The Origins of Redistributive Policy Preferences:

Political Socialization with and without a Welfare State

Anja Neundorf
University of Nottingham
Email: anja.neundorf@nottingham.ac.uk

Stuart Soroka
University of Michigan
Email: ssoroka@umich.edu

Paper accepted for publication in *West European Politics*

August 24, 2017

Abstract

Research on the impact of the macro economy on individual-level preferences for redistribution has produced varying results. This paper presents a new theory on the presence of an expansive welfare state during one's formative years as a source of heterogeneity in the effect that macroeconomic conditions have on individuals' preferences for redistributive policy. We test this theory using cohort analysis via the British Social Attitudes surveys (1983-2010), with generations coming of age between the end of World War I and today. Findings confirm that cohorts that were socialized *before* and *after* the introduction of the welfare state react differently to economic crises: the former become less supportive of redistribution, while the latter become more supportive. Our research sheds light on the long-term shifts of support for the welfare state due to generational replacement.

Keywords

Redistributive policy; public opinion; cohort analysis; political socialization; Great Britain.

Redistributive policy is a core function of all developed democratic states, and it has been particularly salient in the wake of the Great Recession, the Occupy movement, and tensions in the Eurozone. Have these events resulted in shifts in redistributive preferences? Recent work suggests that the current economic crisis has not fundamentally changed either welfare state policy, or citizens' demands for more state intervention (Kenworthy and Owens 2011, Soroka and Wlezien 2014, Margalit 2013, Bermeo and Bartels 2014). This is not to say that there is no change – there is a good deal of work showing long-term trends in redistributive preferences over time (Page and Shapiro 1992, Durr 1993, Stevenson 2001, Erikson et al. 2002; Soroka and Wlezien 2010). But existing work suggests a good degree of stability as well.

What accounts for change and stability in individuals' redistributive preferences? This question has produced a vast and valuable body of work examining how and why citizens prefer more or less redistributive policy (and, as a consequence, the level of redistributive policy pursed from one country to the next, and/or over time). In this article, we seek to add to that literature, focusing on the effect of the national economy on individuals' redistributive preferences. Research on these contextual effects on individuals is not new. But studies testing the impact of the national economy on voters' redistribution preferences have produced contradictory evidence. Some argue that national economic hardship leads to an increase in demand for government protection (Blekesaune and Quadagno 2003; Blekesaune 2007; Kam and Nam 2008), while others find economic crises cause people to be *less* supportive of redistributive policy, less concerned with income inequalities, and more focused on their own self-interest (Alt 1979; Durr 1993; Stevenson 2001). We argue that both may be true, albeit at different times and for different people, whereby the existence of a welfare state is crucial in determining the direction of the impact of economic hardship on redistribution preferences. Demand for government protection can only increase in times of

crises if people have a welfare state to turn to. If a welfare state does not exist, we expect the opposite effect: people become more self-interested and less solidarity for those less well off.

We expect that this dynamic plays out not just concurrently, but through past experience with a welfare state. Indeed, we expect that individuals' reactions to economic circumstances are not just a consequence of the current context, but also the economic and political contexts in which individuals come of age. We thus draw on work on political socialization showing that a range of political values and attitudes are crystallized early in adulthood (Inglehart 1971, 1990; Jennings 1989; Alwin and Krosnick 1991; Sears and Valentino 1997). These studies argue that individuals are most impressionable during their adolescence; and once opinions and identities are formed, they remain relatively stable over a citizen's life cycle. Our aim below is to transfer this logic to the question of social policy preferences. We thereby rely on an age, period, cohort (APC) analysis that allows us to disentangle the effect of current economic conditions from the formative experience of different generations of British voters; we compare individuals who came of age before the rise of the welfare state with those who came of age in more recent decades. This account of redistributive preferences helps explain long-term stability in individual-level redistributive preferences. It allows for aggregate-level longitudinal change, through generational replacement. It also accommodates short-term change in preferences, in response to economic conditions – albeit with the expectation that short-term change will be conditioned over the long term by formative-year experiences with, or without, a welfare state.

We begin by reviewing the existing literature on redistributive policy preferences, and on 'socialization effects', in which our welfare state hypothesis is situated. We then discuss the British Social Attitudes (BSA) surveys, fielded (nearly) annually from 1983 to 2010. These repeated cross-sectional surveys include respondents coming of age between 1916 and today, covering an exceptionally interesting and variable time in modern British history —

indeed, covering the rise of the redistributive welfare state in its entirety. We find evidence that economic conditions during our formative years play an important role in shaping our economic preferences — preferences that persist throughout later life. We then turn to the impact of policy climate — essentially, the existence of a welfare state as a moderator of the impact of economic conditions. Results support the hypothesis that experience with poor economic conditions at a time where there is little to no welfare state engenders a different sets of reactions to economic insecurity than do the same economic conditions in a time where there is a vast welfare state. These findings are discussed as they pertain to work on political economy, attitude stability, and socialization effects.

The Economy and Redistributive Preferences

Redistributive policy preferences have received a good deal of attention in political science and economic research. There is a considerable body of work focused on the role of redistributive and/or economic policy preferences in electoral decision-making, for instance (Fiorina 1978; Palmer and Whitten 1999; Nadeau and Lewis-Beck 2001; Erikson et al. 2002; Clarke et al. 2004; Duch and Stevenson 2008; Norpoth et al. 1991); and given the importance of economic and redistributive policy in elections, it should come as no surprise that a growing literature also shows that citizens' preferences are an important factor shaping governments' choice of redistributive policies (Brooks and Manza 2007; Hamann and Kelly 2010; Wlezien 2004; Soroka and Wlezien 2012). There is of course also a considerable body of work that explores redistributive preferences in their own right (for a recent review see Alesina and Giuliano 2011).

One long-standing body of work focuses on redistributive preferences as the product of a simple calculation of individuals' expected future income and anticipated tax returns (e.g. Meltzer and Richard 1981). In recent years, research on 'risk exposure,' measured mainly by

skills and occupation sector, has received a lot of attention, and added to existing individual-level models (e.g. Iversen and Soskice 2001; Cusack et al. 2006; Rehm 2009). Both bodies of work — on the basic calculus of redistributive policy support, and on risk exposure — point in the same direction: voters are self-interested, and those who are or are more likely to become recipients of welfare state benefits will be more supportive of redistributive policies than those who are less likely to receive them (e.g. Hasenfeld and Rafferty 1989; Bean and Papadakis 1998; Alesina and La Ferrara 2005). This widely-held view of redistributive preferences assumes individuals to be risk-averse, rational and self-interested.[1]

Two competing hypotheses

The exiting literature has nevertheless recognized that self-interest alone cannot explain preferences for redistribution — there are simply too many people who are supportive, or unsupportive, of redistribution even when it is disadvantageous to them personally. There is accordingly a considerable body of work focused on additional drivers of redistributive support. The recent economic recession has sparked a renewed interest in this theme. In particular, it has encouraged us to ask, how are redistributive preferences likely to react to economic crises?

The literature points in two directions. First, economic hardship should lead to increased support for redistributive policy. This could be a product of a greater number of individuals directly (or indirectly) experiencing hardship; it may also be that the proportion of individuals who view themselves as 'at risk' increases alongside aggregate-level hardship.

