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A cross-national analysis of differences between globalization
winners and losers

by
Stefanie Walter and Linda Maduz

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Abstract

How does globalization affect individuals and their perceptions and policy preferences? This paper uses new developments in international trade theory to propose a new way of conceptualizing and measuring the extent to which an individual can be characterized as globalization winner or loser. We argue that the distributional effect of exposure to international competition is conditional on individuals' ability. Low-ability workers exposed to the international economy face lower wages and higher risk of unemployment, and can therefore be characterized as globalization losers. In contrast, high-ability workers receive higher wages when they are exposed to international competition are therefore identified as globalization winners. To illustrate the usefulness of this approach for political scientists, the paper revisits the debate about the determinants of social policy preferences. Using cross-national survey data from 16 countries we show that globalization has significant and heterogeneous individual-level effects. Exposure to globalization increases risk perceptions and demands for more income redistribution among individuals with low levels of education (as a proxy for ability), but decreases these perceptions and demands among highly educated respondents.

Keywords: globalization, international competition, distributional effects, individual risk perceptions social policy preferences, survey data.

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1. Introduction

Understanding who benefits from globalization, who is hurt by it, and who remains relatively unaffected is crucial for understanding how globalization shapes distributional conflicts, politics and policy outcomes in today's highly integrated economies. Consequently, how globalization affects individuals and their perceptions and preferences has been a hot topic of research in recent years. Researchers have investigated how the distributional effects of international economic integration shape individual trade policy preferences (Scheve and Slaughter 2001b; O'Rourke and Sinnott 2002; Beaulieu 2002; Hays et al. 2005; Mayda and Rodrik 2005; Hiscox 2006; Mayda 2008; Hainmueller and Hiscox 2006), preferences on immigration (Scheve and Slaughter 2001a; Mayda 2006, 2008; Hainmueller and Hiscox 2008), as well as risk perceptions and social policy preferences (Scheve and Slaughter 2004; Rehm 2007, 2009; Walter forthcoming). Overall, these studies typically find that in developed countries, high-skilled individuals are more pro-trade and pro-immigration than low-skilled individuals, and that individuals employed in exporting or tradables industries tend to have different policy preferences than those working in the non-tradable sector. Nevertheless, some authors doubt that these differences mainly reflect the distributional effects of free trade (Hiscox 2006; Hainmueller and Hiscox 2006), and other studies find no evidence that globalization-related economic interests affects policy preferences at all (Rehm 2007, 2009; Hainmueller and Hiscox 2008).

One possible reason for these inconclusive results is that most of these studies neglect recent developments in international trade theory. To identify the distributional effects of free trade and globalization, individual-level studies typically rely on the two classic macroeconomic models of international trade theory: the factor-endowments model, which predicts a class-based

distributional conflict (Jones 1971; Samuelson 1971), and the factor-specific model, which predicts distributional conflicts among different industries (Stolper and Samuelson 1941). While political scientists have recognized that the largely separate treatment of these models in the political economy literature does not do the intricacies of trade-related distributional conflict justice (e.g. Hiscox 2002), the solutions proposed have not left the general framework of these “old” theories of trade and have typically disregarded the empirical and theoretical advances in the economics literature on international trade.

The new economic models of international trade are very relevant for political science research on the distributional and political effects of international trade and globalization, however. The newest generation of trade models (e.g. Melitz 2003; Helpman et al. 2004; Yeaple 2005; Bernard et al. 2007; Helpman et al. 2008) is motivated by empirical findings that show significant intra-industry variation in firms’ export-orientation, productivity, and wage premia. By allowing for heterogeneity among firms and/or workers, they explain why only some firms in an industry export and how trade can increase inequality and unemployment among workers even within the same industry (while still providing overall gains from trade). Exposure to global competition is thus harmful to some people, but not to others, even within the same industry. Some of these models also highlight the fact that individuals with similar skills exhibit different degrees of exposure to the globalization of production. Rather than factor-endowments or industry of employment, these models suggest that the specific combination matters for whether an individual is benefitted or hurt by international economic integration.

