level factors that impact their self-interest, income inequality and social mobility matter less for individual support for wealth redistribution. While income inequality and social mobility do not seem to affect support for wealth redistribution, the rather large proportion of country-level variation (ICC of 11.23%) suggests that support for wealth redistribution is partially explained by country differences.

Self-determination beliefs were not found to have an effect on support for wealth redistribution. This is somewhat surprising considering a number of studies that did find strong significant effects (Fong 2001, Alesina & La Ferrara 2004). These results might be explained by the fact that the extent to which people hold self-determination beliefs is mainly determined by the cultural context of the country they live in (Sealey & Anderson 2015). For example, people in the United States tend to hold self-determination beliefs to a large extent while social mobility is relatively low and income inequality is relatively high in the country (Alesina & Glaeser 2004). Wealth redistribution policies are very limited in the United states (ibid.). People in the United States that support wealth redistribution, might reflect on current levels of wealth redistribution in their country and feel that more redistribution is warranted, in spite of their believe in the 'American dream'.

An individual's value priorities, expressed by Inglehart's post-materialism index affect support for wealth redistribution. The more people are a post-materialists, the more they support wealth redistribution. Post-materialists are thought to prioritize non-material, other-regarding values like egalitarianism and altruism. Unfortunately, the design of this study does not allow for conclusions about the extent to which egalitarianism and altruism contribute to the effects of post-materialism.

What can be concluded about post-materialists, is that they are less concerned by material self-interest. This conclusion might seem obvious because valuing material needs less, is enshrined in the definition of post-materialism. However, self-interest and cultural theory predictions have mostly been presented as competing and contradictory in the literature. People's support for wealth redistribution has often been studied from either the perspective of self-interest or cultural theory. Studies using both perspectives have mainly pitted the theories against each other and compared how self-interest and cultural theory predictions stack up. The finding that post-materialist are less affected by material self-interest indicates that material self-interest and cultural value priorities interact with each other. This study finds that people's policy preferences are largely affected by self-interest. However, some people are less affected by self-interest than others. These differences can partially be explained by cultural theory. The question whether people are motivated by their self-interest or their values, might not be adequate when studying support for wealth redistribution. Instead the question "Which value orientations, or beliefs influence the extent to which self-interest affect policy preferences?" might yield more nuanced findings on policy preferences and specifically, support for wealth redistribution.

5.2 Discussion

A few methodological shortcomings of this study must be noted. First, a problem when conducting multi-level analysis with country groups at the second level, is that there are often few country-level observations available. While the number of country-level observations in this study was relatively large for a multi-level analysis at N=76, low statistical power might have affected the findings. In order mitigate this problem as much as possible, control variables have been gradually included when analysing cross-level hypotheses. Furthermore, the data for the income inequality variable relied on estimates provided by government statistical agencies. These estimates might not have been reliable for all countries. In order to measure social mobility, estimates of relative intergenerational education mobility were used. The choice for educational mobility was a practical one; data was available for all countries in the analysis. However, career mobility or income mobility might more accurately reflect the prospects of upward mobility in a country.

While a slight negative effect of income inequality was found, these results point out a correlation at best. Future research could use longitudal data in order further test causal effects of income inequality on support for wealth redistribution. For example, time lagged income inequality might be compared to changes in support for wealth redistribution over years. Furthermore, the findings of this study suggest that while there are large differences in support for wealth redistribution between countries, these differences are not explained by income inequality or social mobility. Future research might look into other macro-level factors that explain differences between countries. The finding that people's value orientations affect the extent to which self-interest influences their support to wealth redistribution indicates that there is merit to a synthesis between self-interest theory and cultural theory. Future research could further investigate how value priorities and beliefs interact with the effects of self-interest.

References

Alesina, A. & La Ferrara, E. (2004): "Preferences for redistribution in the land of opportunities" *Journal of Public Economics*, Vol. 81: 897-931.

Blume, L.E & Easley, D. (2007): "Rationality" in: *The New Palgrave Handbook of Economics 2nd Edition,* London: Palgrave Macmillan.

Brueckner, M. & Lederman, D. (2017): "Inequality and GDP per capita: The Role of Initial Income", *World Bank Public Documents*. URL: http://pubdocs.worldbank.org/en/755201504498011731/inequality-and-growth-3- september-2017" 20 June 2018.

Benabou, R. Ok, E. (2001) "Social Mobility and the Demand for Redistribution: The Poum Hypothesis." *The quarterly journal of economics,* Vol. 116(2): 447-487.