[1] There is one additional individual-level approach not reviewed in detail here, because we do not investigate it below. This alternative approach focuses on the notion that general ideological predispositions are critical to individuals' welfare state attitudes. This approach has been particularly prevalent in the literature on Americans' welfare state attitudes. See, e.g., Feldman and Zaller (1992); Jacoby (1994); Margalit (2013). However, our focus is on the national economic context rather than ideology. We will discuss this point further in the concluding section.

Periods of economic insecurity and economic deprivation may therefore lead to stronger public support for leftist social policies (e.g. Lipset 1968; Gilens 1999); and this claim finds some support in the literature(Blekesaune and Quadagno 2003; Blekesaune 2007; Kam and Nam 2008). This work suggests that in times of (aggregate-level) economic success, the expected risk of an income or job loss is relatively low and hence so too is support for redistribution. On the other side, during economic crises individuals feel more at risk of losing employment/income, and thus demand more redistributive policy. We refer to this possibility, where aggregate-level economic hardship leads to higher demand for social protection, as the **government protection hypothesis**.

There is however a growing body of work that suggests the opposite dynamic: economic crises cause people to be less supportive of redistributive policy, less concerned with income inequalities, and more focused on their own self-interest (Alt 1979; Stevenson 2001; Soroka and Wlezien 2010). Durr's central hypothesis is that a liberal policy agenda "does not come cheap" (1993: 159) and he consequently describes generous welfare as a luxury good. If money becomes scarce in times of national economic crises, its value relative to other goods (e.g., the utility gained by contributing to the betterment of strangers) increases and hence individuals are expected to be less willing to spend this scarce resource on welfare programs. So aggregate-level support for redistributive policy may actually decline in periods of economic hardship. We refer to this as the **luxury good hypothesis**.

Note that these two hypotheses suggest very different perspectives of redistributive policy support. The government protection hypothesis emphasizes those willing to give in order to cover for possible economic deprivation of oneself and others. The luxury good hypothesis emphasizes those who are more deeply self-interested, i.e., less willing to give part of their own personal income in times of crises (even when they themselves may be at risk). Of course, both types of individuals will exist at any given time. But the literature is

currently divided on which is more prevalent; and indeed findings are divided between the two. This may partly be because different studies focus on somewhat different macroeconomic measures. It may also be because a good number of analyses focus on aggregate-level dynamics, and miss individual-level heterogeneity. But even individual-level models have yet to explore the possibility that we focus on below: the role of the welfare state, in one's youth, as an enduring moderator of the impact of economic conditions on redistributive preferences.

The welfare state, economic crisis, and redistributive preferences

Our main theoretical argument is that the impact that economic change has on individuals' redistributive preferences has changed over time, with the rise of the welfare state. Work on welfare politics already points to the possibility that as welfare states develop, citizens will come to expect different things from governments. Cross-national research has shown that attitudes towards welfare polices and notions of solidarity are partly a product of institutional characteristics and general welfare regimes (see e.g., Korpi 1980; Edlund 1999; Esping-Andersen 1999; Svallfors 1997; Arts and Gelissen 2001; Pfeifer 2009; Larsen 2007; Jaeger 2006, 2009; Dallinger 2010). The empirical literature has been somewhat concerned with issues of causality, since it is in most cases not clear whether preferences precede or follow policy (see Blekesaune and Quadagno (2003) for a discussion). Welfare states are in part the product of public preferences for financial protection, after all. The question of which came first, preferences or policy, is of peripheral importance here, however — our interest is in the possibility that the *existence* of a welfare state conditions individuals' ideas about government responsibility when the economy falters, i.e., it encourages a shift in what citizens expect from government. The impact of economic conditions on public preferences for redistribution may, in short, be moderated by the (non-)existence of policies designed to protect individuals from economic crises.

Note that this expectation is in line with work suggesting that past economic experience, and perhaps especially the experience of economic crisis, can matter for attitudes towards redistribution (e.g., Corneo and Gruener 2002; Guillaud 2013; Gonthier 2017; Piketty 1995). There also is work suggesting the lasting impact of political institutions on preferences, leveraging in particular the experiences of East and West Germans before and then after unification (e.g., Alesina and Fuchs-Schündeln 2008; Svallfors 2010). Like this past work, we argue for the relevance of past experience on current attitudes, albeit in interaction, and for an even more extended period of time.

Our expectation, broadly speaking, is as follows. Experiencing an economic crisis in a period when a person has to fend for herself produces a set of beliefs (i.e., self-reliance) that tend to reduce welfare state support (following the logic of the **luxury good hypothesis**), while experiencing an economic crisis in a period when there is a welfare state upon which people can rely on engenders increased support for state-run redistribution (following the logic of the **government protection hypothesis**). Restated in the form of a **welfare state hypothesis**: Individuals who face general economic hardship at a time when there is an expansive welfare state come to expect/support state programs that help those in financial need. The same is not true for those who experience hardship in the absence of a welfare state.

Formative experiences of the economy and the welfare state

Today some form of a welfare state exists in all advanced Western democracies. One test of our welfare state hypothesis thus requires that we go back in time before the expansion of government protection, and it is of course rather difficult to study individuals' redistributive preferences in the distant past. Our interests hinge on theories of political socialization, however, and the impact of formative experiences on the development and crystallization of redistribution preferences. There are certainly diverging views as to whether political

attitudes and preferences are stable over one's life span, but the importance of the impressionable or formative years between childhood and adulthood is generally accepted (see e.g., Braungart and Braungart 1986; Sears and Funk 1999; Highton and Wolfinger 2001; Plutzer 2002; Bartels and Jackman 2014). Young citizens, it is believed, are not yet set in their political ways and are subsequently more easily influenced by external factors (Jennings 1989; Alwin and Krosnick 1991; Sears and Valentino 1977).

Hyman (1959) was among the first to draw attention to the necessity of studying processes of early socialization, which he defined as an individual's "learning of social patterns corresponding to his societal position as mediated through various agencies of society" (Hyman 1959: 25). Such agencies can be diverse: family, peers, school, mass media, and — as is the focus of our study — even the state of the national economy. The assumption is that the economic circumstances under which citizens grow up have a lasting effect on the economic and ideological preferences of the respective generation. If, for example, individuals grow up under an economic recession, they might always have a lasting predisposition towards more, or less, redistribution.

We are aware of only three studies that have investigated the socialization effects of macro contexts on redistributive or economic attitudes, focusing on economic risk taking (Malmendier and Nagel 2011), the perceived importance individuals ascribe to fighting rising prices (Ehrmann and Tzamourani 2012) and on individuals' economic preferences respectively (Giuliano and Spilimbergo 2014).[2] This small literature on the socialization

[2] The closest study to ours is the one by Giuliano and Spilimbergo (2014), who also rely on a cohort analysis using data from the US. Their findings support the government protection hypothesis. The difference of our study is the emphasis of the welfare state as a possible moderator of economic crises. In the case of the US the Great Depression in the 1930s sparked the intervention of the state with the introduction of the New Deal. Hence, they are not able to contrast cohorts that experience economic crises with and without state protection. Rather the opposite, in times of enormous economic hardship, the state established itself as a protector, which might explain that the generation of the Great Depression is more liberal than subsequent cohorts. This is in line with our expectation.

effects of macroeconomic conditions is related to a rather broader body of work on socialization and political values. Perhaps the most well-known – albeit contested (see e.g., Clarke and Dutt 1991; Duch and Taylor 1993, 1994) – example is Inglehart's argument that economic security during people's formative years leads to lasting postmaterialist values (e.g., Inglehart 1971, 1990; Inglehart and Abramson 1994).