We apply the insights from this emerging economics literature to identify the distributional effects of trade (and globalization more generally) on individuals. One of the main results of both theoretical models and empirical work is that more productive firms are more

likely to export and that within the same industry, exporting firms hire more productive or more skilled workers, who receive higher wages than workers in the same industry who work in firms producing only for the domestic market, and higher wages than workers in the nontradables sector. Moreover, the least productive firms and workers are forced to exit the (tradables) industry. This suggests that the distributional effects of trade depend on both the individual's productivity (or skill) and his or her exposure to international competition.

To apply these insights to political science research, we suggest a new way of conceptualizing and measuring the extent to which an individual can be characterized as globalization “winner “ or “loser,” that takes these two factors into account. Our conceptualization classifies individuals of low ability who are exposed to international competition as *globalization losers*, because these individuals are most likely to lose their jobs as a result of economic integration. In contrast, highly-ability individuals exposed to international competition are likely to work in productive and internationally competitive firms and can therefore be classified as “*globalization winners*.” To operationalize this conditional effect in the context of survey data, we propose to interact individuals' education experience with their exposure to global competition, either in the form of their industry's trade-exposure, or in the form of the individual's job's potential to be moved abroad.

We illustrate the usefulness of our approach by analyzing the microlevel implications of the so-called compensation hypothesis, which argues that globalization leads to welfare state expansion, because (potential) globalization losers demand compensation for the risks associated with an open economy. Even though this hypothesis has inspired a large research program, no consensus has emerged on whether the implications of this argument hold empirically. We argue that the reasons for the inconclusive results at the individual level derive from the relatively

crude conceptualization and measurement of the individual-level effects of globalization. Using our new conditional measure of the individual impact of globalization and survey data from 16 European countries, we show that exposure to international competition has significant and heterogeneous individual-level effects. We can show that exposure to globalization increases risk perceptions and demands for more income redistribution among individuals with low levels of education, but decreases these perceptions and demands among highly educated respondents. These findings allow us to rebut recent claims that deindustrialization rather than globalization is the main driver of social policy preferences.

2. Identifying Globalization Winners and Globalization Losers: Insights from New Trade Theory

Research in international political economy typically relies on two distinct trade models to identify the distributional effects of globalization. These models make different assumptions about factor mobility and either emphasize relative factor endowments (the Heckscher-Ohlin and Stolper-Samuelson models), or the comparative advantage of certain industries (the sectoral Ricardo-Viner model). Ricardo-Viner models predict that an opening of the economy to international trade and investment benefits those industries in which the country has a comparative advantage, while those at a comparative disadvantage will falter. Since factors of production cannot move easily and costlessly between industries or economic sectors, individuals employed in comparatively disadvantaged industries are the losers of globalization because they are most likely to lose their jobs as a result of increased economic competition, while individuals employed in comparatively advantaged industries gain from the economic opening (e.g. Gourevitch 1986). A variant of this approach classifies globalization winners and

losers according to their exposure to international competition, emphasizing the differences between the tradables and the nontradables sector (e.g. Frieden and Rogowski 1996; Hays et al. 2005). In contrast, the factoral models in the Stolper-Samuelson tradition argue that a country's comparative advantage lies in those goods and services predominantly produced with the factors of production with which the country is abundantly endowed. Therefore an opening of the economy increases the demand for these products and as a consequence the demand for and the price of the abundantly available factor of production. Assuming that factors of production are mobile, they can move from ailing to prospering industries, such that owners of abundant factors of production benefit from globalization, while those owning scarce factors of production are hurt economically (Rogowski 1989). An important extension of this model focuses on human-capital endowments (Findlay and Kierzkowski 1983) and predicts that the impact of globalization will affect low- and highly skilled workers differently. In advanced economies, this implies that high-skilled individuals (the abundant factors of production) are beneficiaries of globalization, while low-skilled workers lose out.⁴

Both IPE-approaches provide important clues as to the identity of globalization winners and losers at the individual level. Nonetheless, both approaches neglect important empirical regularities. The sectoral model assumes that all firms and workers in a certain industry experience the same positive or negative effects from international trade, but empirical firm-level research has revealed substantial intra-industry variation in firms' export-orientation, productivity and wage levels (for overviews see Wagner 2007; Schank et al. 2007). More productive firms are more likely to export and within the same industry, firms that export tend to pay their workers higher wages than firms producing only for the domestic market (e.g. Bernard

