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**Working Paper**

## Risks at work: the demand and supply sides of government redistribution

WZB Discussion Paper, No. SP II 2005-15

**Provided in Cooperation with:**

WZB Berlin Social Science Center

*Suggested Citation:* Cusack, Thomas R.; Iversen, Torben; Rehm, Philipp (2005) : Risks at work: the demand and supply sides of government redistribution, WZB Discussion Paper, No. SP II 2005-15, Wissenschaftszentrum Berlin für Sozialforschung (WZB), Berlin

This Version is available at:

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FÜR SOZIALFORSCHUNG

SOCIAL SCIENCE RESEARCH  
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**Risks at Work: The Demand and Supply Sides of  
Government Redistribution**

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**SP II 2005 – 15**

August 2005

ISSN Nr. 0722 – 6748

**Research Area**  
Markets and Political Economy

**Working Group**  
Institutions, States, Markets

**Forschungsschwerpunkt**  
Markt und politische Ökonomie

**Arbeitsgruppe**  
Institutionen, Staaten, Märkte

Zitierweise/Citation:

Thomas Cusack, Torben Iversen, Philipp Rehm, **Risks at Work: The Demand and Supply Sides of Government Redistribution**, Discussion Paper SP II 2005 – 15, Wissenschaftszentrum Berlin, 2005.

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ABSTRACT

## **Risks at Work: The Demand and Supply Sides of Government Redistribution**

by Thomas Cusack, Torben Iversen, Philipp Rehm

To understand how the welfare state adjusts to economic shocks it is important to explain both the genesis of popular preferences and the institutional incentives of governments to respond to these preferences. This paper attempts to do both, using a general theoretical framework and detailed data at both the individual and national levels. In a first step, we focus on how risk exposure and income are related to preferences for redistribution. To test our hypotheses, we extract detailed risk exposure measures from labor force surveys and marry them to cross-national survey data. In a second step, we turn our attention to the supply side of government redistribution. Institutions, we argue, mediate governments' reactions to redistributive demands following economic shocks. Using time-series cross-country data, we demonstrate how national training systems, electoral institutions as well as government partisanship shape government responses.

*Keywords:* Public Opinion, Preferences, Redistribution, Varieties of Capitalism, Partisanship, Unemployment, Occupations

*JEL Classification:* D31, D72, E24, H53

## **Risiken und Arbeit: Die Nachfrage nach und das Angebot von staatlicher Umverteilung**

Um zu verstehen, wie Wohlfahrtsstaaten auf ökonomische Schocks reagieren, ist es wichtig, sowohl die Nachfrage- als auch die Angebotsseite von Umverteilung zu analysieren. Wie entstehen Umverteilungs-Präferenzen in der Bevölkerung? Welche institutionellen Anreize haben Regierungen, darauf zu reagieren? Das vorliegende Papier wendet einen generellen theoretischen Rahmen und umfangreiche Individual- und Aggregat-Daten an, um diesen Fragen nachzugehen. Dazu wird zuerst analysiert, wie Risiken im Arbeitsmarkt und das Einkommen Umverteilungs-Präferenzen von Individuen beeinflussen. Die abgeleiteten Hypothesen werden an neuen Datensätzen getestet. Diese kombinieren Informationen von Arbeitsmarkterhebungen und Umfrage-Daten für mehrere Länder und Jahre. In Sachen Angebotsseite wird argumentiert, dass unterschiedliche Regierungen auf ökonomische Schocks unterschiedlich reagieren, abhängig von Institutionen. Das Papier testet diese und andere Hypothesen auf der Aggregatsebene anhand von vergleichenden Zeitreihen. Es zeigt sich, dass die Art und Weise, wie Regierungen auf ökonomische Schocks reagieren, von Ausbildungs- und Wahlsystemen sowie der parteipolitischen Färbung der Regierung mitbestimmt werden.

## 1. Introduction<sup>1</sup>

Conventional wisdom has it that both the welfare state and the left's effectiveness in implementing its preferred policies have eroded over the past several decades. These retreats putatively stem from globalization, technological change and other transforming forces. In part, these forces are assumed to be the sources of alteration in *demand* for the net benefits that flow from the welfare state and the policies championed by the left; in part they are assumed to reduce their *supply*. But while it is common to assume that class politics is on the decline and that social policies are converging across countries, very little is in fact known about the structure of political preferences and how economic shocks affect policies across different institutional settings.

This paper provides a systematic account of the interaction between exogenous shocks, popular demand for compensation, and government responsiveness to such demand. Whereas the bulk of evidence in the existing literature is at the macro level and relies on cross-sectional evidence – or fixed effect regressions that ignore the role of political institutions – our paper uses a new data set that combine micro-level information about preferences and employment risks (across several decades) with macro-level data on institutions and government policies. Contrary to popular beliefs, our analysis shows that preferences for redistribution continue to be closely related to peoples' position in the economy, and that governments respond very differently to economic shocks depending on the institutional and political context that they are embedded in. The paper makes three contributions.

First, it provides a powerful defense of political economy explanations of redistributive politics. Recently, such explanations have been challenged by a number of papers which argue that religion, race, or ethnic diversity are the main sources of peoples' preferences for social protection. We find little support for these arguments. Instead, what matters at the individual level is exposure to labor market risks, especially as reflected in actual or threatened unemployment. Job loss or the risk of job loss have important effects. The first is that it reduces income and adds to the ranks of those at the bottom end of the income distribution, who have a self-interest in redistribution. Secondly, it raises the demand for redistribution among employed workers since redistributive spending serves as an insurance against the risk of future income loss. The latter, in turn, depends on the portability of workers' skills, and hence their ability to successfully navigate through the labor market as the tides of employment opportunities ebb and flow. We show that exposure to risk and relative income are remarkably strong predictors of redistributive preferences.

The second contribution of this paper is to provide strong evidence for a tight linkage between redistributive preferences, partisan support, and government policies. Policies cannot be directly inferred from individual preferences. These depend on the two additional factors: first, the distribution of risks and how they are linked to salient political cleavages and, second, the impact of institutions on interest aggregation, particularly the manner in which institutions allocate influence to workers with different levels of risk exposure. Assuming that redistribution of income is the main axis of political competition and vote choice, the effects of government

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<sup>1</sup> This is a revised version of a paper presented at the Conference on "Democracy, Inequality, and Representation: Europe in Comparative Perspective", Maxwell School of Syracuse University, May 2005. We are grateful for comments and suggestions made by the conference participants.

partisanship on responses to shocks will depend on the distribution of shocks across the income scale. Economic cleavages and government partisanship, it turns out, continue to matter a great deal for public policies.

Third, we show the continued importance of national institutions in mediating government responses to shocks. Using a method devised by Blanchard and Wolfers (2000), the analysis focuses on the role of national training systems and electoral systems. The training system shapes the composition of skills in the labor force, which in turn affects the level of demand for social insurance. Second, proportional representation (PR) tends to advantage the center-left, whereas majoritarian systems do the opposite. PR also facilitates the ability of political parties to make long-term social policy commitments. Our evidence clearly shows that these institutional differences, as well as government partisanship, affect how aggressively governments respond to economic shocks. There is no indication in our data of convergence in policies across political-institutional settings.

The paper is organized into three sections. The first presents a simple organizing model with testable implications for both the structure of individual level preferences and for the way these preferences are aggregated into actual policies. The succeeding section has two parts. In the first part, we use a new data set that combines public opinion and labor force survey data to test the individual-level hypotheses; in the second part, we explore how national institutions and partisanship condition the transmission of preferences into policy outcomes. The last section discusses the implication of our findings and points out possible extensions to this work.

## **2. Preferences, shocks, and policies**

This section introduces the general structure of our political economy account of individual preferences and government policies. Section 2.1 highlights the importance of risks in labor markets for shaping redistributive preferences, which is contrasted to recent arguments emphasizing race and religion. Section 2.2 illuminates how the supply of redistribution is affected by institutions, especially national training systems, electoral systems, and the partisan governments that tend to accompany them.

### **2.1. The demand for redistribution**

In the standard Meltzer-Richard model, a flat-rate benefit  $R$  paid through a proportional tax means that those below the mean will prefer redistributive spending up to the point where the benefit to them is exactly outweighed by the efficiency cost of taxation (assuming a typical right-skewed distribution of income). This implies that income is negatively related to support for redistribution. However, redistributive spending also serves insurance purposes by cushioning the effects of income losses, and this will affect the shape of the relationship between income and preferences. If those with higher incomes are also exposed to risks, they will demand some redistributive spending for insurance purposes.<sup>2</sup>

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<sup>2</sup> Indeed, if risk-aversion is sufficiently high it is possible for those with higher incomes to prefer *more* spending because they have more to lose (Moene and Wallerstein 2001). However, in the empirical section below we will show that the relationship between income and preference for redistribution is negative.

We argue that there are two main sources of **insecurity (or risk)** in the labor market. One source is the risk of unemployment and the consequent loss of future income. Another source of insecurity is the potential devaluation of workers' skills. This may arise if workers may have to accept re-employment into jobs where their skills are not fully utilized.

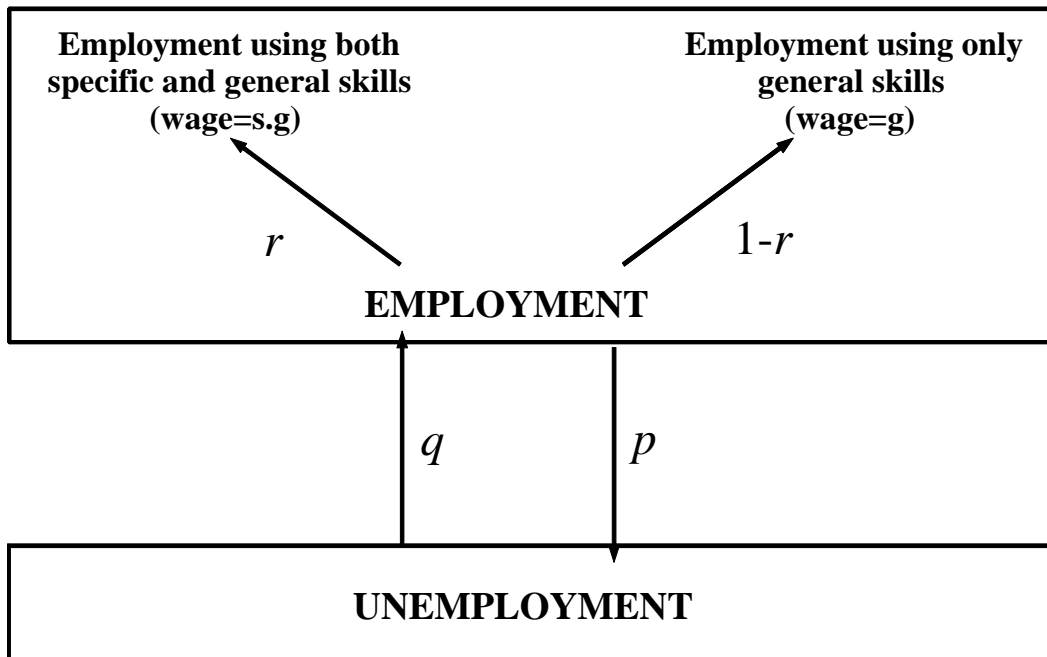
Rising *unemployment risks* will induce individuals to demand higher protection against future income loss. One of the clearest signals of exposure to the loss of employment occurs when others with similar occupations become unemployed. As these numbers rise, so too will the individual's insecurity. Therefore, individuals in occupations with high unemployment rates will demand greater insurance against these risks. One form this insurance takes is redistributive policies, manifested in income redistribution by the government.

The more *specific workers' skills* are to a job or firm, the less portable they are. Individuals with specific skills, therefore, are more sensitive to adverse conditions in labor markets: they may have to accept re-employment into jobs where their skills are not fully utilized and, therefore, suffer significant income loss. In order to insure against these risks, workers with specific skills will be more predisposed to support for redistributive policies (Estevez-Abe et al. 2000; Iversen and Soskice 2001).

The basic logic of the latter point is illustrated in Figure 1. Those in employment derive income from their general (g) and specific (s) skills. The former are assumed to be fully portable across firms, industries, and occupations, and there is an economy-wide market wage for these skills. In a perfectly competitive (neoclassical) labor market with only general skills, risks are minimal because the loss of one job is always matched by the availability of another at exactly the same wage (g). Specific skills, by contrast, are employable only in a particular firm, industry, or occupation, and losing a job therefore presents a serious risk if another job in the same firm, industry, or occupation is unavailable. Regardless of levels of unemployment – even in your own occupation – specificity of skills limits your re-employment potential. As a consequence, there is a potential loss of income which risk-averse individuals will try to insure against by demanding income protection through public policies.



**Figure 1: Transition between different labor market situations**



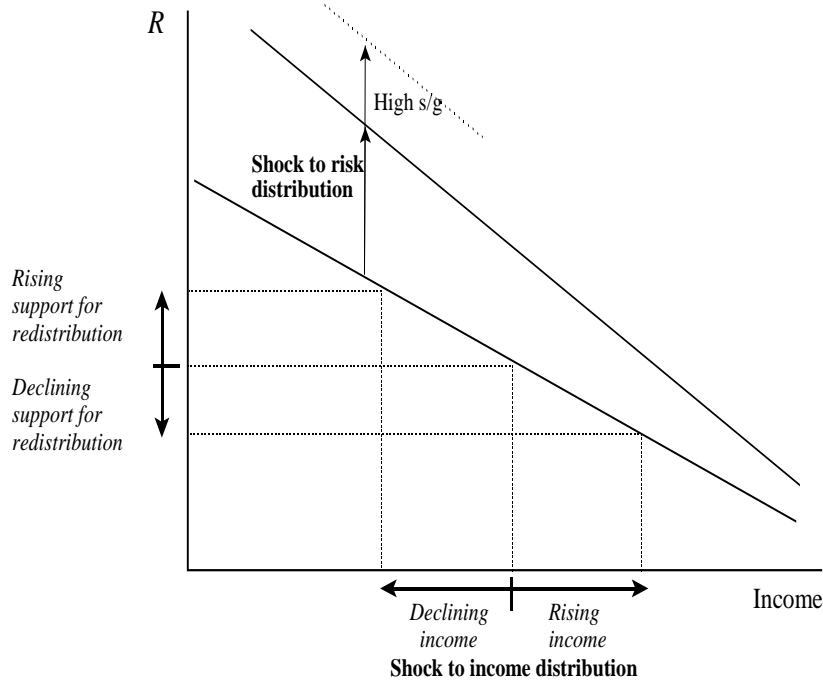
If the risk of unemployment is denoted  $p$ , the probability of re-employment  $q$ , and the probability of re-employment into a job using a worker's combined specific and general skills  $r$ , the long-term probabilities of being in different labor market situations (unemployment and good or bad jobs) will be determined by the combination of these parameters, and so will expected income.<sup>3</sup> If the government taxes income and spends it on a flat-rate benefit,  $R$  (as in the Meltzer-Richard model) workers' level of demand for redistributive spending will depend on their location in the income distribution and their exposure to risk.

Figure 2 shows the level of  $R$  that maximizes the current value of income from both wages and redistributive spending for workers with different income. Unless risk-aversion is very high, the relationship between income and preferences for redistribution is downward-sloping. Our focus is on the effects of a shock to the economy exposes some workers to risks, and reduces the income of others because of loss of employment and income. While declining income will increase support for redistribution, greater exposure to risk will raise demand for insurance regardless of income.  $R$  captures both the redistributive and insurance aspects of spending.

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<sup>3</sup> Specifically, the long-term probability of unemployment is  $p/(p+q)$ , the probability of employment in jobs utilizing both the specific and general skills of a worker is  $r \cdot q/(p+q)$ , and the probability of employment in jobs using only a worker's general skills is  $(1-r)/(p+q)$ .

**Figure 2: Support for redistribution as a function of income and risk**



At the micro-level this paper now puts forward the following causal chain, reflecting a materialist political economy account. First, individual level preferences over redistribution are influenced by an individual’s income and the risk she faces in the labor market. Second, individuals objectively exposed to risk will (subjectively) perceive themselves as being exposed to risks. Third, preferences for or against redistribution will shape partisan preferences: all else equal, individuals in favor of redistribution support left parties, while individuals opposed to redistribution affiliate with right parties. In section 3, each of these claims will be tested empirically.<sup>4</sup>

Our account of preferences for redistribution stands in contrast to some recent, and increasingly influential, explanations emphasizing non-economic factors. One of these argues for the importance of ethnicity and ethnic-racial heterogeneity (Alesina & Glaeser & Sacerdote 2001; Alesina & Glaeser 2004). In this account, people are disinclined to redistribute to those of different ethnic or racial groups, and when minorities are overrepresented among the poor, as is typically the case, the level of redistribution declines. According to Alesina and Glaeser this is a main cause of lower redistribution in the United States compared to Western Europe.

At the individual level, an implication of the argument is that those in the majority will prefer less redistributive spending. But if minorities are overrepresented among the poor, there is

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<sup>4</sup> Note that we focus exclusively on individuals in the labor market and the forces that affect them. Those not directly participating in this market may also vary in their preferences – an issue we address briefly in section 3.

of course a simple alternative, namely that the insurance motive for supporting redistribution is lower among those in the majority. Insurance motivated workers will rationally support less spending if their risk of income loss is lower. In the following, we control for whether ethnic minorities are in low paid jobs or risky occupations. While it is not straightforward to generalize the ethnicity argument beyond the US, we do not generally find that minorities are more likely to support redistributive spending than those in the majority who are in similar labor market situations. Minorities in the US, however, are notably more likely to support redistributive spending.