We aim here to transfer this same logic to preferences for redistributive policy, which we regard as a function of a combination of both current and past economic conditions. We believe that redistributive preferences (partly) crystallize during a period of mental plasticity in adolescents, and then remain in later-life attitudes.[3]

An Empirical Test

We test three hypotheses – the **government protection**, **luxury good**, and **welfare state** hypotheses – using a single country, the UK, over an extended period. Focusing on within-country change has advantages over a cross-national approach, where a greater number of unobserved factors (and histories) exist that could drive both states' welfare regimes and individuals' redistributive preferences. Many different factors could affect individuals' support for redistribution (e.g. political institutions, norms and culture), which are usually unobserved. The advantage of focusing on one country over time is to overcome these unobserved cross-country differences.[4] Our data provide a relatively unique opportunity to test the link between the rise of the welfare state and public preferences for redistribution. In short, we can test a model that allows for the possibility that citizens who experience economic downturns in the UK before the development of the welfare state may

[3] These formative experiences might be transcended by more recent events, of course.

[4] There are some advantages to cross-national analyses, of course, rather than a single case study, not least because results from cross-national work seem to be more clearly generalizable. But the UK is not unique is its 20th-century experiences with either the economy or redistributive policy.

be affected differently than those who experience similar economic circumstances after the development of the welfare state.

We choose the UK as our case study for both pragmatic and theoretical reasons. Pragmatically speaking, the UK is one of the few countries in the world where there has been an available, nationally-representative opinion survey capturing preferences for redistribution over an extended period of time. But the UK is also of particular interest for the kind of analysis we wish to pursue. Like many other countries, the UK has seen a major extension of the welfare state in the post-war era. Debates about the size and scope of the British welfare state have been prominent, and ongoing. Moreover, the UK has been subject to a series of economic crises over the past century, affecting (to various degrees) unemployment and general economic development. In the case of the UK, in short, the argument that there are cohorts that come of age in quite different economic environments seems relatively easy to make. Whether that has any lasting effect of preferences for redistribution is the subject of the empirical tests presented below.

Data & Variables

Previous research has typically focused on either individual-level or contextual variables in accounting for variation in redistributive policy preferences. On the contextual front, studies have tended to use time-series analysis to track changes in macro-economic indicators on aggregated policy preferences (e.g., Durr 1993; Stevenson 2001; Erikson et al. 2002). Individual-level work, on the other hand, tends to ignore the macro-economic context (e.g., Margalit 2013). There are only very few studies that combined these two (Blekesaune and Quadagno 2003; Blekesaune 2007; Kam and Nam 2008). Our research design attempts to add to this short list, combining individual-level and macro-economic factors through hierarchical modeling. We rely here on data from the nationally representative repeated cross-sectional

British Social Attitudes (BSA) surveys, for which data is available annually from 1983 to 2010 (except for 1988 and 1992).[5] The basic logic of our research design assumes that respondents are nested within survey years — for which we include a number of variables representing the current national economic context, varying across the 22 different survey field dates. Respondents are also (cross-) nested in socialization cohorts — the source of our data on past economic experiences. The means by which we assign respondents to cohorts, and add economic contextual variables, is discussed in more detail below.

Measuring Social Policy Preferences

Our main dependent variable is an index based on four regularly-asked questions relating to redistributive policy, emphasizing redistribution conceived as giving to the 'poor' (Cavaille´ and Trump 2015). Those questions are as follows: (1) How much do you agree or disagree that: government should redistribute income from the better-off to those who are less well off? [agree strongly, agree, neither agree nor disagree, disagree, disagree strongly]; (2) How much do you agree that: Ordinary working people do not get their fair share of the nation's wealth [agree strongly, agree, disagree, disagree strongly]; (3) The government should spend more money on welfare benefits for the poor, even if it leads to higher taxes [agree strongly, agree, neither agree nor disagree, disagree, disagree strongly]; (4) If welfare benefits weren't so generous, people would learn to stand on their own two feet [agree strongly, agree, neither agree nor disagree, disagree, disagree strongly]. We rely here on a simple index of these measures, equally weighted, and ranging from zero to 100, where zero implies no support for redistribution, and 100 implies complete support for redistribution (i.e., pro-redistribution on all four items).[6]

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[5] The data are available for download at http://www.esds.ac.uk/findingData/bsaTitles.asp.

[6] Not all questions are asked of all respondents in all years. We accordingly use an index that attributes values to any respondent for whom there are two or more non-missing responses. Doing so increases our working sample considerably (from roughly 44 to 62 thousand respondents); it also makes little difference to our estimates. See the Appendix for basic

We readily acknowledge that there are some weaknesses to using an index to capture policy preferences, but believe that in this case they are far outweighed by the advantages. We note first that the questions capture somewhat different aspects of support for redistributive policy, including attitudes about redistribution generally, about income inequality, about welfare benefits, and about welfare recipients. This variance is by design. We wish to tell a general story about preferences of redistributive to the 'poor', and so want to rely on a measure that is suitably general; and there is an argument in the literature supporting the notion that redistributive preferences are complex, and thus best dealt with using multiple questions (Margalit 2013; see also Ansolabehere et al. 2008) for a discussion on the use of multiple measures). That said, the four measures we rely on here are reasonably strongly related; the four-item scale has a Cronbach's alpha of 0.64, suggesting a reasonable degree of inter-item correlation. In order to test whether the results of our models are affected by using the index, we replicate the models using each item separately (rather than the index as a whole). The results suggest both that findings are not markedly different across measures, and that our index-based results provide a good summary of the item-by-item analyses. As a diagnostic check, we provide these item-by-item analysis in the Appendix.

Measuring Cohorts

As we are interested in generational differences, one of the most important variables in our analysis is the one measuring cohorts. Following standard strategies in the literature, we group respondents into five-year birth cohorts (Fienberg and Mason 1979; Mason et al. 1973; Duch and Taylor 1993). In order to test the impact of economic hardship we match the information of the economic context during the crucial formative years to each five-year cohort.

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descriptive data on the redistribution index over time, as well as estimates of our models constrained to respondents with three or more (rather than just two) non-missing responses to the four items in our index.

We define the formative years between the ages 15-20 for theoretical and empirical reasons.[7] Theoretically speaking, this is an age at which many people make crucial decisions about their occupation, which in most cases determines a person's income and later-life risk exposure.[8] Moreover, economic crises often affect young people in particular.[9] We therefore suspect that the economic conditions at this point in the life-cycle are crucial in crystallizing beliefs about the responsibility of the individual and the role of the state.

