

Master's thesis

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How is Economic Inequality and the Support for Income Redistribution Linked?

A Multilevel Analysis of OECD countries

Master's thesis in Political Science

Trondheim, August 2013

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Abstract

This thesis presents an investigation of what shapes the support for redistribution in OECD countries, in a rational choice perspective. Employing an understanding of the effect of economic inequality, first provided by Meltzer and Richard (1981) in “A Rational Theory of the Size of Government”, it is expected that there is a positive effect of rising economic inequality on the support for income redistribution. The notion of economic inequality as a predictor for the support of redistribution is somewhat reaffirmed in this thesis, as is rational choice as a relevant predictor in the formation of public opinion on an economic issue such as this. Other possible predictors based on the national setting and context receives less support. Pre- and post-transfer economic inequality-measures are tested as alternative predictors for the support of redistribution, but only the pre-transfer version of it demonstrates a significant effect.

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Any remaining errors in this thesis are my responsibility.

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1 Introduction

What forms the support for redistribution in modern democracies? Historically, the establishment of the modern welfare state can be framed as a response to the level of economic inequality within states, where the disadvantaged majority has demanded a more egalitarian distribution of wealth (Kuhnle and Sander, 2010: 75–76). In modern democracies, economic inequality affects several areas of policy, and the public response to it is intertwined with a number of issues. It is related to what one believes should be done for the poorest group in society, and whether those with a high level of income should be separated from a small or large amount of their earnings through taxes and transfers. If one seeks to attain or stay in political power, it is highly relevant to know how the general population assesses the need for redistribution. Is the support for redistribution a direct response to the actual level of economic inequality, or are there other factors which has an impact on the support for it? The aim of this thesis is to examine the following inquiry: *“How does economic inequality affect the support for redistribution in OECD¹ countries?”*

One of the seminal works and theories in the research on the effects of economic inequality is “A Rational Theory of the Size of Government” (Meltzer and Richard, 1981). Based on rational choice, Meltzer and Richard postulates that the average citizen’s reaction to increased economic inequality in a state will be support for further redistribution. This is based on the notion that income in a free economy will always be skewed so that a minority at the top will hold a disproportional amount of the wages. This formalization of what the effect of economic inequality is, also forms the primary basis of how I aim to understand the impact of economic inequality in this thesis.

How economic inequality might impact the support for redistribution is in this thesis tested based primarily on rational choice. Employing multilevel modelling, the effects of economic inequality on the support for redistribution in OECD countries, is investigated, using data from the four last rounds of the World Value Survey (WVS) (2009), which is also integrated with recent and robust pre- and post-transfer inequality data provided by Solt (2009).

I test two alternate forms of economic inequality, to investigate which of them shows the clearest connection to the actual support for redistribution. The first form of economic inequality is the pre-transfer level of inequality, which reflects the level of inequality before

¹ Organization for Economic Co-operation and Development.

taxes and transfers. The other form of economic inequality which is tested, is the post-transfer variation of it, which reflects the level of inequality after taxes and transfers, which is also the form of economic inequality which is observable in society. This step is carried out to answer a relevant question – what form of economic inequality is the support for redistribution actually a response to?

While I primarily investigate how the support for redistribution is shaped by the level of economic inequality, there are other aspects of the context in which the support for redistribution might be shaped, that might also be relevant. One aspect of this is how the response to economic inequality might vary between states and regime-types, and how country-level factors might also affect the individual's support for welfare-policy (Jæger, 2006; Dallinger, 2010). In this thesis a number of factors, outside the actual level of inequality, are introduced to better understand what shapes the support for redistribution. Macro-factors are introduced, to test what impact the setting in which the economic inequality is found, actually has on the support for redistribution. Individual-level factors are also tested, to account for the notion that individual risk of needing the welfare state also mediates the support for income-redistribution (Cusack, Torben, and Rehm, 2006).

The primary finding presented in this thesis, is that the Meltzer-Richard logic in its original formalization, is reaffirmed as a predictor for the support of redistribution. This means that increased levels of pre-transfer inequality is associated with an increase in the support for redistribution. Post-transfer inequality does not show a positive or any effect on the support for redistribution, which indicates that the support of redistribution is best understood as a response to the level of economic inequality before taxes and transfers. While the M-R logic receives some support, this effect is not particularly substantive, and demonstrates a much smaller impact on the support for redistribution, than what household income does.

Individual-level indicators indicate that people seem to re-assess their support for redistribution, based on whether they are more or less likely to rely on the welfare state themselves. One interesting interaction is also revealed, in that the level of national income is shown to mediate some of the negative impact of household income on the support for redistribution. Household income is still shown to have a generally negative impact on the dependent variable. The general tendency unveiled through the analysis, is that rational choice seems to offer some level of explanation of the support for redistribution. I will expand on these findings in the sixth chapter, where the conclusions of the thesis are presented.

The thesis is structured as follows. After this introductory chapter, chapter 2 is focused on theory, where a review of current research on macro-factors and how they might affect welfare-attitudes is assessed. After the review of the effect of macro-factors, I will move on to the specifics of the Meltzer-Richard logic, and how it provides an extensive theory of how economic inequality might affect the support for redistribution. At the end of the chapter, hypotheses based on the Meltzer-Richard logic and other explanatory factors on the macro- and micro-level are specified. Chapter 3 is focused on methodology, data-treatment and variable specification. Chapter 4 presents a brief empirical review of the employed data, where the expectations of the modelling and the Meltzer-Richard logic is assessed. Chapter 5 presents the models, where the fit and results of the different models and their results are assessed. In the sixth and final chapter, the different hypotheses are assessed and discussed, with a final discussion on some key-aspects of the thesis, and suggestions for further research.

2 Theory

How is support for redistribution shaped? The primary focus in this chapter is how different factors might affect how people believe that the distribution of income should be. The first part of the chapter will focus on how macro-factors has been found to affect welfare-attitudes in various research. In this section, the primary focus will be on the direct impact of inequality, and the effects associated with it. The next section will be focused on the state, and how the national setting might affect various welfare-attitude. After this review of how various macro-factors might affect the support for redistribution, I will move on to the primary theoretical enquiry in this thesis – what the response to inequality might be in a rational choice-perspective, and how this forms the basis of the Meltzer-Richard logic as it is employed in this thesis. After this the difference between testing pre- and post-transfer inequality against the support for redistribution is also elaborated on. While a robust test of the effects of economic inequality is the primary enquiry in this thesis, I will also specify additional hypotheses for how the support for redistribution might be affected. The first part is based round micro-factors, and how they mediate the support for redistribution, based on whether the respondent is more or less likely to require the welfare state. Other hypotheses is based around the impact of various macro-factors, such as the economic performance and public expenses in the state.

While I will not focus on the employed modelling or statistics at this point in this thesis, it is important to note that the use of multilevel modelling in this thesis, implies that a number of causal links can be tested. This also means that the theory-chapter will be focused on both macro- and micro-factors which might affect welfare-attitudes.

2.1 Macro-factors and welfare-attitudes

Before the review of research on macro-factors as predictors for the formation of welfare-attitudes, an important term must be specified - the GINI-coefficient. Economic inequality is traditionally measured through the GINI-coefficient, where the difference in income between the top and bottom of a country is reflected. The GINI-coefficient was first introduced by Corrado Gini in 1912 (Ceriani and Verme, 2012: 421), and is a mathematical measure which reflects level of income-inequality a country, which in its original specification goes from 0 to 1. A GINI-measure of zero implies perfect equality; meaning that everyone has the same level of income. A GINI-measure of 1 implies that one individual has all of the income (Oatley, 2012: 349). The reader should note that even though the original GINI-measure varies between zero

and one, the variation I am employing is multiplied. This implies that a GINI-level of 0,2 is written out as 20 in the employed data and the analysis. The GINI-coefficient also quantifies what makes up an important challenge for any welfare state; the level of economic inequality. The context in which economic inequality is understood is important, and it is possible to quantify the level of economic inequality both before and after taxes and transfers. Pre-transfer inequality describes the level before taxes and transfers – post-transfer inequality describes the situation after. It should be noted that GINI-coefficient says very little about the absolute level of poverty or wealth in a country. Even if there are, at the time, severe economic issues in a number of OECD countries, the absolute level of poverty is probably much more severe in poor developing countries who has not been included in the OECD. This also emphasizes the relative nature of the GINI-measure. It does not describe the absolute level of poverty, it rather describes the relative distance between the top and bottom in terms of income.

Most of the reviewed research on macro-factors rely on the link between aspects of the context the individual finds themselves in, and how this affects the individual in their formation of public opinion. While I will return to the specific operationalization of how I frame the impact of macro-factors, specifically in terms of economic inequality, there are a number of causal links which might be in play between macro-factors and a changes in welfare-attitudes. One aspect is rational choice, in that people are expected to attempt to maximise their economic utility, based on their economic self-interested and how the state-arrangement is at the time. Another is the impact of risk, and how this might affect the support for welfare-policy, where changes in the perceived risk might facilitate the support for policy mending it. A third way macro-factors might affect public opinion is though culture, political and otherwise, where the national history will create specific conditions for the formation of public opinion between countries.

In the review of different macro-factors, I will start with a quick review of how the impact of economic inequality has been assessed. There is much research on the effect of economic inequality as a societal factor. Some have reviewed how inequality, redistribution and economic growth is linked. Lee (2005: 158) finds that there is an effect of public sector expansion on the mending of inequality, but this is an effect which is specific to fully institutionalized democracies. In non-democracies, the expansion of the welfare state is found to have the opposite effect. Kenworthy and Pontusson (2005) find that in the period between 1970 and 2000, the pre-transfer level of inequality in affluent OECD countries has risen. At the same time the welfare state in the reviewed countries has increased their spending, matching the

increased gap in the pre-transfer state. They emphasize that this finding counters the notion that the welfare state has been in an state of retrenchment in the reviewed period (Ibid. 449). It has also been found that part of the response to macro-variables like unemployment, forms an interaction with the political orientation of the government, where a leftist government through issue-ownership might receive greater support in the face of increasing unemployment (Jakobsen and Listhaug, 2012). There has also been found to exist an interactive relationship between welfare-regimes and social expenditure, where different regime-types facilitate different levels of welfare-expenditures (Jakobsen, 2010).

Others who have reviewed the effects of economic inequality are Moene and Wallerstein (2001). They have found that the form of redistributions and who it benefits, has a significant effect on who actually supports further redistribution. They point out insurance motives as a primary determinant in whether people support it. Others have found that the preference for redistribution is steered by the risk of being unemployed, an effect which is further facilitated if a person is in a group which is particularly exposed (Cusack et al., 2006: 373). In terms of how actual levels of inequality have changed in different countries over the years, one point of focus has been how the nature of inequality has changed during the late eighties, and into the two-thousands. It has been demonstrated that the main contribution to inequality is an emerging high-income group, which has increased their distance to those holding a low income (Lemieux, 2008: 22). It has also been found that earned income has become the primary determinant for the level of rising inequality, ahead of other forms of income². This describes a situation where the level of economic inequality is affected by the number of high-earning people emerging as an upper strata in terms of earnings in the different countries (McCall and Percheski, 2010: 330).

While this thesis is an investigation into how inequality affects support for redistribution, one issue which is highly important on the conceptual level, is whether there is an interactive relationship between the support for redistribution, and the level of continuing inequality. There is evidence supporting the notion that politicians act in accordance with public opinion on inequality. When there is rising support for redistribution, politicians tend to act in accordance with this impulse. (Brooks and Manza, 2006). Why does it matter in the perspective of this thesis, whether inequality is removed in the long run? Kelly and Enns (2010) has written an article on the interactive relationship between economic inequality and mass preference. Their

² Presumably other forms of income will be based on the revenue of capital investments or inheritance.

article reviews how there is an interlinked relationship between inequality and support for redistribution; economic inequality leads to less support for redistribution, while increased equality has the opposite effect. It should be noted that they do review inequality in the USA, where the changes are assessed within the country, over time. Other research has found that in the USA, the decisive voter is above the average income, and therefore in disfavour of redistribution (Paul and Verdier, 1996: 721). It has also been found that the response to inequality in Christian and social democracies, facilitates further support for redistribution (Brooks and Manza, 2006: 490). Lee (2005: 158) finds that democracy has a positive effect on the level of economic inequality, and it seems that the tendency is that economic inequality leads to redistribution in countries with developed democracies.

At the same time, the current research does pose a number of question. One important aspect to keep in mind, is that the time-period and selection of countries matters. An important aspect of inequality is that it is fairly complex measure, which can change from time-period to time-period, and even though economic inequality might be decreasing, it is much more difficult to know which groups are more or less affected by inequality. When faced with increased inequality, is it because the rich are getting richer, or the group of very poor people becoming larger?

When reviewing countries in the European Social Survey, Finseraas (2008) finds a positive effect of inequality on support for redistribution, and Dallinger (2010) also finds an similar effect. Several of the recent articles on the effects of economic inequality has aimed to test the direct impact of inequality in rather extensive setups. Finseraas (2008) looks to understand support for redistribution in a multilevel setup. His findings show that post-transfer inequality, has a significant effect on the support for redistribution, but he also finds that general household income has an inverse effect. This connection is mediated by an interaction between income and the level of inequality, but his findings demonstrate that high income people are still shown to be opposed to be more opposed to redistribution in general. Dallinger (2010) also performs an extensive review that explains cross-national differences in public support for redistribution, on the International Social Survey Program (ISSP) data-set. She investigates how regime and political economy approaches are both viable to try and understand differences in support for redistribution. Amongst other things, she to tests the *government protection hypothesis*³, which

³ It should be pointed out that the *government protection hypothesis*, as it is originally specified by Blekesaune (2007) is not based on the economic performance in terms of GDP, but rather on unemployment. While both share a similar causal link, it can be argued that unemployment is a more direct indicator, which also hold a much higher level of direct personal relevance for a person who is assessing the probability of needing the welfare state.

is based on the notion that the economic wellbeing of a country has a negative effect on support for redistribution, as it entails that people in economic upturn, has more faith in the market and do not need the support of the welfare state. She finds support for this hypothesis (Ibid: 338), as a negative effect of Gross Domestic Product (GDP) is found to be significant on the support for redistribution. Dallinger also tests the impact of different regime-types, but find that these effects are decreased with the inclusion of indicators like public expenses and GDP (Dallinger, 2010: 345).

Dion and Birchfield (2010) carry out an even more extensive analysis of the effect of economic inequality, but aim to take on a wider set of data. Their primary finding is that increased income has less of an impact on the support for redistribution, in countries with low levels of development, or very high levels of income inequality. This might due to a different reaction to inequality outside the sphere of developed democracies, where they include data from the whole world in their analysis, including Middle-Eastern countries and South-America. They employ a wide number of countries, and aim to expand the data-set as much as possible.

There has been various reviews of how OECD-states can be understood in a comparative perspective. More specifically in how inconsistent findings between different welfare states can be attributed to varying approaches to how social policy is carried out, rather than actual differences between the states. Early research on this topic demonstrates that different definitions of welfare efforts explains some of the variation between OECD-states. (O'Connor and Brym, 1988: 47–49). In more recent research, OECD countries have been compared, with an ongoing effort to form indicators which allow the direct comparison between countries as a direct motivator economic redistribution. It has also been revealed that the Nordic countries score well above the mean, in terms of the traditional indicators for welfare in OECD countries (Kalimo, 2005: 225–227).

2.2 Support for welfare and the national context

While the previous section was focused on the direct impact of economic inequality, and how this affects the support for redistribution, this section will focus on the state and other factors which might shape the context of how people assess the need for redistribution. The state and its arrangements is the context which the response to inequality is shaped within. In the next section I will review how the arrangements of the state, and type of welfare efforts might shape the support for redistribution. The welfare state is described as being concerned with three primary issues; protection against risks, the sense of equality and solidarity, and supplying the

services expected from a state body (Ervasti, Andersen and Ringdal, 2012: 3). The change of public policy is a granular process. It can be expected that welfare state arrangements has a greater effect on the individual, than one individual has on the welfare state. The state matters, where an issue like economic inequality is concerned, as it forms the context where the response to inequality, and eventual support for redistribution is shaped.

Welfare states have been described as belonging to different regime types. There is a rich line of literature focused on how different welfare state regimes can be traced, which imply different ways in which the response to social issues might be shaped by the arrangement of it. A number of people have reviewed the welfare state regime-hypothesis, as it was originally formalized by Esping-Andersen (1990), where various permutations have been specified over the years. Welfare state regimes, have often been tested through their impact on different redistribution outcomes, and other aspects related to the welfare state, such as health-inequalities. While the appearance of welfare-regimes, and how they appear in terms of welfare state expenses, constitute one discussion, another is how these different regimes might be linked to the formation of public opinion. Recent articles have demonstrated that there are differences between states in what the level of support for welfare efforts is. While the original specification of the welfare state typology bundles different states into a few different groups, recent research has also found that it provides a better approach, to rather assess the welfare-efforts directly, and how these correlate with the support for redistribution (Jæger, 2006: 163; Dallinger, 2010: 346).