Another explanation of individual redistributive preferences builds directly on the insurance logic of redistributive policies, but it argues that religion functions as a substitute for insurance (Scheve & Stasavage 2005). In this spiritual view, those who believe in God experience less psychic distress from unemployment and other adverse life events, and (assuming that income and psychic benefits are non-separable) this implies that they will demand less insurance. Scheve and Stasavage present empirical support for these propositions at the individual- as well as at the country-level. By contrast, we find relatively weak evidence for the spiritual argument once we control for risk exposure.

A related argument is that the support for redistribution is undermined by the presence of cross-cutting cleavages such as religion or race. In Roemer's (1997; 2001) model, people have intrinsic preferences on some ascriptive dimension such as race or religion, in addition to preferences over redistribution. When the former becomes politically salient, right parties can appeal to poor religious or racist voters, and the left party is forced to respond by attracting more wealthy anti-clerical or anti-racist voters. As this "exchange" of voters takes place, the two constituencies will tend to become more similar in terms of income. The original pro-welfare coalition is thus torn asunder by appeals to commonalities on another, non-economic, dimension. Since some have argued that the traditional economic left-right has declined in importance in electoral politics (Inglehart 1987, 1990; Kitschelt 1994), it is thus of considerable importance for the politics of redistribution to know the extent to which objective economic conditions, and preferences for redistribution, matter for people's party choice.

## **2.2. The supply of redistribution**

There is no Say's Law in politics. But while demand and supply are unlikely to be in perfect accord, in democracies they should at least co-vary. The extent of covariation is likely to be shaped by institutions that mediate the translation of redistributive demand into redistributive supply.

Following our micro argument, if there are differences in the *composition of skills* across countries, the demand for – and hence supply of – protection should vary in response to a given shock. Systems of production and training that emphasize specific skills should be associated with a stronger reaction by governments to shocks than from governments in systems that emphasize general skills. In particular it is plausible to assume that economies with extensive vocational training systems, as opposed to economies relying more on general education, tend to produce more people with highly specific skills. Insofar as such skills are associated with greater demand for insurance, systems with extensive vocational training should produce higher aggregate demand for redistribution. Correspondingly, the rise in demand for such redistribution in response to adverse economic shocks should be greater in specific skills' systems where they may expose workers to a longer spell of unemployment or a permanent drop in income.

But the effects of demand on supply also depend on the *distribution* of risk, how closely tied it is with the main cleavage of party competition, and how political institutions shape the aggregation of preferences. Specifically, if the main axis of political competition is over redistribution of income, the effect of shocks on policies will depend on the distribution of risks across income, as well as on the segment of the income distribution the government represents. We have assumed above, and will show empirically below, that risk exposure is decreasing in income (i.e., the effect of a shock is greater at lower income levels). Whether this is true is an empirical question, but if income and risk *are* related, then government responses to shocks should depend on partisanship. Left governments representing lower-income workers should respond with greater increases in transfers than right governments.<sup>5</sup>

The partisan logic also suggests a role for *electoral institutions* because PR has been associated with more left-leaning governments, and majoritarian institutions with more right-leaning governments (Crepaz 1998; Powell 2002; Iversen & Soskice 2004). Because left parties tend to represent voters who are at greater risk, the preferences of these voters will be better represented in coalition bargaining. PR may also increase the sensitivity of governments to popular demands for protection because political parties are better able to make long-term commitments when they do not have to concern themselves exclusively with winning the next election (as under majoritarian institutions). Capacity for commitment matters because those who are currently affected by shocks (say, the unemployed) are rarely the “decisive” voters in electoral politics. If these are instead employed middle class voters (roughly synonymous with the “median voter” in a unidimensional space), the only motive these voters have for supporting more spending is insurance, not redistribution. Yet, if parties can only credibly commit government policies for one electoral term, the only effect of spending is redistribution. Having programmatic and responsible parties capable of making commitments beyond the next election - which is a quality often associated with multiparty PR systems -- is therefore an important determinant of government responsiveness to economic shocks.

Summarizing, we would expect left partisanship and PR to amplify policy responses to exogenous shocks provided that i) political competition is organized around income redistribution, ii) exposure to risks is declining in income, and iii) individual preferences for redistribution are determined by income and exposure to risk. The latter should depend on the composition of workers’ skills, which also implies that the structure of national training systems will matter for how responsive policies are to exogenous shocks.

### 3. Evidence

Following the theoretical discussion, the empirical analysis in this paper has two parts. The first focuses on the demand side and examines the relationship between our political economy variables (risk exposure and income) and redistributive preferences as well as the joint distribution of income and exposure to risks. We also examine the relationship between objective and subjective measures of risk, as well as the linkage between redistributive and partisan preferences. The second part focuses on the supply side and tests whether shocks lead to

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<sup>5</sup> In the end, of course, whether risk-exposure and income are related is an empirical matter that we explicitly test below.

different government responses depending on national training systems, partisanship, and electoral institutions.

### 3.1. Micro-level evidence

#### 3.1.1. Statistical model and data

In order to examine the relationship between exposure to risks and preferences for redistribution, we specify and estimate a model of redistribution preferences based on objective measures of risk exposure plus a set of controls. The following ordered logit model is estimated using country and year dummies:

$$RD_{i,t} = \alpha + \beta^1 S_{i,t} + \beta^2 U_{i,t} + \beta^3 I_{i,t} + \sum \gamma^j X_{i,t}^j + \varepsilon_{i,t}, \quad (1)$$

where  $RD$  are individual-level preferences or demand for redistribution,  $S$  is skill specificity,  $U$  are exposure to unemployment risks as measured by occupational unemployment rates (we also include a control variable for those who are unemployed), and  $I$  is income –  $i$  indexes individuals and  $t$  time period. The regressions include a vector of controls,  $X$ , including religiosity and minority status.<sup>6</sup>

We rely on a new data set that combines public opinion and labor force survey data from a variety of national and international sources. The public opinion data are from several waves of the “International Social Survey Programme” (ISSP),<sup>7</sup> which ask people directly about their preferences for redistribution. Specifically, a large number of the ISSP surveys contain two similar questions about redistribution. One reads:

“It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.”

The possible answer categories range from 1 (“agree strongly”) to 5 (“disagree strongly”).<sup>8</sup> This question was asked in eight ISSP studies between 1985 and 2000.<sup>9</sup> The other reads:

“On the whole, do you think it should be or should not be the government’s responsibility to: Reduce income differences between the rich and poor?”

The possible answer categories range from 1 (“definitely should be”) to 4 (“probably should be”).<sup>10</sup> This question was included in five ISSP waves from 1985 to 1998.

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<sup>6</sup> All variables included in the equation are described below and defined in the appendix.

<sup>7</sup> See <http://www.issp.org/data.htm> for details on the original data.

<sup>8</sup> The complete answer categories are: 1 “agree strongly” 2 “agree” 3 “neither agree nor disagree” 4 “disagree” 5 “disagree strongly” 8 “Can’t choose” 9 “NA”; we changed the latter two categories to missing values. For presentational purposes, we reversed the scale.

<sup>9</sup> For details on the country-years included in the estimations, see Tables A3 and A4 in the appendix.

<sup>10</sup> The complete answer categories are: 1 “definitely should be” 2 “probably should be” 3 “probably should not be” 4 “definitely should not be” 8 “Can’t choose” 9 “NA”; we changed the latter two categories to missing values. For presentational purposes, we reversed the scale.

The key political economy variables are measures of risks and income. For the former, we use three indicators: skill specificity, exposure to unemployment risk, and what we may call *realized risk*, namely whether or not the individual is currently unemployed. Skill specificity and exposure to unemployment risk both rely on occupational data based on the International Standard Classification of Occupations (1988)” (ISCO88). As in Iversen and Soskice (2001), we calculated the skill specificity of an individual’s occupation by dividing a) the share of occupational groups in the broadest ISCO occupational class to which that occupation belongs by b) the share the labor force in that class. To get a measure of specificity that is relative to an individual’s general skills ( $s_1$ ), or to his or her total skills ( $s_2$ ), it is then weighted by either an individual’s reported level of education<sup>11</sup> or by ILO’s measure of occupational skill level.<sup>12</sup> The measure used in this paper is Iversen and Soskice’s composite indicator, which is the average of  $s_1$  and  $s_2$ . Skill specificity is high if an individual is in a very specialized occupation, but has relatively low levels of education or skills. It is low if the occupation is not very specialized, while the level of education or skills is high.

Second, as in Rehm (2005), we extracted information from labor force surveys that allow for the calculation of occupational unemployment rates.<sup>13</sup> Such a rate is analogous to national unemployment rates, but is specific to an occupational category. The rate is calculated in the following way: the number of unemployed in an ISCO category is taken as a percentage of the sum of the employed and unemployed in that ISCO category. If possible, this is done for women and men separately. In the optimal case, this results in a measure that distinguishes among 52 occupational unemployment rates per country-year (26 occupations – at the ISCO88 2-digit level – times 2 genders).

Making the two measures consistent over time and across countries presented some challenges. Different country investigative teams employ different occupational classifications, and some teams have changed the classes they use over time.<sup>14</sup> The ISSP principal investigators for Italy and Japan altogether resisted the temptation to make their occupational variables internationally comparable. These countries, therefore, had to be dropped from the analyses. But for other countries we were able to piece together a data set that translates the different occupational classifications into ISCO88. This translation data-set draws on existing concordance tables<sup>15</sup> as well as tables that we constructed ourselves with the help of national statistical offices. These were also used to standardize the labor force data, allowing the occupational unemployment data to be merged with the ISSP survey data.

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<sup>11</sup> See appendix for details on the educational variable.

<sup>12</sup> The skill levels are assigned by the ILO. A mapping of ISCO88 1-digit codes and skill levels can be found at <http://www2.warwick.ac.uk/fac/soc/ier/research/isco88/english/s2>. We assign “Legislators, senior officials and managers” (ISCO88 major group 1) the highest skill level, while the ILO does not assign any skill level for that group.

<sup>13</sup> The occupational unemployment risk variable we employ below combines the most detailed data we have for each country. This ranges from ISCO88-2d by gender to ISCO88-1d by gender. See appendix for details.

<sup>14</sup> By way of example, the principal investigators of Italy as well as Japan resisted the temptation to make their occupational variables internationally comparable. These countries, therefore, had to be dropped from the analyses.

<sup>15</sup> Concordance tables are sometimes also known as crosswalks.

Finally, we include income to capture the Meltzer-Richard logic, in which those with incomes above the mean will oppose governmental redistribution, while others will support it. In addition to these political economy variables we control for the following characteristics:<sup>16</sup>

**Religiosity:**

As in Schheve and Stasavage (2005) we control for both church attendance, and religious denomination (Protestant or Catholic).

**Minority status:**

For the U.S., this variable codes Blacks, Hispanics, Chinese, Japanese, and Indian as minorities (1, zero otherwise). Note that for many other countries there is no information available on a respondent's minority status. For those few countries where this information is available, we coded those respondents who can reasonably be classified as disadvantaged minorities. See appendix for details.

**Age:**

Should they lose their current jobs older workers are disadvantaged in seeking re-employment. This puts them at greater risk than younger workers, and we should correspondingly expect higher predisposition for redistribution.

**Gender:**

Because women tend to be the primary caregivers, they are in a disadvantaged position within the labor market compared to men. This is particularly true in the event of divorce where transfers from the state are often the only means of income. Correspondingly, we should expect women to be more supportive of redistribution by the government.

**Students:**

Students are often the direct as well as indirect beneficiaries of governmental redistribution. As such it is in their interest to embrace such policies. On the other hand, their preferences might be determined in part by expected future earnings.

**Retired:**

In the main the retired are beneficiaries of government redistributive policies. It seems only natural, then, to anticipate that these individuals will favor income redistribution.

**Self-Employed:**

The self-employed depend on flexible labor markets and frequently rely on hiring relatively low-paid labor. They would stand to lose from most governmental redistributive efforts. As a consequence, we would expect these individuals to oppose most redistributive policies.

**Non-employed:**

This is a residual category intended to pick up any effects of not being in the labor market that are not captured by the student, retired, and unemployed variables. Since the group is heterogeneous there are no clear expectations regarding the effect of this variable on redistributive preferences.

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<sup>16</sup> Because it is used for the operationalization of skill specificity, we do not control for education.

Publicly employed:<sup>17</sup>

There are multiple arguments about why the publicly employed would favor governmental redistributive policies. For example, Blais, Blake and Dion (1990) report public opinion studies showing a general tendency for public employees to be more supportive of larger governments than are private sector employees. As argued by Knutsen (2005: 593-594), public sector employment “can be a significant political cleavage.” For example, “the public employee has clear self-interests connected to large public budgets [and] a well-developed welfare state.” Hence, the publicly employed would be in favor of redistribution by the government.

Union membership:

Union members, particularly where joining a union is a matter of choice, are likely to be in a union precisely because they are concerned with the security of their jobs and income. Such worries should prompt support for redistribution.

### 3.1.2. Findings for redistributive preferences

Table 1 displays the results of four ordered logit regressions on the dependent variable with five answer categories. Table A6 in the appendix is the analogous table employing the dependent variable with the four answer categories. Model (1) embodies the argument of the theoretical section of this paper. Note that model (4) expands the list of control variables, but because of missing data for some country-years, we lose about 15 to 20 % of the observations included in model (1).<sup>18</sup> Model (2) adds to our basic specification variables which capture the Scheve-Stasavage religious explanation of redistributive preferences. We note that Scheve & Stasavage employ a different dependent variable in their paper. Table A7 in the appendix reports the results on these alternative measures of redistributive spending preferences. Model (3) again uses our basic formulation and introduces a dummy variable capturing a respondent’s minority status. This specification is intended to assess the Alesina & Glaeser (2004) argument regarding preferences for redistribution. The reader should note that the ISSP data-sets have rather sparse information on respondents’ ethnic backgrounds. As a consequence, we lose about 60% of the observations compared to model (1) and these observations are rather restrictive in terms of cross-national coverage.

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<sup>17</sup> Because of many missing values, we will perform the regression analyses both including and excluding the control variables public employment and union membership.

<sup>18</sup> See Tables A2 and A3 in the appendix for details.



**Table 1: Determinants of Preferences for Redistribution**

	(1)	(2)	(3)	(4)
Pro Redistribution (5 answer categories)				
Occupational unemployment rate <sup>a</sup>	0.020*** [0.003]	0.021*** [0.004]	0.026*** [0.006]	0.019*** [0.004]
Skill specificity <sup>b</sup>	0.130*** [0.018]	0.134*** [0.019]	0.082*** [0.028]	0.141*** [0.020]
Unemployed	0.568*** [0.055]	0.577*** [0.058]	0.522*** [0.085]	0.670*** [0.062]
Income <sup>c</sup>	-0.144*** [0.004]	-0.147*** [0.004]	-0.160*** [0.007]	-0.144*** [0.005]
Age	0.001 [0.001]	0.001 [0.001]	-0.001 [0.001]	0.002* [0.001]
Gender (female)	0.167*** [0.020]	0.176*** [0.021]	0.124*** [0.032]	0.162*** [0.022]
Non-employed	0.288*** [0.042]	0.299*** [0.044]	0.205*** [0.063]	0.422*** [0.050]
Student	0.251*** [0.056]	0.249*** [0.059]	0.260*** [0.088]	0.401*** [0.063]
Retired	0.276*** [0.048]	0.285*** [0.050]	0.228*** [0.075]	0.389*** [0.055]
Self-employed	-0.342*** [0.034]	-0.359*** [0.036]	-0.383*** [0.055]	-0.206*** [0.038]
Church attendance <sup>d</sup>	-	-0.021*** [0.008]	-	-
Protestant	-	-0.135*** [0.028]	-	-
Catholic	-	0.092*** [0.033]	-	-
Minority	-	-	0.594*** [0.077]	-
Publicly employed	-	-	-	0.156*** [0.029]
Union membership	-	-	-	0.279*** [0.029]
Country Dummies	yes	yes	yes	yes
Year Dummies	yes	yes	yes	yes
Observations	48334	44576	19343	41712
Pseudo $R^2$	0.07	0.07	0.05	0.06
Log Pseudo-Likelihood	-68252.9	-62882.7	-28589.7	-58339
Wald $\chi^2$ (degrees of freedom)	7368.33 (36)	6997.58 (39)	2589.62 (23)	5452.19 (36)

Notes:

Ordered logit regressions, using weights (design weights \* sample weights).

Robust standard errors in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

See appendix for details on variable descriptions.

<sup>a</sup> Right censored at 20% (ca. 95<sup>th</sup> percentile), at the most detailed occupational level. Zeros for people not in labor force.

<sup>b</sup> Right censored at 3.33 (ca. 95<sup>th</sup> percentile). Zeros for people not in labor force.

<sup>c</sup> In 9 (national) quantiles.

<sup>d</sup> Church attendance [0 (no (Christian) religion), 1 (never), ..., 5 (once a week)]. Results do not change if zeros (0) are changed to missing values.

Results for models (2) & (3) including the control variables 'publicly employed' and 'union membership' are basically the same.

There are no indications from the summary statistics that the models should be rejected. Our general expectations with respect to control variables are borne out. The only exception to this is age, where in three of four instances the variable's coefficient is not statistically significant. We should note that with respect to the non-employed variable, for which we had no a priori expectation, the coefficient is consistently positive and statistically significant.