The empirical justification for the chosen age-range is based on evidence suggesting the importance of the 15- to 20-year period. Bartels and Jackman (2014) provide an empirical test for what those "critical years" are by analyzing changes in partisanship across different generations. Their findings confirm that the political climate during adolescence has the strongest impact on the development and stability of party identification. We accordingly use 15 to 20 years old as the crucial period. Every respondent who turned 15 during each five-year interval is accordingly grouped into one cohort. To give an illustration: consider for example our first cohort that spans over the years 1916 to 1920. This cohort encompasses respondents born between 1901 and 1905. The oldest in this group (born 1901) had all their critical years within 1916-1920, while the youngest (born 1905) turned 15 in 1920. Using this

[7] Some might argue that socialization happens earlier than 15 or later than 20. In the Appendix we report the results of the main model, reported in Table 2 for different age ranges, matching the economic conditions. We use the following socialization ages of the BSA respondents: 10-15, 15-20, 20-25, 25-30, and 30-35. Table A7 shows that empirically the strongest effects occur at the youngest age of 10-15 years old. The variance component is the lowest and the effect of unemployment and GDP growth is the strongest on current redistribution preferences. These effects then become weaker as we use older socialization ages and vanish at the ages 25 and above.

[8] The typical age to finish schooling is now 16-18, but has been slightly lower in the past.

[9] For example, a recent study by Bell and Blanchflower (2011) found that young people aged 16-24 have suffered disproportionately during the recession.

logic, we assign our respondents into one of eighteen cohorts coming of age between 1916 and 2005.[10]

Measuring Economic Hardship and Welfare State Expansion

To capture the economic context, we attach to each respondent a series of economic indicators, averaged over the five-year interval corresponding to their cohort. There are of course many possible options for economic indicators, but based on previous research we rely on a relatively simple pair of economic variables: the unemployment rate and annual per capita GDP growth.[11] The annual unemployment rate is drawn from the British Office of National Statistic (ONS) data back to 1965, and before that we rely on data reported in Mitchell (1988); per capita GDP growth is based on data from the OECD back to 1970 and Mitchell (1988) before.[12] Table 1 reports basic descriptive data for each of our contextual measures, for each cohort. The table makes clear that there is real variance in the economic context across cohorts. For example, the generation that came of age in the early 1930s experienced extremely high unemployment, while the cohorts that came of age during or just after World War II were mainly affected by low GDP growth.

[Table 1 about here]

Note that for each cohort-level variable there is a current equivalent (not reported in Table 1). That is, we include the five-year average of the unemployment rate for respondents coming of age in a given cohort; we also include the current unemployment rate in the year in which

[10] Note that we cannot simply assign each individual to a annual cohort – we must group cohorts in order for the model to be identified. See the discussion in the Modeling section, below.

[11] The most obvious exclusion from this list is the inflation rate. We exclude it here based in part on concerns about collinearity, and in part on results from preliminary tests in which the two included variables, both in the past and in the present, show systematic relationships with our dependent variable. This was not the case for inflation.

[12] Whenever two separate series are merged, we use backward interpolation – interpolating the newest series backward using percentage changes in the old series – to ensure that there is not a punctuation that is a consequence of merging slightly different data series.

the respondent was surveyed. This way we measure the impact of context both currently, and in a respondents' “impressionable” years.

We capture the expansion of the welfare state very simply: we use a binary variable, equal to 0 for all cohorts up to 1945, and equal to 1 for all cohorts from 1950 onwards. We do so for several reasons. First and foremost, we regard the existence of a welfare state as being related to some combination of contributory and non-contributory programs, as well as a general 'sense' that the state has taken on a set of welfare-oriented obligations. This cannot be easily captured using budgetary measures. But reliable budgetary measures also do not exist over the entire period under study here. The welfare state was only introduced after the end of World War II, and so there are no reliable records of government's social spending until 1947. There also is no highly-reliable budgetary data that spans the entire post-war era (Soroka et al. 2006). Thankfully for our research, the British welfare state came into being over a rather narrow time frame. In 1944, the Education Act; in 1945, the Family Allowances Act, and the National Insurance Act; in 1946, the National Insurance - Industrial Injuries Act; in 1947, the Town and Country Planning Act; and in 1948, the National Assistance Act, the National Health Service Act, and the Children's Act. These were the central policies in the establishment of social security, welfare, health care, education and council housing - and they all occurred over a brief 5-year period. We accordingly rely on a binary variable, which we believe captures well the introduction of the British welfare state.

Lastly, as a control variable we include a variable equal to 1 for cohorts coming of age during one of the two world wars to account for the possibility that the world wars were very powerful formative experiences, economically and otherwise. We accordingly test for a resulting shift in redistributive preferences.

Capturing Individual-Level Characteristics

Existing research on redistribution preferences suggests a number of critical individual-level predictors.[13] These are, for our purposes, viewed mainly as control variables — we need to account for individual-level variation so that we can better isolate generational differences as well as account for individual's economic self-interest. These variables are as follows: (1) age (in years); (2) gender (1=female); (3) education (1=higher education degree); (4) marital status (1 = married); (5) belonging to religious denomination (1=belongs); (6) geographical region (binary variables capturing six regions – Scotland, NE/NW/York/Humberland, East and West Midlands, Wales, SW/SE/Eastern, and London); (7) house ownership (1=owns house); (8) income (quintiles, determined annually); (9) employment status (binary variables for working full-time, and unemployed; reference is not working, i.e. retired, student); (10) union membership.[14] The particular importance of including age is discussed in the following section; though note that it, along with gender, education, income, house ownership, marital status, employment, and region are linked to socio-economic status, and are thus standard predictors of preferences on redistributive policy. Religion and union membership are, based on past work, expected to be related to the ideological predispositions of respondents. We refrain from including partisanship as a predictor, as it is partly endogenous to economic perception and our dependent variable (Page and Jones 1979; Evans and Andersen 2006).

Modeling

The last column of Table 1 reports the mean redistribution preferences for each cohort from 1916-2005. It seems that there is a gradual decline in pro-welfare state attitudes with every new cohort coming into the population. This would contradict our expectations that

[13] The literature on which we base the individual-level predictors included here is vast, but see, e.g., Alesina and Giuliano (2011); Iversen and Soskice (2001); Cusack et al. (2006); Rehm (2009).

[14] Appendix tables report the descriptive statistics of all variables used here.

especially the cohorts of the 1930s that came of age during the Great Depression, but did not have a welfare state to rely on, to be less redistributive. The problem looking just at averages for groups of generations is the confounding factors of age and current economic conditions.