⁴ In contrast, less developed countries have an abundance of unskilled workers, so that these individuals are more likely to benefit from international trade than highly-skilled individuals.

and Jensen 1995).⁵ To the extent that the factoral models predict a uniform positive effect on wages for highly skilled and a negative effect on wages for low-skilled individuals, these models can incorporate such intra-industry variation to some extent. There is also evidence that the wage premium for workers in exporting firms is positively related to firms' skill-intensity, suggesting that the skill composition of the work-force influences whether globalization is positive or negative for the firms' workers (Schott 2004; Munch and Skaksen 2008). However, factoral models cannot explain why the export-wage premium exists even among equally skilled individuals (Schank et al. 2007).⁶

Motivated by these empirical challenges, economists have moved beyond the two traditional approaches. A new generation of theoretical trade models provides explanations for the heterogenous distributional effects of trade. These models concentrate on intra-industry variation in the effects of trade and argue that efficient and productive firms benefit most from free trade. Many of these models use the framework developed by Marc Melitz (2003) as a starting point. Melitz assumes that to enter an export market, firms, who vary in their productivity level, have to invest a fixed cost. An opening of the economy to international trade raises the productivity threshold under which firms can still make a profit. In the closed economy the least productive firms were able to make a profit, but when exposed to international competition, they cannot survive and therefore exit the industry. At the same time, the most productive firms thrive: Not only can they take up part of the domestic market share vacated by

⁵ The result that more productive firms self-select into export activities holds for both developed and developing countries (Wagner 2007).

⁶ See also Helpman (2008) for a critique of the Stolper-Samuelson model. An additional challenge for the individual-level test of factoral models arises from the fact that it is not clear whether the strong effects of education and skills on individuals' preferences really mirror their economic interest, or rather reflect how ideas and information shape individuals' attitudes (for a discussion in the context of trade policy preferences see Hainmueller and Hiscox 2006). And even if education only mirrors individuals' economic interest, in many contexts it remains unclear whether these interests are shaped by the distributional effects of globalization or by those of other developments such as technological change. See

the firms exiting the industry, they also export their products and thus increase their overall revenue. Firms with an intermediate productivity remain in the industry. They do not export but continue to produce for the domestic market, even though their market share and profits decrease in the open economy.⁸ The Melitz-model thus highlights three important points: First, except under rare circumstances, only some firms in a tradables industry will actually export. Second, rather than uniformly benefit or hurt firms in the same industry, trade liberalization brings significant benefits to some firms (the exporters) and substantially hurts other firms (those serving only the domestic market) within the same industry. Third, the distribution of these gains and costs from trade is related to firm productivity. The most efficient firms prosper, the least efficient firms shut down, and the remaining firms face smaller market share and lower profits. For political scientists, the Melitz-model thus implies significant intra-industry variation at the firm-level in support of and opposition to free trade.

Many macro-level theories in political science rest on assumptions about the impact of trade on individuals' policy preferences, rather than firms' preferences. Therefore we need models that go beyond the firm and can make predictions about the individual-level effects of international trade. Helpman, Itskhoki, and Redding (2008) extend Melitz's framework to investigate how trade liberalization affects individual workers.⁹ As in the Melitz-model, firms differ in their level of productivity. However, workers in this extended model now differ in their "ability" (or "quality") as well, it is costly for employers to match and screen potential employees so as to only employ the best candidates, and workers and employers engage in wage bargaining. Firms' output depends on both their productivity and the average quality of their workforce. This implies that firms have an incentive to screen job applicants and to hire only

⁸ These results are qualitatively the same for further trade liberalization of an already open economy.