Our primary emphasis in this section has been on the political economy variables (risk exposure, realized risk, and income) and their impact on redistributive preferences. This is captured in model (1) of Table 1. There one can see that all of the estimated coefficients are statistically significant and take on the predicted signs. The greater the risk an individual experiences in the labor market, and the lower his or her income, the more supportive of government redistribution that individual is.

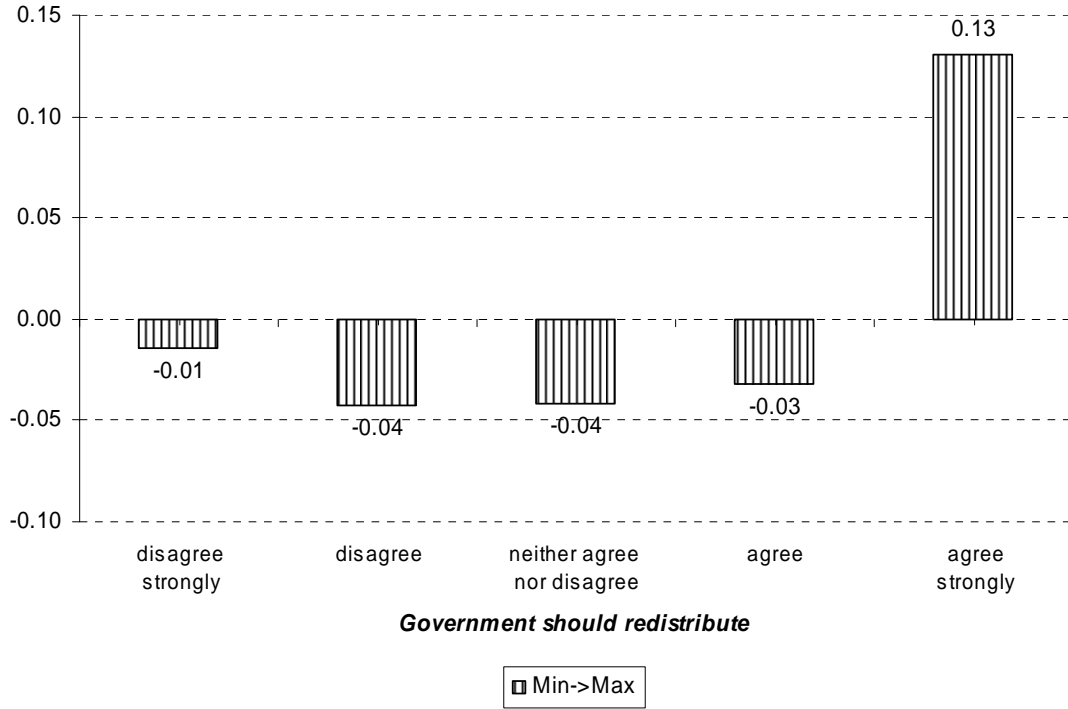
But how important are these variables in substantive terms? In terms of model (1) we rely on simulations to answer this question (see Figures 3-8).<sup>19</sup> These simulations reveal how the probability of falling into a certain answer category changes, depending on values of an independent variable, holding everything else constant. For example, this is how the numbers for Figure 3 were computed. We first calculate the probability that an *employed* person would give one of the five possible answers to the redistribution preference question. In this and all other simulations, the values of the variables not being simulated are held constant. Across the possible answers, the probabilities must sum to one. Second, the associated probabilities for each of the five categories are calculated for an *unemployed* person. Of course, these probabilities have to sum up to one as well. Third we compute the differences between the probabilities for each category, comparing an employed with an unemployed respondent. These differences are displayed in the figure. For example, Figure 3 shows that the probability of 'strongly disagreeing' with redistribution by the government for an unemployed individual is around .01 lower than the corresponding chance for an employed individual.<sup>20</sup> Likewise, the probabilities of an unemployed respondent 'disagreeing', 'neither agreeing nor disagreeing' as well as 'agreeing' with redistribution are each lower by about 0.04 compared to an employed person. Simultaneously, the probability of 'strongly agreeing' is 0.13 higher for an unemployed person relative to an employed person. The *changes* in probabilities must sum to 0 (ignoring rounding errors, as in Figure 3), but they do not have to be evenly distributed over the answer categories. In Figure 3, for example, the probability of an unemployed respondent to 'agree' with redistribution actually decreases! This is so because many respondents shift from that category to the 'strongly agree' one.

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<sup>19</sup> All simulations are performed with SPost, a very helpful STATA ado-file written by Scott Long (<http://www.indiana.edu/~jslsoc/spost.htm>). See also Long and Freese (2001).

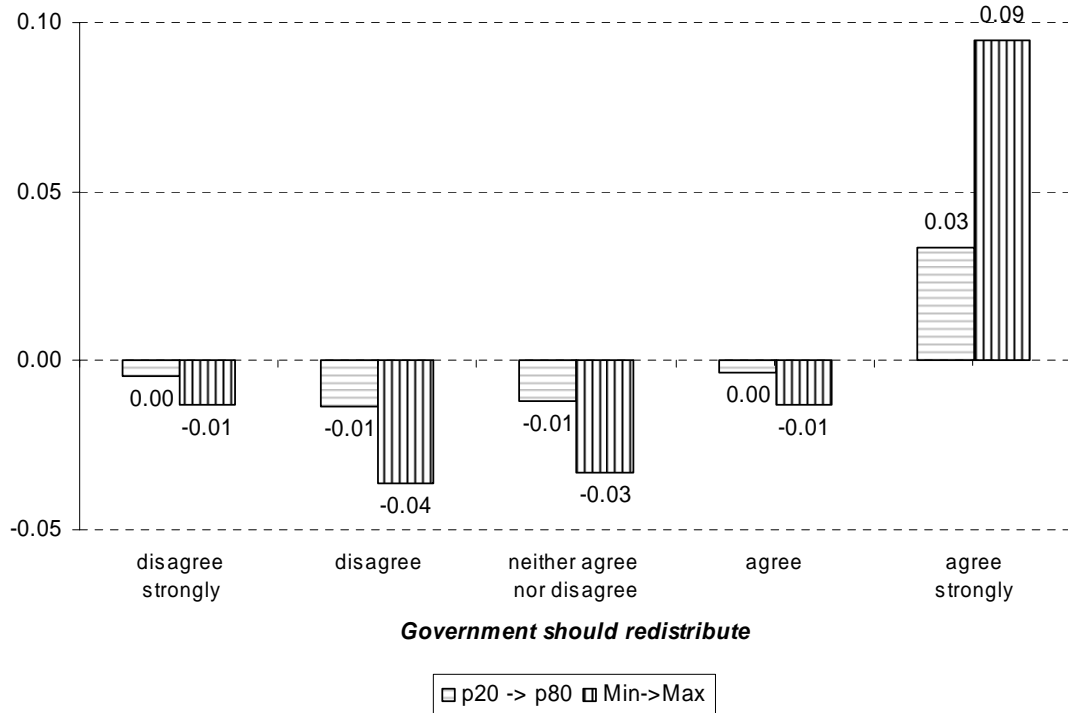
<sup>20</sup> The paper's figures display probabilities (or changes therein) on the y-axis.

**Figure 3: Changes in redistributive preferences as a function job loss**



Note: Differences in redistributive preferences comparing an employed with an unemployed individual. Simulations based on model (1) in Table 1.

**Figure 4: Changes in redistributive preferences as a function of differences in skill specificity**

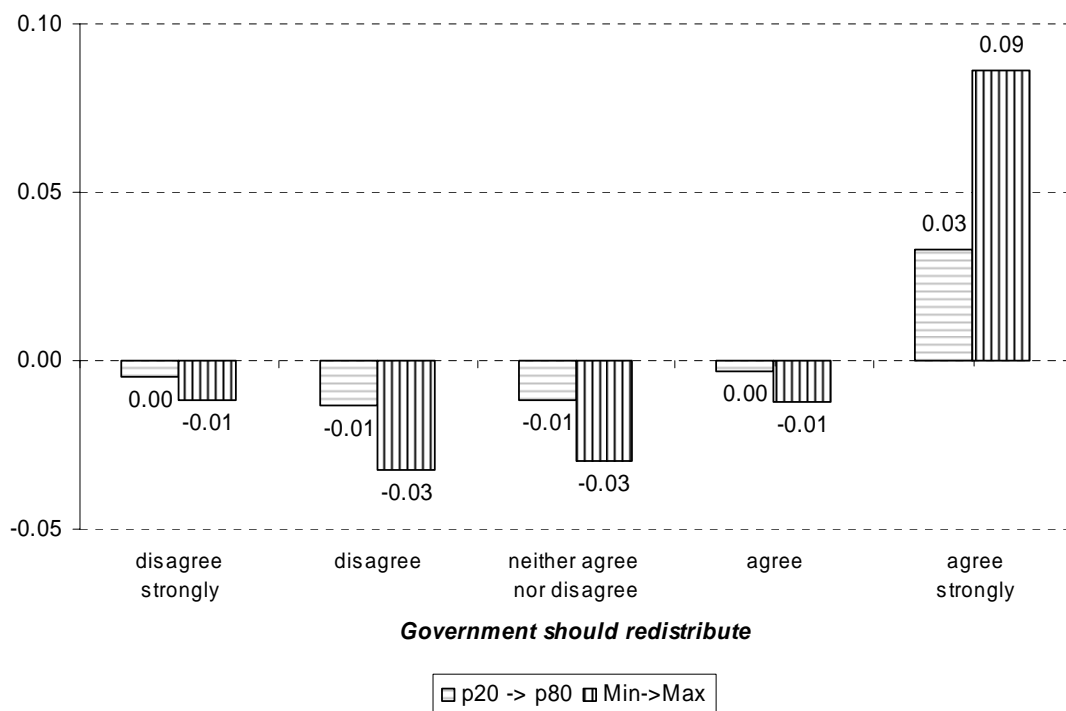


Note: Change in skill specificity from 0 (min) to 3.33 (95<sup>th</sup> percentile) and p20 to p80. Simulations based on model (1) in Table 1.

The contrast between being employed and unemployed, the latter being a “realized” risk, is a good benchmark for assessing the effects of exposure to risks – our central independent variables. Figure 4 presents the simulation results connected to skill specificity, one of our postulated risk factors, and preferences regarding redistribution. Using a 95 percentile range, the difference between having general and having very specific skills is comparable in its magnitude on redistributive preferences to the difference between being employed and being unemployed (shown in Figure 3).<sup>21</sup>

Likewise, simply being highly exposed to the risk of unemployment has an impact nearly as great as actually being unemployed (Figure 5). While being unemployed increases the probability of strongly agreeing with government redistribution by .13, a high risk of unemployment elevates this probability at a slightly lower rate, i.e., .09. Similarly, individuals with high skill specificity have a .09 higher chance of strongly supporting government redistribution than do individuals with general skills.

**Figure 5: Changes in redistributive preferences as a function of an increase in occupational unemployment rates**



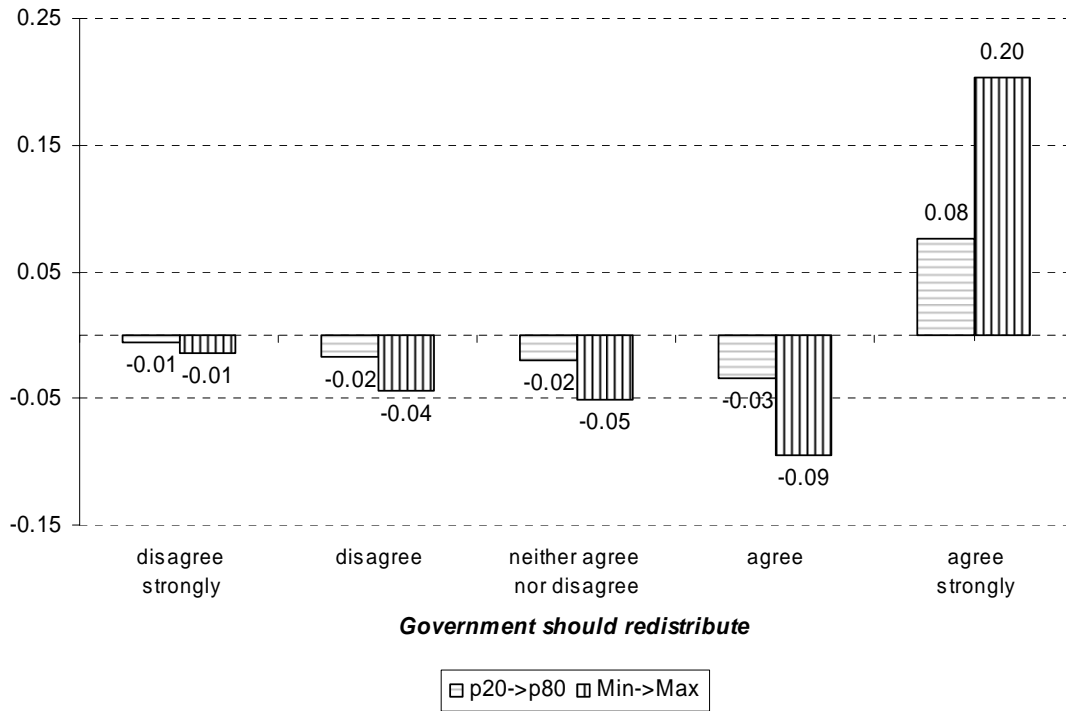
Note: Change in risk from 0 (min) to 20 (95<sup>th</sup> percentile) and p20 to p80.  
 Simulations based on model (1) in Table 1.

When taken together, these two elements of risk exposure in the labor markets appear to have a powerful impact on individuals’ preferences for redistribution. Figure 6 plots the combined simulated effects of moving from a situation in which an individual is not exposed to risk on both the skill specificity and the unemployment dimensions to a situation of maximal

<sup>21</sup> Simulations involving continuous independent variables of interest not only display changes from the variable’s minimum to maximum value (or 95<sup>th</sup> percentile) but also from its 20<sup>th</sup> to its 80<sup>th</sup> percentile.

exposure to risk. The effect is to sharply increase the likelihood (viz., .20) that an individual will strongly agree with government redistribution.

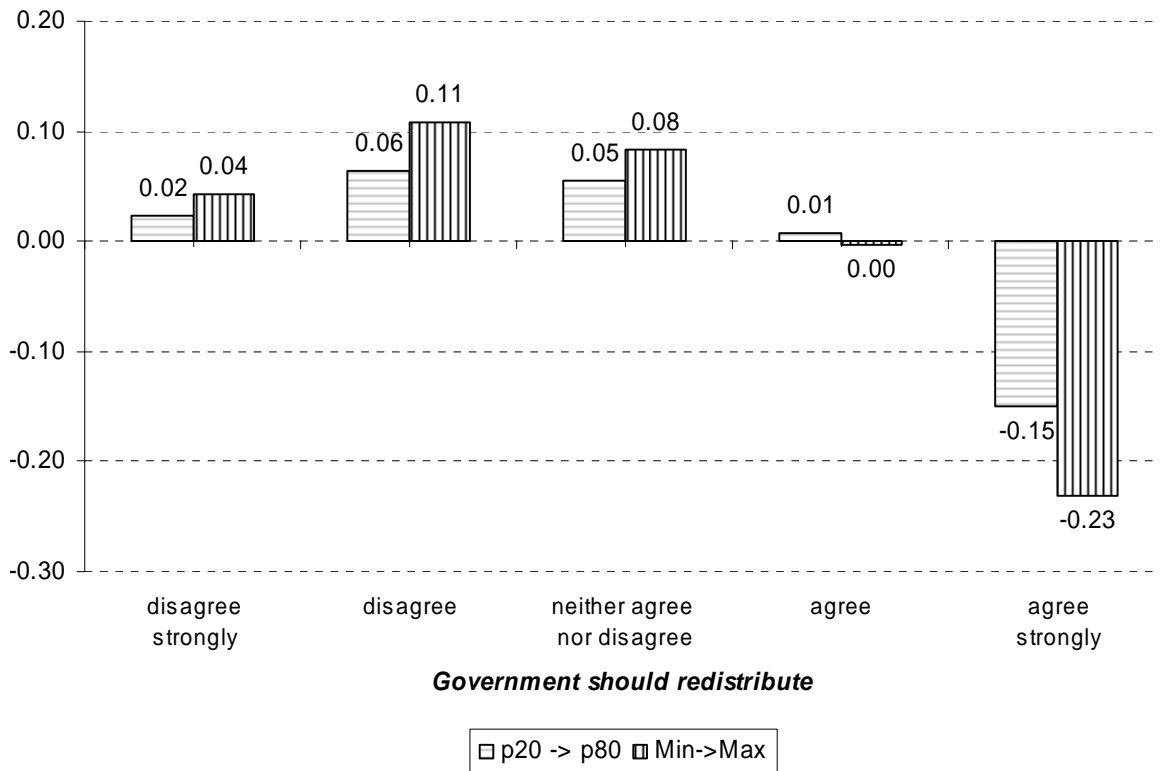
**Figure 6: Changes in redistributive preferences as a function of an increase in occupational unemployment rate as well as in skill specificity**



Note: Change in occupational unemployment risk from 0 to 20 (95<sup>th</sup> percentile) and change in skill specificity from 0 to 3.33 (95<sup>th</sup> percentile). Also, changes from p20 to p80. Simulations based on model (1) in Table 1.

Finally, Figure 7 contrasts the differences in preferences for redistribution between those well below the mean income and those well above it. According to the Meltzer-Richard argument, the former are far more supportive of egalitarian redistribution by the government than the latter. This is indeed the case when one examines the results produced in Table 1. Substantively, one can observe marked differences in redistributive preferences between individuals with very low and very high incomes.