In order to single out factors that induce cohort differences in redistribution preferences it is essential to account for age as well as period effects. The most problematic features of age-related research have to do with the difficulty of separating out the effects of age, (current) period, and cohort (Glenn 2005; Neundorf and Niemi 2014). The three factors cannot be identified in simple cross-sectional survey data, of course, since each factor is (almost) completely determined by the other two. But if we fail to account for all three effects, we cannot know whether an observed economic attitude (Y_{ijt}) of an individual i ($i = 1, \ldots, I$) is because she belongs to a specific cohort j ($C_j;\ j = 1, \ldots, J$) or because of her age (A_{it}) or the current time t ($P_t;\ t = 1, \ldots, T$; which is typically measured by the survey year). To be clear, these three factors are related in the following way:

$$C_j = P_t - A_{it} \qquad (1)$$

The identification of the *linear* APC effects is impossible. Recent advances in social statistical analysis of age, period, cohort (APC) models by Yang and colleagues (Yang 2006, Yang and Land 2006; see also Smets and Neundorf 2014 for a politics application) make clear the advantages of hierarchical modeling to overcome this identification problem. More specifically, Yang suggests the use of mixed (fixed and random effects) models allowing for random-intercepts to account for the cross-classified grouping of cohorts and periods (survey years). The advantage of the HAPC model, as proposed by Yang and her colleagues, is that it estimates the cohort and period effects as random effects, which does not impose linearity. This solves the identification problem.[15] The second advantage of these models is the ability

[15] In our models the grouping of cohorts into five-year intervals also forces these grouped birth-years to have identical effects – this is an additional (more traditional) way to deal with the identification problem in APC-models (Fienberg and Mason 1979; Mason et al. 1973).

to test *why* cohorts (or periods) are different from one another. Modeling cohorts as random effects allows the inclusion of substantively interesting factors such as in our case macro economic factors or the existence of the welfare state to test theoretical expectations about the cohort variability. No other model that currently exists allows doing this.[16]

The rationale behind the cross-classified random intercepts of cohort and period effects is quite simple. Cohorts are usually defined as a group of individuals who were born at the same time and hence grew up under the same political, economic, and social circumstances. As citizens who came of age at roughly the same time, share common circumstances, we can assume the errors in a model explaining their economic preferences are dependent. It is thus necessary to account for this error-correlation by applying random intercept models. Moreover, these cohorts are clustered within the same survey year. In repeated cross-sectional surveys such as the BSA used in this research, "individuals are nested within cells created by the cross-classification of two types of social context: birth cohorts and survey years" (Yang and Land 2006: 86). Hence the models presented below estimate fixed effects for age and other individual-level covariates as well as cross-classified random effects for period and cohort. Once we have taken into account the nested character of the data it is possible to evaluate the influence of context-specific variables – such as the unemployment or GDP growth rate during a respondent's formative years as well as the impact of welfare state expansion – on her redistribution preferences. Such a *hierarchical age-period-cohort (HAPC) regression model* for the index measuring redistribution preferences of the *i*th respondent for $i = 1,\ldots,n_{jt}$ within the *j*th cohort for $j = 1,\ldots,18$

[16] Bell and Jones (2013, 2014a, b) have challenged the validity of HAPC models recently. However, their work has in turn have been contested by a group of 13 social statisticians who defend the HAPC model (Reither et al. 2015a, b). As Bell and Jones (2014a) argue themselves the HAPC model works if we do not assume an underlying liner cohort trend. As we theorize that the cohort effect is driven by fluctuating economic conditions of economic growth and unemployment rates as well as the existence of a welfare state, we do not expect a linear cohort effect

socialization cohorts and the *t*th time period (or survey year) for $T = 1, \ldots, 22$ can be specified as follows:[17]

$$Redistribution_{ijt} = \alpha_{0jt} + \beta_1 * Age_{it} + \sum_{m=2}^{M} \beta_m * X_{mi} + \varepsilon_{ijt},\ \varepsilon_{ijt} \sim N(0, \sigma^2) \qquad (2)$$

We estimate four models below. The first includes only the age of respondents (**Pure APC Model**). The second model — as presented in equation 2 — controls for *m* individual characteristics $(m = 2, .., M)$ $\boldsymbol{X}$ such as income, education and others described above (**Demographic Model**).[18] Most importantly, model 2 includes a random intercept α_{0jt}, which specifies whether the overall mean redistribution preferences vary significantly from cohort to cohort and from period to period. These hierarchical models allow us, then, to capture the contextual effects of period and cohort; they can reveal the extent to which individuals' attitudes are shaped by the both the current economic environment, and that environment during their impressionable years. Consider:

$$\alpha_{0jt} = \gamma_0 + \sum_{l=1}^{L} \gamma_l * Z_{lj} + \sum_{k=1}^{K} \delta_k * P_{kt} + u_{0j0} + \nu_{00t} \qquad (3)$$

where γ_0 is the mean effect of all time periods across all cohorts. u_{0j0} denotes a cohort specific error term ($u_{0j0} \sim N(0, \tau_u)$) and ν_{00t} a time specific error ($\nu_{00t} \sim N(0, \tau_\nu)$). This model includes l $(l = 1, .., L)$ covariates Z that account for economic context during the formative years of respondent *i*. These are assumed to explain intercohort variation in levels of redistribution preferences. The model also includes k $(k = 1, .., K)$ covariates P that take into account the current economic situation. Model 3 is the **Combined Context Model** reports the effects of the current and socialization economic condition on individuals' redistribution preferences. Models 4 tests the interaction between the existence of the welfare state and the economic socialization context, by first using a dummy variable for cohorts that

[17] See Snijders and Bosker (1999: 155-165) for a general introductory discussion of these cross-classified random models.

[18] As this model does not include a random slope-coefficient it is not necessary to center the individual-level explanatory variables (Snijders and Bosker 1999: 80-81).

were socialized before and after the establishment of the British welfare state (**Welfare Exist Model**).

Results

Results from all four models are included in Table 2. The table includes all coefficients in the model except for region.[19] We first focus on the results of the APC components of the model, before turning to the direction of the macro economy on redistribution preferences (testing our two competing hypotheses) and lastly, we discuss the results of the welfare state hypothesis. (We do not discuss all individual-level demographic variables in detail here, but regard these as important control variables only.)

[Table 2 about here]

The first column shows the simple APC model. Results indicate that there is no impact of age. Variance components, reported at the bottom of the table, suggest insignificant variance across socialization cohorts, but significant variance across survey periods (current context). Adding a basic set of demographic controls in Model 2 changes things considerably, however. We will not discuss demographic controls in very much detail here, although there are some results worth noting. Most are in line with past work: support for redistribution increases with union membership and education, and decreases with income and home ownership, *cetris paribus*. Female respondents are less supportive of redistribution in these models, and this is not clearly in line with past work. Diagnostic tests suggest that this result is a consequence of the composition of our index. In particular, even as women are more likely to agree that "government should redistribute income from the better-off to those who are less well off," they are less likely to agree that "ordinary working people do not get their fair share of the nation's wealth." This makes good sense. And as noted above, our main

[19] These are excluded for the purposes of brevity, but are available upon request.

results do not shift when we use individual items rather than the index, and so we continue using the index alone here.

Our principle interest is in the coefficients related to the APC model, of course. In Model 2, increasing age is associated with decreased support for redistribution. The estimated variance across cohorts also more than doubles from Model 1 to Model 2 (from 1.3 to 2.7). This is a product of more accurate estimates of cohort effects once we have accounted for societal changes in particularly income and education over the last century. The goal of subsequent analyses is to try to explain this residual variance — put differently, to account for this variance using a combination of past and current economic and policy measures.

Models 3 and 4 are efforts at doing exactly this. Model 3 adds past and current economic context.[20] Adding a combination of current and past contextual variables leads to a drop in the estimated cohort-level variance of roughly one fifth (from 2.7 to 2.1); and a drop in the estimated period-level variance of roughly one third (3.2 to 2.2). Clearly, our economic variables capture a good degree of the difference across both cohorts and periods. Even these simple statistics make clear that contextual variables matter — both in the past and in the present.