⁹ We present a simplified discussion of the very rich theoretical model. See also Yeaple (2005) and Egger and Kreickemeier (2009) for alternative new trade theory models on the distributional effects of trade.

high-quality candidates, even though this process is costly and also reduces the number of workers that can be hired. Under these restrictions, each firm chooses its own ability-threshold for hiring new potential employees. Helpman et al. show that in equilibrium, more productive firms have larger revenues, screen more people against a higher ability-threshold, and therefore also employ workers with a higher average ability. Since high-quality-workers are more difficult to replace, workers in these firms have an advantage in the wage bargaining process. As a result, more productive firms pay their workers higher wages. When the economy opens up to international trade, firms follow the same pattern as those in the Melitz-model: the least productive firms leave the industry and the most productive firms now sell their products both abroad and at home. The most productive firms therefore have higher revenues, which in turn leads to higher screening efforts. Exporters therefore hire more qualified workers, who bargain for higher wages (and hence receive a share of the additional revenues generated by trade in form of a wage premium). Workers in less productive firms in the same industry fare less well: their employers face stronger competition, a lower market share and lower revenues. These workers therefore are confronted with both lower wages and a higher risk of unemployment.¹⁰ The risk of unemployment is particularly high when they are “low quality”-workers who do not fulfill the hiring requirements of the productive firms.

2.1 Empirical Implications: Identifying “globalization winners” and “globalization losers”

Helpman et al.’s derive several implications from their rich theoretical model. Since we are most interested in the distributional effects of trade at the individual level, we highlight the key insight most relevant in this respect. The authors show that despite overall gains from trade, the distribution of wages in an exporting industry is more unequal and the risk of unemployment

¹⁰ Unemployment arises as a result of labor market frictions (in particular search and screening frictions).

is higher in an open economy than in autarky. This is because workers in highly productive firms benefit from an export wage premium, while those working in less productive firms either receive lower wages or lose their jobs as a result of the opening to trade.¹¹ Consequently, we can identify workers employed in highly productive and exporting firms as *globalization winners*, whereas workers in the same industry employed with less productive firms can be characterized as *globalization losers*. This identification seems intuitive, especially in the context of advanced economies:¹² Consider, as an example, the textile industry. Workers in low-productivity textile firms (such as seamstresses) are likely to be hurt from international trade competition, while creative and productive fashion designers benefit from access to global markets.

Even though most countries (and all developed countries) today are relatively open to trade, important within-country variation exists in the trade openness of various industries. In particular, many individuals work in industries and professions that produce nontradable goods and services, such as education, cleaning services, health services etc. While the Helpman et al. model does not explicitly address the differences between workers in tradable industries open to trade and nontradable industries, we can conceptualize the nontradable industries as an industry in which the costs of exporting are too high, so that all firms choose to serve the domestic market only. Helpman et al. show that in this case, the inequality of wages between more and less productive firms is smaller than in industries in which some firms export. Workers in more productive firms in the sheltered industry still get higher wages than those in less productive

¹¹ Helpman et al also show that the relationship between sectoral wage inequality, unemployment and further trade openness is nonmonotonic once the economy is open to trade and depends to an important degree on the proportion of firms in an industry involved in exporting.

¹² Note, however, that the Helpman et al. Model can be applied to developing countries as well and provides a potential explanation why

firms in the same industry, but their wage is lower than that of workers in highly productive exporting firms.¹³

In this type of model, the impact of trade on the individual is thus determined by two factors: First, whether the individual is employed in a tradable or nontradable industry (i.e. the individual's exposure to international competition) and second, whether the individual is employed in a more productive or less productive firm. Since firms screen workers for their ability, individuals working in more productive firms are on average themselves more productive, while those working in less productive firms tend to have a lower ability. Taken together, this discussion implies that on average, low-ability individuals who work in a tradable industry (such as assembly-line workers) are most at risk of losing their job and receiving low wages. We can therefore classify such individuals as "*globalization losers*." Individuals with an equally low ability working in sheltered industries (e.g. cleaning personnel) are better off than their counterparts in the exposed industry, but receive lower wages than high-ability workers in the sheltered industry (such as doctors or teachers). Finally, highly productive and able workers in the tradable industry (such as engineers) receive the highest wages and can therefore be characterized as "*globalization winners*."¹⁴

2.2 Measuring the Individual-Level Impact of Globalization: Operationalization

Empirically, this discussion implies that whether a person can be characterized as a "globalization losers" or a "globalization winner" is conditional on two factors: how exposed the individual is to international competition, and his or her ability or productivity. Studies that only

¹³ This is consistent with empirical evidence that a export wage premium exists even after controlling for individual characteristics such as the level of education (Schank et al. 2007).