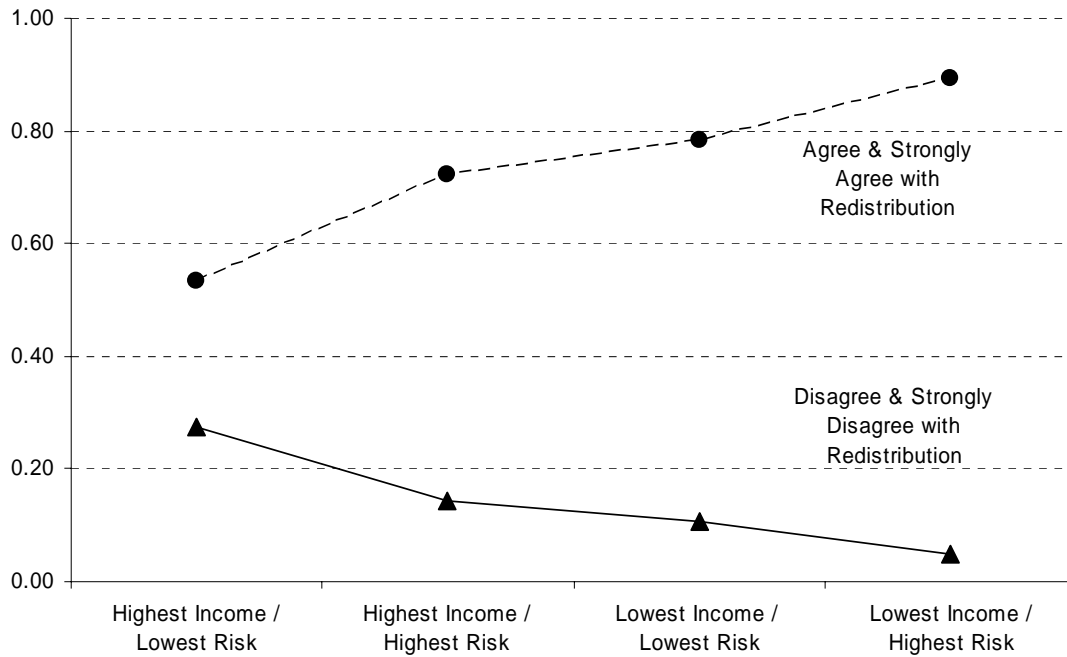
**Figure 7: Changes in redistributive preferences as a function of moving from the bottom to the top income quantile**



Note: Change in income from quantile 1 (min) to quantile 9 (max) and p20 to p80.  
 Simulations based on model (1) in Table 1.

Our results indicate that preferences for redistribution are very much in line with what we would expect from peoples' "objective" economic positions. Poor people as well as individuals exposed to high risks favor governmental redistribution, while the rich and those in secure labor market positions tend to be less supportive of such policies. Figure 8 shows that, together, income and risk exposure leave a strong imprint on redistributive preferences. Simulations with combinations of the extremes on these variables reveal that individuals have markedly different preference profiles, depending on their exposure to risk and their earnings. As a group, individuals with both high income and low risk are relatively ambivalent in their redistributive preferences. The likelihood that such an individual would support redistribution is .53, while the corresponding chance that she or he would oppose it is .28. Rounding this out, there is a .19 chance that such an individual would express indifference on this issue. Alternatively, those misfortunate enough to be both at high risk in the labor market and poor in terms of income would have an overwhelming chance of favoring redistribution (the likelihood being .89), with only a .05 chance of opposing redistribution and a .06 chance of expressing indifference. It is hard to imagine clearer evidence that economic interests are critical in explaining redistributive policy preferences. Though some people may be "rationally ignorant" about their interests, most are not.

**Figure 8: Redistributive preferences as a function of different combinations of income and risk exposure**

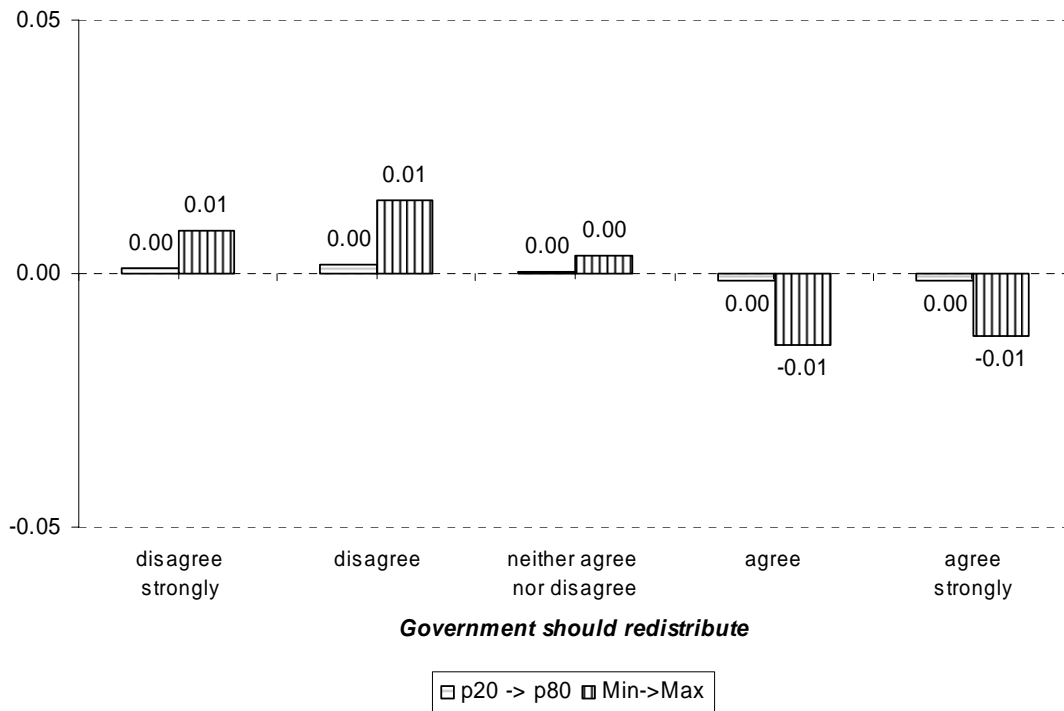


Note: Combinations of changes in income from quantile 1 to quantile 9 and in risk exposure (occupational unemployment rates and skill specificity combined) from lowest to highest. Simulations based on model (1) in Table 1.

This conclusion is strengthened when we compare the results to those for religion (Table 1, model (2) as well as Tables A7 and A8 in the appendix). Focusing on church attendance, the variable of interest for Scheve & Stasavage, we find that its impact is statistically significant in some models. Nevertheless, the substantive impact of church attendance is barely discernible. In Figure 9, we present simulation results comparing those with no church attendance to those who go regularly and frequently to church. There is practically no difference in terms of redistributive preferences between these two types of people.<sup>22</sup>

<sup>22</sup> Figure A3 in the appendix shows simulation results on church attendance, excluding our risk exposure variables. The statistical significance as well as the substantive effect of the religious variables are somewhat larger without the risk exposure variables. This indicates religious people are somewhat less likely to be in risky labor market positions.

**Figure 9: Changes in redistributive preferences as a function of church attendance (controlling for risk exposure)**



Note: Change in church attendance from min (0) to max (5) and p20 to p80. Simulations based on model (2) in Table 1.

The evidence for an effect of minority status is ambiguous (see Table 1, model (4)). Although there is a substantively important positive effect of minority status on preferences for redistribution, this seems to be due to minorities within the US (mainly American Blacks and Hispanics) favoring redistribution. Outside the US, our data do not allow for careful testing of the ethnicity argument,<sup>23</sup> but for the countries for which we have data (Canada, UK, Germany, Sweden) minority status does not seem to shape redistributive preferences. The ethnicity argument is interesting, but clearly needs to be evaluated with better data.

### 3.1.3. The relationship between objective and subjective measures of risk

The conclusion that individuals form their redistributive preferences based on their objective position in the economy can be strengthened by exploring the linkage between objective and subjective measures of job security. While it is unsurprising that preferences over redistribution are related to people's expressed insecurity, it is not obvious that people have a good idea about their actual exposure to risk. If not, the politics of redistribution may still in large measure be a politics of values. It turns out, however, that subjective insecurity is closely related to objective insecurity when we regress a measure of the former on the objective risk

<sup>23</sup> Another problem with the data arises as a consequence of the huge drop in the number of respondents. Our two risk exposure variables are highly correlated with each other in the small sample and the results seem to suffer from multi-collinearity (see model (3) Table A6). When we add the risk exposure variables separately into the equation, they turn out to be highly significant, both substantively and statistically.



measures employed in this paper. The dependent variable ‘perceived insecurity’ is based on the following ISSP survey question:<sup>24</sup>

“[...] show how much you agree or disagree that [the statement] applies to your [main] job. My job is secure.”

**Table 2: Determinants of perceived job insecurity (employed only)**

	(1)	(2)
	Perceived Insecurity (ordered logit, 5 categories)	Perceived Insecurity (logit)
Occupational unemployment rate <sup>a</sup>	0.035*** [0.008]	0.030** [0.010]
Skill specificity <sup>b</sup>	0.123*** [0.035]	0.100** [0.048]
Income <sup>c</sup>	-0.087*** [0.011]	-0.096*** [0.016]
Age	-0.007*** [0.002]	-0.004 [0.003]
Gender (female)	-0.035 [0.047]	-0.031 [0.070]
Self-employed	0.054 [0.080]	0.115 [0.106]
Country Dummies	yes	yes
Year Dummies	yes	yes
Constant	-	-1.306*** [0.313]
Observations	7783	7783
Pseudo $R^2$	0.03	0.04
Log Pseudo-Likelihood	-10777.07	-3518.81
Wald $\chi^2$ (degrees of freedom)	463.48 (17)	246.51 (17)

Notes:

(Ordered) logit regressions, using weights (design weights \* sample weights).

Robust standard errors in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

See appendix for details on variable descriptions.

a Right censored at 20% (ca. 95th percentile), at the most detailed occupational level. Employed only.

b Right censored at 3.33 (ca. 95th percentile). Employed only.

c In 9 (national) quantiles.

Based on ISSP surveys from 1989 (USA, Ireland) and 1997 (USA, Canada, Switzerland, Spain, Portugal, West Germany, East Germany, Norway, Denmark, New Zealand).

The possible answer categories range from 1 (“agree strongly”) to 5 (“disagree strongly”). High values on this categorical dependent variable indicate high perceived job insecurity and we should observe a positive correlation between the objective risk exposure measures and this measure. Table 2 shows that this is exactly the case.<sup>25</sup> When regressing the subjective risk exposure measure on the objective risk exposure measures, plus a set of controls,

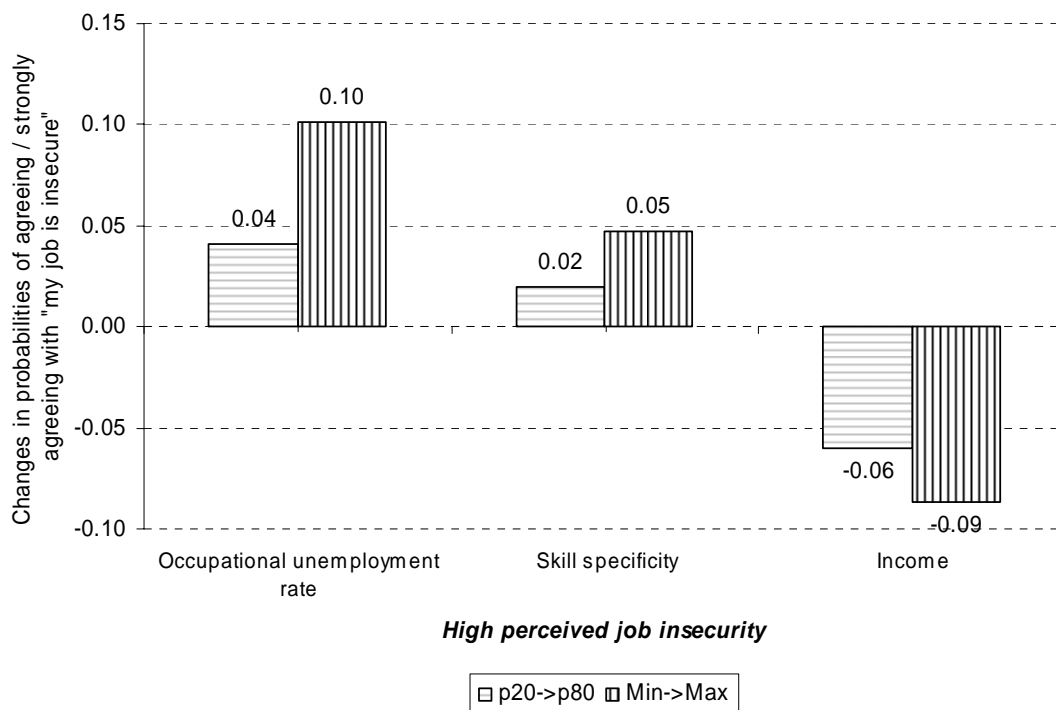
<sup>24</sup> There is no single ISSP survey that includes both the perceived insecurity question and on or the other of our redistributive preferences variables. The perceived insecurity question was posed in the 1989 and the 1997 surveys.

<sup>25</sup> Note that the sample in Table 2 is restricted to employed people only. The dependent variable – perceived job insecurity – hardly makes sense for people outside the labor market.

one finds that occupational unemployment rates as well as skill specificity are statistically significant predictors of perceived job insecurity.

The objective risk exposure measures employed in this paper are not only statistically, but also substantively important predictors of perceived job insecurity. Figure 10 displays the differences in predicted probabilities for “disagreeing” or “strongly disagreeing” with the statement that ones job is secure. Changing an individual’s occupational unemployment rate from its minimum to its maximum value increases this individual’s probability of subjectively feeling insecure by 0.09. Skill specificity exerts less, but still a substantially important, influence on subjective risk exposure. In terms of substantial impact, income importantly decreases individual’s perceived risk exposure.

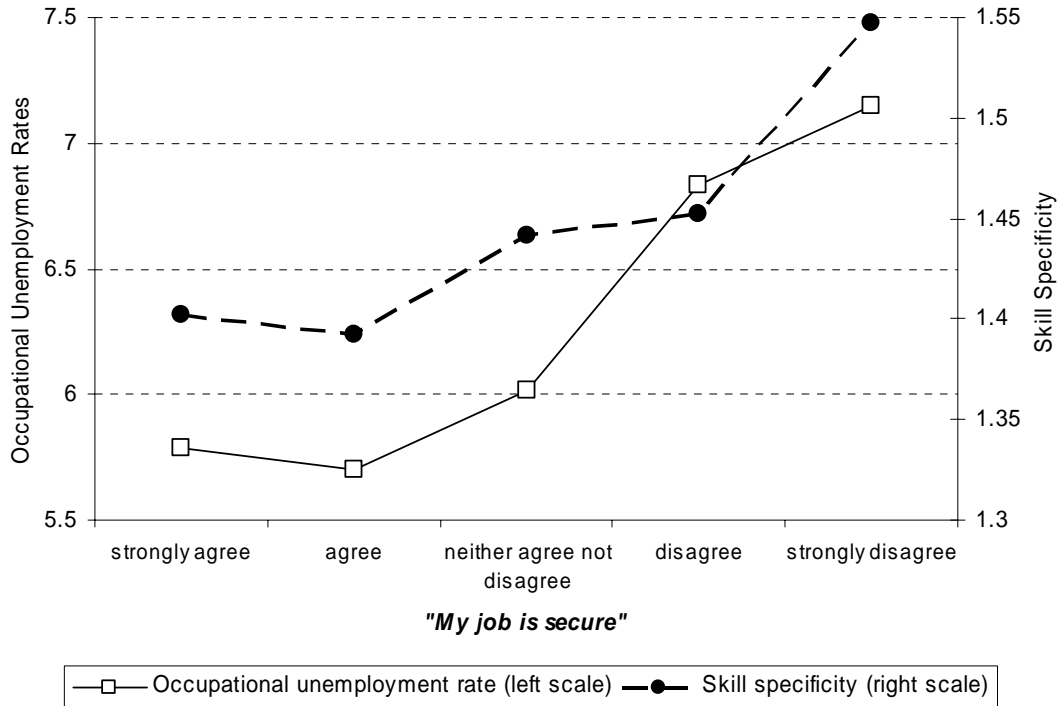
**Figure 10: Changes in perceived job insecurity as a function of changes in occupational unemployment rates, skill specificity, income**



Note: Differences in perceived job insecurity. The figure shows the differences in predicted probabilities of “disagreeing” or “strongly disagreeing” with the statement “my job is secure.” Simulated are changes in three independent variables with minimum / maximum (p20 / p80) values. Simulations based on model (2) in Table 2.

The relationship between the objective risk exposure measures and perceived job insecurity can also be seen in Figure 11. The figure shows the mean value of both objective risk exposure measures – skill specificity and occupational unemployment rates – for each answer category on the ‘my-job-is-secure’ question. Clearly, individuals objectively exposed to more risks in the labor market subjectively feel their jobs to be more insecure.

**Figure 11: Relationship between insecurity and risk exposure**



Note: Shown are mean values of the risk exposure variables for each answer category to the statement "my job is secure"

### 3.1.4. The relationship between redistributive and partisan preferences

There is one final micro-level causal link in our story: redistributive preferences should strongly influence individuals' partisan preferences. Table 3 shows that they do. In the first two models of Table 3, the dependent variable is individuals' partisan affiliation on a variable ranging from 1 ("far right") to 5 ("far left"). We placed each party in our sample in one of these categories.<sup>26</sup> Models (3) and (4) of Table 3 repeat the analyses for a binary dependent variable. There, "far left" and "left" parties are coded as a one (1), and the remaining parties as a zero (0).