While a number of people have tried to quantify these differences in various ways, the assumption is that there is something specific about the type of state which is reflected in various macro-factors, such as welfare-expenses. If people are shaped by the traditional and expected role of the welfare state, in their formalization of their opinion on welfare-issues, this also frames how macro-factors can be expected to form public opinion (Arts and Gelissen, 2002: 140). It has also been pointed out that there are confounding issues associated with the link between the type of welfare state, and the support for redistribution. It does not naturally follow, that the level of welfare-expenses relate directly with the support for redistribution.

[I]t might be the case that citizens in the high-spending Scandinavian countries, compared especially to their fellow citizens in the Southern European countries, feel that redistribution has gone too far, and that this situation is reflected in their level of support for redistribution (Jæger; 2006: 166).

As the above section demonstrates, there are some issues associated with employing welfare-regimes to understand changes in public opinion. Even though someone in a country with a high level of redistribution might expect a rather high level of government responsibility, compared to citizens of other countries, they can still be opposed to the current level of it. Another way in which the support for redistribution might be shaped, is through the appearance of risk. It might be that the appearance of risk as a societal factor, might facilitate a response favouring redistribution.

There are [...] positive and negative aspects in attitudes concerning welfare policies. All this implies that studying welfare state attitudes must include perceptions of collective policy problems as well as perceptions of individual risks, as these make up part of the foundations on which attitudes are formed (Ervasti et al., 2012: 2).

The concept of risk, as a determining aspect on the formation is employed by a number of researchers. Blekesaune (2007: 393) find that people in light of higher unemployment, show stronger support for redistribution and welfare-policy. Blekasaune specifies in this article the *governmental protection hypothesis*. He finds that increasing unemployment facilitates support for further redistribution. This strengthens the notion of support for redistribution as a result of increasing uncertainty. This also implies that economic upturn facilitates a less negative view of one's own risk, resulting in less support for redistribution. Blekesaune and Quadagno investigates how public opinion is directly related to a factor like unemployment: “[U]nemployment makes citizens of modern industrialized countries aware of the fact that they are vulnerable to risks beyond their control” (2003: 424). This is based on a regression analysis, where it is revealed that increasing unemployment results in a general leftist turn when discussing welfare issues. This implies that people take in macro-cues about how the economy is doing, and following this, re-assess the chance of themselves needing the support of the welfare state, and in the end become more supportive in terms of welfare, and issues like redistribution.

Another aspect of redistribution is whether fairness and reciprocity factor into it. One author who looks to how reciprocity might affect the support for welfare-policy is Larsen (2008). He draws on the regime-theory, and other-macro factors, but also describes some of the aspects which have been highlighted on the previous pages. One aspect is how the form of inequality shapes the response. He finds differences between regimes in what groups are viewed as deserving of state benefits – which can then be explained by how the national industry has been formed, or by what political groups have come to be most central and have the most power.

His modelling and analysis is focused on how differing relations within the country, affect the support for redistribution. This might have an effect on whether a group like the unemployed is viewed as deserving, based on the historical background of how workers' rights have been organized. One possible causal-link is that some groups elicit greater sympathy in the face of economic troubles. If people identify in particular with a specific group, this might also lead to reassessment of the need for redistribution in general (Larsen, 2008: 23).

In a recent paper by Leon (2012), the connection between reciprocity and support for redistribution is tested. His approach goes outside the regular research on redistribution which often employs rational choice. He highlights how reciprocity might be more powerful predictors for the support for redistribution. This is a claim Leon relates to the notion of fairness, and that people in general are steered more by what is deserved, instead of only acting out of general self-interest. He references an experimental setup where two people are given money to share between them, where one has the role of splitting the sum between them. What the experiment unveiled, was that the person who had the power to give himself all the wealth, relied more on a distribution of around forty–sixty or fifty–fift. Even when the respondent had the opportunity of refusing the offer, the person parsing the wealth out, went for a fairly symmetrical distribution (Leon, 2012: 199).

This provides another factor which might facilitate the support for redistribution. One reason people might formulate their response to inequality, is that they have some inherent notion of what is fair. While this thesis is not formulated within the field of experimental economic psychology, these findings demonstrates that there are a number of factors which might affect the support for redistribution.

2.3 Rational choice

The previous sections has focused on a number of ways in which the support for redistribution is formed, and how various components might factor into it. While I have briefly mentioned the theory of Meltzer and Richard (1981) in the introduction, the following section will elaborate on rational choice, which is the basis on which Meltzer-Richard (M-R) logic is postulated. Rational choice is one of the most employed approaches when understanding the interplay between economic issues and public opinion. Many of the cited articles so far are based on rational choice, in that people are assumed to be concerned about the maximization of their own wealth and security.

In the following sections I will elaborate on rational choice and how this ties into the general M-R logic. It is important to note that this thesis is focused on public opinion, rather than a voting-outcome – I am testing the change in public opinion, not its impact on actual voting. There are primarily three traditional schools concerned with political opinion and vote-choice; the Michigan model which focuses on party-identification, the rationality model which presumes individuals to be rational and interested in maximizing their utility, and the structural cleavage-model which focuses on the historical ties of the individual and the group they belong to (Listhaug, 1989). The Michigan model focuses primarily on party-identification. Based on the notion that people are in large part affected by their social class and group attachment, it follows that this will also affect political opinion (Ibid: 340). The rational choice model was formed, in part as a response to the Michigan-model. Rational choice theory presents the politically minded person, as primarily interested in the greatest economic gain, and the presumption is that people are steered by economic voting (Ibid: 341). The Michigan models, build largely on the notion of groups as determinant in human behaviours. Rational choice theory aims to formalizes a response which is not guided by history or existing arrangements in society, but is rather based on what an economically minded person would do. It also serves as a logical point of contact between political choice and economic theory.

Rational actor-theory narrows the political person down to the homo economicus; the economic man. In the formalization of the original theory, Downs's primary approach was that the political system is best understood through rational actors seeking to maximise their own gain. (Downs, 1957: 136). My primary focus in this thesis is on the individual, and how their political opinions are affected from a rational choice perspective. This implies that I understand people as being generally concerned with the maximisation of their own utility. Rational choice theory is not without its fair share of detractors, where a primary criticism is that it presumes that people operate with a level of information which is perhaps unrealistic. Another issue is that even if one presumes that people act as rational actors, rational behaviour does not necessarily imply economic measures as the final goal for voters (Listhaug, 1989: 344). In politics, an example of an issue that goes outside the traditional rational actors approach, are value-laden issues such as abortion or same-sex-marriage. People will probably have an opinion on these topics, and act in accordance with it; but this cannot be said to be led by economic considerations. At the same, it is possible to have a rational approach, toward non-rational goals.

While rational choice can present some challenges; especially in cases which go outside the economic sphere, it also supplies a clear causal link in the formalization of political opinion on

issues related to income. This is directly linked to the notion of economics as being a determinant in political behaviour and opinion. When trying understand an issue like inequality, rational choice provides an interesting theoretical framework, since it is an issue which is primarily grounded in economy. In the formation of his approach to rational choice, Downs was primarily concerned with the missing link between economic theory and political choices.

[E]conomic theory has suffered because it has not taken into account the political realities of government decision-making. Economists have a been content to discuss government as though governments were run by perfect altruists whose only motive was to maximise social welfare (Downs, 1957: 150).

Downs' contention is not that governments do not act in the interest of population. What he wants to address, is rather their motivation. The reason the government act in accordance with the public will, is not out of altruism, but rather that any government in a democracy is dependent on the approval of the populace. Downs intention was to find out how a merger between economic and political choice could be best realized, and what this could bring to the understanding of the politically minded person. What his understanding of the political world implies, is that voters and political actors aim to maximise their own benefit, and this implies that voters are steered by their pocket-book, and that politicians are steered by their voters.

Research investigating the link between mass policy preference and welfare state output, has found that a change in public opinion on support for redistribution, can also be linked to a change in policy on the field. Brooks and Manza (2006: 347) find that there is a certain level of responsiveness in state output. They advance the *social policy responsiveness* hypothesis, which focuses on the notion that the repercussion for an electorate not adhering to public opinion will most likely be the loss of popular support. (Ibid: 490). This is in line with rational choice, in that political representatives are expected to act in accordance with popular opinion. But if such an effect is to be traced from economic inequality, this is dependent on the actual level of economic inequality facilitating support for redistribution. This is the topic for the next section, where the effect of economic inequality on support for redistribution is formalized through the logic provided by Meltzer and Richard (1981).

2.4 Meltzer-Richard logic and the impact of pre-transfer inequality

The Meltzer-Richard logic, which has been widely cited in research on redistribution⁴, aims to conceptualize what a rational actors response to economic inequality actually is. Meltzer and Richards primary contention is that in a democracy, the median voter will support redistribution. This is based on the notion that the median voter will also have an income under the national average. This is most clearly phrased in the introduction to their article where this approach is formalized: “An increase in mean income relative to the income of the decisive voter increases the size of government”⁵ (Meltzer and Richard, 1981: 914). Simply put, in an economy without perfect equality, there will be a minority at the top, which holds a disproportional amount of the wages. This implies that redistribution will favour the average voter, as the average and decisive voter is in a disadvantageous position, as long as the average wage is above the median level. To specify the M-R logic, as simple as possible, the basic notion is that for those with an income over the average level, redistribution hurts more than it helps in terms of absolute gains. For those with a median level of income - the majority, redistribution will then lead to an absolute gain if one assumes that they see some use of the benefits of the welfare state. In M-R setup, where they expect the result of economic inequality, to be the expansion of the welfare state, this implies that those who should support redistribution also manage to hold a majority in an election.

The below figures demonstrate how income-levels might be skewed. The first and second figures demonstrate the gap between the median and mean income-level in two different countries. In the figure demonstrating Country A there is a gap between the *Median* income, which is the income level of the average citizen, and the *Average* income level, which is higher due to the fact that there is majority at the top which receives a disproportional part of the earnings. In Country B, it is demonstrated how further inequality creates a larger gap between the median and average income-level. This is then expected to facilitate further support for redistribution in general, than in Country A.

⁴ Dallinger, 2010; Finseraas, 2008; Kenworthy and McCall 2008; Dion, 2010; Kelly and Enns (2010) and a number of others. It should be noted that it by no account has received unambiguous support, but it is still an important component of how people have tried to understand redistribution

⁵ The expansion of the government, is then due to the increased support for redistribution, as a result of the level of economic inequality.

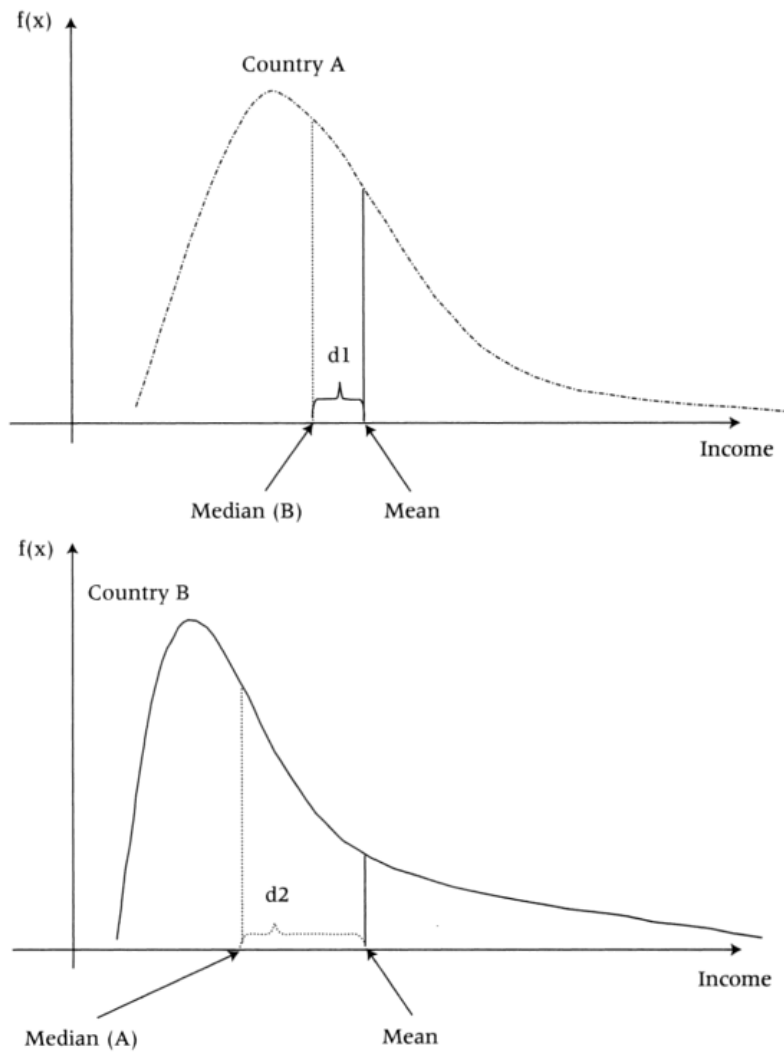


Figure 2.1: Illustrated figures for two possible distributions of income in a liberal economy (Pontusson and Rueda, 2008: 316).

As M-R logic is based on rational choice, this also implies that they must assess the claim that people are perhaps less informed about the economic implications of their choices. Their counter-argument is that even if the rational voter probably does not have an interest in gaining full insight into what the implications of redistributive policy might actually imply in terms of specific technicalities, the median voter is expected to realize that they will see a gross gain, as a result of redistribution (Meltzer and Richard, 1981: 924). Support of redistribution, based on the original formalization of M-R logic, is that the support for redistribution is based on the level of economic inequality before taxes and transfers. The average voter will then support redistribution because it lessens the gap between the median- and average-income voter, where the redistribution of income will lead to welfare-benefits for the whole population. This is also the basis on which I specify the first hypothesis.

H1: Higher levels of pre-transfer economic inequality leads to increased support for redistribution.

One reason why M-R logic provides an interesting explanation for the support of redistribution is that it provides a universal understanding of what the effect of economic inequality might be. This makes sense in a setup where the impact of inequality is reviewed between countries. Rational choice provides an explanation of political opinion which presumably goes outside the cultural context which is specific to the individual countries. It also captures an important element of how public opinion might be formed as a response to the economic state of affairs in a country. The M-R logic is based on the level of inequality, and is not related to the absolute level of wealth in a state. Those with a lower income are always relatively worse off than the richer strata in a society; this thesis builds on the notion that it is the level of differences between the top and bottom which is decisive. This also reflects the notion put forth in the J-curve, specified by Davies (1962), where it is the relative deprivation which is described as the decisive factor when a negative reaction is provoked in the general population, based on the impact of social issues.

While there are clear benefits in employing rational choice in understanding differences between countries, it also becomes necessary to review how well people are actually able to assess the need for welfare-policy. Aalberg for example, elaborates on how there are a number of ways in which the individual forming an opinion on welfare-policy themselves, are perhaps unable to make a levelled review of how the world appears around them.

People have the facts wrong, often in systematic ways, and confidently believe they have them right. Moreover, their misplaced confidence leads them to resist accepting and using the correct facts even if these are made available. The consequence is that misinformation will have significant effects on attitudes towards welfare and that it will distort peoples preferences (Aalberg, 2003: 89).

While this elaborates on how people perhaps do tend to have things wrong, one implication has to be considered. It might be that people's ability to assess their own and others' economic situation, is less than perfect. There are a number of factors which might worsen the individual's ability to make a rational choice. When forming their opinion on welfare, my primary hypothesis only states that there is increased support for redistribution when economic inequality is increased. Even though there are probably some disturbances in how economic inequality is assessed between countries, the M-R logic predicts a common reaction to

economic inequality, which also forms the basis of this thesis. A very important aspect of M-R logic, one has to assess the level of inequality before taxes and transfer, and how this affects the support for redistribution. Employing the level of economic inequality after taxes and transfer, breaks a primary aspect of M-R logic, but it also provides an alternative understanding of how economic inequality might affect public opinion. This will be the topic of the next section.

2.5 Post-transfer economic inequality and support for redistribution

The original formalization of how the M-R logic is predicted to have an effect, is based on the level economic inequality before taxes and transfers. It is formalized around the notion that people assess whether or not they see an absolute gain in terms of welfare from a redistribution effort. This implies that the M-R logic in its pure form is based on whether the taxes and transfer is viewed as a benefit or not, by the average citizen. While this setup is in line with the original formalization by Meltzer and Richard (1981), this operationalization ignores how the level of economic inequality is apparent in the society.