Bentham, J. (1789): "*An Introduction to the Principle of Morals and Legislations*." Eighteenth Century Collections Online. Gale Group., Farmington Hills, MI.

Burgoon, B. Koster, F. van Egmond, M (2012): "Support for redistribution and the paradox of immigration", *Journal of European Social Policy*, Vol. 22(3): 288-204.

EVS (2015): "European Values Study Longitudinal Data File 1981-2008". *GESIS Data Archive, Cologne*. ZA4804 Data file Version 3.0.0, doi:10.4232/1.12253

GDIM (2018): "*Global Database on Intergenerational Mobility*". Development Research Group, World Bank. Washington, D.C.: World Bank Group."

Gilens, M. (1995): "Racial Attitudes and Opposition to Welfare", *Journal of Politics,* Vol 57(4): 994-1014.

Gilens, M. (2000): "*Why Americans Hate Welfare: Race, Media, and Politics of Antipoverty Policy*" Chicago: Chicago University Press.

Fajnzylber P., Lederman, D. and Loayza, N. (2002) “Inequality and Violent Crime” *Journal of Law and Economics,* Vol. 45(1): 1-39.

Fong, C. (2001):”Social preferences, self-interest, and the demand for redistribution” *Journal of Public Economics,* Vol. 82: 225-246.

Inglehart, R. (1977): “*The Silent Revolution*” Princeton, NJ: Princeton University Press.

Inglehart, R. (1990): “*Culture shift in advanced industrial society”*. Princeton: Princeton University Press.

Inglehart, R. (1997):”*Modernization and Post-Modernization: Cultural, Economic and Political Change in 43 countries*” Princeton, NJ: Princeton University Press.

Jetten, J., Mols, F. & Postmes, T. (2015): “Relative deprivation and Relative Wealth Enhances Anti-Immigrant Sentiments: The V-Curve Re-Examined” *PLoS One,* Vol. 10(10).

Luebker, M. (2014): “Income inequality, redistribution, and poverty: Contrasting rational choice and behavioural perspectives”, *Review of Income and Wealth*, Vol. 60(1): 133-154.

Luttmer (2001): “Group Loyalty and the Taste for Redistribution” *Journal of Political Economy,* Vol. 109 (3): 500-528.

Kahneman, D. & Tversky, A. (1979) “Prospect Theory: An analysis of Decision under Risk”, *Econometrica*, Vol. 47(2): 263-292.

Kerr, W. (2014) “Income inequality and social preferences for redistribution and compensation differentials”, *Journal of Monetary Economics,* Vol. 66: 62-78.

Knutsen, O. (1995): “Value orientations, political conflicts and left-right identification” *European Jorunal of Political Research,* Vol 28(1) 63-93.

Kinder, D.R. and & Sears, D.O. (1981): "Prejudice and Politics: Symbolic Racism Versus Racial Threats to the Good Life" *Journal of Personality and Social Psychology,* Vol 40(3): 414-431.

Meltzer, A. H. and Richard, S. F. (1981): "A Rational Theory of the Size of Government", *Journal of Political Economy*, Vol. 89(5), 914–27.

Meltzer A. H. and Richard, S. F. (1983) "Tests of a Rational Theory of the Size of Government", *Public Choice,* Vol. 43(3): 403-418.

Narayan, A., Van der Weide, R., Cojocaru, A., Lakner, C., Redaelli, S., Mahler, D., Gerszon, R., Rakesh, G. & Thewissen, S. (2018):" *Fair Progress? : Economic Mobility Across Generations Around the World*. Equity and Development. Washington, DC: World Bank.

Owens, L. & Pedulla, D. (2014):"Material Welfare and Changing Political Preferences: The Case of Support for Redistributive Social Policies" *Social Forces,* Vol.92(3): 1087-1113.

Oishi, S. & Kesebir, S. (2015): "Income Inequality Explains Why Economic Growth Does Not Always Translate to an Increase in Happiness" *Psychological Science,* Vol 26(10): 1630-1638.

Sealey, A. and Anderson, R. (2015):"Income Inequality and Popular Support for Redistributive Policies in Canada" *Canadian Public Policy***,** Vol. 41(1): 51-64.

Sears, O. & Funk, C. (1990a): "The Limited effect of Economic Self-interest on the Political attitudes of the Mass Public", *The Journal of Behavioral Economics,* Vol. 19(3): 247-271.

Sears, O. & Funk, C. (1990b): "*Self-Interest in Americans' Political Opinions*". In: Mansbridge, J. J.(Red.): Beyond Self-Interest. Chicago, IL: University of Chicago Press.