<sup>26</sup> We added the category "other" for parties that are particularly difficult to place. These are not included in the analyses. For details on the classification choices, see appendix.

**Table 3: Determinants of Partisan Preferences**

	(1)	(2)	(3)	(4)
	Right-Left Partisan Affiliation (ordered logit, 5 categories)		Left Partisan Affiliation (logit)	
Pro Redistribution (five categories)	0.423*** [0.007]	-	0.440*** [0.008]	-
Pro Redistribution (four categories)	-	0.585*** [0.010]	-	0.574*** [0.012]
Country Dummies	yes	yes	yes	yes
Year Dummies	yes	yes	yes	yes
Constant			-1.527*** [0.135]	-2.620*** [0.171]
Observations	73522	45498	73522	45498
Pseudo $R^2$	0.05	0.05	0.08	0.08
Log Pseudo-Likelihood	-87460.42	-54287.02	-46831.01	-29050.95
Wald $\chi^2$ (degrees of freedom)	7023.25 (32)	4658.47 (25)	5254.88 (32)	3300.55 (25)

Notes:

(Ordered) logit regressions, using weights (design weights \* sample weights).

Robust standard errors in brackets.

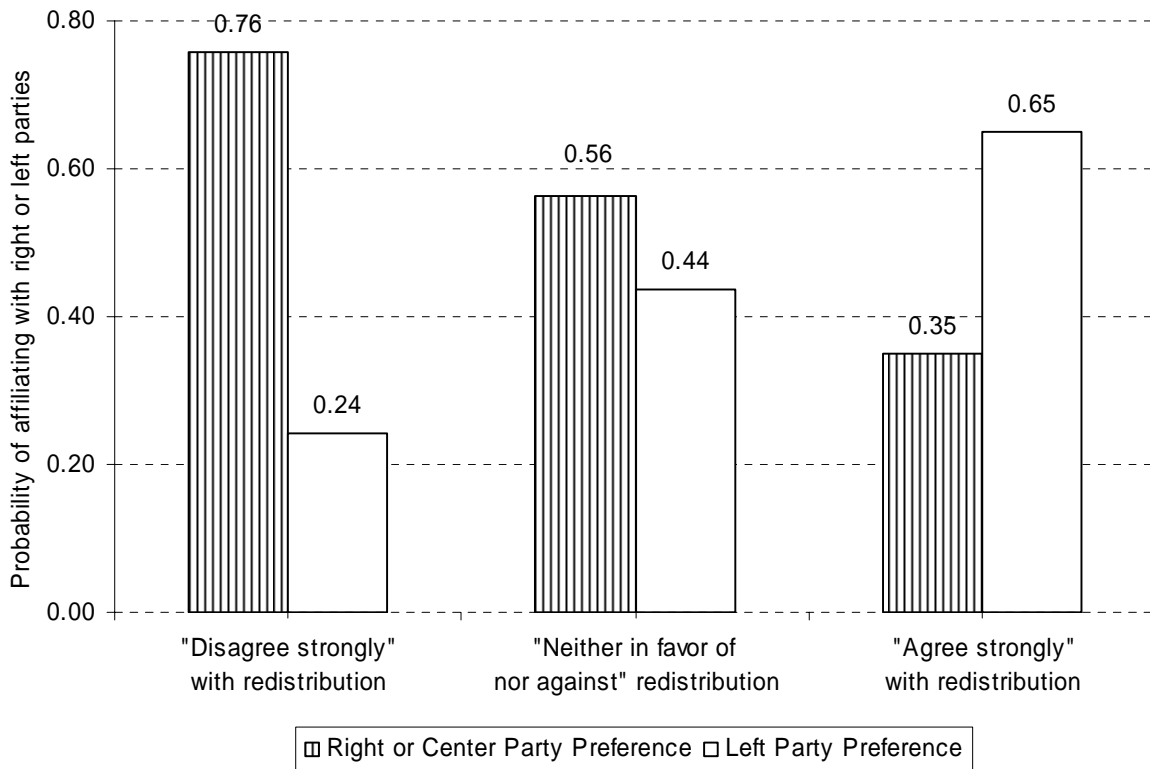
\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

See appendix for details on variable descriptions.

Based on ISSP data for USA, Canada, United Kingdom, Ireland, Netherlands, France, Switzerland, Spain, Portugal, West Germany, East Germany, Austria, Finland (not models (2) and (4)), Sweden, Norway, Denmark, Australia, New Zealand.

The results show that redistributive preferences are excellent predictors of partisan affiliation, and the magnitudes of the predicted probabilities, i.e. the variables' substantive effects – are very impressive. Figure 12 displays the predicted probabilities of revealing a right (i.e. far right, right or center) or left (i.e. far left and left) partisan affiliation, contingent on the individual's revealed preference for income redistribution. The left panel in the figure shows the likelihoods that the individual affiliates with the right and left, respectively, in the case where that individual reveals a preference strongly opposing redistribution (i.e., 1 on the 5-category scale). This individual's probability of affiliating with the right is 0.76, while the probability of affiliating with the left is only 0.24. Conversely, as shown on the right panel in the figure, individuals with revealed preferences strongly in favor of redistribution (i.e., 5 on the 5-category scale) over-proportionally affiliate with the left. These individuals have a .65 chance of preferring a left party and only a .35 chance of expressing a preference for a centrist or rightist party. Individuals who are indifferent regarding income redistribution (i.e., 3 on the 5-category scale) are also relatively ambivalent in their expressions of partisan preferences (see middle panel).

**Figure 12: Predicted probabilities for partisan affiliation as a function of redistributive preferences**



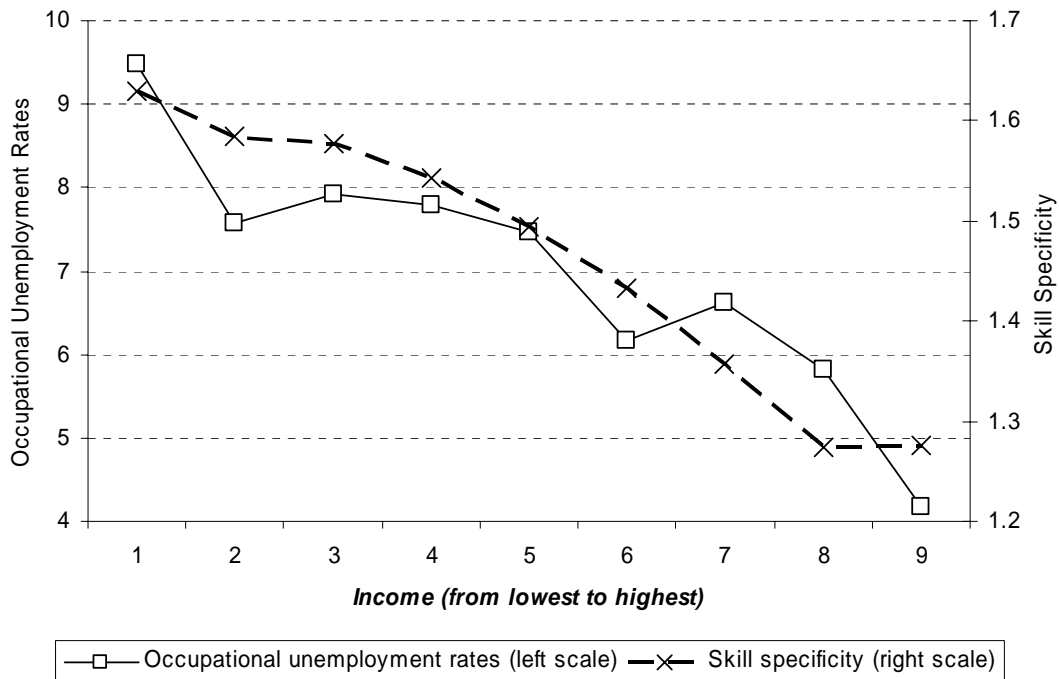
Note: Change in predicted probabilities for affiliating with left / very left or center / right / very right parties as a function of redistributive preferences from opposition (left panel) through indifference (middle panel) to support (right panel). Simulations based on model (3) in Table 3.

But the salience of these preferences for partisan politics depends on their association with electoral cleavages. Many political economists follow the lead of Downs, Hibbs and Meltzer and Richard in assuming that income redistribution is the principal dimension of partisan competition. Our results on redistributive preferences and partisan affiliation at the individual level support this claim. But preferences for redistribution are themselves a function of income and risk exposure. If the poor are also exposed to high labor market risks, one would expect that shocks to the labor market would produce different responses by governments dominated by left or by right parties. Risk exposure, in this scenario, reinforces the demand for redistribution due to income differences. But whether risk exposure and income are reinforcing or cross-cutting cleavages is, of course, an empirical question.

One way to answer this question is simply to correlate income and risk exposure at the individual level within the data-set. The Pearson correlation coefficient between income and skill specificity at this level is -0.1574 (N= 105,577), the one between income and occupational category unemployment rates is -0.2314 (N= 76,875). Because of the large sample sizes both correlations are highly statistically significant, but they may appear quite low. In fact, when using individual level data-sets correlations at this magnitude between conceptually distinct variables are quite rare (Gelissen 2002: 159-160). They indicate very strong systematic relationships, which become clearer when we look at the relationship between income and risk exposure for different income groups.

Figure 13 depicts the relationship between income and the risk exposure measures for each income group. At this level of aggregation, it becomes quite apparent that our risk measures are highly correlated with income. The correlation coefficient between income and skill specificity (occupational unemployment rates) is  $-0.9797$  ( $-0.9252$ ). This strongly suggests that risks in the labor market and income are reinforcing and not cross-cutting cleavages. In light of these findings, we should expect marked partisan differences in government reactions to labor market shocks. Showing this is the remaining task, which is addressed in the next section.

**Figure 13: Relationship between income and risk exposure**



### 3.2. Macro-level evidence

#### 3.2.1. Statistical model and data

The estimation strategy at the macro-level follows the approach in Blanchard and Wolfers (2000). There, political-institutional variables are included in the regression as interactions with the shocks that are supposed to condition the shocks' effects.<sup>27</sup> Blanchard and Wolfers propose two versions of the model, and we estimate both.

The *first* assumes that countries are exposed to uniform, and unobservable, exogenous shocks. Since the nature of the shocks is left unspecified in this version, the purpose is simply to determine whether countries with different institutions respond differently to them. The shocks are proxied by a set of year dummies ( $D_t$ ) that are interacted with the  $j$  political-institutional variables ( $I$ ):

<sup>27</sup> The dependent variable in Blanchard and Wolfers' analysis is unemployment.

$$RS_{i,t} = \alpha_i + D_i \cdot (1 + \beta^j \cdot I_i^j) + \sum \gamma^k \cdot X_{i,t}^k + \varepsilon_{i,t}, \quad (2)$$

where RS refers to government transfers (or “redistributional supply”), and  $i$  indexes countries,  $t$  time, and  $k$  a set of control variables. The common unobserved shocks in this formulation are captured by the time dummies, and the political-institutional effects by the parameters  $\beta^j$ . If  $\beta$  is zero it means that the effects of the shocks are identical across political-institutional configurations. If it is positive (negative) it means that the relevant institutional feature magnifies (reduces) the effect of the common shocks. The model uses country-specific intercepts so that differences observed between countries can be attributed entirely to policy *changes*.

The *second* formulation identifies the nature of the shock, and allows it to vary across countries. The shock variable,  $S_{i,t}$ , is simply substituted in for the time dummies in the first model:

$$RS_{i,t} = \alpha_i + S_{i,t} \cdot (1 + \beta^j \cdot I_i^j) + \sum \gamma^k \cdot X_{i,t}^k + \varepsilon_{i,t}, \quad (3)$$

The data for the estimations of the two models are from sixteen OECD countries over a 36-year period from 1960 to 1995.<sup>28</sup> This period covers both the Golden Age of welfare state expansion as well as what Pierson has called the “new politics” of retrenchment (Pierson 1996). The following describes the variables we used:

#### Government transfers:

The dependent spending variable is proxied by total government transfers to private households as a share of GDP. The data are described in Cusack (1991) and are drawn mainly from OECD, *National Accounts, Part II: Detailed Tables* (various years).

#### Shock variables:

Following the micro-level analysis we employ two different shock variables (in addition to the time dummies). One is unemployment as a percentage of the labor force and the other is deindustrialization. The former corresponds directly to one of our individual-level risk measures.<sup>29</sup> The latter is meant to serve as a summary measure of job losses as a result of technological change. As argued in Iversen and Cusack (2000), deindustrialization is a particularly dramatic, and easily measured, instance of labor market changes that forces some workers to find jobs outside the sector for which their skills were originally developed. The variable is defined as 100 minus the sum of manufacturing and agricultural employment as a percentage of the working age population.<sup>30</sup> The raw data constructing these variables are drawn from OECD, *Labour Force Statistics* (various years).

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<sup>28</sup> The countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and United States.

<sup>29</sup> The correlation between unemployment and deindustrialization is 0.7.

<sup>30</sup> The base of 100 is arbitrary. For example, one could have used the peak of employment in agriculture and manufacturing as the base instead; and this is a number that varies across countries. However, since the statistical model includes a full set of country dummies the base does not matter.

Political-institutional variables:

The political-institutional variables are government partisanship, the electoral system, and the training system, defined as follows:

Partisanship:

This is Cusack's measure of the *government center of gravity*, which is the average of three expert surveys of the left-right position of parties, weighted by the share of parties' seats in government (see Cusack and Engelhardt 2002). The variable goes from left to right and is standardized to have a range of 1 and a mean of 0. Much of the variance in this variable is cross-sectional, and as such it may be conceived as capturing a relatively invariant structural advantage of the left or right. In that sense it can be treated as an institutional variable, *I*. But since partisanship also varies over time it can also be entered as a "conjunctural" independent variable, *X*. We always include it as a control, but try it out as a conditioning "institutional" variable as well.

Electoral systems:

This is a simple division of electoral systems into majoritarian (0) and PR (1). The categorization is based on Lijphart's (1994) analysis of democratic institutions. Since this variable does not change over time, it is treated as a conditioning institutional variable.

Vocational training systems:

The training system is measured as the share of an age cohort going through a vocational training, assuming that vocational training is a measure of specific skills acquisition. The data is taken from UNESCO, Statistical Yearbook (1999). This measure, which starts in 1980s, is in principle annual, but it exhibits little meaningful variation over time and is treated here as an invariant institutional variable. We simply extrapolated it back in time to cover earlier periods.

Controls:

Finally, in the estimations with time-dummies are used, we control for the size of dependent population, which is the sum of unemployed and people over the age of 64 as a percentage of the total population. In the models where the shock variables are unemployment or deindustrialization, we control only for the size of the senior population (as a percentage of the total population) to avoid entering unemployment, or a close substitute, twice. The source for the unemployment and population figures is OECD, *Labour Force Statistics* (various years).

### 3.2.2. Findings

Table 4 shows the results of estimating the regression equation (2), using non-linear least squares.<sup>31</sup> The first line is the total time effect, or the total effect of the exogenous shocks. It is calculated taking the difference between the parameter on the 1995 time dummy and the parameter on the 1960 time dummy after all variables have been defined as deviations from their cross-country means. By defining all variables as deviations from their means the effect of the time dummies will capture the change over time. What we want to know is whether governments in countries with strong vocational training systems, PR electoral systems, or left governments react differently to shocks than governments in countries with weak vocational training systems,

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<sup>31</sup> It is necessary to use non-linear least squares (the *nl* procedure in Stata) to estimate the model because the functional form of the interaction between the time dummies and the institutional variable is unknown *ex ante*. Only non-linear estimation will yield a single parameter for each institutional variable,  $\beta^j$ , in equation (2).



majoritarian institutions, or right governments. And, again, the parameter  $\beta$  on the interaction terms provides the answer. If it is positive it means that shocks cause spending to increase *more* in countries with high values on the political-institutional variables.

It is possible to get a very intuitive measure of the substantive effect by distinguishing the spending effects of shocks in countries with extreme values on the institutional variables. These effects are found by adding to and subtracting from the time effect the product between this effect and the estimated parameter  $\beta$  times the minimum and maximum values on the institutional variables. For example, model (1) in Table 4 shows that the effect on transfers of the exogenous shocks that occurred between 1960 and 1995 has been to raise spending as a percentage of GDP by 5 percent in a country with the weakest vocational training system, but by nearly 12 percent in a country with the strongest vocational training system. These numbers are referred to as the “minimum” and the “maximum” at the base of the Table. What is termed the “*effect*” is the difference between the two. This number can be read as a summary measure of the impact of an institution on any particular spending variable. In the case of the vocational training systems this effect is 6.6 percent, which is about 90 percent of the total time effect (and easily significant at a .01 level).

Countries with PR electoral systems (Table 4, model 2) also responded to shocks by increasing spending more than countries with majoritarian systems. The effect is about 4 percent or roughly half the total time effect. The effect of partisanship (Table 4, model 3) is more complicated because right governments actually spend more on transfers than left governments when there are no shocks, yet left governments respond to shocks by increasing spending more than right governments. If we focus only on the responses to shocks, the effect of having a left government is roughly the same as having PR (about 4 percent). One plausible interpretation of this pattern is that there are transfers, such as pensions, that are not redistributive and for which demand is high among right party constituencies, whereas transfers that respond to labor market shocks tend primarily to affect left party constituencies. Recall that the individual level results referred to risks and preferences for *redistributive* spending. The high responsiveness of the left to shocks can reasonably be seen as reflecting this combination.