Testing the impact of economic inequality after taxes and transfers, breaks the pre-transfer assumption of M-R logic, but some earlier research has employed this approach. Finseraas (2008) tests the impact of post-transfer economic inequality on the support for redistribution. He highlights that this might be a more direct predictor for the support of redistribution, since it is the level of inequality which is actually observable in society. Dallinger (2010) also tests the response to inequality based on post-transfer numbers; “The GINI-index based on weighted net household income after taxes and transfers was adopted as a measure of national income inequality to analyse *further*⁶ redistribution” (2010:340). Other recent articles (Dion and Birchfield, 2010) has found significant results based on the original formalization of the M-R logic, i.e. based on the correct pre-transfer data. This raises an interesting question – what is the relationship between these two forms of inequality, and how are they linked to the support for redistribution. This reveals the relevance of testing both types of economic inequality against the same set of data, to see if there is an association between how the two measures of economic inequality might predict the support for redistribution.

Conceptually, it is possible to assign the M-R logic to the post-transfer situation. If one refers back to figure 2.1 describing the distribution in income between median and average level, this

⁶ Emphasis in original quote.

figure will also describe the situation after taxes and transfers as well. It would simply reflect the gap median and average income after the state has carried out the act of redistribution; unless the economic inequality is removed, there will still be a gap. This demonstrates the plausibility of post-transfer economic inequality, as being determinant in the formation of support redistributive policy. This also matters in terms what it is most likely factors to affect the level of support for redistribution.

The level of economic inequality after taxes and transfer, is what is directly observable in a society, and this might also make it itself apparent through societal problems associated with it. If one assesses economic inequality as it appears in general society, it might be that the social problems associated with it, is a stronger predictor for the support for redistribution. If one assumes that M-R logic steers the response from the average citizen to whether the richer strata receives a disproportionate amount of income, it is plausible that this response is based on the observed level of economic inequality. This also forms the basis for the second hypothesis.

H2: Higher levels of post-transfer economic inequality leads to increased support for redistribution

The most important contribution of this thesis, is the test of both the pre- and post-transfer level⁷ of economic inequality in a data-set which allows the direct comparison of the two, in the same data. While both approaches rest on the notion of inequality affecting the support for redistribution, they also rest on rather different premises.

Support for redistribution as a reaction to pre-transfer inequality, implies that people are able to assess and understand the effect of redistribution on society as a more abstract term⁸, since this form of inequality is based on the differences in income before a transfer has taken place. This frames the support for redistribution, as a reaction based primarily on rational choice, where they assess whether or not they gain from the current welfare-effort.

Support for redistribution based on the level of post-transfer inequality, implies a somewhat different setup. As has been noted, post-transfer inequality reflects the situation after taxes and transfers, and it is also the form of economic inequality which is directly observable. If support

⁷ Pre-transfer inequality or GINI-market describes the level of inequality, before taxes and transfer. Post-transfer or GINI-net describes the level of inequality after taxes and transfers.

⁸ One operationalization of rational choice is that people do not rely on perfect information, but rather on the consequences they see of existing policy. This implies that the primary effect on the support of redistribution, is that those above the median income-level is separated from part of their income, while those below the median levels, is a gross-gain from the redistribution efforts, and this will affect what their level of support for redistribution should be (Meltzer and Richard, 1981: 924).

for redistribution is based on this formulation, as noted by Dallinger (2010: 340) this implies that people respond to whether they are in favour of further redistribution.

Pre- and post-transfer level of economic inequality as alternative predictors for the support of redistribution

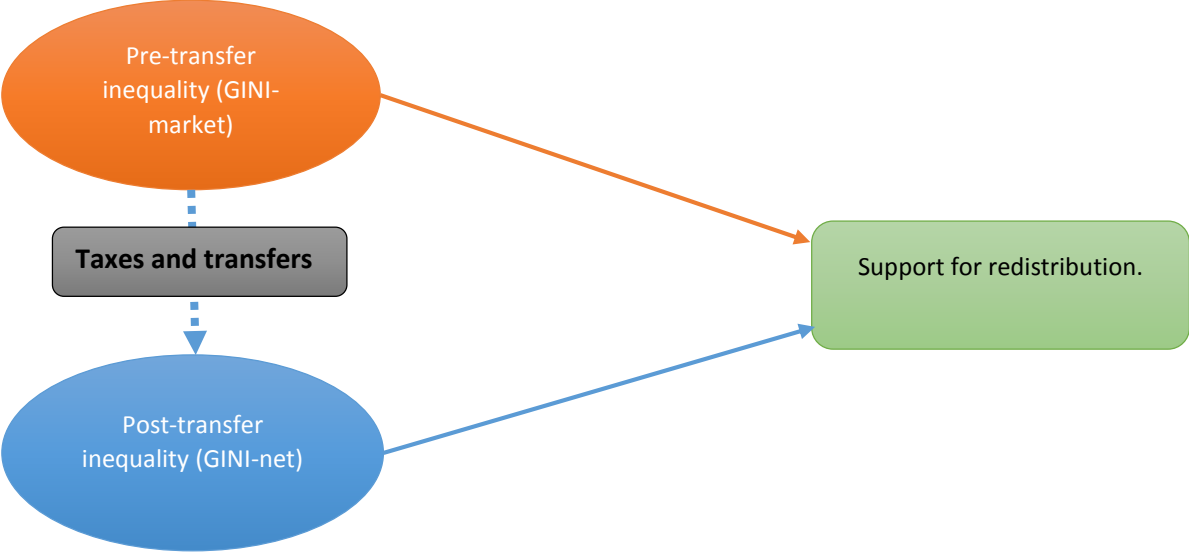


Figure 2.2: The relationship between pre- and post-transfer inequality and the support for redistribution. It is important to note that I am not testing these two simultaneously, they are simply tested as two different predictors for the support for redistribution.

Figure 2.2 demonstrates the relationship between pre- and post-transfer inequality, and how they are expected to shape the support for redistribution. It is very important to note that I am not testing these two measures of economic inequality at the same time, they rather act as two possible predictors for the support of redistribution. Post-transfer economic inequality is linked to the pre-transfer version of it, as it is a product of the pre-transfer level of inequality after taxes and transfers are introduced, as is demonstrated by the figure.

The reason why the two causal link are interesting to test, is that it is highly relevant to examine what the relationship between them are. If Finseraas (2008) and Dallinger (2010) are correct, and people reflect their support for further redistribution on the level of observed economic inequality, when forming their support for redistribution, this would imply that post-transfer inequality is a stronger predictor for the support for redistribution. Post-transfer inequality is expected to shape the response to inequality by how it is directly observable. This implies that peoples assess the need for redistribution by the appearance of inequality in society around themselves. My approach is primarily to investigate what link shows the greatest connection to the support for redistribution.

2.6 Economic inequality, taxation, and the welfare state

Redistribution and the M-R logic is directly linked to the welfare state, as much of the funding required by it, is collected through taxation of the population. Taxation is a necessary foundation of a welfare state – without tax-income welfare-policy is neither viable or possible. The redistribution efforts which a welfare state implies, also lessens this inequality, and lays the foundation of the modern welfare state. One important issue of income redistribution is how taxes affect the equation. As an example, in the United Kingdom, a third of public spending went towards social benefits such as unemployment benefits and support of pensioners in the 2007–2008 period (Begg, Fisher, and Dornbusch 2008: 321–322). By comparing the pre- and post-transfer level of economic inequality, it is possible to assess what the impact of the redistribution efforts actually is. While it is possible to review differences in pre- and post-transfer inequality between countries, it is much more difficult to assess what the proportion of public funds are for example used on welfare for the unemployed, if one compares inequality before and after redistribution.

There are a number of ways through which the level of redistribution might be skewed. If benefits for the unemployed are strengthened, this would improve the situation for those outside of a job, but not low- or middle-level earners. But redistributive policy can also be aimed at other groups which might be less in need. Welfare-policy can be geared so that the middle-class sees greater benefit of it, which would imply that they might be less opposed towards taxation. If the state puts heavy taxes on the very rich, and then employs the collected means to create welfare-benefits that benefit the upper- to middle-class, it might be that as a consequence, support for redistribution is strengthened among those who are around the mean-income level, which then goes against the M-R logic. At the same time, tax-regimes must appeal to the majority, which might imply that the very rich minority will always be voted against in terms of redistribution.

It should be noted that taxation is not the focus of this thesis, but it is also important to realize that the forms of taxation-regime will have an effect on how redistribution affects individuals, and in the end, public opinion. The primary relation between pre- and post-transfer inequality, is that taxes are introduced into the equation. There are two ways in which the form of taxation might be expected to affect the support for redistribution. The first is that taxation is the mechanism which through inequality is evened out, as it allows the siphoning of means from those at the top, to those lower down on the ladder. The second take-away is that even if it is possible to identify how the gap between the top and bottom is lessened through redistribution,

what form the actual type of redistribution takes on, is not possible to determine based purely of data on economic inequality. Since I am only reviewing the effect of economic inequality on public opinion, rather than a voting outcome, this means that I can review the whole population, rather than just those who voted. If I only looked at those who voted, it might become apparent that there is a line of division between those who would benefit from redistribution, and those who actually vote. It might be that those with a high level of political efficacy is more likely to vote, and this group might also be more likely to hold a high level of income.

In the original article by Meltzer and Richard (1981), they explain the growth of government as directly related to the level of economic inequality. This is based on the notion that if there is more inequality, this leads to support for redistribution, which again leads to higher taxation, and in the end expands the scope of the government's role. In a historical perspective, this can also be linked to how the less endowed in a society, has been able to gain greater power, and a stronger ability to influence policy. The formation of the welfare state implies added benefits for the needing (Barr, 2004: 38), which can be described as a move of wealth from the rich minority, to the needing majority. M-R logics describes this process as a granular change from high level of inequality, to a more equal society, and they also highlight that growth of the welfare state can be linked to more disenfranchised groups gaining political efficacy, and having their say in taxation and redistribution (Meltzer and Richard, 1981: 924). One important distinction between their original theory, and my application, is that I only test one step in the causal chain between inequality and the growth of the welfare state: How does the level of inequality affect the support for income redistribution?

2.7 Individual risk-assessment and the support for redistribution

So far, I have focused on how M-R logic is expected to predict the support for redistribution, as a response to inequality, both pre- or post-transfer, on the national level. One reason why the M-R logic supplies a powerful conceptual tool is that it is based around the response of the average voter. But as a my review of various micro and macro-factors has revealed, there are a number variables which are expected to affect the support for welfare-attitudes, and in turn redistribution. While a number of individual-level variables has been shown to mediate the support for redistribution, income is especially important in relation to the M-R logic. The specified theory is based on the notion that the average income-person will be supportive of redistribution. This means that increasing income will lessen the distance to the average level of income in a country, and when it reaches a certain level, places the person over the average

income level in the country. This means that the individual-level income, will always predict less support for redistribution, if one follows M-R logic. This also formalizes the third hypothesis.

H3: There is a negative relationship between the level of household income and support for redistribution.

The above hypothesis, along with H1, describe the primary responses facilitated by the original notion of M-R logic as a predictor for the support of redistribution. The average income-voter will exhibit a linear relationship in their support for redistribution, dependent on the level of pre-transfer inequality. H3 describes how higher household income, facilitates an inverse reaction. Both these are based on the rational actor understanding of how public opinion is formed, and the self-interest argument central to rational choice.

While I thus far have elaborated on how M-R logic predicts the average response to inequality, based primarily on the self-interest argument, in terms of maximized personal benefit, another aspect of redistributive policy, is how it acts as form of insurance (Barr, 2004: 168). Without going into the political economy of who are more or less likely to need the aid of the welfare state, the notion that people are more or less supportive of redistribution based on their personal risk of needing public welfare, fits conceptually into a rational choice framework (Ibid: 102–107). There are a number of variables which might affect why people are more or less supportive of redistribution. In existing research, it has been found that people in groups, which are more dependent on the welfare state, are more in favour of redistribution (Svallfors, 1997: 294–295). His research is based within the regime-theory framework, and he therefore focuses on eight countries which are found in this typology. A common finding between all the regimes, is that people in a number of proposed risk-groups are more likely to support for redistribution (Ibid., 290–291). Cusack et al. (2006: 373) finds that there is a clear connection between belonging to a group at risk, and being in favour of government redistribution. Students, people in unions, unemployed, retired and women, are all shown to be in favour of further redistribution. Indicators which has a negative association with support redistribution are the level of income and if the respondent is holding a job. A wide selection of available articles has reviewed the effect which belonging to a risk group plays in support for redistribution, both directly and indirectly. By necessity, earlier research on macro-factors employing multi-level models, has tested a number of these causal links. One reason is that many of these indicators, such as gender, are natural control-variables. While there are a number of indicators which can be linked to insurance, another aspect is how some would see less use of the insurance aspect.

Both these lines of reasoning are elaborated on in the following section, where the notion of individual risk factors predicating the support for redistribution is formed. This also forms the basis of the fourth hypothesis.

H4: Micro-level indicators facilitate a re-assessment of the support for redistribution.

The first of the variables which are expected to shape the response to inequality in terms of a risk-assessment, is gender, and the role it plays in the role of welfare. It is proposed that women are more supportive of redistribution, because of persisting gaps in income, between men and women⁹. There are persistent income differences between women and men, but the primary reason this aspect is included in the analysis, is that women are perhaps more likely to be dependent on the welfare state. Facing a divorce, women will be more likely to require the aid of the welfare state. Another notion, which has been tested in earlier research, is how people outside of paid work are more in favour of welfare-policy. This is based on the notion that they do not provide their own income, and are reliant on the assistance of the welfare state. The basic dichotomy which is proposed, is between those who earn a living, and people outside the active work-force (Cusack et al., 2006: 373).

In their basic form, the proposed causal links follows the notion that people also assess their future need of the welfare state when forming their opinion of redistribution. Another predictor for the support of the welfare state is the age-aspect. This is primarily included as a form of control, but is motivated by the relation between age and the welfare state. The negative effect of age is grounded in the notion that middle-aged people are believed to rely less on the state, and therefore less supportive of redistribution. A curved effect of age is also expected, as old people are more likely to be dependent on the welfare state, and pensions which requires a certain level of redistribution.

Finally, there are two proposed ways in which the association with different groups in society are expected to change the support for redistribution. Both are related to whether or not a person is associated with organizations which hold a role outside the direct influence of the welfare state. The first hypothesis is related to religion. Finseraas (2008) finds that religious attendance has a negative effect on support for redistribution. Scheve and Stasavage has written an extensive article on this subject, and found that religious people are less dependent on the welfare state, and perhaps view it as an alternative safety-net, to that provided by the welfare

⁹ Esping-Andersen has been criticized for failing to review this aspect in his research on welfare-regimes, and the effects gender inequality has on the general level of inequality (Arts and Gelissen, 2002: 142).

state (Scheve and Stasavage, 2006: 255). Religious attendance is then expected to lower the support of redistribution.

An opposite effect is associated with whether the respondent is a member of a trade-union. This, like religion, implies a connection to an organization outside of the state. While religion can be described as an alternative solution to the issues faced by the welfare state, union-membership is historically linked to the formation of it. Countries with strong-workers union, has historically developed larger welfare states. I am not reviewing the relation between welfare state development, and the size of unions, but I do assume that union-member are more positive towards redistribution (Begg et al., 2008: 225). This is based in the notion that unions are usually based around groups interested in redistribution. People who are associated with either the church, or member of a union are then expected to re-assess their need for redistribution. In the case of the church, it might act as an alternate form of insurance, instead of the welfare state. Union-membership has the presumed opposite effect, While union-membership might serve as an alternative network for security, it also has a historical connection to the notion of redistribution, and the support of it.

2.8 Other macro-effects on the support for redistribution

The hypotheses so far, has been focused on the impact of inequality in a rational choice perspective, based on the M-R logic, and whether the individual has a greater chance of needing the welfare state and therefore re-assess their support for redistribution. As my review of macro-factors and the role of the state in redistribution demonstrates, there are factors outside of rational choose which are also expected to shape the level of support on welfare-issues. One is the *government protection hypothesis* (Blekesaune, 2007) that postulates that the economic performance of the state, might affect the preference for welfare-policy. One way of assessing the performance of the economy is the through the GDP, and this forms the basis of the next hypothesis. It follows the notion that in times of better economic performance, there is less support for the redistributive policy of the state, as people has greater belief in the market, and are less concerned about the efforts of the welfare state, which the redistribution efforts lays the foundation for. This also formalizes the next hypothesis.