But what is the nature of these contextual effects? Based on the results of Model 3 in Table 2, the effects of economic context during respondents' formative years, mostly support past work by Durr (1993), Stevenson (2001) and others, whose findings suggest that when the economy worsens, support for redistribution decreases. This finding confirms the luxury good hypothesis. Of course, our findings in this case are a product of past economic context, so they have a somewhat different interpretation: respondents who come of age during a

[20] We also estimated the effect of current and past macro economic context separately, but do not report these here for space reasons. The direction and significance of the coefficients remain unchanged to the combined Model 3, which suggests that the effects are largely independent.

period of economic crisis – in terms of high unemployment – tend to be less supportive of redistribution, ceteris paribus, *for the rest of their lives*.

Current economic conditions matter as well, and here we find support for the government protection hypothesis. Unlike during respondents' formative years, current rising unemployment increases support for redistribution across all cohorts and ages. Both at *c* at at *t*, there seems to be no significant effect of economic development more generally, measured here using GDP growth.

In the UK context, we find evidence of the co-existence of the luxury-good hypothesis (high *socialization* unemployment leads to anti-redistribution preferences) and the government-protection hypothesis (high *current* unemployment leads to pro-redistribution preferences). The reason for these contrasting results might be – as we have argued above – that the impact of macroeconomic circumstances has changed over time. While estimated effects of past conditions span almost a century, the effects of current conditions are for the post-1986 period only. So unemployment post-1986 may have a different effect, or at least produce a different reaction, than unemployment pre-1986. As noted above, poor economic conditions in a time when there is little to no welfare state may produce a different reaction in one's formative years than do the same economic conditions in a time when there is a vast welfare state.

Model 4 in Table 2 tests our *welfare state hypothesis*. Here we use a simple dummy variable distinguishing the period before and after the rise of the British welfare state – which is relatively easy to implement given that most social welfare programs were established in Britain in the late 1940s. Based on the results of Model 4 we can find a large direct impact of the introduction of the welfare state, with a difference of 8 points between the cohorts that came of age before and those after its introduction in the late 1940s. The interaction between

the existence of the welfare state and unemployment during a cohort's youth is not significant. There is however an interaction with GDP growth.

The estimated shift in the impact of GDP growth is illustrated in Figure 1, which shows predicted support for redistribution by GPD growth for two sets of cohorts – those that were socialized before the introduction of the welfare state (before 1949) and those that came of age since the introduction of the British welfare state (1950+). We plot the range of GDP growth that was experience by cohorts in the last century, -4 to +4. During an economic boom (GDP growth above 2 per cent) there is no difference between the two cohorts. During times of recession or normal GDP growth (GDP growth less then 2 per cent), the cohorts that did not grow-up with a welfare state are less likely to support redistribution to the poor, while post-welfare state cohorts are more likely to support redistribution. The former is in line with the luxury-good hypothesis; that latter is in line with the government protection hypothesis. We cannot demonstrate that the difference is due only to the rise of the welfare state, of course. But the relationship between macroeconomics and support for redistribution appears to have shifted markedly across cohorts, roughly at the time that the British welfare state was created.

[Figure 1 about here]

Even independent of these time-varying effects, note that the results of HAPC models in Table 2 make clear the importance of taking into account both current and socialization contexts when accounting for individual-level differences in support for redistribution. Results from likelihood ratio tests of the null hypothesis that each model is not a significant improvement over the previous model(s). There is strong support that the socialization context as well as the current macro economy matter, as each subsequent model is a statistically significant improvement over the previous one. Results of tests are included in Appendix Table A3. The notion that current context matters to policy support is not

especially surprising — there is after all a growing body of work linking current economic context to voting behavior and policy preferences. But the importance of socialization in preferences for redistribution, alongside current context, is both new and important.

Another way of assessing the fit of our model, is to compare the variance in redistribution preferences of cohorts across the different models reported at the bottom of Table 2. The top panel of the Figure 2 plots the predicted random effect coefficients for cohorts based on results from Model 2 (with no contextual variables). This figure is further the best illustration of generational differences in support for redistribution in the UK. Clearly, there are some powerful cohort differences in regard to redistribution preferences. Cohorts that came of age in the 1950s to early 1970s are most pro-redistribution; those socialized during the economic crises in the late 1970s and early 1980s are markedly less supportive; so too are those socialized during the Great Depression. The estimated cohort differences are reduced once we take into account socialization and current context, however. These results are shown in the bottom panel of Figure 2, which plots the random effect coefficients from Model 4. The implication here is that some of what we see in the top panel is a product of shifting economic context and the rise of the welfare state.

[Figure 2 about here]

Robustness Tests

Given the complexity of the models in Table 2, it is worth subjecting our results to a series of robustness checks. We have thus conducted a number of supplementary analyses, included in the Appendix.

The first re-runs the models in Table 2, but rather than rely on the index we use each individual survey question separately. This test is to confirm that our index-based model is not masking important differences across dependent variables. Results are included in

Appendix Table A4. A second robustness test check re-runs the models in Table 2, but with tougher constraints on the individual included in our model. Recall that our index takes on values for any respondent for which we have at least two of our four questions with non-missing values. This allows us to include a far greater number of respondents, but it also means that index values are, for about a third of our sample, a product of some varying subset of our four questions. So we re-run our models using only those respondents for whom three or more, or all four, responses are non-missing. Results are presented in Appendix Table A5. A third check focuses on the socialization period used. Recall that different studies have suggested somewhat different socialization periods; it follows that we should confirm that our results do not shift dramatically with minor shifts in socialization periods. We accordingly run models using several other possibilities. Results are presented in Appendix Table A6. In no case are results fundamentally different from what we have seen above.

Another possibility not accounted for in the models above is that the impact of contextual economic variables, both currently and during respondents' youth, is conditioned by individuals' own economic circumstances. In short, the preferences of wealthy respondents, more isolated from the effects of economic downturns, should be less affected by economic circumstances. This possibility is relatively easy to test for, in theory — we need only interact individuals' own economic circumstances with the contextual variables. In practice, we are constrained by the available data. Where current context is concerned, we use income quintiles as a 5-point interval-level measure (which seems unproblematic given that results using binary variables for quintiles in Table 2 suggest a roughly linear relationship), and allow individuals' income quintile to interact with each of the two current macroeconomic variables. In each case, we find a negative interaction between income and unemployment. This means that current unemployment, which tends to foster support for redistribution, has less impact on the attitudes of the rich than of the poor. The positive

interaction between income and GDP growth similarly suggests that the rich, who are less supportive of redistribution, are more so in times of economic boom (or less so in times of economic crises). These results are reported in Appendix Table A7 and Appendix Figure A7.

We further test whether the existence of a welfare state during one's youth has an impact on how one responds to current economic recession. We confirm the results that people who grew up with a welfare state react more strongly to increasing unemployment and recession. For example, as unemployment increases, the post-1950 cohorts demand more redistribution than do pre-1950 cohorts. The interaction effect between the expansion of the welfare state and current economic context is however rather weak. These results are reported in Appendix Table A8 and Appendix Figure A8.