In a model where all three conditioning variables are entered simultaneously (Table 4, model 4), vocational training and PR account for roughly the same share of the cross-time variation, and about 90 percent together. However, since the two variables are highly correlated (0.8), small measurement errors can have a significant impact on how much of the variance is attributed to each variable. The estimated effect of the partisan variable is notably reduced in the combined model. A reasonable interpretation for this change is that institutions affect both partisanship and government responses to shocks. But, again, since all three variables are correlated and subject to measurement error, one must be careful in attributing exact weights to each variable.

Did governments respond differently to the changing economic environment during the 1980s and 90s than they did during the 1960s and 70s? The question is difficult to answer with precision because government spending did not change very much in the second period, leaving very little variance to be explained. In itself this suggests that governments either became more constrained or reached some equilibrium level of spending by the early 1980s. Either way, it has the implication that small measurement errors, again, can have big effects on the results. With that caveat in mind, the period by period results in Table 5 (which omit the controls for presentational economy) give no indication that there has been a convergence in government

responses. In fact, all the parameters are *larger* in the second period although, again, since the time effect is dramatically smaller in the second period, so is the overall effect.

**Table 4: Common shocks, national institutions, and government transfers (equation (2))**

	(1)	(2)	(3)	(4)
Time effect (“shock”)	7.20*** (0.86)	7.67*** (0.87)	6.53*** (0.90)	7.42*** (0.53)
Voc. training* time dummies	0.013*** (0.002)	-	-	0.006*** (0.002)
PR* time dummies	-	0.53*** (0.08)	-	0.35*** (0.10)
Partisanship* time dummies	-	-	-0.75*** (0.21)	-0.11 (0.77)
Partisanship	0.93** (0.40)	0.81** (0.40)	3.91*** (0.86)	1.23 (0.77)
Dependency ratio <sub>t</sub>	0.54*** (0.07)	0.58*** (0.07)	0.64*** (0.08)	0.58*** (0.07)
Minimum	5.17	5.16	4.41	4.59
Maximum	11.72	9.22	8.32	11.11
<i>Effect</i>	6.56	4.07	3.91	6.57
Adjusted R-Squared	0.92	0.92	0.92	0.92
Number of observations	564	564	564	564

Notes:

Standard errors in parentheses.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

The results for the interactive terms correspond to  $\beta$  in the statistical model. The results for country and time dummies are not shown.

**Table 5: Shocks and government transfers in two sub-periods**

	1960-79	1980-95
Vocational training	0.015***	0.054***
Time effect	7.44***	0.84**
PR	0.364***	1.51***
Time effect	6.76***	1.44***
Partisanship	0.37**	1.27*
Time effect	6.19**	1.18***

Note: \* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

So far we have not identified the nature of the shocks. This is a virtue in the sense that the results do not depend on any particular conceptualization of the exogenous forces of change. On the other hand, knowing what the shocks are, and whether domestic institutions induce different responses to different types, is of independent interest. Identifying the shocks also allow the possibility that some countries have been more exposed to shocks than others. This is potentially important since if the shocks are correlated with the institutions, the shocks rather than the institutions could explain the divergence in policies.

We therefore estimate equation (3) using two different sources of shocks: unemployment and deindustrialization. These variables both refer to labor shedding and should be related to the individual-level risk variables. The results are shown in Table 6. The presentation is similar to Table 4, except that the “shock effect” now is the difference between the observed values on each “shock” variable at the beginning of the period (1960) and at end of the period (1995) *times* the estimated coefficient on the shock variable. The exception is unemployment, which is the difference between the year with the lowest and the year with the highest average unemployment rate across the 16 cases. This difference is 6.98 percent and the estimated parameter is .73, so the total shock effect of unemployment is  $6.98 \times .73 = 5.10$ . The calculation of the political-institutional effects then proceeds as before, using the extremes on the institutional and partisan variables to determine the minimum and maximum effects.

In the case of unemployment, the combined effect of vocational training, PR, and partisanship (calculated as before) is greater than the total shock effect. This is possible because the latter is based on the average change in unemployment over time, while some countries experienced changes that were greater than the average. Note that vocational training and left partisanship notably magnify the response to unemployment, whereas PR appears to be less important. Specifically, a country with a strong vocational training system (defined as one that is one standard deviation *above* the mean), responds to a 5 percent increase in unemployment by increasing transfers as a percent of GDP by 1.7 *more* than a country with a weak vocational training system. The comparable figure for the difference between left and right governments

(also defined in standard deviations) is 1.1, whereas the difference between a PR and a majoritarian system is 0.5. The fact that partisanship now records a strong effect makes good sense because we know from the micro-level analysis that income and exposure to unemployment risks are negatively related. If left parties represent low income workers they *should* be more responsive to unemployment shocks.

**Table 6: Shocks, national institutions, and government transfers (equation (3))**

	Exogenous source of shock:	
	Unemployment	Deindustrialization
Shock effect	5.10*** (0.22)	8.15*** (0.43)
Voc. training* Shock	0.011*** (0.004)	0.0012*** (0.0005)
PR* Shock	0.119 (0.109)	0.206*** (0.074)
Partisanship* Shock	-0.489*** (0.180)	0.128 (0.128)
Partisanship	0.656 (0.435)	-3.629 (4.471)
Population over 64 <sub>t</sub>	0.826*** (0.039)	0.325*** (0.059)
<i>Minimum</i>	2.22	6.52
<i>Maximum</i>	7.94	9.68
<i>Effect</i>	5.72	3.17
Adjusted R-Squared	0.91	0.92
Number of observations	564	564

Notes:

Standard errors in parentheses.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

The results for the interactive terms correspond to  $\beta$  in the statistical model. The results for country and time dummies are not shown.

Partisanship, however, does not appear to matter to the extent to which governments respond to deindustrialization. The reason may be that deindustrialization affects workers across the income scale, and therefore does not sharply differentiate left and right constituencies. This interpretation is consistent with the results in Iversen & Cusack (2000) but leaves open the possibility that left governments are more ideologically inclined to expand public sector

employment, which is not captured by our dependent transfer variable. In fact, *if* we use government spending on goods and services as the response variable, it turns out that left governments raise spending significantly more than right governments in response to deindustrialization. This is again entirely consistent with Iversen & Cusack (2000).

Viewed in combination, the results in Tables 4 - 6 paint a very clear picture. Exogenous economic shocks lead to greater government spending, but the effects are conditioned by government partisanship and domestic institutions in a very clear and predictable pattern. If one looks at the summary measures of the effects at the bottom of Tables 4 and 6, governments (especially left ones) seem to respond much more forcefully to exogenous shocks in countries with proportional representation and strong vocational training systems.

#### **4. Conclusion**

It is increasingly popular to argue that the politics of redistribution is about non-economic matters such as religion or ethnicity. It is also a widespread view that people are uninformed about their economic interests or that globalization and other forces of change have caused convergence in government policies. We find little support for any of these views in the comprehensive analyses at the micro- and macro-level detailed in this paper. Instead we find a clear structure to popular preferences, party competition, and government policies that is firmly rooted in economic self interest and stable institutional differences. The poor favor redistribution and individuals respond to the risks of losing future employment or income – measured by occupational unemployment rates and specific skills – with increased demands for redistribution and support for the left. In so far as they affect the level of risk exposure, differences in institutions lead to different intensities of redistribution demands across countries. Vocational training systems (and the variation in economies' skill compositions they produce) are such institutions.

Institutions not only mold aggregate demand for redistribution, they also shape the supply of redistribution. Electoral systems affect governments' responses to economic shocks if the main axis of political competition is redistribution and if income and risk exposure are related. This is so because PR systems tend to produce left-center coalitions – representing the poor and middle class – while majoritarian systems tend to produce center-right governments – representing the rich and middle class. The paper shows that income and risk exposure are strongly negatively related, which leads left governments to react more aggressively than right governments to economic shocks.

Our findings have several implications. To begin with, the paper clearly shows that objective economic conditions play an important and predictable role in shaping redistribution preferences. While this is often assumed by some scholars and denied by others, we shed light on this – ultimately empirical – question. Secondly, all the evidence suggests that adverse economic shocks increase the level of government protection. Insofar as globalization is a source of such shocks, it raises the demand for redistribution and thus shores up support for the welfare state. On the supply side, the paper's findings also imply that the globalization literature makes claims that are not supported by the data: there is no evidence of convergence; there is no evidence for the end of old (redistribution) politics; and there is no evidence for decreased differences between governments of different colors.

We also think our analysis shows the advantage of combining the micro and macro levels in explaining how governments react to economic shocks. Yet we were not able to examine every assumption about the interaction between the two levels. For example, this paper operationalizes risk exposure at the individual level and economic shocks at the country level. But we have not gone very far in terms of identifying the nature of the shocks and how they affect individual level risks. Exposure to competition from low wage countries, technological change, deindustrialization, and so on, affect different groups differently, and that in turn shapes the politics of compensation. Some changes spread risks broadly while others concentrate them. In addition, we have only considered the effects of a small number of institutions. In particular, it may prove fruitful to investigate whether institutions that are often argued to inhibit change, such as federalism and bicameralism, affect the speed with which governments respond to shocks. A more refined institutional model may also have implications for the structure of individual-level cleavages over policies.

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## 6. Appendices

### 6.1. Variable descriptions

**Table A1: Variable description**

<b>Variable</b>	<b>Values</b>	<b>Description</b>
Preference variable I	1 definitely should be 2 probably should be 3 probably should not be 4 definitely should not be	Survey question: “On the whole, do you think it should be or should not be the government’s responsibility to: Reduce income differences between the rich and poor?”
Preference variable II	1 agree strongly 2 agree 3 neither agree nor disagree 4 disagree 5 disagree strongly	Survey question: “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.”
Job (In)security	As preference variable II	Survey question: “[...] show how much you agree or disagree that [the statement] applies to your [main] job. My job is secure.”
Partisan Affiliation	1 far right 2 right 3 centrist 4 left 5 far left 6 other	This variables codes an individual’s partisan affiliation, defined in a broad way (affiliation, vote in last election, vote intention in next election). See Table A5 below.
Spending for Health	As preference variable II	Survey question: “Please show whether you would like to see more or less government spending in each area. Remember that if you say “much more”, it might require a tax increase to pay for it.” Here: “More or less government spending for health.”
Spending for pensions	As preference variable II	As above, but here: “More or less government spending for old age pensions.”
Spending for unemployment benefits	As preference variable II	As above, but here: “More or less government spending for unemployment benefits.”

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**Table A1: Variable description (continued)**

<b>Variable</b>	<b>Values</b>	<b>Description</b>
Income	1 (lowest) – 9 (highest)	This variable measure household income in 9 quantiles. The quantiles were calculated by country-year on censored data (right-censored at 95 <sup>th</sup> percentile).
Age	18-97	Age in years
Gender	0 or 1	Dummy equals 1 for female, 0 otherwise
Student	0 or 1	Dummy equals 1 for student, 0 otherwise
Retired	0 or 1	Dummy equals 1 for retired, 0 otherwise
Unemployed	0 or 1	Dummy equals 1 for unemployed, 0 otherwise
Non-Employed	0 or 1	Dummy equals 1 for not employed (“housewife / -man, permanently disabled / sick, not in labor force / not working”), 0 otherwise
Self Employment	0 or 1	Dummy equals 1 for self employed, 0 otherwise
Public Employment	0 or 1	Dummy equals 1 for being in public employment, 0 otherwise
Union Member	0 or 1	Dummy equals 1 for union membership, 0 otherwise
Church attendance	0-5	Frequency of church attendance. 0 = no (Christian) religion; 1 = never; 2 = less frequently [than several times a year]; 3 = several times a year; 4 = once to three times a month; 5 = once a week.
Protestant	0 or 1	Dummy equals 1 for being catholic, 0 otherwise
Catholic	0 or 1	Dummy equals 1 for being protestant, 0 otherwise
Minority	0 or 1	Dummy variables for various ethnic or linguistic groups. Contact authors for details.
Country dummies	0 or 1	Dummy variables for each country.
Year dummies	0 or 1	Dummy variables for each year of field-work.

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**Table A1: Variable description (continued)**

<b>Variable</b>	<b>Values</b>	<b>Description</b>
Merged data:		
Skill Specificity	0 (low) to ca. 3.33 (right censored)	This variable measures an individual's skill specificity. Like in Iversen & Soskice (2001), it is calculated as: [(Share of ISCO-88 level 4 groups)/(share of labor force)] divided by ISCO level of skills (s1) or highest level of education (s2), respectively. The employed measure is an average of s1 and s2. We take the "share of labor force" from labor force surveys, as a grand mean over all country-years we have in the sample. The variable is right-censored approximately at its 95 <sup>th</sup> percentile. Individuals not employed have a 0 on this variable.
Occupational unemployment rates	0 to 20 (right censored)	This variable measures occupational unemployment rates at the most detailed level available. More concretely, we use the following data: <ul style="list-style-type: none"> <li>• USA: 1985-2001 at ISCO88-2d (gendered)</li> <li>• Canada: 1987-2001 at ISCO88-1d (gendered)</li> <li>• UK: 1985-1990 at OPCS1980, 16 groups (gendered); 1990-91 at ISCO88-2d (gendered); 1992-2001 at ISCO88-2d</li> <li>• Ireland: 1987-1991 at ISCO88-1d (gendered), 1992-2001 at ISCO88-2d</li> <li>• Netherlands: missing</li> <li>• France: missing</li> <li>• Switzerland: 1991-95 at ISCO88-1d (gendered), 1996-2001 at ISCO88-2d</li> <li>• Spain: 1992-2001 at ISCO88-2d</li> <li>• Portugal: 1992-2001 at ISCO88-2d</li> <li>• Germany: 1992-2001 at ISCO88-2d</li> <li>• Austria: 1995-2001 at ISCO88-2d</li> <li>• Finland: 1997-2001 at ISCO88-2d</li> <li>• Sweden: 1998-99 at ISCO88-1d (gendered), 2000-01 at ISCO88-2d</li> <li>• Norway: 1996-2001 at ISCO88-2d</li> <li>• Denmark: 1992-2001 at ISCO88-2d</li> <li>• Australia: 1997-2001 at ISCO88-1d (gendered)</li> <li>• New Zealand: 1991-2001 at ISCO88-1d (gendered)</li> </ul> <p>Individuals not employed have a 0 on this variable.</p> <p>Sources: National labor force surveys (USA, UK), EU labor force surveys, ILO</p>

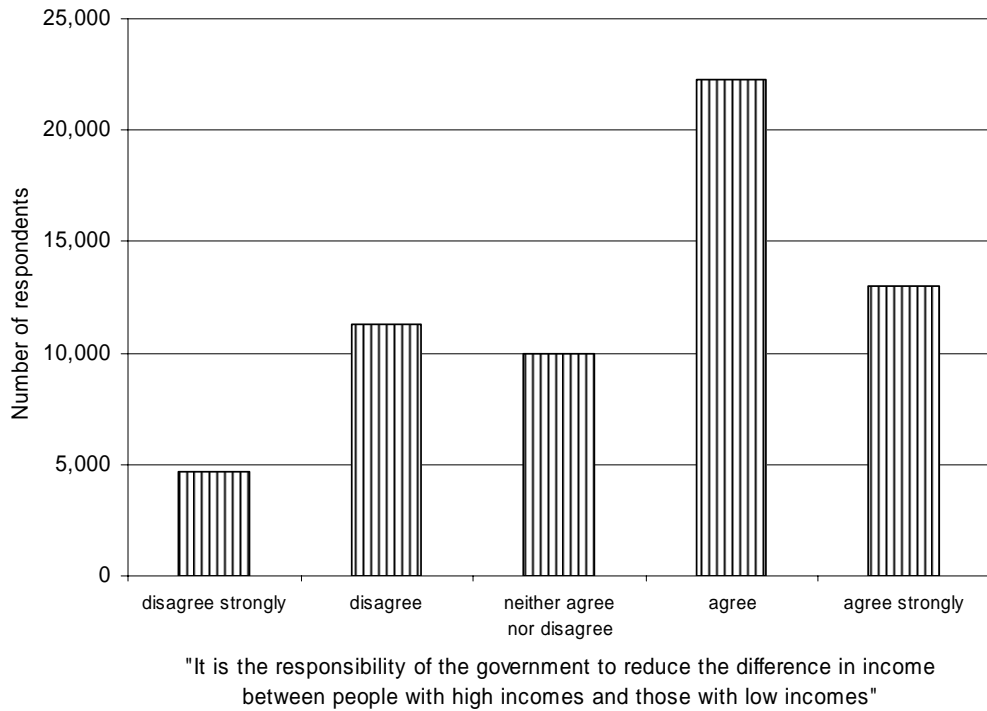
**Table A2: Descriptive Statistic of Key Variables**