H5: An increase in the level of GDP lessens the support for redistribution.

Another aspect which is tested, is the impact of the welfare state, and how its output is expected to shape the response to inequality. This is conceptualized through how welfare states makes

itself apparent, and how this is expected to affect the individual in their support for redistribution. One of the most persistent indicators of the welfare state, is the level of public expenditure. A “learning”-effect is then hypothesized to be apparent from the level of public expenditure, where people support the level of public expenses which the welfare state has facilitated up until this point (Jæger, 2006). Public expenditure is expected to be fairly constant, and as people are accustomed and reliant on the different services of the state, this is expected to also affect the support for a redistribution in a positive direction.

H6: There is a positive linear relationship between the level of public expenses as a percentage of the GDP, and the support for redistribution.

While much of the research on the support for redistribution is based around rational choice, and how people, act based on the self-interest argument, there are also confounding factors in how people has been shown to form their support for redistribution. Finseraas (2008) finds that people in a setting of high levels of inequality, and a high level of personal income, demonstrates a mediating positive effect on the support for redistribution. Even though this does not make up negative effect of income, on the support for redistribution, it also goes against the purely rational approach, which is traditionally used to understand the support for redistribution. As my quick review of how reciprocity might shape the support for redistribution showed, it is also possible that factors outside of rational choice, predicts some part of the response to economic inequality. Are there settings where people are more concerned about what is assumed to be fair, rather than being steered by self-interest (Leon, 2012). This causal link is examined through a hypothesis which aims to test the effect of having a high level of national and personal economic security.

H7: A high level of national economic safety decreases the negative effect of household income on the support for redistribution.

2.9 The proposed causal-model

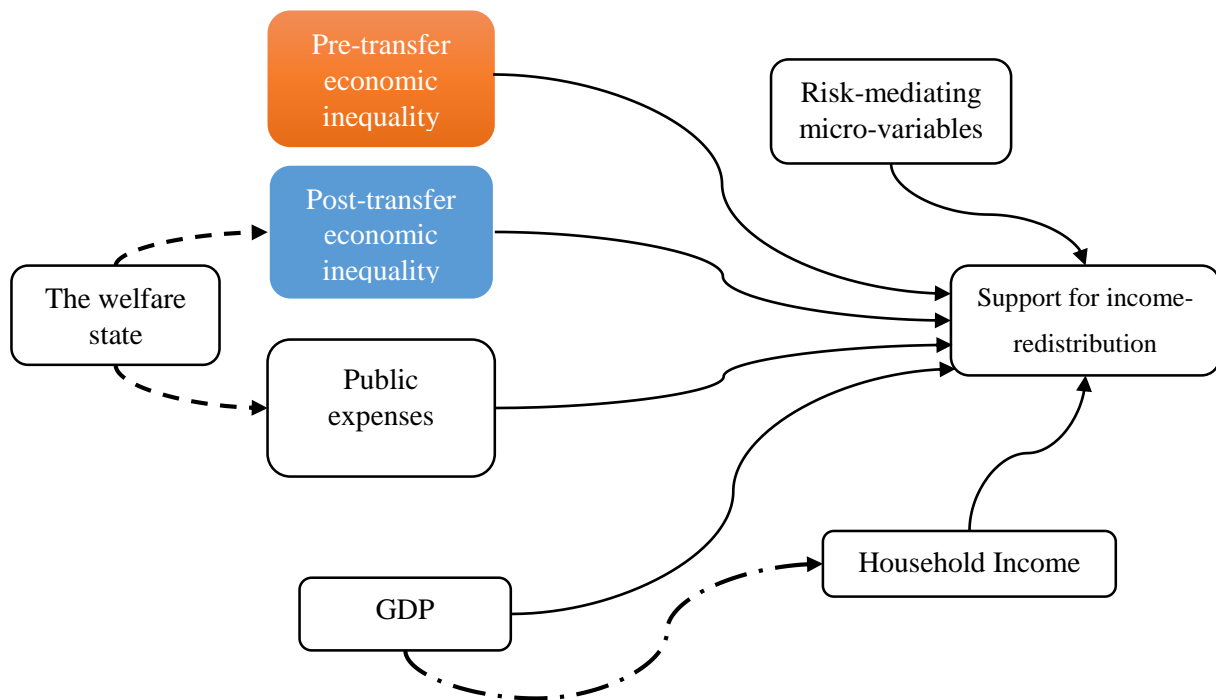


Figure 2.3: Factors expected to affect the support for redistribution. Pre- and post-transfer economic inequality is not tested at the same time. The stippled lines from the welfare state to post-transfer inequality and public expenses, reflect how both measures are a product of the welfare-effort. The stippled line from GDP to Household income represents the proposed interaction between the two variables.

The above figure (2.3) demonstrates how the different factors are expected to impact the support for income redistribution. If one conceptualizes a setup where some aspect of what determines the response to inequality is fairly constant, such as the level of actual inequality, national income, and public expenses, these factors can be expected to shape the baseline response to inequality. Just as the national average response to such an issue is not expected to change much, neither do these indicators. Individual-level indicators can then explain the variation around this mean.

One of the primary pursuits in research on political attitudes and behaviours is to reveal general patterns of public opinion. As Arts and Gelissen (2002: 139) have put it “There are good reasons to argue that the comparative macro-sociology is still in statu nascendi”¹⁰. This thesis provides an approach which builds on, and improves on the research of others, as research on macro-factors are in large part an iterative process.

¹⁰ “Just born”.

The primary focus of the theory-chapter, has been to address how rational choice and the M-R logic both are expected to affect the support for redistribution, while other factors have been reviewed as possible mediators for the bottom-line effect of economic inequality. The baseline-effect of M-R logic presumes that the level of economic inequality before taxes and transfers is the primary motivation in the formation of an opinion on redistribution, but I also test how the level of inequality after taxes and transfers might serve as an alternative predictor for the support of redistribution.

GDP is expected to have a negative effect on support for redistribution, but it is also presented as a potential interaction with household income. The stand-alone effect of income and GDP is then expected to negatively affect the support for redistribution, while the interaction between them, tests the impact of having a very high level of economic security both on the micro and macro-level. The risk-mediating micro-factors are introduced to show how individual-level variables are expected to shape the reliance on, and support for the redistribution effort.

It should also be noted that both post-transfer economic inequality and public expenses are shown to be partly a product of the welfare state, as the national arrangements will affect these indicators. While the figure below illustrated the hypotheses tested in this thesis, they will also be presented at the end of the discussion-chapter, where a review of whether they are confirmed or not is presented.

3 Methodology

In the following chapter two important aspects of this thesis will be elaborated on. The first is the methodological approach. The second is the treatment of data and how the data is assembled for my analysis.

3.1 Statistical method and multilevel modelling

Economic inequality, as employed in this thesis, is represented through a statistical measure, namely the GINI-coefficient, both in its pre- and post-transfer form. While it is important not to exclude possible approaches to any research-question, a measure such as economic inequality does have a natural link to statistics. When understanding the effects of economic inequality, statistics also provide some primary advantages. Since I am interested in inequality on a general level, it makes sense to review a large number of units, and how the response to inequality and support for redistribution varies between contexts. Where statistical methods are concerned, the most simple form is purely descriptive. While descriptive statistics can give a general insight, I am interested in the effects of inequality on the support for redistribution, and how this effect might be mediated by other factors.

When one moves beyond the field of descriptive statistics, it is possible to assess correlations within the statistical material. (Ringdal, 2007: 239). If one believes that there is theoretical grounding for why one variable should have an effect on the other, the regression analysis becomes a relevant tool. I am interested in the personal response to economic inequality. This implies a methodological approach which takes into both personal factors, and factors in the surrounding context, such as the level of inequality on the national level. What is then the best way of modelling the effects of economic inequality, based on inferential statistics? One approach is presented through multilevel modelling. This is an estimation technique which takes into account the hierarchical nature of data from several groups of units, when running an analysis which compares them. (Strabac, 2012: 205). The main advantage of multilevel modelling, is that it allows the analysis of units nested within different contexts. This allows a form of analysis which aims to draw conclusions based on a larger set of data. This method also supplies comparability between context. As it allows the review of a large number of units, it is possible to make generalizations which applies on a more general level, between several different contexts.

Multilevel analysis is for most intents and purposes identical to the Ordinary Least Squared (OLS)-regression, in terms of how the coefficients are interpreted. The primary difference is that it allows the review of how factors in the context the individual finds themselves in, affects individual-level factors (Hox, 2010: 1)¹¹. It also allows much more advanced models than OLS-regression, in that it is possible to test the variance of individual variables over different contexts, but this is also dependent on more comprehensive data.

The primary assumption of the multilevel model is that it must have an hierarchical structure; where units must be nested into an overarching structure. The classical example is pupils, nested within classes, nested within schools. A key aspect is that one level must be nested within another. Using data which has a structure such as this, it is also possible to assess whether there is variance between the different classes, and the different schools. On the macro-level, it is possible to introduce variables, which describe the macro-context, such as aspects which vary between groups. In the example where schools, classes and pupils make up the hierarchical structure, the analysis of academic performance can then account for what part of the variation of the pupils performance can be attributed to the different context. Some of the variation in the pupils performance might be due to differences between teachers, which would account for the class difference, but there might also be variation between schools, which also impact the performance of the pupils. This method also accounts for how much of the variance is found on the school-level i.e. the level above class-level in the described example (Strabac, 2012: 225).

3.2 Assumptions of multilevel models

The main purpose of multilevel-models is that it can account for the fact that units are found within different context when doing research. It is relevant to test how factors describing the context people find themselves affects individual-level measures, but the introduction of macro- or context-variables is not viable in an OLS-regression. This is because the standard-errors will be underestimated. What the OLS-regression ignores, is that the macro-level variables does not constitute an unique observation for each unit. If hierarchical data is employed, such as individuals within countries, the level of GDP is not an observation specific to the individual, but rather the group (country-level in this case) they reside within. While this is a somewhat complicated way of explaining this, the most important take-away message is that multilevel

¹¹ Level 1: Individual-level, Level 2: Country-year, and Level 3: Country-level.

methods controls for the issues faced when using OLS-regression with macro-variables (Hox, 2012, 11–59).

While the level of significance is an important aspect of the output in the multilevel analysis, what one can draw from the significance statistics is in part dependent on the number of units on the different levels. The number of context on the macro-level also limit the number of variables which can be introduced at the same time in the analysis. A rule of thumb is that one variable per ten units is appropriate, but there is not a consensus on this point either. It is recommended to have at least ten units on the macro-level for an analysis, i.e. ten different context, but more is always better in terms of how many variables can be introduced on the macro level (Strabac, 2012: 208).

3.3 The multilevel equation

Since the previous section presented multilevel analysis in a rather abstract way, I will now try to explain the multilevel analysis in more direct way, which also give the reader insight into the specifics of the multilevel equation. The notation in the following section, and elsewhere in the thesis is based on (Strabac, 2012: 209–226). In this explanation of the basic of the multi-level equation, I will refer to individual nested within countries, but I will also demonstrate how the modelling technique matching my data-structure is performed, which based on three levels.

$$y_{ij} = \beta_{0j} + e_{ij}$$

The above equation demonstrates a two-level equation for a dependent variable which varies between countries. β_{0j} reflects the average value for the country j . e_{ij} represents the residual for the individual i in country j . This takes into account that there is variance between the country, represented by β_{0j} while there is also variation between the individual-level units, represented by e_{ij} . While the country level is represented only by β_{0j} in the first equation, there is also an residual term associated with the country level in my example. This is described through the following equation.

$$\beta_{0j} = \beta_0 + u_{0j}$$

β_0 represents the average value between the countries, while u_{0j} represents the residual for the individual countries. This means that a final equation for the multilevel structure can be specified. This then incorporates the two above equations into one.

$$y_{ij} = \beta_0 + u_{0j} + e_{ij}$$

The above equation represents a data-structure with individuals (e) nested within countries (j). My data has a structure where individuals (e) are nested in country-years (j), within countries (v). This creates the following equation.

$$y_{ij} = \beta_0 + e_{ijk} + u_{0jk} + v_{0k}$$

In this equation v_{0k} represents the country-level residual. Another important aspect of multilevel modelling, is how much of the variance is found on the other levels. One reason why multilevel models is an interesting estimation technique, is that it allows the estimation of variance on the different levels. This is presented through the Variance Partition Coefficient (VPC). This might sound like a rather alien measure, but it is employed to find the level of variation which is located on the different level. It is not particularly difficult to calculate, and presents what percentage of the variance can be explained by factors over the individual-level. The formula for the VPC found on Level 2, or country-year-level, can be specified through the following equation.

$$VPC (Level 2) = \frac{Var(u_{0jk})}{Var(e_{ijk}) + Var(u_{0jk}) + Var(v_{0k})}$$

The VPC, as it is produced by the above formula, can then be multiplied by a hundred, and this gives us the percentage of variance which is found on the prescribed level. By switching out $Var(u_{0jk})$ with $Var(v_{0k})$ above the line, in this equation, it is also possible to determine how much of the variance is found above the country-year level, on the country-level. It should also be noted that the different variance-term as they are presented in the regression, does not need to be re-calculated to gain any meaningful information from them. One can simply assess whether there is any change in them, between the models, but the VPC provides a relative measure of change in variance found between the different levels.

3.4 Micro- and macro-variables in multilevel models

In a setup, such as the one I am employing, micro-level variables are often based on a representative cross-section of the population, where surveys from different countries and time-points are employed. Macro-level variables often describe actual properties of the macro-level unit, such as the level of gross domestic product or the national level of unemployment. It is also possible to aggregate the responses on individual-level measures, to the macro level, but this produces a less reliable measure. It is for example possible to include a variable for unemployment on the individual-level, and a variable describing the national level of

unemployment. It is less ideal to include unemployment on the national level, if there is not any data for this on the individual-level (Hox, 2010: 2–3).

While multilevel models often contain a very high number individual-level units, the units on the levels above are often more limited. The macro-units in my statistical material makes up a modest number of units, and this limits the possibility of highly significant findings (Strabac, 2012; 206-207).

Another aspect of multilevel research is that individual-level has a considerable higher chance of becoming significant. Considering that a multilevel data-set covering several rounds of data, on a worldwide scale, can contain more than 300000¹² level-1-units, one can attain very accurate measures about what individual-level variables mean on a general level. This also implies that there are more stringent demands to significance on the individual-level (Strabac, 2012, 213). When performing research on a population, normally the number of people included are usually around 1000-1500, as this serves as a natural number of people to interview, while also attaining a good chance of uncovering significant results, given that there is variation in the material of substantive interest. (Field, 2009: 42).

It should also be noted that the high-level of individual-level units, allows a high chance of significant findings where micro-level variables are reviewed, but these effects are not necessarily of substantial interest. It is also sensible to review variables which describe actual aspects of the respondents, rather than attitudes, as this lessens the cultural impact on what the effect of a variable might be, between different contexts.

Validity captures whether the researcher measures what he or she in fact is interested in examining (Ringdal, 2007 86-87). Does the employed methods and data, measure what is prescribed from a theoretical point-of-view? One issue in multilevel research, is that a number of factors must be taken into account through the research-design. My primary investigation is to see how inequality affects support for redistribution, but this hinges on the notion that there is a connection between the two. The primary issue present in this thesis, is that even though the level of inequality is treated as shaping the response in form of support for redistribution, the analysis is still only be based on 66 country-years, consisting of observations from a total of 26 countries. Considering there are so few countries available in the analysis, it is important

¹² This is the number of total respondents in all rounds of WVS.

to note which level of generalization one can operate with. This means that the test of M-R logic and other factors facilitated is primarily relevant for OECD countries.

Reliability in multilevel research is a somewhat complex topic. Whether data is reliable, depends on whether the method of measurements can be trusted from an instrumental point-of-view (Ibid.: 87). This becomes an especially important issue, as multilevel modelling relies heavily on comparable data. In this case, problems with data is mostly revealed through issues on survey-side of things. There might be issues with people not knowing the answers to questions, or not being willing answer them, but considering so many units are available, this should not pose a challenge. What can pose a serious challenge in multilevel research, is the comparability between surveys. One such issue is how some variables has been specified differently between the different waves. One such example, and a quite serious one at that, is the household income measure employed in the World Value Survey. I will return to this in the model-specification. Finally, one issue which is both related to validity and reliability, is how questions might take on different meaning between countries. There might be cultural sensibilities which affect certain variables in a number of ways. For example, when asking a person in Germany what their opinion on inflation is, their answer might be coloured by Germans historical experiences with it. On my dependent variable - the support for income-redistribution, such confounding factors might be in play.