As a final check, we estimate our models with a totally separate dependent variable, capturing not redistributive preferences so much as preferences regarding spending and taxation.[21] Appendix Table A9 reports the results using this alternative dependent variable. Results support the welfare state hypothesis: there are no discernible effects of current macroeconomics, but robust effects of macroeconomics during respondents' youth. The interactions with time suggest similar dynamics as well: the unemployment interaction points towards a reduction in the negative impact of unemployment over time, though the effect is not statistically significant; and the GDP growth interaction, which is significant, points to a marked reduction (indeed, as above, a reversal) in the positive effect of this variable. Note also that the estimated variance component for cohorts is greatly reduced from Model 2 to 4. Appendix Figure A9 illustrates this reduction in cohort effects.

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[21] The question is as follows: "About the government choosing between these three options. Which do you think it should choose? (1) Reduce taxes and spend less on health, education and social benefits OR (2) keep taxes and spending on these services at the same level as now OR (3) increase taxes and spend more on health, education and social benefits." Given that very few respondents selected the first option, we group responses (1) and (2) into one category (=0) to which we contrast those in favor of more spending and higher taxes (=1). Because we are using a binary dependent variable, models are estimated using a logistic model.

Conclusions

The notion that economic conditions matter to individuals' attitudes about redistributive policy is not at all shocking. There is a considerable literature exploring the link between current economic conditions and redistributive preferences, after all. That *past* economic conditions — when we come of age — matter to redistributive preferences is novel and important however. Analyses above lend support to the idea that our redistributive preferences are partly a function of the lasting effects of the economic climate during our formative years.

It is not just the economic situation that matters, however — it is the economy in conjunction with (i.e., moderated by) the welfare-policy context. This is the crux of what we have labeled the **welfare state hypothesis**; and although capturing policy context over a nearly-100-year period is difficult, our proxies produce what we regard as strong support for this possibility. Those who in their youth experience poor economic conditions at a time when there is a welfare state to rely on tend to be more supportive of the welfare state; this is less true for those whose experience is of economic weakness in the absence of a welfare state. This fact may help account for a literature that has found support for both the **luxury good** and **government protection** hypotheses. At a minimum, it highlights a novel heterogeneity in the individual-level relationship between economic conditions and redistributive preferences.

That said, there clearly is more work to do. One logical next step is to consider not just the effects of economic and policy conditions as we come of age, but of political conditions as well. We have not considered here the possibility that the partisanship of government, or marked shifts in policy, during one's formative years have a lasting effect. There seem to be good reasons to believe that coming of age in the “Thatcher era,” for

instance, has a lasting effect on a range of policy preferences. The partisanship of governments may matter, then. So too might individuals' partisanship, particularly as a moderating factor in relation to both economic and political conditions. Existing research suggest some complex interactions between current economics and politics; it is likely that similar interactions exist for past conditions as well.

We might also look for other measures of policy context, rather than the proxies we rely on above. There is to our knowledge no better measure available. But being able to accurately capture social welfare policy, or perhaps only certain social welfare policies, is critical. Not only might it provide more precise estimates of the moderating impact of policy — it might also help us to explore the potentially lasting impact of even short-term changes in both the welfare state, and economic conditions. Improved measures may also provide an opportunity to explore in more detail the interaction between welfare state policies and the economy, moderated by individuals' own economic experience.

For the time being, our analyses point to the value of taking socialization into account in understanding redistributive policy preferences, and indeed policy preferences more generally. Preferences for policy are, across a range of domains, characterized by a combination of change and stability. Understanding that stability, and, relatedly, understanding long-term differences across individuals as well, may depend in part on a serious consideration of the factors that lead us, early in our political lives, to favor one policy or another.

Acknowledgments

Previous versions of the paper were presented at the Annual Conferences of EPSA (Berlin, June 21-23, 2012) and EPOP (Oxford, Sep 7-10, 2012) as well as invited talks at University College London, Universities of Sheffield, Vienna and Oxford. We are grateful to participants of these presentations, as well as David Soskice, Matt Golder, Charlotte Cavaille, Lucy Barnes and Michael Becher for taking the time to comment on an earlier drafts of this paper.

Disclosure Statement

No potential conflict of interest was reported by the authors.

Notes on contributers

Anja Neundorf is an Associate Professor in Politics at the University of Nottingham. Her research interests lie at the intersection of political behavior, research methods, and comparative politics. Her work was published or is forthcoming in journals such as *Journal of Politics*, *British Journal of Political Science*, *Political Behavior*, *Social Forces*, and *Public Opinion Quarterly*. [anja.neundorf@nottingham.ac.uk]

Stuart Soroka is the Michael W. Traugott Collegiate Professor of Communication Studies and Political Science, and Faculty Associate in the Center for Political Studies at the Institute for Social Research, University of Michigan. His research focuses on political communication, the sources and/or structure of public preferences for policy, and the relationships between public policy, public opinion, and mass media. [ssoroka@umich.edu]

Orcid

Anja Neundorf: 0000-0002-1294-6771; Stuart Soroka: 0000-0001-7524-0859

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Table 1: Cohorts and their socialization context

COHORTS		N Obs	Unempl	GDP growth	Redist. Index
1)	1916-1920	353	1.4	-3.9	59.2
2)	1921-1925	810	8.9	1.1	56.8
3)	1926-1930	1,587	8.3	0.9	57.5
4)	1931-1935	2,536	13.5	0.9	57.5
5)	1936-1940	3,944	7.1	5.3	57.5
6)	1941-1945	4,510	0.6	-0.9	56.8
7)	1946-1950	4,971	1.4	0.6	56.2
8)	1951-1955	5,375	1.3	2.9	56.8
9)	1956-1960	6,068	1.5	2.0	56.7
10)	1961-1965	7,077	1.6	2.6	57.5
11)	1966-1970	6,495	2.1	2.0	58.5
12)	1971-1975	6,984	2.3	1.8	57.8
13)	1976-1980	7,866	4.1	1.7	56.1
14)	1981-1985	7,135	9.2	2.1	55.5
15)	1986-1990	4,898	7.6	3.1	53.9
16)	1991-1995	3,139	8.5	1.4	52.0
17)	1996-2000	1,913	4.8	3.4	51.2
18)	2001-2005	887	2.9	2.5	51.8

Note: The number of observations is based on valid responses of the dependent variable.