	Redistributional Preference		Partisan Affiliation	Perceived Job Insecurity	Occupational Unemployment Rates	Skill Specificity (mean / median)
Range	1-5	1-4	1-5	1-5	[0;20]	[0;3.33]
	contra to pro		right to left	low to high	low to high	low to high
USA	2.84	2.37	3.07	2.17	3.36	1.37 / 1.13
Canada	3.11	2.47	3.16	2.49	4.73	1.18 / 1.11
United Kingdom	3.57	3.07	3.01	2.51	3.03	1.59 / 1.26
Ireland	3.73	3.27	3.23	2.31	4.94	1.51 / 1.38
Switzerland	3.36	2.88	3.10	2.44	2.00	1.38 / 1.34
Spain	3.92	3.38	3.26	2.51	5.60	1.62 / 1.66
Portugal	4.36	3.66	3.58	2.41	2.84	1.84 / 1.94
West Germany	3.41	2.88	3.38	2.18	3.69	1.68 / 1.80
East Germany	4.05	3.39	3.69	3.04	3.50	1.69 / 1.86
Austria	3.72	3.06	3.33	-	1.58	1.55 / 1.38
Finland	3.99	-	3.47	-	4.63	1.50 / 1.38
Sweden	3.67	3.11	3.43	-	4.03	1.49 / 1.23
Norway	3.57	3.20	2.93	2.23	2.13	1.37 / 1.18
Denmark	3.33	2.36	3.11	1.84	3.08	1.45 / 1.26
Australia	3.26	2.88	2.96		2.92	1.37 / 1.22
New Zealand	3.12	2.60	2.98	2.54	4.23	1.34 / 1.23

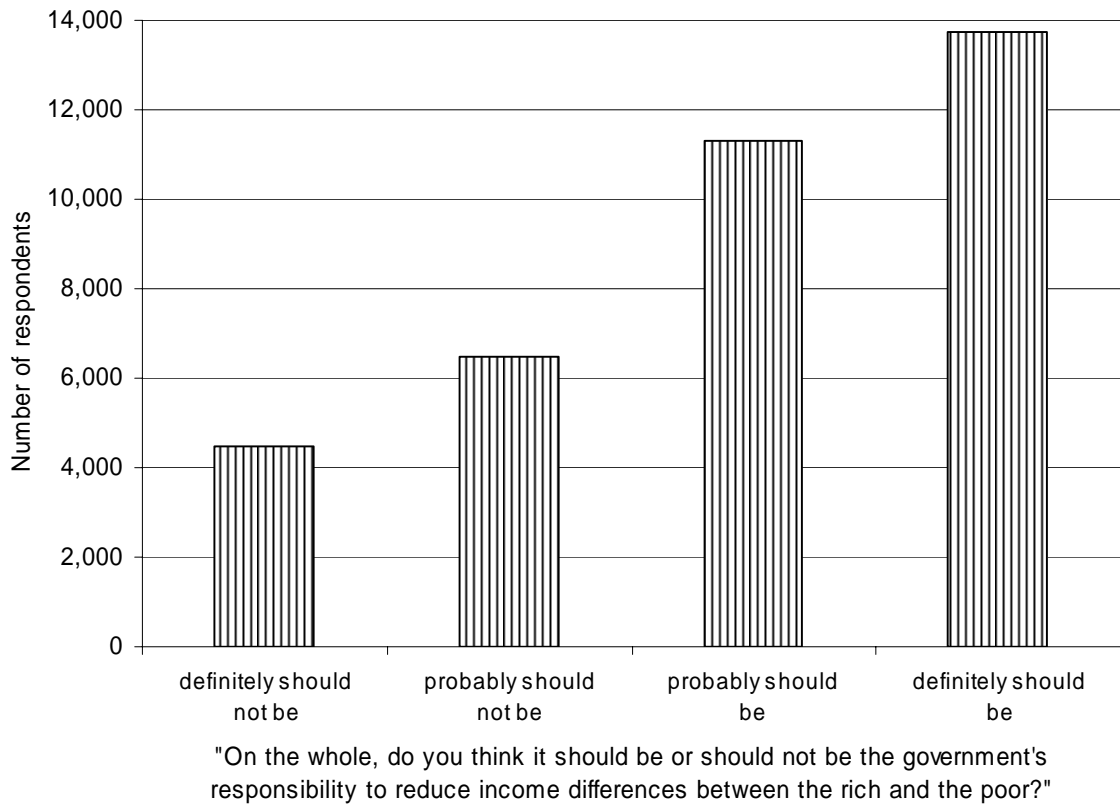
Note:

Last two columns refer to observations with reported occupational information only.

**Figure A1: Redistributive Preferences (5 answer categories)**



**Figure A2: Redistributive Preferences (4 answer categories)**



## 6.2. Country-years included in the micro-analyses

**Table A3: Country-years included in the micro-level analyses**

Country-years in models 1 (Table 1 and Table A6)

	1985	1987	1990	1992	1993	1996	1999	2000
USA	X	X	X	<b>X</b>	<b>X</b>	<b>X</b>	X+	X
Canada				X	X	X	X	X+
United Kingdom				X	X	X	X	X
Ireland					<b>X</b>	X		X+
Switzerland						X++		X
Spain					X+	X	X	X
Portugal							X	X
West Germany				X	X	X	X+	X
East Germany				X	X	X	X+	X
Austria							X+	X+
Finland								X
Sweden							X	X+
Norway						X	X	X
Denmark								X+
Australia							X	
New Zealand				X	X	X+	X	X+

Notes:  
Columns refer to year of ISSP survey. In some country-years, survey was fielded one or even two years later (indicated by + and ++, respectively).  
A bold X indicates that country-year drops from model 2 due to missing values.

**Table A4: Country-years included in the micro-level analyses**

Country-years in model 4 (Table 1 and Table A6)

	1985	1990	1991	1996	1998
USA	X	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Canada				X	
United Kingdom			X	X	
Ireland			X	X	X
Switzerland				X++	X+
Spain				X	X
Portugal					X+
West Germany				X	X
East Germany				X	X
Austria					X+
Sweden					X
Norway				X	X
Denmark					X
Australia					X
New Zealand			X	X+	X

Notes:  
Columns refer to year of ISSP survey. In some country-years, survey was fielded one or even two years later (indicated by + and ++, respectively).  
A bold X indicates that country-year drops from model 4 due to missing values.

### 6.3. Party classification scheme

Table A5: Party classification scheme

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Australia		<ul style="list-style-type: none"> <li>• Australian Labour Party</li> <li>• Greens</li> </ul>	<ul style="list-style-type: none"> <li>• Australian Democrats</li> </ul>	<ul style="list-style-type: none"> <li>• Liberal Party</li> <li>• National (Country) Party</li> </ul>	<ul style="list-style-type: none"> <li>• One Nation</li> </ul>	<ul style="list-style-type: none"> <li>• Democratic Labour Party</li> <li>• Nuclear Disarmament Party</li> </ul>
Austria	<ul style="list-style-type: none"> <li>• Kommunistische Partei Oesterreichs (KPOE)</li> <li>• GA (left-wing Green Party)</li> </ul>	<ul style="list-style-type: none"> <li>• Sozialistische Partei Oesterreichs (SPOE)</li> <li>• Vereinte Gruene Oesterreichs (VGÖE)</li> <li>• Alternative Liste Oesterreichs (ALÖE)</li> <li>• Buergerinitiative Parlament (BIP)</li> <li>• Gruene (Greens)</li> </ul>	<ul style="list-style-type: none"> <li>• Oesterreichische Volkspartei (ÖVP)</li> <li>• Freiheitliche Partei Oesterreichs (FPÖE) [1985-1990]</li> <li>• LIF (Liberal)</li> </ul>	<ul style="list-style-type: none"> <li>• Freiheitliche Partei Oesterreichs (FPÖE) [1991-2000]</li> </ul>	<ul style="list-style-type: none"> <li>• VGÖE (conservative Green Party)</li> </ul>	
Canada	<ul style="list-style-type: none"> <li>• Communist</li> </ul>	<ul style="list-style-type: none"> <li>• New Democratic Party - NDP</li> <li>• Bloc Québécois - BQ</li> <li>• Green Party</li> </ul>	<ul style="list-style-type: none"> <li>• Liberal Party of Canada -LP</li> <li>• PC</li> </ul>	<ul style="list-style-type: none"> <li>• Reform Party of Canada - RPC</li> </ul>	<ul style="list-style-type: none"> <li>• Libertarian</li> <li>• Confederation of regions</li> </ul>	
Denmark	<ul style="list-style-type: none"> <li>• Socialist Peoples Party (Socialistisk Folkeparti - SF)</li> <li>• Leftwing Alliance</li> </ul>	<ul style="list-style-type: none"> <li>• Social Democratic Party (Socialdemokratiet - SD)</li> </ul>	<ul style="list-style-type: none"> <li>• Radical Liberal Party (Det Radikale Venstre - RV)</li> <li>• Centre Democratic (Centrum-Demokraterne - CD)</li> <li>• Christian People's Party (Kristeligt Folkeparti - KrF)</li> <li>• Freisinnige Demokratiske Partei - FDP (Radical Party)</li> </ul>	<ul style="list-style-type: none"> <li>• Liberal (Venstre - V)</li> <li>• Conservative Party</li> </ul>	<ul style="list-style-type: none"> <li>• Progressive (Fremskridtspartiet - FP)</li> <li>• Danish Peoples Party</li> </ul>	<ul style="list-style-type: none"> <li>• Democratic Renewal</li> </ul>

**Table A5: Party classification scheme (continued)**

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Finland			<ul style="list-style-type: none"> <li>Centre Party of Finland</li> </ul>	<ul style="list-style-type: none"> <li>True Finns</li> </ul>		
France	<ul style="list-style-type: none"> <li>Parti Communiste Français - PCF (French Communist Party)</li> <li>Far left</li> </ul>	<ul style="list-style-type: none"> <li>Social Democratic Party</li> <li>Left Alliance</li> <li>Green League</li> </ul>	<ul style="list-style-type: none"> <li>Swedish Peoples Party</li> <li>National Coalition party</li> <li>Christian League</li> <li>Reform Group</li> </ul>	<ul style="list-style-type: none"> <li>Union pour la Démocratie Française - UDF (Union for French Democracy/Liberal Parties)</li> </ul>	<ul style="list-style-type: none"> <li>Rassemblement pour la République - RPR (Rally for the Republic/Conservative)</li> </ul>	<ul style="list-style-type: none"> <li>Front National - FN (National Front)</li> </ul>
Germany	<ul style="list-style-type: none"> <li>PDS</li> <li>Deutsche Kommunistische Partei (DKP)</li> </ul>	<ul style="list-style-type: none"> <li>Sozialdemokratische Partei Deutschlands (SPD)</li> <li>[Buendnis 90 / Die Gruenen</li> <li>Alternative Liste</li> </ul>	<ul style="list-style-type: none"> <li>Christlich Demokratische Union (CDU / CSU)</li> </ul>	<ul style="list-style-type: none"> <li>Freie Demokratische Partei (FDP)</li> </ul>	<ul style="list-style-type: none"> <li>NPD</li> <li>Republikaner</li> </ul>	<ul style="list-style-type: none"> <li>SEW</li> <li>DSU</li> </ul>
Ireland	<ul style="list-style-type: none"> <li>Workers Party</li> <li>Democratic Left</li> <li>Sinn Fein</li> </ul>	<ul style="list-style-type: none"> <li>Labour</li> <li>Green Party</li> </ul>	<ul style="list-style-type: none"> <li>Fianna Fail</li> <li>Fine Gael</li> </ul>	<ul style="list-style-type: none"> <li>Progressive Party</li> </ul>		



Table A5: Party classification scheme (continued)

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Italy <1996	<ul style="list-style-type: none"> <li>Rifondazione Comunista – RC</li> <li>Partito Radicale - PR (Radical Party)</li> <li>PCI</li> <li>DP</li> </ul>	<ul style="list-style-type: none"> <li>Liste Verde</li> <li>Partito Socialista Italiano - PSI (Socialist Party)</li> <li>Partito Socialista Democratico Italiano - PSDI (Italian Democratic Socialist Party)</li> <li>Partito Democratico della Sinistra - PDS (Democratic Party of the Left)</li> </ul>	<ul style="list-style-type: none"> <li>Democrazia Cristiana - DC (Christian Democrats)</li> <li>Partito Repubblicano Italiano - PRI (Republican Party)</li> <li>Partito Liberale Italiano - PLI (Liberal Party)</li> </ul>	<ul style="list-style-type: none"> <li>Leghe</li> </ul>	<ul style="list-style-type: none"> <li>Movimento Sociale Italiano - MSI (Italian Social Movement)</li> </ul>	<ul style="list-style-type: none"> <li>La Rete</li> </ul>
Italy > 1996	<ul style="list-style-type: none"> <li>rif. comunista (bertinotti)</li> <li>Nuovi Comunisti Italia (Cossuta)</li> </ul>	<ul style="list-style-type: none"> <li>feder. verdi (ripa di meana)</li> <li>Verdi (Ripa di Mena)</li> <li>Socialisti Italiani (Boselli Intini)</li> <li>Partito Democratico della Sinistra - PDS (d'Alema)</li> </ul>	<ul style="list-style-type: none"> <li>ccd-cdu (casini-buttiglione)</li> <li>Centro Cristiano Democratico (Casino)</li> <li>lista dini</li> <li>Rinnovamento Italiano (Dini)</li> <li>popolari-svp-pri-ud (prodi)</li> <li>Partito Popolare Italiano - PPI</li> </ul>	<ul style="list-style-type: none"> <li>Alleanza Nazionale (Fini)</li> <li>Forza Italia (Berlusconi)</li> <li>Lega Nord (Bossi)</li> </ul>	<ul style="list-style-type: none"> <li>Movimento Sociale (fiamma tricolore)</li> <li>movimento sociale tricolore (rauti)</li> </ul>	<ul style="list-style-type: none"> <li>lista pannella-sgarbi</li> <li>Patto Segni</li> <li>UDR (Cossiga)</li> <li>Lista Pannella Riformatori</li> </ul>

**Table A5: Party classification scheme (continued)**

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Netherlands	<ul style="list-style-type: none"> <li>• Groen Links - GL (Green Left Party)</li> <li>• Socialist Party - SP</li> </ul>	<ul style="list-style-type: none"> <li>• Partij van de Arbeid - PvdA (Labour Party)</li> <li>• Democraten '66 - D66 (Democrats '66)</li> </ul>	<ul style="list-style-type: none"> <li>• Christian Democratic</li> </ul>	<ul style="list-style-type: none"> <li>• Volkspartij voor Vrijheid en Democratie - VVD (People's Party for Freedom and Democracy; Liberal Party)</li> <li>• Calvinist State Party - SGP</li> <li>• Calvinist Political Alliance - GPV</li> <li>• Calvinist Political Federation - RPF</li> </ul>	<ul style="list-style-type: none"> <li>• Centrum Democrats</li> </ul>	<ul style="list-style-type: none"> <li>• Union 55 Plus</li> <li>• General Union of the Netherlands</li> </ul>
New Zealand	<ul style="list-style-type: none"> <li>• New Labour</li> </ul>	<ul style="list-style-type: none"> <li>• Alliance</li> <li>• Labour Party</li> </ul>	<ul style="list-style-type: none"> <li>• New Zealand First</li> <li>• Social Credit</li> </ul>	<ul style="list-style-type: none"> <li>• National Party</li> <li>• ACT</li> <li>• Christian Coalition</li> <li>• United</li> </ul>	<ul style="list-style-type: none"> <li>• Green</li> <li>• Democrats</li> <li>• Social Democrats</li> <li>• Liberal Party</li> </ul>	
Norway	<ul style="list-style-type: none"> <li>• Red Electoral Alliance (Roed Valgallianse)</li> </ul>	<ul style="list-style-type: none"> <li>• Socialist Left Party (Sosialistisk Venstreparti)</li> <li>• Labour Party (Det norske Arbeiderparti) Social Democrats</li> </ul>	<ul style="list-style-type: none"> <li>• Liberal Party (Venstre)</li> <li>• Centre Party (Senterpartiet)</li> <li>• Christian Democratic Party (Kristelig Folkeparti)</li> </ul>	<ul style="list-style-type: none"> <li>• Conservative Party (Hoyre)</li> </ul>	<ul style="list-style-type: none"> <li>• Progress Party (Fremskrittspartiet)</li> </ul>	

**Table A5: Party classification scheme (continued)**

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Portugal	<ul style="list-style-type: none"> <li>• UDP - Uniao Democrática Popular (Popular Democratic Union)</li> <li>• PSR (Revolutionary Socialist Party)</li> <li>• Bloco de Esquerda (Left Block)</li> </ul>	<ul style="list-style-type: none"> <li>• CDU / PCP - Coligacao Democrática Unitária (United Democratic Coalition) / Partido Comunista Portugues (Portuguese Communist Party)</li> <li>• MRPP (Revolutionary Movement of Portuguese Proletariat)</li> <li>• PS (Socialist Party)</li> </ul>	<ul style="list-style-type: none"> <li>• PPD, renamed PSD - Partido Popular Democrático (Popular Democratic Party), Partido Social Democrata (Social Democratic Party)</li> </ul>	<ul style="list-style-type: none"> <li>• CDS, 1995 renamed PP - Partido do Centro Democrático Social (Centre Social Democrats), Partido Popular (Popular Party)</li> </ul>		
Spain	<ul style="list-style-type: none"> <li>• Herri Batasuna - HB - Nationalists from Basque</li> <li>• Esquerra Republicana de Catalunya - ERC (Catalan Republican Left)</li> <li>• Izquierda Unida - IU (United Left)</li> <li>• BNG (Nationalists from Galicia)</li> <li>• Left national parties</li> </ul>	<ul style="list-style-type: none"> <li>• Partido Socialista Obrero Espanol - PSOE (Spanish Socialist Workers Party)</li> <li>• Eusko Alkartasuna (Basque Solidarity) - EA-EUE - Nationalists from Basque</li> <li>• Communist Party</li> <li>• Regional Party of Left Ecologist Party</li> </ul>	<ul style="list-style-type: none"> <li>• Centró Democrático y Social - CDS (Centre Democrats)</li> <li>• Convergència i Unió - CiU (Convergence and Union)</li> <li>• PNV (Nationalists from Basque)</li> <li>• Regional Party of Center</li> <li>• White</li> </ul>	<ul style="list-style-type: none"> <li>• Partido Aragon's Regionalista - PAR (Aragonese Regionalist Party/Nationalists from Aragon)</li> <li>• Partidu Andalucista - PA (Andalusian Party/Nationalists from Andalusia)</li> <li>• Partido Popular - PP (Popular Party)</li> <li>• CC (Nationalists from Canaries)</li> <li>• UV (Regionalists from Valencia)</li> <li>• Right national parties</li> </ul>	<ul style="list-style-type: none"> <li>• IC-(E)V</li> <li>• Independent Liberal Group</li> </ul>	