3.5 On the Employed data

As I have mentioned, I am employing the WVS-data. Some adjustment has been performed, so that it can be employed in a multilevel setup. A number of books and articles on statistics are referred in the literature list, even though they are not mentioned in the text. They have been used primarily as guidance in some of the more advanced parts of data-treatment, and in the solving of various statistical challenges (Hamilton, 1992; Hamilton, 2012; Midtbø, 2012; Steenbergen and Jones, 2002).

One of the most important aspects of multilevel analysis is which units are sensible to compare on a conceptual level. A key question then becomes whether the researcher is comparing differences or similarities between the countries. My reason for comparing OECD countries, is that they are presumably fairly similar, and expected to have reached a certain threshold of economic and democratic development, and they already make up a set of units which earlier research has been based around (Atkinson and Brandolini, 2001; Kalimo, 2005; O'Connor and Brym, 1988; Pontusson and Rueda, 2008).

As I have mentioned, multilevel-models allows the review of units nested within an hierarchical structure. In my case, this hierarchical structure is individuals, nested within country-years, nested within countries. While this mean that I am employing a three-level analysis, I am primarily interested in the two lowest levels – individual and country-year. This means that I can introduce variables on the lowest level which predicts a change in the support for redistribution, based on individual-level variables. I am also introducing variables on the country-year level. This means that variables such as GDP, which will vary between different country-years can be introduced. I am employing an integrated version of WVS-survey, where several rounds of the survey are included for most of the countries. The multilevel analysis, allows me to review what level of variance there is between the different country-years, which is a significant strength of this method.

While this approach supplies an expanded data-set, over what a purely cross-sectional approach would provide, there are some inherent statistical limitations. There are a limited number of units available, and this implies that employing random slope models becomes an unviable approach. To employ random slope models, it is recommended to have at least a hundred units on the macro-level. (Hox, 2012: 235).

In selecting the countries for review, I have only included countries which were part of the OECD at the time of those rounds which I have included. This means countries like Hungary and Poland are excluded up until the point where they entered in 1996, even though rounds of the WVS were carried out in some countries before this. Focusing only on EU-countries for example would exclude some highly developed and interesting countries, and it would also include countries which are outside of the OECD as of today.

What are the consequences of the chosen modelling, and how does multilevel models fare against other model-types in relation to economic inequality. One aspect of my analysis is that I am not testing the change between time-periods. Several countries are included through several survey-rounds. In economic theory it is often common to employ longitudinal data for the same set of units, but this implies repeated observations for the same set of units over quite an extensive time-period. I cannot, with either great reliability or certainty test if there is a convergence between the level of inequality, and the support for redistribution for example. It is highlighted as a strength of multilevel models that there can be asymmetry in the included groups, without this creating any statistical problems (Strabac, 2012: 207), and this allows me to employ several rounds of WVS-data in my analysis.

I have also integrated new data, into the version of the WVS I am employing. Through the SWIID-dataset set provided by Solt (2009), I have been able to manually integrate more recent and robust economic inequality data. He aims to ease the utilization of inequality data, in advanced statistical modelling, and also handles a number of the issues pointed by others like Atkinson and Brandolini (2001), who focuses on how different forms of inequality-data is treated as equal measures: “For example the official series may refer to income before tax (as in the United States) or to disposable income (as in the United Kingdom)”(pp:772). The data provided by Solt provides this distinction. Another step he has performed is to estimate a more reliable measure for both pre- and post-inequality. This allows comparison of inequality both before and after redistribution, which allows me to perform a more stringent test of what the effects of different types of inequality actually is.

I am measuring the effect of economic inequality in a setup comparable to Finseraas (2008) and Dion and Birchfield (2010) for example, but an important distinction is that I am employing a more solid set of inequality-data as provided by Solt (2009).

I am also testing the effect of public expense on welfare-attitudes. This facilitates the integration of public-expense data in my data-set. When integrating expenditure data, a more direct, if somewhat rougher approach has been chosen, than what has been employed on the inequality data. Going to the OECD’s pages describing public expenditure as an percentage of GDP, I have integrated the available data with my dataset. The main issue is that expenditure data is only available for five-year intervals. (1990, 1995, 2000, 2005), while the data from the WVS was carried out in different countries, on varying time points for the different waves. This means that there is public expenditure data available, which roughly, but not exactly, matches the round of WVS-data available. My chosen solution has been to employ the data on public expenditure, which was gathered closest to that round of the world-value survey (OECD, 2013)¹³. While a more robust approach would have been to interpolate the chosen data between the five-year points in time, and then integrate with the employed data set with a one-year lag, I believe my approach is sufficient, for the chosen inquiry. Expenditure is a largely stable measure, perhaps even more so than inequality. Barring a revolution or major political upheaval in a country, public expenses one year is expected to closely correlate with the previous. Since these are OECD countries, national stability is expected, and I would therefore argue that they

¹³ Expense data from 1990 matched with survey-data from 1992 etc. If data from the previous year was not available, data from the year before that was inputted, if that data is not available, data from the year the survey was carried out, was employed.

are fairly reliable from a conceptual point of view. The primary question is whether interpolated data would facilitate a stronger statistical approach. As public expenses is shown not to offer significant improvement of the model, further treatment of this data is not particularly relevant for statistical enquiry. This leaves the focus on the public expenses as rather perfunctory.

3.6 Model specification

The following section goes into the specifics of how the models are specified. This is done to supply a clear overview of the employed variables for the reader. The above section was focused on how the data was integrated, the following section is concerned with the modelling efforts.

My dependent variable is retrieved from the World Value Survey, and asks where the respondent places themselves on a one to ten-level variable. Answering one (1) implies the respondent agrees fully with the statement “We need larger income differences as incentives” . Answering ten (10) on the variable implies full agreement with the statement, “Incomes should be made more equal”.

An important point of discussion, when assessing the dependent variable, is whether it describes a response to the current level of redistribution, or the ideal level of redistribution. (Aalberg, 2003: 104–110). M-R logic implies that the response to this question is based on whether the respondent sees greater utility from redistribution being carried out. That the dependent variable is a reflection of actual inequality is also a necessity, given that I test the response to two types of economic inequality – pre- and post-transfer. This matters, because the response to pre-transfer inequality implies that people assess the actual levels of inequality before taxes and transfers when forming their opinion on redistribution. The post-transfer response to inequality is rather a response to the inequality as it appears in society around the individual.

Others has employed a combined measure for welfare-attitudes in comparable research. While the use of a combined measure can be a way to attain more robust measures (Ringdal, 2007: 85), I would also lose the theoretical strength of the direct connection between inequality and support for income redistribution. Another issue is whether the dependent variable reflects the individuals opinion on economic inequality as an societal issue. My approach implies that a positive answer on this variable reflect support for redistribution, but it can also be read as reflecting what people believe should be done about absolute differences in income, in terms of actual wages. Still, I would argue that it captures whether or not the respondent believes that

economic inequality should be mended or not, regardless of whether this is through an redistribution effort, or more equality in terms of wages.

It should also be noted that even though the dependent variable has ten categories, it is in reality a categorical variable (Ringdal, 2007: 81) While this might be, I will treat it as a continuous variable for the purpose of this analysis, as it is fairly normally distributed, and has more than five categories. It is presumed that it represents an underlying continuous variable for the support of redistribution¹⁴ (Strabac, 2012: 207).

3.6.1 Specification of the micro-variables

There are several considerations which come into play, where my micro-level variables are concerned. Primarily they function as control-variables. One of the most important advantages associated with multilevel modelling is that allows models which account for differences, which in purely macro-perspective would only reviewed as national aggregated means. With a multilevel approach, these differences are made to be a part of the analysis, and work to strengthen the result.

Women are included to capture gender-differences. This is a dummy-variable, where women are anticipated to be more in favour of redistribution efforts. *Unemployed* is coded as a dummy-variable, which categorizes the respondent as having a job or not. A positive readout on this variable, implies that the respondent does not have a paid job. The variable is coded as follows: 0 represents that the respondent either has full- or part-time job, or is self-employed. 1 means that the respondent is retired, a housewife, student, or unemployed. While some might have an issue with students being categorized with other people with less social mobility, I would argue that students are clearly dependent on the state, much more than those actually holding a job. *Union-member*, is the next variable, and describes whether the respondent is part of a labour union. *Age* and *Age-squared* are primarily included as control variables. Age-variables are often included to test for a generational shift, in that people from some generations might have shared experiences which later generations does not have. This aspect is not included in this thesis, as I am including data from several time-points. Without an introduced control for the time-difference, the employed analysis does not capture an eventual temporal aspect of the data.

Another reason for my inclusion of *Age* and *Age-squared*, is the problematic nature of the education-variable in the employed data-set, which means I am unable to control for the actual

¹⁴ The multilevel analysis is dependent on normally distributed error-terms and not normally distributed variables in general.

level of education. One of the primary strengths of this thesis, is that I am employing multilevel setup, where several rounds of data are employed. While this approach allows the employment of a wide set of data, this also relies on data being highly comparable between rounds. The inclusion of the education-measure in the data-set, is not included for a number of countries for the survey-round carried out in 1990, which leaves out most of the countries, except South-Korea. This also affects the results and leaves out a considerable chunk of data, which happens in an unbalanced way. More data is lost in the early waves, implying that the loss of units affects the results in a rather serious way. While this is an unfortunate effect, the *Age*-variable might capture some of an presumed education effect. *Age* is also presented as a squared term. This is done to capture an eventual old-age effect on support for redistribution. *Religious attendance* is my next employed variable. It is employed as it is presented in the WVS, but reversed so that high values imply that the respondent often attends church, which simplifies the interpretation of the variable. Technically speaking, this is a categorical variable. Even though it has a logical zero-value, there is not an identical gap between the different categories¹⁵. When analysing the results, this has the consequence that an increase in one step on this variable, cannot be interpreted in any meaningful way, besides whether it is significant or not, and the direction of it.

Household income is an particularly important variable, related directly to the M-R logic. It is based on household income after salaries and pensions, but before taxes and other deductions. The basic premise of the M-R, is as earlier noted, that the average voter will always benefit from redistribution, because there is a rightward skew in how the wealth is portioned among the population a liberal society. This implies that there is a negative relationship between support for redistribution, and having an income above median. The variable is distributed over ten categories, and does not describe the actual level of income. It rather describes the household income relative to the national level. This is also part of the reason why curved effect is not possible to model or test. One issue with it is that it is not a particularly trustworthy measure, as it is specified in the WVS-survey. There is variation between the surveys in how income-variable has been specified. One approach has been that the investigators has presented the respondent with a ten-point income-bracket with actual values specific to the country, wherein the respondent is asked to place themselves. Another approach has been to ask the respondent where they assume that they are related to the rest of the nation, which produces a distribution

¹⁵ The categories are as follows for the variable “How often do you attend religious service?”: Never practically never, Less often, Once a year, Other specific holy days, Only on special holy days/Christmas/Easter days, Once a month, Once a week, More than once a week.

with a heavier concentration around the middle values. Finally, the third approach has been to ask the respondent to themselves specify their household income, whereby the investigators has created a distribution afterwards. The final approach is the most troubling, in that how investigators choose to distribute the actual level of income, has a severe effect on how the income seems to be distributed in the population. If they use the original ten-point bracket based on income from an earlier survey, this means that inflation will affect the results adversely, and show a rightward skew. The other approach, wherein the income-categories are distributed into ten equal groups, removes information about whether the variable is normally distributed (Donnelly and Pol-Eleches, 2012: 4–8).

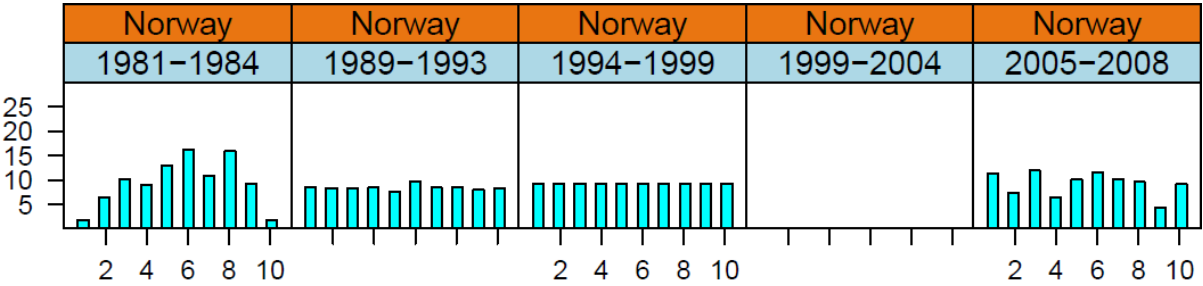


Figure 3.1: Distribution of Household income in Norway, for the different rounds of the World Value Survey (Donnelly and Pol-Eleches, 2012: 34).

As the figure 3.1 shows, there are sources of uncertainty in how the variable is measured between the waves. It should be noted that I am using data from Norway, only for 1990, 1996, and 2007, but the variation between the waves illustrates the issues with the variable and how it has been measured.

Even though the *Household income* -variable presents some clear methodological issues, it also provides a measure which provides comparability between the different contexts. In table 3.1 descriptive statistics for the individual-level-variables, which are employed in the modelling, are presented.

Table 3.1: Descriptive statistics, individual-level variables.

Variables	Mean	S.D.	Min.	Max.	Skew	Kurtosis
Support for income redistribution	5.33	2.77	1	10	0.17	1.95
Woman	0.51	0.50	0	1	-	-
Unemployed	0.43	0.49	0	1	-	-
Union member	0.19	0.39	0	1	-	-
Religious attendance	3.89	2.53	1	8	-	-
Household income	4.96	2.57	1	10	0.29	2.14
Age	44.22	16.69	15	98	0.39	2.25

N for all variables: 77575. People with missing on any of the variables has been filtered out for the purpose of the analysis. Skew and kurtosis is left out for variables which are dummies, or are not expected to have a normal distribution. Descriptive statistics for the unfiltered versions of the variables are found in the appendices. Unfiltered descriptives for the variables are found in the appendices, table 8.2.

3.6.2 Specification of the macro-variables

Since inequality is of primary interest in this paper, I have integrated and employed robust data on pre- and post-transfer economic inequality. Both these variables, alongside with GDP, are employed in a lagged variation, where data from the previous year is employed to predict the effect in the year of employed survey. I have also integrated data on public expenses as part of the GDP. In the following section, I will quickly review the macro-level variables, and how they integrated into the model. *Pre- and Post-transfer economic inequality* are coded inn for all reviewed units. GDP has been converted into *Gross domestic product per capita in thousands (GDP1000)*. It reflects the level of GDP in 2005 dollars per capita, and It will be referred to as *GDP1000* from this point on. I have reviewed the distribution of both the regular and Ln-transformed version of GDP, in the selected countries, and the non-transformed version is revealed to be more normally distributed than the transformed version. *Public expenses*: This variable is measured in a form which reflects the level of public expenses as percentage of the GDP. Random-effect parameters are also included in the analysis. These show up in the regression model, as *Level 1*, *Level 2*, and *Level 3* random effects-parameters. The first level describes the amount of variation found on the individual-level, the second the variance found on the country-year level, and the final one, the variance on the country-level. I have elaborated on what these terms mean in the chapter on multilevel analysis, but these are also especially important when the changes in the models are reviewed. The most important aspect of these

measures, is that they describe the amount of variance found on the different levels. If they become lower with the introduction of explanatory variables, this means that they explain part of the variation on the prescribed level. The *Level 1* parameter describes the variance between the individual-level units, while *Level 2* describes the variance between the different country-years, and *Level 3* describes the variation between the countries, as units in which the country-years-groups are bundled within.

Table 3.2: Descriptives statistics, macro-variables.

Macro-variables	Mean	Std. Deviation	Min.	Max.
GDP1000	25.89	8.73	8.38	53.32
Pre-transfer Inequality	43.11	4.89	30.16	51.82
Post-transfer inequality	30.33	6.29	21.12	49.13
Public Expenditure	18.84	6.83	3.24	32.00

N for all variables is 66 (The number of level 2, country-year contexts). Public expenditure is specified in percentage of the GDP.

4 Empirical review

The purpose of the following section is to review the employed data, before the focus is moved to the regression-analysis. This step is carried out, to give the reader a general oversight of what findings might be unveiled through the actual regression.