Table 2: Linear HAPC models on redistribution preferences: cross-classified random effects

	Model 1 **Pure APC**	Model 2 **Demographics**	Model 3 **Comb. Context**	Model 4 **Welfare Exists**
Individual Fixed Effects				
Age	0.009	-0.059 **	-0.026	0.007
	(0.013)	(0.023)	(0.023)	(0.031)
Female		-1.339 ***	-1.337 ***	-1.338 ***
		(0.161)	(0.161)	(0.161)
Married		-0.207	-0.207	-0.205
		(0.177)	(0.177)	(0.177)
Union member		4.459 ***	4.455 ***	4.456 ***
		(0.194)	(0.194)	(0.194)
Own house		-5.128 ***	-5.128 ***	-5.126 ***
		(0.196)	(0.196)	(0.196)
University degree		1.154 ***	1.163 ***	1.163 ***
		(0.185)	(0.185)	(0.185)
Religious (belongs to denomination)		-1.763 ***	-1.767 ***	-1.766 ***
		(0. 164)	(0. 164)	(0. 164)
Income (Ref: 3rd Quintile)				
1st (poorest) Quintile		5.562 ***	5.565 ***	5.562 ***
		(0.282)	(0.282)	(0.282)
2nd Quintile		2.901 ***	2.904 ***	2.905 ***
		(0.253)	(0.253)	(0.253)
4th Quintile		-2.785 ***	-2.785 ***	-2.786 ***
		(0.242)	(0.242)	(0.242)
5th (richest) Quintile		-3.910 ***	-3.914 ***	-3.914 ***
		(0.265)	(0.265)	(0.265)
Labour force status (Ref: not working)				
Working		-2.381 ***	-2.374 ***	-2.378 ***
		(0.218)	(0.217)	(0.218)
Unemployed		2.101 ***	2.092 ***	2.090 ***
		(0.403)	(0.403)	(0.403)
Region		incl.	incl.	incl.
Current Contextual Fixed Effects				
Unemployment			1.015 ***	1.085 ***
			(0.229)	(0.241)
GDP growth			-0.002	-0.009
			(0.269)	(0.279)
Socialization Contextual Fixed Effects				
Unemployment			-0.444 **	-0.312
			(0.143)	(0.191)
GDP growth			0.411	0.423
			(0.333)	(0.325)
War			-1.516	-0.031
			(1.588)	(1.574)
Welfare exists				8.090 **
				(2.664)
Exists X Unempl.				-0.130
				(0.298)
Exists X GDP				-1.986 *
				(0.874)
Intercept	56.111 ***	66.159 ***	60.805 ***	56.051 ***
	(1.054)	(1.574)	(2.460)	(3.396)
Variance Components				
Cohort (1916-2005)	1.253	2.683 ***	2.058 ***	1.551 *
	(0.250)	(0.476)	(0.375)	(0.309)
Period (1986-2010)	3.440 ***	3.197 ***	2.165 ***	2.246S ***
	(0.543)	(0.521)	(0.351)	(0.368)

Significance levels: * $p<.05$, ** $p<.01$ *** $p<.001$. *Data*: British Social Attitude Survey (1986-2010). *Note*: Entries are OLS coef. estimated by a mixed generalized linear model. Standard error in parentheses. N obs.: 54,563.

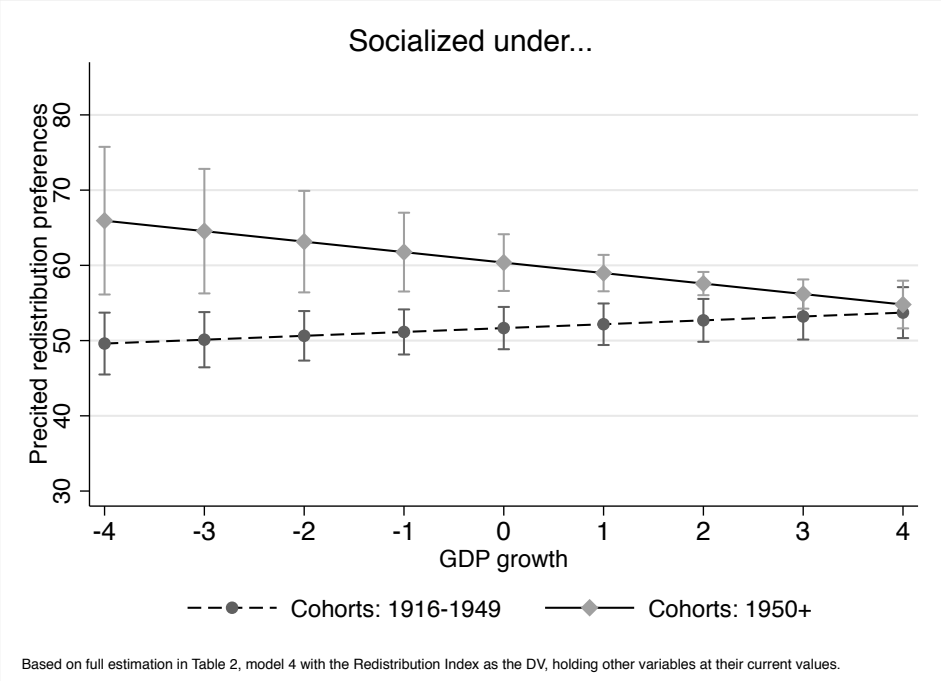

Figure 1: Predicted redistribution preferences by GDP growth over cohorts (including 95% C.I.)

Note: Based on full estimation in Table 2, model 4 with the Redistribution Index as the DV, holding other variables at their current values.

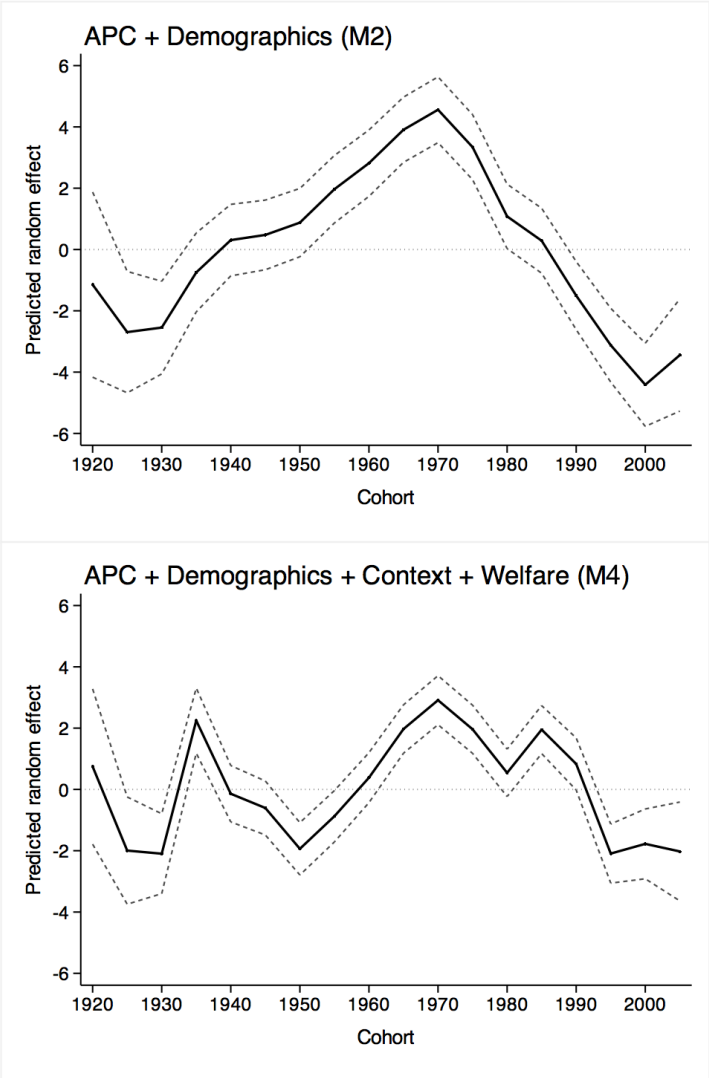

Figure 2: Predicted random cohort effects on redistribution preference index (incl. 95% C.I.)