Sears, O. (1993): "Symbolic Politics: A Socio-Pyschological Theory" In: Iyengar, S. & McGuire, W.J. (red): *Explorations in Political Pyschology*. Durham, N.C: Duke University Press: 113-149.

Sears, O. (1997): “The Impact of Self-Interest on Attitudes – A Symbolic Politics Perspective on Differences Between Survey and Experimental Findings: Comment on Crano”, *Journal of Personality and Social Pyschology,* Vol. 72(3): 492 – 496.

Sears, O. & Funk, C (1999): “Evidence of the Long-Term Persistence of Adults' Political Predispositions”, *The Journal of Politics*, Vol. 61(1): 1-28.

Ultee, W.C. (1989): “Beyond stratification and mobility: Dutch Questions about openness, inequalities and cumulations” In: Jansen, W. & Verrips, K (red.): *Similar or Different? Continuities in research on stratification and mobility in the Netherlands*, SISWO, Amsterdam.

Unesco (2011) “International Standard Classifcation Education ISCED” *United Nations Educational, Scientific and Cultural Organization.* URL:

http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf (18 June 2018)

WVS (2015): “World Value Survey 1981-2014 official aggregate v.20150418, 2015” *World Values Survey Association (www.worldvaluessurvey.org).* Aggregate File Producer: JDSystems, Madrid

World Bank (2016): “GINI index (World Bank Estimate)”, World Bank Development Research Group.

World Bank (2016): “*Population, total*” World Bank Open Data. URL: https://data.worldbank.org/indicator/SP.POP.TOTL (20 June 2018)

World Bank (2017): “Net migration data” United Nations Population Division. World Population Prospects. URL:

https://data.worldbank.org/indicator/SM.POP.NETM?year_high_desc=true (20 June 2018)

Appendix

A1: Questions for the 12-item post-materialism index

Below are the questions that give the scores for the 12-item post-materialism index as they were asked in the EVS and WVS (EVS 2015, WVS 2015).

A) There is a lot of talk these days about what the aims of this country should be for the next ten years. On this card are listed some of the goals which different people would give top priority. Would you please say which one of these you, yourself, consider the most important? And which would be the next most important?

1). Maintaining a high level of economic growth.

2). Making sure this country has strong defense forces.

3). Seeing that people have more to say about how things are done at their jobs and in their communities.

4). Trying to make our cities and countryside more beautiful.

B) If you had to choose, which one of the things on this card would you say is most important? And which would be the next most important?

1). Maintaining order in the nation.

2). Giving people more say in important government decisions.

3). Fighting rising prices.

4). Protecting freedom of speech.

Continued on the next page.

Here is another list. In your opinion, which one of these is most important? And what would be the next most important?

1). A stable economy.

2). Progress toward a less impersonal and more humane society.

3). Progress toward a society in which ideas count more than money.

4). The fight against crime.

Source: 2010 WVS Wave-5 official questionnaire.

A2: Robustness check. Random intercept fixed slope estimates of micro-level variables on support for wealth redistribution between 2005 and 2009

Table A3: Multilevel fixed slope estimates of micro-level variables on support for wealth redistribution between 2005 and 2009 (Continued on next page).

Model	M1	M2	M3	M4	M5
Intercept	5.027	5.026	4.862	4.790	4.99
	(0.162)	(0.161)	(0.165)	(0.167)	(0.166)
Income	-0.114***	-0.113***		-0.140***	-0.121***
	(0.005)	(0.005)		(0.005)	(0.006)
Age	0.002*	0.004***			0.003**
	(0.001)	(0.001)			(0.001)
Education (dummy)					
Low	Reference	Reference			Reference
Middle	-0.256***	-0.263***			-0.270***
	(0.028)	(0.028)			(0.031)
High	-0.411***	-0.421***			-0.443***
	(0.034)	(0.035)			(0.002)
Self-Determination beliefs			0.007		0.011**
			(0.004)		(0.004)

Postmaterialist			-0.030**	0.038***	0.076***
			(0.009)	(0.010)	(0.011)
Age *Middle education		-0.005**			-0.003*
		(0.002)			(0.002)
Age * High education		-0.005**			-0.005**
		(0.002)			(0.002)
Postmaterialist * Income.				0.012**	0.012**
				(0.004)	(0.004)
N observations	62509	65209	62937	59598	53575

Standard errors in parentheses. * p <.05, ** p <0.01, *** p <0.001; two-tailed. Source: EVS/WVS integrated dataset (2015), World Bank GINI-estimates (2016) & World Bank GDIM (2017).