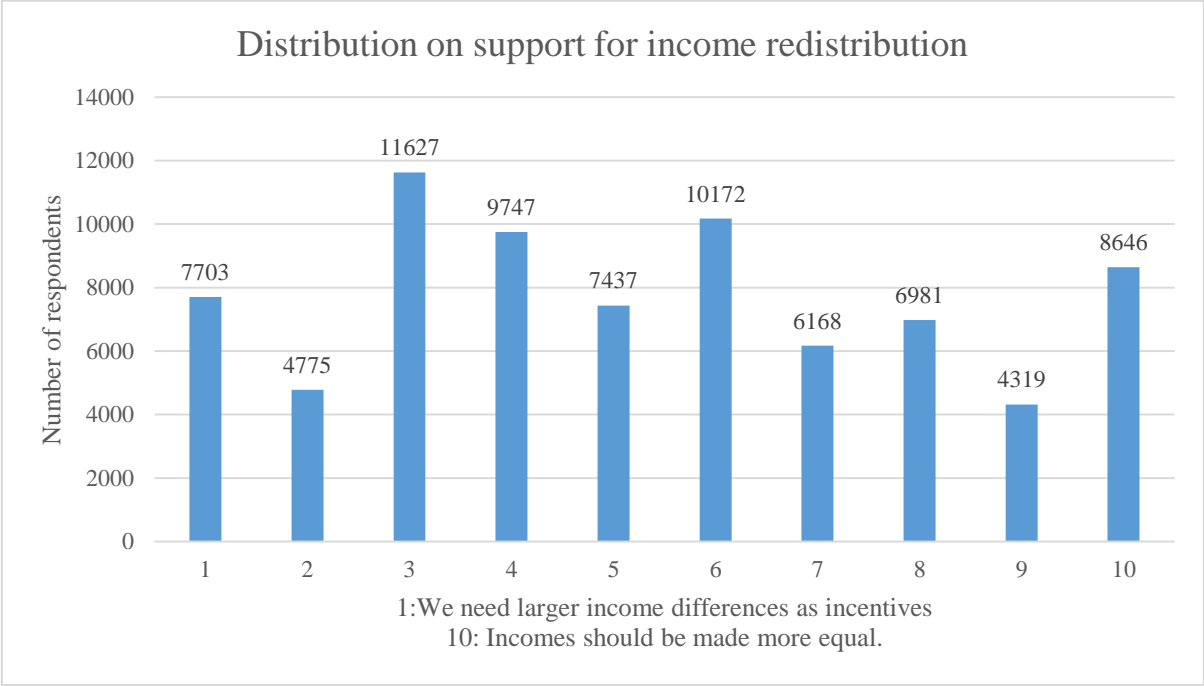


Figure 4.1: Distribution of the dependent variable.

4.1 Reviewing the dependent variable

An interesting aspect of the dependent variable, is that there is a quite a heavy concentration around the top and bottom-point. This might be an design-effect, in that people who are particularly happy or unhappy, with the current level of redistribution might express this level of unhappiness by exhibiting an exaggerated opinion if they are for or against redistribution. While this affects the regression-adversely, there is not a heavy concentration on one side.

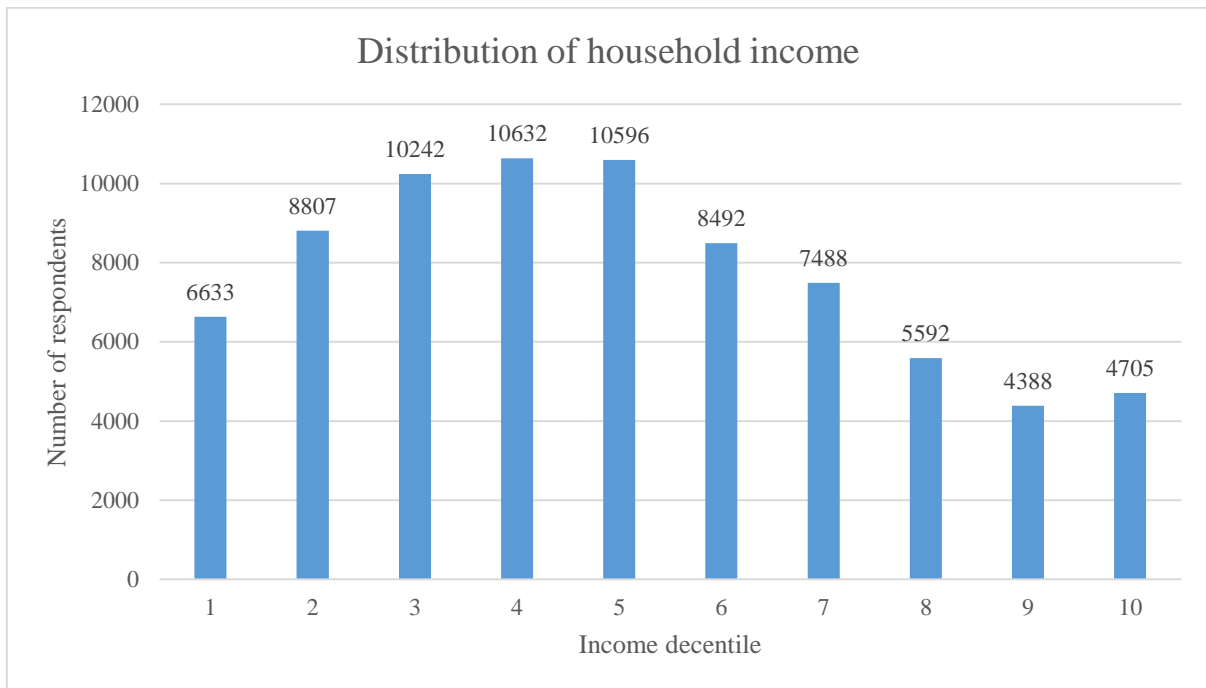


Figure 4.2: Distribution of Household income.

4.2 Reviewing the *Household income*-variable

Another important theoretical variable, is the *Household income*-variable. Reviewing the distribution of it, one interesting aspect quickly becomes apparent; for whatever reason, more people are placed below the average income-level, than above it. As I pointed out in the model-specification, there are a number of issues with the *Household income*-variable. (Donnelly and Pol-Eleches, 2012). This problematizes an important issue in the employed data, and an issue which is also related to this thesis. M-R logic implies that people are able to assess the impact of redistribution on their economy. But this also means that they should be able to assess whether they have a level of income which is lower or higher than the average income. Even though this variable is adversely affected by how it has been measured, in terms of inflation and other issues, it might also reflect how people are not perfectly able to assess their economic well-being. Some of those people who fall in the lower categories, must by necessity have a higher level income than the national mean. The leftward skew of the variable, is primarily interesting because it highlights that the researcher must at least be careful in analysing the results of the *Household income*-variable. There are two probable reasons for the leftward skew. There might be a trend among those answering the question - in that some groups believe that they earn less than they actually do. The other explanation is that *Household income*-variable is miss-estimated for some of the rounds of the WVS, because of design-errors on the part of those carrying out the survey. This lowers the reliability of the income-variable, in how it predicts the

support for redistribution. It also demonstrates how the comparability of the employed data, is especially important in multi-level research, especially when the impact of a variable like *Household income* is employed between different context.

4.3 Pre- and post-transfer economic inequality and average support for redistribution

On the two following pages, two different figures are presented. They show the average distribution of the dependent variable, against the level of *Pre-transfer inequality* and *Post-transfer inequality*, for the different countries, averaged between the different rounds they have participated in the WVS. This means that for countries with several data-points, the average value between them is employed. This presentation should not be mistaken for an actual regression, such as it is performed in a multilevel-setup; it only presents the average values on the two variables for the selected countries in the data-set. Having said that, this presentations gives a precursory insight into what the relation between inequality and support for redistribution is in the selected data. Bounds on the table has the same points of reference, so that they are directly comparable. The full list of individual country-years is found in the appendices, in table 8.1.



Figure 4.3: Average level of pre-transfer inequality against the support for income redistribution.

Figure 4.3 presents the relation between averaged pre-transfer inequality and support for redistribution. Here a slight positive relation can be traced, as exemplified by the mean line, but this is not a very impressive effect. Going to figure 4.4, describing post-transfer level of economic inequality, a huge level of change is not revealed, but a slight negative shift is demonstrated. The figures show that there is variation between the countries, but that the mean demonstrated in both figures, are rather even. What the figures do demonstrate is how the different countries are placed, in terms of actual inequality and the national means – and over several years for some of the countries.

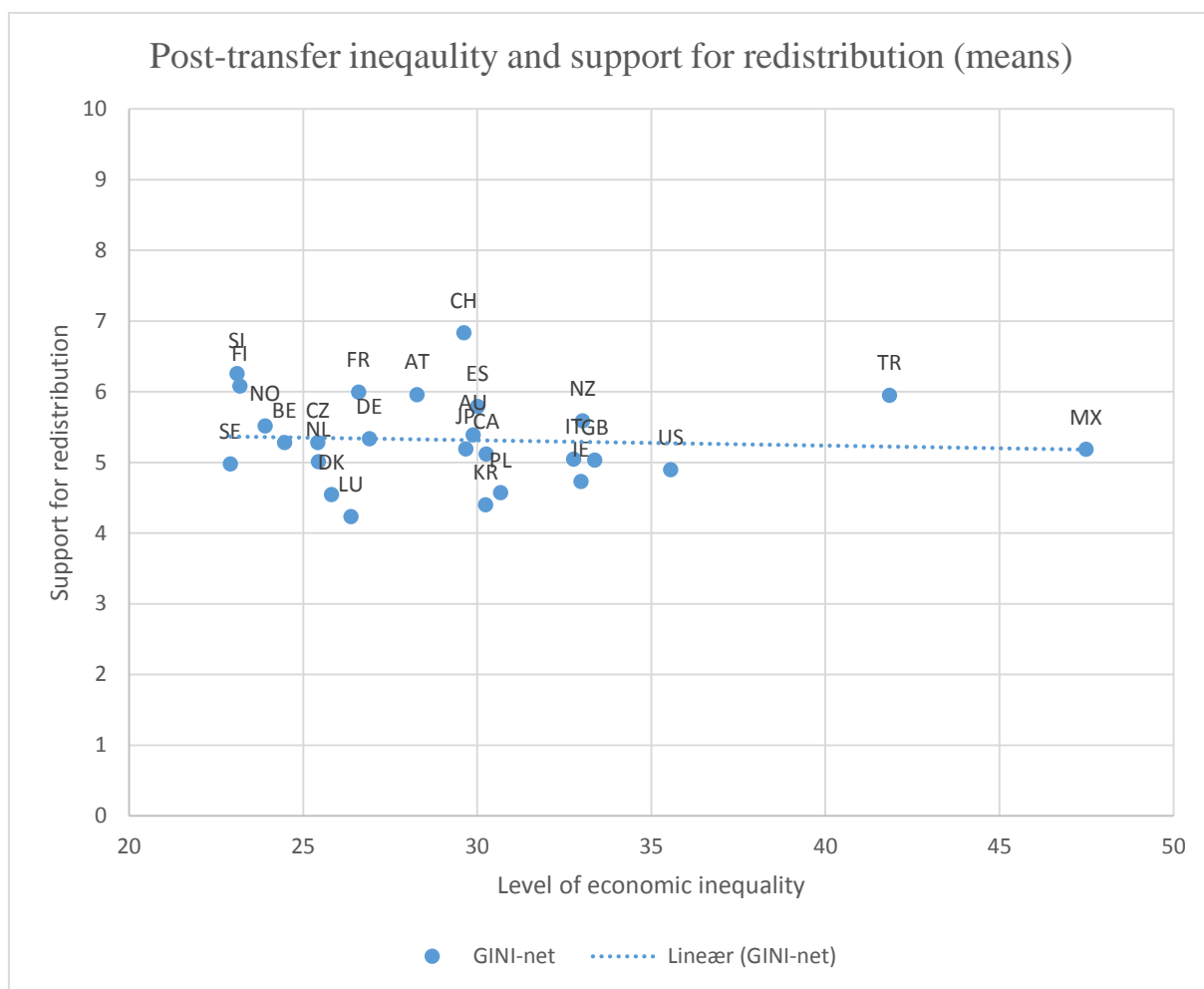


Figure 4.4: Average level of post-transfer inequality against the support for income redistribution.

One interesting aspect of these two tables, are that they presents differing mean-lines, in that the pre-transfer inequality demonstrates a slight positive effect, while post-transfer inequality implies a slight negative relationship between the two. This reveals a potentially interesting dynamic, even if the effect seems to be very small.

While these average value-figures do not imply a particularly strong connection between economic inequality and the support for redistribution, in either specification, an important reservation should be taken. A primary aspect of multilevel analysis is that one can control for both individual and macro-level variables. To review the effect of inequality, based purely on the above figures, implies that factors like the compositional effects of the population in the different countries are lost. The same happens to other possible macro-level effects, and the differences between the different country-years. To test the effect of inequality sufficiently, it is necessary to introduce control-variable which can give us an exact insight into the specific effects of the different forms of economic inequality.

Reviewing these two presentations of the pre- and post-transfer level of inequality, also reveal another interesting aspect in the data. Specifically, it presents to what degree redistribution is actually apparent in the different countries. Mexico does for example not show much of a change at all, while most of the other countries, show a strong movement towards much lower inequality, in the post-transfer figure. It also seems like the redistribution efforts are pretty similar between the countries, but there also seems to be a greater level of spread after taxes and transfers. This implies that the redistribution effort varies between countries.

5 Modelling and analysis

5.1 Modelling

On the next two pages the different multilevel models are specified. As with all statistical work, a number of other possible models has been tested. As is specified in the chapter on methods, a number of indicators must be checked to test the model fit. Standard errors are included with all variables, while the level of significance is noted by one, two or three stars. The variance-measures are noted, along with their standard deviations. The Log Likelihood is also reported, where the change in variance and Log Likelihood will be reviewed in the discussion of the different models. A Log Likelihood closer to zero implies an improvement in the model, while a decrease in the *Level 1*-, *2*-, or *3*-variance, implies that introduced variables explains some of the variance on that level.

The first aspect of the multilevel analysis is to test the empty model, to see whether there is substantial amounts found on the levels above the individual-level. Using the VPC, which is discussed in the chapter on multilevel models, the variance for the three levels in the empty model are as follows. *Level 1*: 7.211; *Level 2*, 0.334 and *Level 3*: 0.145. This allows the calculation of how much variance is found on the different levels, and it is revealed that that around 93.88 percent of the variance is found on the individual-level. This is by no means surprising, given that personal indicators are in large part expected to be decisive in the formation of political opinion. 4.30 percent of the variation is found on *Level 2*, which is the country-year level. Finally 1.82 percent of the variation is found on the *Level 3*, country-level. This implies that the empty model demonstrates that just over 6 percent of the variation is found above the individual-level – this means that 6 percent of the variation in the support for redistribution can be attributed to differences between contexts. While this might seem like a modest amount, it is arguably enough to warrant further enquiry into how macro-factors affect support for redistribution. The empty multilevel model is also found to be a significant improvement contrasted to the OLS-version of it, implying that there is an hierarchical structure to the data. On the two following pages the eight specified models are presented.

Table 5.1: Random intercept model with *Income redistribution* as dependent variable.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<i>Micro-level</i>								
Intercept	5.640*** (0.128)	5.295*** (0.297)	5.308*** (0.303)	5.579*** (0.513)	4.943*** (0.689)	4.187*** (0.747)	4.056*** (0.756)	4.310*** (0.758)
Woman	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)	0.256*** (0.020)
Unemployed	0.141*** (0.023)	0.141*** (0.023)	0.141*** (0.023)	0.141*** (0.023)	0.141*** (0.023)	0.141*** (0.023)	0.141*** (0.023)	0.142*** (0.023)
Union-member	0.209*** (0.027)	0.209*** (0.027)	0.209*** (0.027)	0.209*** (0.027)	0.209*** (0.027)	0.209*** (0.027)	0.208*** (0.027)	0.205*** (0.027)
Religious attendance	-0.025*** (0.004)	-0.025*** (0.004)	-0.025*** (0.004)	-0.025*** (0.004)	-0.025*** (0.004)	-0.025*** (0.004)	-0.025*** (0.004)	-0.026*** (0.004)
Age	0.018*** (0.003)	0.018*** (0.003)	0.018*** (0.003)	0.018*** (0.003)	0.018*** (0.003)	0.018*** (0.003)	0.018*** (0.003)	0.017*** (0.003)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Household income	-0.165*** (0.004)	-0.165*** (0.004)	-0.165*** (0.004)	-0.165*** (0.004)	-0.165*** (0.004)	-0.165*** (0.004)	-0.165*** (0.004)	-0.213*** (0.013)
<i>Country-year variables</i>								
Public expenditure		0.018 (0.014)						

GDP1000	0.013 (0.011)	0.015 (0.011)	0.010 (0.017)	0.010 (0.011)	0.000 (0.011)
Pre-transfer inequality			0.034** (0.017)	0.031* (0.017)	0.031* (0.017)
Post-transfer inequality		0.002 (0.017)		0.010 (0.018)	
Cross-level interactions					
GDP1000*Income					0.002*** (0.000)
Random effects					
Level 1	7.009	7.009	7.009	7.009	7.008
Level 2	0.308	0.315	0.297	0.290	0.278
Level 3	0.137	0.109	0.140	0.150	0.141
Log Likelihood	-185,740.20	-185,739.43	-185,739.48	-185,739.32	-185,737.91
N					
Level 1:	77575	77575	77575	77575	77575
Level 2:	66	66	66	66	66
Level 3:	26	26	26	26	26

Note: ***= $p < 0.01$, **= $p < 0.05$ *= $p < 0.1$. Standard errors in parentheses.