¹⁴ These conjectures are in line with empirical studies on trade exposure, productivity and wage levels (e.g. Bernard and Jensen 1995; Munch and Skaksen 2008)

focus on one of these dimensions, rather than taking their conditional nature into account, are therefore likely to overlook important variation in the effects of globalization on the individual.

In what follows we suggest a way to operationalize these concepts in the context of cross-country survey data such as the European Social Survey (ESS) or the International Social Survey Programme (ISSP). The goal is to enable researchers to investigate how the distributional effects of globalization predicted by the new theories of trade affect individuals' risk perceptions, policy preferences and political attitudes.

Individual Ability, Productivity, and Education

The Helpman et al. (2008) model argues that more productive firms, particularly those who export, invest more effort in screening workers and in hiring the more “able” individuals. Wages and the risk of unemployment are thus directly related to an individual's ability or productivity. Unfortunately, much of this ability is unobservable: The individual's productivity, the fit between the firm and the worker and other qualifications are difficult to measure with survey data. Nonetheless, it is plausible to argue that education is correlated with productivity, ability, and skills. For example, the more educated an individual, the more likely he or she will employ technology in a productive manner. Since survey data typically lacks more detailed information on individuals' ability and productivity, we therefore suggest using the number of years of education an individual has had as an approximation of his or her ability.¹⁵

Individual Exposure to International Competition

¹⁵ Questions F6 in the 2002 and 2004 ESS questionnaires. As a robustness check, we use education levels (F7) instead.

We propose two measures to capture an individual's exposure to international competition. The first measure is straightforward and follows directly from the trade model discussed above, where one key difference between workers is that some workers are employed in industries that engage in international trade and some in industries that do not. To capture this fundamental difference, we create a dummy variable that is coded as 1 if the individual works in an industry, which exports or imports any goods and 0 if he or she works in a nontradables industry. We used data from the OECD's Structural Analysis (STAN) Database, which lists each industry's volume of exports and imports for each country and year.¹⁶ Cross-national surveys such as the ESS typically code respondents' industry of employment using standardized coding schemes such as the Classification of Economic Activities in the European Community NACE, which can be matched with the data from the STAN Database (for very similar coding procedures see Mayda and Rodrik 2005; Mayda 2008; Rehm 2009). The tradable-industry dummy thus allows us to distinguish between individuals working in industries exposed to trade and those working in industries sheltered from international trade.

Our second measure for individuals' exposure to the global economy builds on two insights. IPE researchers have shown that other forms of globalization, such as foreign direct investment and with it the option to move production abroad, play an equally important role for individuals as trade (Scheve and Slaughter 2004). In addition, comparative political economists have forcefully argued that individual risk perceptions and policy preferences are shaped much more by occupational labor risks than industrial labor risks (Cusack et al. 2006; Iversen and Soskice 2001; Rehm 2009). Since costly investments in training and specialization in specific skills typically make it much more difficult for individuals to change their occupation than to

¹⁶ We used the STAN-Database 2008 edition. Industries for which the STAN database does not record any exports or imports were coded as nontradable (unless the data suggests that the lack of data is a missing data problem; in those cases we coded the observations as missing).

change their industry of employment, individual labor market risks are strongly related to the occupation. Even though the new trade models speak specifically of industries, it appears plausible that some occupations are more prone to international competition than others. For example, a worker in an unproductive manufacturing factory will have a much harder time changing the industry, than the cleaning personnel employed in the same firm. Similarly, doctors, IT professionals, and bank managers vary in their ability to eschew international competition.

These occupations differ with regard to one crucial characteristic: the degree to which jobs in a given occupation can be substituted by jobs abroad, i.e. their offshoreability. Individuals with jobs that can easily be offshored – such as seamstresses or telephone operators – are much more exposed to international competition than individuals whose jobs cannot be substituted with jobs abroad – examples are nurses, hairdressers, or teachers. Non-offshoreable professions are typically occupations, in which personal services are provided, or which require physical presence and/or face-to-face contact. In contrast, other (more impersonal) services are more ‘tradable’ – and thus potentially much more vulnerable to offshoring (Blinder 2007). To capture the ease, with which jobs can be moved to other countries, we suggest using the “Offshorability-Index” developed by Blinder (2007). This index measures a job’s *potential* to be moved abroad, i.e. whether the service the job provides can theoretically be delivered over long distances with little or no degradation in quality. It is based on more than 800 occupational categories as defined by the US Labor Department’s Standard Occupational Classification (SOC), which we adapted for the corresponding ISCO-codes (International Standard Classification of Occupations) available in a large number of cross-national survey datasets.¹⁷ While this