**Table A5: Party classification scheme (continued)**

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
Sweden	<ul style="list-style-type: none"> <li>• Vp - Vänsterpartiet (Left Party)</li> </ul>	<ul style="list-style-type: none"> <li>• MP - Miljöpartiet de Gröna (Green Ecology Party)</li> <li>• S (Social Democrats)</li> </ul>	<ul style="list-style-type: none"> <li>• CP - Centerpartiet (Centre Party)</li> <li>• FP - Folkepartiet Liberaterna (Liberal Peoples Party)</li> <li>• KdS - Krisdemokratiska Samhällspartiet (Christian Democratic Community Party)</li> </ul>	<ul style="list-style-type: none"> <li>• M (Conservative)</li> </ul>		
Switzerland	<ul style="list-style-type: none"> <li>• Partei der Arbeit - PDA (Labour Party)</li> <li>• Progressive Organisationen - POCH (Progressive Organisations of Switzerland)</li> </ul>	<ul style="list-style-type: none"> <li>• Sozialdemokratische Partei - SP (Social Democrats)</li> <li>• Grüene Partei (Ecologists)</li> <li>• GB (Green Alliance)</li> </ul>	<ul style="list-style-type: none"> <li>• Evangelische Volkspartei - EVP (Protestant Peoples Party)</li> <li>• Landesring der Unabhaengigen - LdU (Independents Party)</li> <li>• Christlich demokratische Volkspartei - CVP (Christian Democratic Peoples Party)</li> </ul>	<ul style="list-style-type: none"> <li>• Schweizerische Volkspartei - SVP (Swiss Peoples Party)</li> <li>• Liberale Partei - LJB (Liberal Conservatives)</li> <li>• LPS (Liberal Party)</li> <li>• Christlich-soziale Partei (Conservative Christian Social Party)</li> <li>• Freisinnige-demokratische Partei - FDP (Radical Party)</li> </ul>	<ul style="list-style-type: none"> <li>• Schweizer Demokraten - SD (Swiss Democrats)</li> <li>• Freiheitspartei der Schweiz - FPS (Freedom Party)</li> </ul>	<ul style="list-style-type: none"> <li>• Nationale Organisationen - NA (National action)</li> <li>• Freie Liste - FL (Free List)</li> <li>• LEGA</li> </ul>

**Table A5: Party classification scheme (continued)**

COUNTRY	PARTY(S) ASSIGNED TO "FAR LEFT" (LR=1)	PARTY(S) ASSIGNED TO "LEFT" (LR=2)	PARTY(S) ASSIGNED TO "CENTRIST" (LR=3)	PARTY(S) ASSIGNED TO "RIGHT" (LR=4)	PARTY(S) ASSIGNED TO "FAR RIGHT" (LR=5)	PARTY(S) ASSIGNED TO "OTHER" (LR=6)
United Kingdom		<ul style="list-style-type: none"> <li>Labour</li> </ul>	<ul style="list-style-type: none"> <li>Social Democratic Party (SDP)</li> <li>Liberal Alliance</li> <li>Alliance (Liberal/Social Democratic Alliance)</li> <li>Liberal Democrats, SLD</li> </ul>	<ul style="list-style-type: none"> <li>Conservative</li> </ul>		<ul style="list-style-type: none"> <li>Plaid Cymru</li> <li>Scottish Nationalists</li> <li>Green Party</li> </ul>
USA		<ul style="list-style-type: none"> <li>Strong Democrat</li> <li>Not (very) strong democrat</li> </ul>	<ul style="list-style-type: none"> <li>Independent (near democrat)</li> <li>Independent (near republican)</li> <li>Independent</li> </ul>	<ul style="list-style-type: none"> <li>Strong republican</li> <li>Not (very) strong republican</li> </ul>		

## 6.4. Additional results

**Table A6: Determinants of Preferences for Redistribution (4 answer categories)**

	(1)	(2)	(3)	(4)
Pro Redistribution (4 answer categories)				
Occupational unemployment rate <sup>a</sup>	0.025*** [0.004]	0.027*** [0.004]	0.047*** [0.008]	0.028*** [0.004]
Skill specificity <sup>b</sup>	0.130*** [0.025]	0.134*** [0.025]	0.044 [0.040]	0.140*** [0.028]
Unemployed	0.629*** [0.074]	0.629*** [0.078]	0.625*** [0.111]	0.776*** [0.083]
Income <sup>c</sup>	-0.152*** [0.006]	-0.156*** [0.006]	-0.149*** [0.009]	-0.151*** [0.006]
Age	0.002 [0.001]	0.002** [0.001]	0.001 [0.002]	0.003** [0.001]
Gender (female)	0.221*** [0.027]	0.227*** [0.028]	0.239*** [0.042]	0.220*** [0.030]
Non-employed	0.353*** [0.055]	0.358*** [0.056]	0.356*** [0.084]	0.509*** [0.065]
Student	0.201*** [0.074]	0.191** [0.077]	0.211* [0.120]	0.381*** [0.085]
Retired	0.295*** [0.063]	0.285*** [0.065]	0.352*** [0.098]	0.442*** [0.072]
Self-employed	-0.468*** [0.043]	-0.519*** [0.046]	-0.522*** [0.071]	-0.316*** [0.049]
Church attendance <sup>d</sup>		-0.009 [0.010]		
Protestant		-0.086** [0.037]		
Catholic		0.074* [0.043]		
Minority			0.583*** [0.079]	
Publicly employed				0.258*** [0.037]
Union membership				0.254*** [0.039]
Country Dummies	yes	yes	yes	yes
Year Dummies	yes	yes	yes	yes
Observations	27793	25773	10823	23615
Pseudo $R^2$	0.09	0.09	0.08	0.08
Log Pseudo-Likelihood	-33540.8	-31264.5	-13434.3	-27850.5
Wald $\chi^2$ (degrees of freedom)	4956.6 (30)	4542.68 (33)	1906.22 (19)	3662.22 (30)

Notes:

Ordered logit regressions, using weights (design weights \* sample weights).

Robust standard errors in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

See appendix for details on variable descriptions.

<sup>a</sup> Right censored at 20% (ca. 95<sup>th</sup> percentile), at the most detailed occupational level. Zeros for people not in labor force.

<sup>b</sup> Right censored at 3.33 (ca. 95<sup>th</sup> percentile). Zeros for people not in labor force.

<sup>c</sup> In 9 (national) quantiles.

<sup>d</sup> Church attendance [0 (no (Christian) religion), 1 (never), ..., 5 (once a week)]. Results do not change if zeros (0) are changed to missing values.

Results for models (2) & (3) including the control variables 'publicly employed' and 'union membership' are basically the same.

The following two tables display more results on the church attendance argument put forward by Scheve & Stasavage (2005). Table A7 reports models with the religious variables, including and excluding our risk exposure measures. Table A8 uses one basic specification for different dependent variables capturing redistributive preferences. These dependent variables were suggested in Iversen & Soskice (2001) and are also employed in Scheve & Stasavage (2005). Amongst these is a variable summarizing three different survey questions into factor scores. These questions ask about preferences for government spending on unemployment benefits, health, and old age pension. They tap the insurance aspect of redistribution even better than the redistributive questions employed in this paper. We report the specifications estimated throughout this paper below, but amended by the religious variables. Table A8 reports the results for each of these variables separately as well as for the factor scores. The factor scores are based on a principal component analysis of the three items. The results excluding the religious variables are not reported because the pattern is the same as in Table A7. While church attendance is most of the time a statistically significant determinant for preferences over redistribution as insurance, its estimated coefficient always drops in size and significance once risk exposure variables are added to the equation. More often than not, this drop is so sharp that it is difficult to argue that religious variables are important determinants of preferences over redistribution, whether it comes in the form of income redistribution or insurance.

Coupled with the mixed results on ethnicity and the positive results on income and risk exposure, it is safe to conclude that redistributive preferences are rationally formed and that redistribution is a major ingredient of politics.

**Table A7: Determinants of Preferences for Redistribution (with Religion)**

	(1)	(2)	(3)	(4)
	Pro Redistribution (5 answer categories)		Pro Redistribution (4 answer categories)	
<b>RELIGION:</b>				
Church attendance <sup>d</sup>	-0.028*** [0.006]	-0.021*** [0.008]	-0.025*** [0.008]	-0.009 [0.010]
Protestant	-0.118*** [0.021]	-0.135*** [0.028]	-0.127*** [0.026]	-0.086** [0.037]
Catholic	0.071*** [0.025]	0.092*** [0.033]	0.027 [0.031]	0.074* [0.043]
<b>RISKS:</b>				
Occupational unemployment rate <sup>a</sup>	-	0.021*** [0.004]	-	0.027*** [0.004]
Skill specificity <sup>b</sup>	-	0.134*** [0.019]	-	0.134*** [0.025]
<b>REALIZED RISK:</b>				
Unemployed	0.188*** [0.039]	0.577*** [0.058]	0.261*** [0.050]	0.629*** [0.078]
<b>CONTROLS:</b>				
Income <sup>c</sup>	-0.156*** [0.003]	-0.147*** [0.004]	-0.168*** [0.004]	-0.156*** [0.006]
Age	0.001* [0.001]	0.001 [0.001]	0.003*** [0.001]	0.002** [0.001]
Gender (female)	0.133*** [0.015]	0.176*** [0.021]	0.186*** [0.020]	0.227*** [0.028]
Non-employed	-0.011 [0.023]	0.299*** [0.044]	0.008 [0.030]	0.358*** [0.056]
Student	-0.123*** [0.039]	0.249*** [0.059]	-0.237*** [0.049]	0.191** [0.077]
Retired	-0.077*** [0.029]	0.285*** [0.050]	-0.077** [0.036]	0.285*** [0.065]
Self-employed	-0.390*** [0.027]	-0.359*** [0.036]	-0.538*** [0.034]	-0.519*** [0.046]
Country Dummies	yes	yes	yes	yes
Year Dummies	yes	yes	yes	yes
Observations	78500	44576	49320	25773
Pseudo $R^2$	0.06	0.07	0.07	0.09
Log Pseudo-Likelihood	-111737.71	-62882.72	-59467.06	-31264.54
Wald $\chi^2$ (degrees of freedom)	9993.91 (41)	6997.58 (39)	7112.89 (35)	4542.68 (33)

Notes:

Ordered logit regressions, using weights (design weights \* sample weights).

Robust standard errors in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

<sup>a, b, c</sup> See Table 1. See appendix for details on variable descriptions.

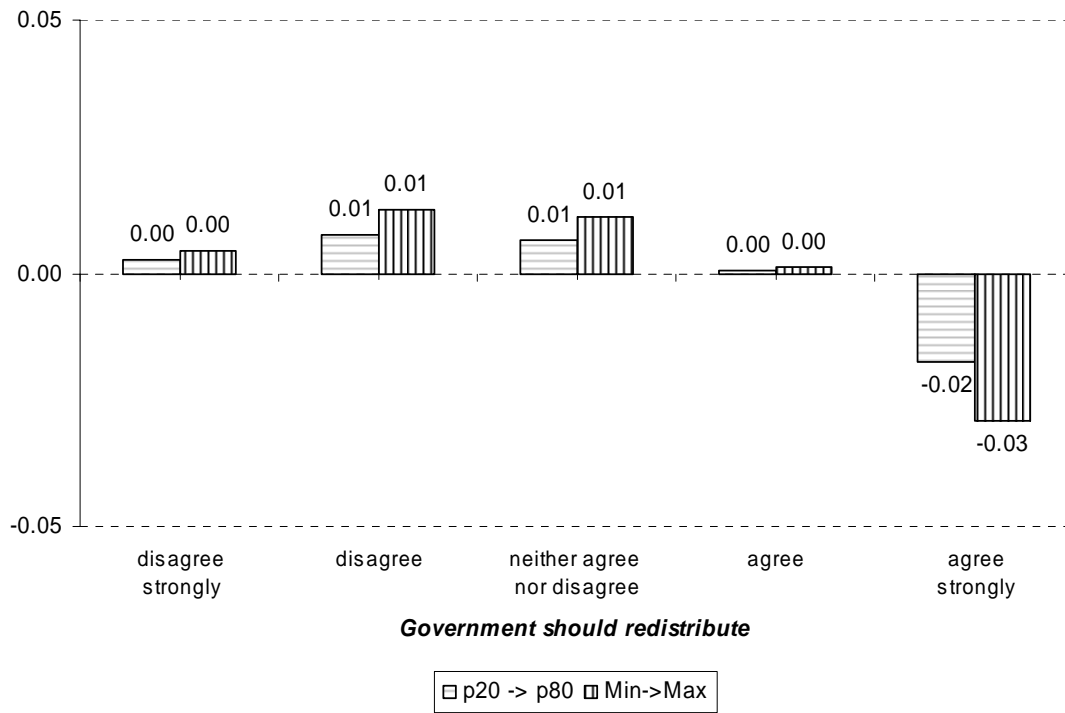
<sup>d</sup> Church attendance [0 (no (Christian) religion), 1 (never), ..., 5 (once a week)]. Results do not change if zeros (0) are changed to missing values.

Results including the control variables 'publicly employed' and 'union membership' (see Table 1, models 2 & 4) are basically the same.

Based on ISSP data for USA, Canada, United Kingdom, Ireland, Netherlands (not in models 2 & 4), France (not in models 2 & 4), Switzerland, Spain, Portugal, West Germany, East Germany, Austria, Finland (not in models 3 & 4), Sweden, Norway, Denmark, Australia, New Zealand, for various survey years.



**Figure A3: Changes in redistributive preferences as a function of church attendance (not controlling for risk exposure)**



Note: Change in church attendance from min (0) to max (5) and p20 to p80. Simulations based on model (1) in Table A5.

**Table A8: Determinants of Preferences for Government Spending (with Religion)**

	(1)	(2)	(3)	(4)
	Pro government spending for			
	Health	Pension	Unemployment Benefits	Factor Scores on (1) to (3) <sup>e</sup>
Range of dependent variable	1 to 5	1 to 5	1 to 5	-2.9 to 1.65
Estimation	Logit	Logit	Logit	OLS
<b>RELIGION:</b>				
Church attendance <sup>d</sup>	-0.073*** [0.018]	-0.086*** [0.019]	-0.037* [0.019]	-0.034*** [0.007]
Protestant	0.019 [0.060]	0.136** [0.062]	-0.131** [0.062]	0.015 [0.022]
Catholic	0.126* [0.072]	0.317*** [0.072]	0.017 [0.071]	0.083*** [0.025]
<b>RISKS:</b>				
Occupational unemployment rate <sup>a</sup>	0.015* [0.008]	0.017** [0.008]	0.031*** [0.009]	0.009*** [0.003]
Skill specificity <sup>b</sup>	0.115*** [0.043]	0.180*** [0.046]	0.117** [0.048]	0.067*** [0.017]
<b>REALIZED RISK:</b>				
Unemployed	0.531*** [0.130]	0.513*** [0.131]	1.367*** [0.134]	0.367*** [0.048]
<b>CONTROLS:</b>				
Income <sup>c</sup>	-0.095*** [0.009]	-0.132*** [0.010]	-0.138*** [0.010]	-0.056*** [0.004]
Age	0.002 [0.002]	0.009*** [0.002]	0.005** [0.002]	0.003*** [0.001]
Gender (female)	0.423*** [0.047]	0.219*** [0.047]	0.229*** [0.047]	0.131*** [0.017]
Non-employed	0.339*** [0.096]	0.389*** [0.099]	0.431*** [0.099]	0.176*** [0.035]
Student	-0.004 [0.141]	0.157 [0.163]	0.403*** [0.154]	0.100* [0.060]
Retired	0.301*** [0.109]	0.303*** [0.116]	0.277** [0.113]	0.150*** [0.041]
Self-employed	-0.133* [0.077]	-0.371*** [0.087]	-0.473*** [0.080]	-0.148*** [0.029]
Country Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Observations	9369	9294	9276	9070
(Pseudo) $R^2$	0.08	0.08	0.09	0.23
Log Pseudo-Likelihood	-10470.1	-10187.7	-11307.2	
Wald $\chi^2$ (degrees of freedom)	1696.43 (21)	1160.4 (21)	1554.91 (21)	

Notes:

Ordered logit and OLS regressions, using weights (design weights \* sample weights). (Robust) standard errors in brackets.

\* Significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

<sup>a, b, c</sup> See Table 1. See appendix for details on variable descriptions.

<sup>d</sup> See Table A7.

<sup>e</sup> Factor scores from principal factor analysis. Factor loadings are 0.63 (health), 0.64 (unemployment benefits); 0.71 (pension) Based on ISSP 1996 for USA, Canada, United Kingdom, Ireland, Switzerland, West Germany, East Germany, Norway, New Zealand.



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