5.2 Results

In all the of the specified models, each of the individual-level variables demonstrate significant effects. *Women* demonstrates a positive effect on support for redistribution, as does *Unemployed* and *Union-member*. All of these are dummy-variable, implying that they generate a “one-time” effect – either you are a woman or not. *Religious attendance* demonstrates a negative effect, but it is only possible to state that it is negative, because of how the variable has been employed. As I have mentioned beforehand, I have treated this as a continuous variable, even though it in reality is categorical. This means that a significant negative effect of *Religious attendance* on the support for redistribution can be traced, but the effect of coefficient cannot be taken into account at face-value. Finally, *Household income* is shown to have a negative effect on support for redistribution. All individual-level variables, are shown to be significant on the 0.01 level¹⁶, while *Age* and *Age squared*, show an inverse of the expected effect. The *Age*-variable only became significant when the squared form of it was introduced to the analysis, but it does not represent a substantially interesting effect. The first model is important because it acts as a point of reference for the later models. To compare the models, I will compare the change in Log Likelihood, which is employed to check the model fit.

In the multilevel analysis, the change in variance-terms is also an important part of the analysis. Since all individual-level variables are included in the first model, the level of explained variance on the individual-level does not change between the models. It is also possible to calculate how variance the first models explains, compared to a model without any explanatory variables. The *Level 1*-variance for the final model is 7.008, while it in the empty model is 7.212, leaving a difference of 0.204. Dividing the difference on the individual-level variance found in the empty model, and multiplying this with a hundred, supplies the amount of total explained variance on the individual-level, which amounts to 2.8 percent. This implies that 2.8 eight percent of the individual-level variance, is explained by the micro-level variables I have included.

Model two, three, and four each introduces one macro-variable each – *Public expenditure*, *GDP1000* and *Post-transfer inequality* respectively. None of these demonstrate an significant effect on the support for redistribution. Each model only adds one variable to the individual-level-model. This is done to test the significance of them individually, to form the basis for further model specification. Out of the models, neither of them show much change in the log

¹⁶ Which is also advised in research employing multi-level models, since there are so many units on the individual-level, and it is important to have reliable variables before the inclusion of macro-level variables (Hox, 2012: 55).

likelihood, where the greatest change is found between model one and three. The change in -2 log likelihood (-2ll), the measure used to compare models directly, reveals that the difference amounts to 1.44. Testing this change against the chi-square distribution, with one added degree of freedom, reveals that this change is only significant on the 0.250 level, which cannot be described as a substantial improvement, meaning that the above-mentioned macro-factors has little effect on the support for redistribution.

Model five tests both *GDP1000* and *Post-transfer inequality*, but this does not constitute an improvement of the model. Model six introduces the *Pre-transfer inequality* variable, which demonstrates a positive change in the models which is significant on the 0.10 level, which is acceptable when employing macro-factors in a multilevel setup (Strabac, 2012: 206).

Model seven introduces *GDP1000* alongside *Pre-transfer inequality*. This constitutes a slight improvement in the model fit, but not one that is significant. The final and eight model introduces an interaction between *GDP1000* and the *Household income*-variable. This represents a substantial improvement in the significance of the model.

Pre-transfer inequality is shown to be significant. This findings is also robust to the inclusion of the *GDP1000* variable in model seven, even if *Pre-transfer inequality* drops from significance at the 0.05 to 0.10 level.

5.3 Summary of results

Before going into the theoretical discussion about what the models actually show, a short summary of the results are in order. Going through the different model-specification some slight, if significant results are revealed. The individual-level variables mediate the support for redistribution, but the effects are not particularly ground-breaking. While an inverse effect of *Age* and *Age-squared* is demonstrated, from the originally expected effect, this cannot be described as a substantially-interesting effect.

Household income is shown to be the strongest predictor found in analysis, and it is also part of an interaction with the level of *GDP1000* in the final model. Out of the macro-variables, *Pre-transfer inequality*, is the only macro-variable variable which demonstrates a significant effect on the support for redistribution, beside the interaction between *GDP1000* and *Household income*. While this makes up a significant effect, the substantial impact of it should also be reviewed. By reviewing the pre-transfer inequality in Norway for 2007, which is 45.6 (Found in the appendices table 8.1) and multiplying it with the coefficient for *Pre-transfer economic*

inequality, an effect of 1.41 is found the dependent 10-point variable. It should be noted that the lowest level of pre-transfer inequality found in the data is found in Belgium in 1990, with a score around 30.0. This means that if the impact of *Pre-transfer inequality* is to be assessed, one has to take into consideration that no-one has a score of below 30.0. It should also be noted that the level of economic inequality within a country, between different country-years will be expected to be somewhat close, and it not likely that the level of pre- or post-transfer inequality will vary very much between different time-points.

It is also interesting to find that in a setup where other possible macro-variables are found to be insignificant, there is still a significant and positive effect of *Pre-transfer inequality* on the dependent variable. As I am operating with only 66 *Level 2* units (country-years), this means that the effect I significant, despite the availability of a rather limited set of discrete contexts.

Finally, an interaction between the *Income* and *GDP1000* is also revealed. This demonstrates a significant effect. The below figure demonstrates how belonging to different income-groups, and the national context might affect the support for redistribution. It show that those holding a high level of income, becomes more supportive of redistribution, when the level of *GDP1000* increases. At the same time, it should be noted that this effect is not especially substantial – it does not make up for the negative effect of *Household income* as a predictor for how the support for redistribution is shaped.

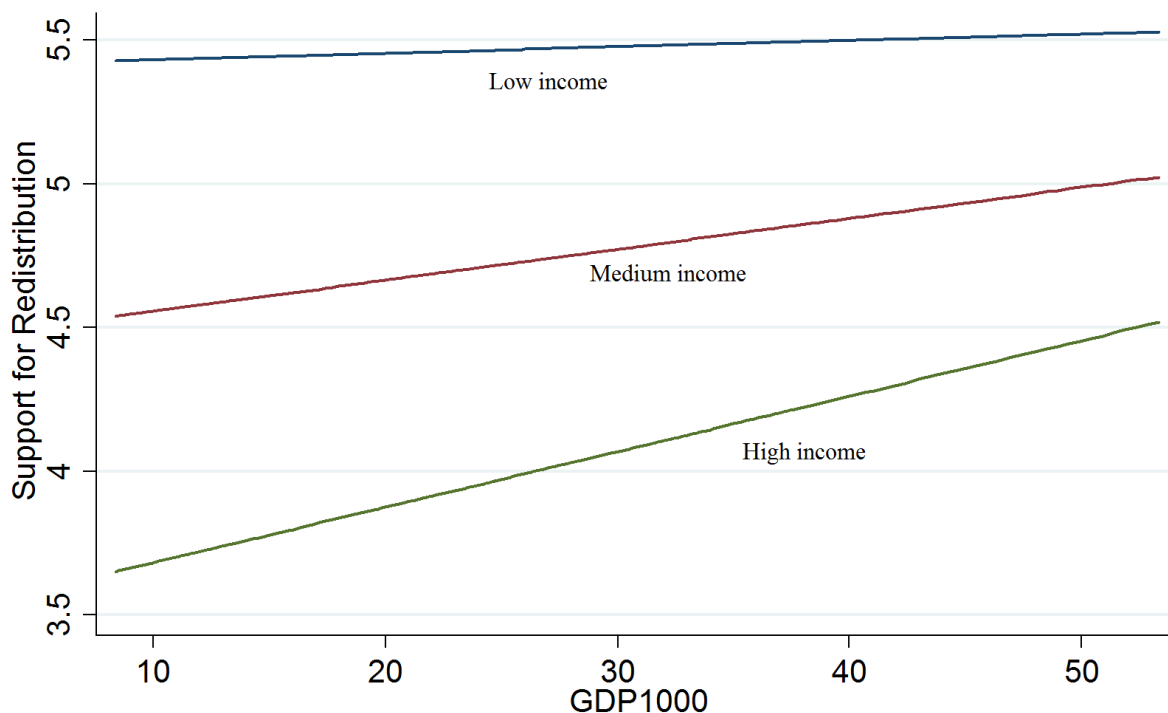


Figure 5.1: Interaction between level of national income, and household income. Top line shows the effect of increased GDP1000 for those with a low income. Middle line for those with an average income, and the bottom line describes those with a top-level income.

The above figure demonstrates the impact of national income in an interaction with the level of household income. It also demonstrates how income by itself affects the support for redistribution. The lowest line shows the impact for those holding a top income, while the top line demonstrates the effect for those with the lowest income. This means that the difference between the top and bottom line, show the relative difference between groups in their support for redistribution. Even when there is a high level of GDP, the difference between the top- and bottom-income in their support for redistribution, makes up two points in difference on the ten-point dependent variable, which is a substantially larger effect than the impact demonstrated by pre-transfer economic inequality.

6 Discussion and conclusions

In the following chapter I will discuss, summarize, and conclude this thesis. Before the conclusion, there will be a short section describing how further research on the effect of inequality might best be approached.

6.1 Review of theoretical findings

H1: Higher levels of pre-transfer economic inequality leads to increased support for redistribution.

This hypothesis is conformed, in that a positive, if slight effect of pre-transfer economic inequality on the support for redistribution is revealed through the modelling. That the performed analysis includes other mediating factors for the support of redistributions, implies that M-R logic is robust even when controlling for other variables which are expected to shape the level of support for redistribution.

While the unveiled effect is in line with the original formalization of M-R logic, the substantial impact is less impressive. In chapter 4, a quick empirical review was carried out, and it was demonstrated that even if there seemed to be a slight positive effect of the average level of pre-transfer inequality on the support for redistribution, it did not seem to be a particularly substantial relationship. Through the multilevel analysis the effect of pre-transfer economic inequality is not found to be very strong, after other predictors has been controlled for as well.

The choice of reviewing OECD countries is based on the notion that a certain level of development and democracy is needed to facilitate the M-R response to economic inequality, which is in line with findings by Lee (2005) and Kenworthy and Pontusson (2005), and this might explain part of the reason why these findings are shown to be significant.

As I discussed in the summary of the results, other predictors seem to have a greater impact than M-R logic – household income seems particularly important as a predictor for how the support of redistribution is shaped. But this also goes in line with notion of rational choice as a primary predictor for the support for redistribution. That an significant effect pre-transfer inequality is demonstrated, indicates that the logic presented by Meltzer and Richard (1981) also translates into political opinion, in a setup where the response is tested in contexts with variation between them.

H2: Higher levels of post-transfer economic inequality leads to increased support for redistribution

One of the primary tests in this thesis, is of the impact of post-transfer inequality on the support for redistribution, as an alternative to pre-transfer economic inequality. No significant effect of the post-transfer inequality was uncovered, and there seems to be no connection between post-transfer economic inequality and the support for redistribution. There are several reasons why this test is relevant. One line of enquiry is what facilitates the response to inequality. Post-transfer inequality describes the level of economic inequality after taxes and transfers. That this measure does not show an effect on the support for redistribution, implies that people do not seem to take into account the perceived level of economic inequality, during the formation of an opinion on what level of redistribution there should be. As pre-transfer inequality is demonstrated to be a significant predictor, this implies that M-R logic and rational choice plays a larger role, than the impact of perceived economic inequality.

Post-transfer inequality does not exhibit a significant effect in my modelling, but this might also be because it is a measure which is badly fitted for comparison between contexts. As I have discussed, tax-regimes and welfare-efforts will vary between countries. If Dallinger (2010) and Finseraas (2008) are correct in their assessment that M-R logic can be employed when using post-transfer data, this ignores the fact that various types of welfare-regimes, and tax-regimes will affect what further redistribution actually implies for the individual.

H3: There is a negative relationship between the level of household income and support for redistribution.

The final way in which the M-R logic is tested in its direct form, is through the household income-variable. The linear version of the variable shows a significant negative effect, which does go in line with M-R, in that rational actors are adverse against losing their wealth. This is the individual-level variable which is of primary interest, and shows a clear negative effect on the support for redistribution. While there are some methodical issues with this variable, it is interesting, in that it shows more direct effect on redistribution than the national level of pre-transfer economic inequality does, which also indicates that it is a clear predictor for what an individual believes is the correct level of redistribution.

That people support redistribution based on their own income, is in line with earlier research on redistribution (Dallinger, 2010; Finseraas; 2008; Dion and Birchfield, 2010), and also reaffirms the rational choice approach in understanding how the support for redistribution is

shaped. It is interesting to note that while the impact of pre-transfer economic inequality, and an increase in household income, are both expected to affect the support for redistribution based on rational choice, household income demonstrates a much stronger effect. While the negative impact of household income is quite strong, the positive effect of pre-transfer inequality is more muted. This implies that even if both causal links predicts a response facilitated and understood through rational choice, the impact of household income shows a stronger effect. The level of household income also has a greater chance of changing, than the national level of economic inequality, both pre- and post-transfer, which makes it a highly relevant variable.

Even though the bottom-line effect of income is negative, I will return to this variable, as it is involved in an interaction with the GDP.

H4: Micro-level indicators facilitate a re-assessment of the support for redistribution..

Individual-level variables are included to test how the increased or decreased risk of needing the welfare state, impacts the support for redistribution. Women are shown to be more supportive of redistribution, and being unemployed is also shown to have a significant positive effect. It is also revealed that gender has a greater effect on support for redistribution than unemployment. That these effect are shown to be significant are in line with research on the field (Cusack et al., 2006; Svallfors, 1997).

The age-variables both show significant effects, but inverse of what I had expected. At the same time, the effect of age is very subdued, and the squared form of it has hardly any effect at all, which means that little can gathered from this finding on the substantial level.

Church-attendance and membership in a trade-union follow the expected effect. The effect of religious attendance is in line with earlier findings, amongst those of Finseraas (2008) and Scheve and Stasavage (2006) which show that going to church might lessen the support for redistribution, since it serves as an alternative safety-net, lessening the individuals reliance on the welfare state. Being part of a trade-union is shown to demonstrate a positive effect on the support for redistribution.

That individual-level variables also affect the support for redistribution, also reveals an effect which is in line with rational choice-logic, if one extends this approach to also include the notion of risk as a predictor for the support of redistribution. While the impact of individual-level variables, outside of the income-variable, is not directly related to M-R logic, it also serves as

a control for whether a country has a large group of unemployed people, or others who more or less have a need for the redistributive efforts of the state.

H5: An increase in the level of GDP lessens the support for redistribution.

This hypothesis is based on GDP as a macro-cue in the formation of the support for redistribution. This variable is found to be insignificant. The prescribed hypothesis implies that economic wellbeing affects the support for generalized welfare-attitudes, as higher national earnings are associated with greater economic safety and stability. My operationalization relies on the interplay between economic performance and support for redistribution. Theoretically speaking, it seems that the people do not see a lesser need for redistribution, in times of solid economic performance, at least in the employed data. The hypothesis states that increased economic performance should lessen the support for redistribution, but this effect is not traceable in the statistical material, and implies that people in the reviewed context do not use this as a cue for whether there is need for more redistribution.

Earlier research has found that economic performance plays a role in the formation of public opinion, but such an effect is dependent on a direct link between the macro-variable and micro-level. That a significant effect of GDP on the support for redistribution, is not found, goes against Dallinger (2010) as an example, but this might also be due to a lacking association between the two in the countries I have reviewed. A primary reason why I wished to investigate the impact of pre-transfer economic inequality on the support for redistribution, is that they are conceptually and theoretically linked. The support for redistribution can be directly framed as a response to the level of inequality, while the connection between economic performance and the support for redistribution is less direct. In the original formalization of the *Government protection hypothesis*, Blekesaune (2007) investigates the link between unemployment and support for welfare-policies, which might provide a more direct association, than what GDP and support for redistribution does.

H6: There is a positive linear relationship between the level of public expenses as a percentage of the GDP, and the support for redistribution.

This is another hypothesis which does not gain support. The primary reason this variable is included, is to test whether actual welfare-expenses has an effect on the support for redistribution. The primary reason I have included it, was a control for how the welfare-efforts might affect the support for redistribution.

As is pointed out by Larsen (2008) there are differences between countries in how deserving and underserving groups are assessed. A country might have a high level of public expenditure, even though redistribution is an unimportant issue in the national context. There might be a high demand and support for issues which goes outside the sphere of redistribution and how it is assessed. The level of public expenses and the post-transfer level of economic inequality are both clearly dependent on how the welfare state is organized, but these variables do not reflect how this organization is carried out. Public expenditure will target people differently, between the different national context, and is therefore a weak predictors in this form, which might also explain the lack of significant results.

H7: A high level of national economic safety decreases the negative effect of household income on the support for redistribution.

One of the more interesting findings in this thesis, is the interaction between the level of personal income, and the level of national wealth. The interaction (Shown in figure 6.1) reveals how rich people in very rich countries, are more adverse to inequality than rich people in less wealthy countries. Statistically speaking, this is not a response to the actual level economic inequality, but rather an interaction between national and household income on support for redistribution. This demonstrates how the support for income redistribution might be understood, based on the national setting, but independently of the actual level of economic inequality.

How can this effect be understood? The low and median income groups are still more supportive of redistribution overall, but this effect interaction demonstrates that the national income mediates the negative impact of household income on the support for redistribution.

One possible explanation for this finding, is the notion of reciprocity as a determinant for the support for redistribution, as it is discussed by Leon (2012). It might be that an individual in a setting of higher national economic safety, is less concerned about their own income, and more concerned about whether the level of redistribution is fair.

Table 6.1: Review of hypotheses.

Review of hypotheses	
<i>H1: Higher levels of pre-transfer economic inequality leads to increased support for redistribution.</i>	✓
<i>H2: Higher levels of post-transfer economic inequality leads to increased support for redistribution</i>	✗
<i>H3: There is a negative relationship between the level of household income and support for redistribution.</i>	✓
<i>H4: Micro-level indicators facilitate a re-assessment of the support for redistribution.</i>	✓
<i>H5: An increase in the level of GDP lessens the support for redistribution.</i>	✗
<i>H6: There is a positive linear relationship between the level of public expenses as a percentage of the GDP, and the support for redistribution.</i>	✗
<i>H7: A high level of national economic safety decreases the negative effect of household income on the support for redistribution.</i>	✓

6.2 Summary of hypotheses

In the table 6.1, the different hypotheses are reviewed. The primary findings unveiled, is that rational choice, through the original formulation of the M-R logic, and based on pre-transfer level of inequality - and personal income, are the primary predictors for the support of redistribution uncovered in the analysis. Perceived economic inequality, based on the level inequality after taxes and transfers does not exhibit an significant effect, and neither does other proposed macro-factors, such as the level of national income or public expenses. Micro-level indicators does seem to modify the support for redistribution, based on how they affect the need for welfare state. A confounding effect is found in the interaction between national income and the impact of household income on the support for redistribution; it seems like a high level of national economic safety mediates the negative impact which household income demonstrates on the support fro redistribution.

6.3 Contrasting pre- and post-transfer inequality

Why does pre-transfer inequality shows a significant effect on the support for redistribution while the post-transfer level of economic inequality does not? M-R logic in its original formulation is based in a simple rational choice-setup: A person is asked whether they support

a redistribution effort. The average respondent then answers yes, because she holds an median income, and realizes at the same time that those in the upper strata is taking relatively large piece of the pie. In a free economy, income will be skewed so that the minority at the top holds a greater part of the wealth. If there is increasing inequality, and the rich are getting richer, she would reply by supporting further redistribution, as this would be a way to gain from the wealth of the emerging upper class.

If one employs M-R logic in a post-transfer situation, the situation becomes much more complex. First off, the differences between the top and bottom income level is narrower. The top strata has already parted with some of their wealth, lessening some of the distance between the top and bottom. The average voter is also less secure about whether she will see a gain from further redistribution. She knows that she is paying taxes, and that those with an above-average income does as well, but she is also less sure about a further redistribution effort will affect her. Will she for example see a gross gain or loss, if the tax-rates are increased. In the contexts I have employed, a number of different tax-regimes are probably in play, confounding the effects even further, which then means that the post-transfer level of economic inequality, reflects a situation which is less to ideal to compare between context.

While pre-transfer economic inequality does show a significant effect on the support for redistribution, it is also necessary to assess the context which this response is formed within. As has been found by Kenworthy and Pontusson (2005), the expansion of the welfare state has largely matched the rising level of economic inequality in developed democracies. This means that in those countries where there is a widening gap of pre-transfer inequality, this is evened out by continued redistribution, which might explain why there is more support for redistribution efforts in countries where there is a larger level of pre-transfer economic inequality. When this variable exhibits an positive effect in the modelling, this might be an expression of support for an ongoing redistribution effort.

6.4 Factors outside rational choice and their impact on the support for redistribution

While this thesis is primarily based in a rational choice backdrop and how different measures of economic inequality affects the support for redistribution, one issue which has only been percussively investigated is the notion of reciprocity as a determinant in the support of redistribution. Recent research has found support for reciprocity as a determinant in economic theory, and this might explain some of the variation in support for redistribution (Leon, 2012). About 94 percent of the variation on my dependent variable is found on the individual-level,

and it might be that the focus on the macro-level, as the determinant for support for redistribution, is less than ideal. The strongest determinant on the support for redistribution has been shown to be the level of household income, which is an individual-level variable. While no statistical model can be expected to explain all the variation found on a phenomena, it must also be considered that the nature of the statistical method in this thesis and the employed theory is limited in how much it can explain. M-R logic explains an ascent toward redistribution, but as the modelling has revealed, this is simply a slight tendency, and it seems not to be what shapes the bottom-line response to inequality.

While further research is needed to identify what lies behind the remaining variation found on the macro-level, between different contexts, it might be that a large part of it is due to the fact that very different contexts are included in the same analysis. Rational choice is dependent on solid information for the individual making an assessment, and information and framing might play a significant role in how an issue like economic inequality is understood. There might a number of factors which affect the way in inequality might be assessed, and these are not necessarily linked to the actual level of inequality as well. All country-specific contexts and effects are not possible to include in a multilevel analysis, and might also explain why the introduced macro-variables has so little impact on variance between contexts. The test of other macro-factors was facilitated to account for the context for which the support for redistribution is shaped within, but these variables are also perhaps too superficial to gain proper insight into how economic performance and national welfare-issues are expected to shape the support for redistribution. As I have already mentioned, it is expected that the level public expenditure in some way or form is expected to impact some of the support for welfare-policy. A low or high level of expenses in a particular policy-area, should at least be expected to affect the demand for some adjustment in the welfare state, but these effects are probably not captured by a variable describing the general welfare state-expenses such as I have tested them.

6.5 This thesis as a contribution to the current research

My primary approach in this thesis, has been to facilitate a thorough investigation of how economic inequality affects the support for redistribution in a smaller and more homogenous group of countries, than other similar research-approaches (Dallinger, 2010; Dion and Birchfield, 2010). By comparing OECD countries which has been included in the WVS, and integrating several rounds of the survey, I have been able to investigate a simple causal link in an extensive data-set; How does the level of economic inequality directly affect the support for

redistribution? By focusing on this group of countries, I build on earlier research, which has found that the response to economic inequality in the form of the support for redistribution, is most apparent in developed democracies (Lee, 2005; Brooks and Manza, 2006). I have also integrated more recent and robust economic inequality data, and been able to test both pre- and post-transfer versions of it. The primary finding is that there is a slight positive effect of pre-transfer inequality on the support for redistribution, which is in line with M-R logic in its original formulation. This reaffirms earlier research (Dion and Birchfield, 2010), but this also shows that the demonstrated effect is not particularly impressive. In a group of countries where this effect is expected to be a primary determinant, it does not demonstrate a particularly substantial effect. Post-transfer inequality is also tested as predictor for the support of redistribution. This does not show a significant effect, which goes against Finseraas (2008) and Dallinger (2010). This might be due to a number of reasons. As it is not in line with the original M-R logic this creates a less solid foundation for how this might form the support for redistribution. There are also some issue on the conceptual level; one is how redistribution efforts will vary between contexts. The post-transfer level of inequality reflects how the income distribution is after taxes and transfer, but does not reflect the severity of the transfer-effort, or whether further redistribution can be expected to have a similar effect between contexts.

In summarizing the effects of the variables, and the reviewed hypotheses, the final models has not shown great power of explanation. My chosen approach of reviewing fairly similar countries, in terms of development and democracy has strengthened the theoretical expectations. Even though there can be substantive differences between countries in what people assess the correct level of redistribution should be, it is also possible that the assessment on average will draw towards the mean. A similar effect can be expected if one compares the support for left or rightist parties between countries. Even though the context of the left and right will be very different from country to country, it can be expected that a similar distribution is shown between them. Employing M-R logic also leaves out that redistribution is an important political issue in many countries, reflecting an important cleavage of the political landscape. What one believes is the correct level of redistribution can be framed as an economic issue, but it can also be related to what a person believes is the correct level of government intervention.

This thesis also serves as a reminder of how important correct data is when employing rational choice-theory. That I have employed recent and robust, pre- and post-transfer inequality data, on the same data-set also contributes to the current understanding of how economic inequality might affect public opinion. As the analysis demonstrates, the response to the level of economic

inequality before and after taxes and transfer is not comparable in my data. This advises future research to be accurate in the employment of economic inequality-data. A measure like economic inequality is closely tied to the welfare state and policy – but it also matter how it is understood and contextualized. If one relies on M-R logic to understand the impact of economic inequality, it is particularly important to employ correct pre-transfer data.

6.6 Suggestions for further research

One of the recent studies, listed in the review of existing research on the impact economic inequality, examined the relationship between economic inequality and the policy-mood in the USA over an extended period (Kelly and Enns, 2010). In this article the change within the same setting is examined over time. In future research, it would be interesting to review how the policy mood changes over time in other countries, with other welfare-traditions than what is found in the USA. As I have mentioned, one confounding issue in this thesis is that countries are compared, regardless of their tax-regime, and the actual level of redistribution. If a longitudinal analysis of one country was carried out, this would imply that it would be possible to control for the effects of tax-regimes and what welfare state arrangements are in place as well. This would allow an assessment of the dynamic relationship between economic inequality and support for redistribution in a setting where tax-levels and welfare can be controlled for. By carrying out an investigation similar to that of Kelly and Enns (2010), but in the context of the different welfare state regimes – as specified by Esping-Andersen (1990) for example, this would allow a more direct assessment of what the dynamic relationship between economic inequality and support for redistribution is.

Another aspect which is briefly touched upon in this thesis is how reciprocity rather than rational choice might facilitate a reaction to economic inequality. What rational choice leaves out, is the notion of fairness as a predictor for the support of redistribution. By employing rational choice, one runs the danger of evaluating everyone as attempting to maximize their only their own utility, and not the utility of others. One very interesting approach would be to try an unveil those mechanisms which facilitate reciprocity as a response to inequality on a more general level. Factors which facilitates reciprocity are difficult to quantity, but would perhaps also explain more of the variation in the support for redistribution, than what rational choice has shown to do in this thesis.

7 References

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8 Appendices

Table 8.1: Descriptive statistics for the different Level 2, country-year units.

Country, Year	Aggregate support for redistribution	Pre-transfer Inequality	Post-transfer Inequality	GDP1000	Public Expenditure
Australia, 1995	5.42	41.14	29.10	26.26	16.2
Australia, 2005	5.35	42.93	31.06	33.61	16.5
Austria, 1990	5.58	46.84	30.09	24.88	23.8
Austria, 1999	6.40	43.34	26.17	29.69	26.5
Belgium, 1990	5.11	30.16	23.20	24.45	24.9
Belgium, 1999	5.48	47.78	25.89	28.31	25.3
Canada, 1990	4.22	38.39	27.26	27.31	18.1
Canada, 2000	5.64	43.11	31.09	31.12	16.5
Canada, 2006	5.38	43.00	31.92	35.00	16.9
Czech Republic, 1998	4.82	35.56	25.37	16.15	19.1
Czech Republic, 1999	5.53	36.55	25.45	16.04	19.1
Denmark, 1990	4.55	46.68	25.81	25.11	25.1
Finland, 1990	4.37	36.77	21.12	23.48	24.1
Finland, 1996	6.83	39.73	21.70	21.97	17.5
Finland, 2000	6.44	44.53	23.85	26.17	24.2
Finland, 2005	6.01	48.65	25.20	29.92	26.2
France, 1990	5.85	38.81	28.70	23.82	25.1
France, 1999	6.13	44.43	24.30	26.70	28.6
France, 2006	5.94	51.17	28.00	29.81	30.1
Germany, 1990	4.23	44.93	25.70	24.61	22.5
Germany, 1997	6.08	46.15	27.59	28.04	26.6
Germany, 2006	6.66	51.82	28.45	31.38	27.3
Great Britain, 1990	4.47	46.35	31.97	23.63	16.7
Great Britain, 1999	5.32	47.94	34.24	27.75	18.6
Great Britain, 2006	5.58	47.77	34.60	32.69	20.5
Ireland, 1990	4.64	45.45	32.94	16.22	17.3
Ireland, 1999	4.83	43.27	33.02	27.27	13.4
Italy, 1990	5.12	42.76	30.30	23.62	19.9
Italy, 1999	4.98	46.44	34.60	26.36	23.1
Italy, 2005	5.07	45.97	33.80	28.17	24.9
Japan, 1990	5.30	35.57	28.66	24.75	11.1
Japan, 1995	5.50	38.67	27.75	27.14	14.1
Japan, 2000	5.19	38.25	31.27	27.86	16.3
Japan, 2005	4.83	37.50	30.28	29.74	18.5
Mexico, 1990	5.03	48.59	46.60	9.797	3.3
Mexico, 1996	5.10	50.94	48.31	9.949	4.3
Mexico, 2000	5.86	50.09	49.13	11.49	5.3
Mexico, 2005	4.91	47.56	45.80	12.30	6.9
Netherlands, 1990	4.84	39.40	25.79	25.40	25.6
Netherlands, 1999	4.84	40.17	24.12	31.41	19.8
Netherlands, 2006	5.42	50.38	26.75	35.10	20.7

New Zealand, 1998	5.59	42.84	33.03	20.72	21.3
Norway, 1990	4.95	40.98	23.33	31.62	22.3
Norway, 1996	5.70	46.16	23.80	37.52	23.4
Norway, 2007	5.92	45.64	24.64	48.00	21.6
Poland, 1999	4.90	39.91	29.55	10.73	20.5
Poland, 2005	4.20	47.97	32.00	13.30	21
Slovenia, 2005	6.26	40.97	23.10	22.52	21.1
South-Korea, 1996	4.33	34.14	30.09	15.76	3.24
South-Korea, 2001	4.46	33.91	29.69	18.73	4.8
South-Korea, 2005	4.42	35.48	30.94	21.96	6.51
Spain, 1990	6.00	35.41	27.54	19.08	19.9
Spain, 1995	5.49	44.80	34.50	20.49	21.4
Spain, 1999	5.89	41.81	33.49	23.15	20.2
Spain, 2007	5.33	37.13	31.24	27.98	21.1
Sweden, 1999	5.06	48.63	22.10	24.70	32
Sweden, 2006	4.91	46.74	23.70	32.32	29.1
Switzerland, 1996	6.18	40.44	29.24	32.01	17.5
Switzerland, 2007	7.38	46.87	29.93	36.71	20.2
Turkey, 1996	5.89	43.33	43.78	8.378	5.6
Turkey, 2007	6.01	44.87	39.75	11.58	9.9
USA, 1990	4.21	43.00	33.39	31.72	13.6
USA, 1995	5.52	45.90	35.50	33.41	15.5
USA, 1999	5.24	46.99	37.09	36.94	14.5
USA, 2006	4.81	47.25	37.09	41.83	16
Luxemburg, 1999	4.24	38.69	26.37	53.32	20.9

Public expenditure is presented as a percentage of the GDP.

Table 8.2: Descriptive statistic, individual-level, unfiltered.

Variables	Mean	S.D.	Min.	Max.	N
Support of income redistribution	5.39	2.73	1	10	99185
Woman	0.52	0.50	0	1	99047
Unemployed	0.44	0.50	0	1	95157
Union member	0.18	0.38	0	1	96438
Religious attendance	3.91	2.53	1	8	96840
Household income	4.95	2.58	1	10	84501
Age	44.05	16.96	15	98	98916

Descriptive statistics for everyone who has answered the dependent variable and one of the other variables. In the actual analysis, only those who has data on all variables has been included.