¹⁷ The ISCO-codes are provided in the ESS dataset. Occupations were classified based on questions F21-F23 in the 2002 ESS questionnaire and questions F22-24 in the 2004 questionnaire respectively about the title, nature, and

classification focuses exclusively on the US, we believe that it is reasonable to assume that it can be extended to other advanced economies. Assigning each respondent in a dataset the offshoreability-score corresponding to his or her occupation, allows us to gauge the individual exposure to international competition on an occupational basis. The ordinal index ranges from 1 (no offshoring-potential) to 4 (high offshoring potential).²⁰

Conditional Effect

As discussed above, the individual-level impact of exposure to international competition is conditional on individuals' ability and productivity (see also Walter forthcoming). To account for this conditional character of the concept, we interact the measures for the individual's exposure to globalization (the tradables sector-dummy and the job-offshoreability-measure, respectively) with the respondent's length of education. This interaction term allows us to account for the effect of globalization exposure at different levels of education as a measure for

training of respondents' jobs. US SOC and ISCO- correspondence tables are available on request at the US Bureau of Labor Statistics (email: SOC@bls.org). The example presented below implements such a conversion. In cases where there is no clear correspondence between SOC and ISCO codes, we proceeded as follows: When the original occupations and/ or codes did not appear in the SOC 2000 and ISCO-88 correspondence table, we treated these occupations as the ISCO category fitting closest to the occupation title and description used in the table based on SOC-codes and coded the offshoreability value accordingly. For some few occupations, in which some jobs are arguably more offshoreable than others, the Blinder-classification assigns the same occupation (SOC category) two offshorability values. For these cases, we decided to calculate and work with the median value (if the median value was not an integral number we used the next higher one). The median value of different offshorability-values was also determined for those cases in which the SOC-Classification went more into detail than the ISCO-categories so that several occupations had to be summarized into one category in the ISCO-version.

²⁰ Three criteria are used to rank the occupations according to their offshorability-potential: the first criterion is the specificity of the work place: if workers are required to be at a specific work location in their country in order to perform their task, they are considered to have a highly non-offshorable occupation (category 1). A typical example would be a child care worker or a hairdresser. If the criterion of work-place specificity is not fulfilled, the second criterion determines whether a worker has to be physically close to his or her work unit (e.g., a factory worker must be in the factory). If not, the occupation falls into the category of the highly offshorable occupations (category 4). An example would be an IT programmer, who can perform her service anywhere, and not only her employer's office. The remaining occupations are then classified into the two middle categories of intermediate offshoreability according to a third criterion, which asks whether the entire work unit has to be in the same country. Occupations who do not meet this criterion – examples are handling agents or radio announcers – were classified as category 3 (offshoreable). The remaining occupations were classified as the somewhat offshoreable (category 2), which represents jobs that are less offshoreable than category-3 jobs. Blinder further divides each of the four categories into 25 ranks, producing an index ranging from 0 to 100. Since this classification more ambiguous and less well documented, we use the four major categories for our analysis.

individual productivity. In line with the discussion above, this suggests that individuals who have only had a few years of education and work in a tradable industry or have a highly offshoreable jobs are classified as “globalization losers.” These individuals are most at risk of globalization-induced job and income loss. At the same time, well-educated individuals in exposed industries or occupations are the winners of globalization, because they receive higher wages. The proposed operationalization also classifies individuals in sheltered industries and occupations. These more intermediate cases are ranked on the continuum between clear globalization winners and losers according to their exposure to international competition and their skill-level.

Of course, such a more nuanced identification of globalization losers and winners is not an end in itself, but is only helpful if it allows us to better answer important questions in political science. The next section therefore presents an example of how using the insights from new trade theory can help disentangle the causal mechanisms implied by macro-level globalization-theories at the micro-level.

3. Application: Globalization, Deindustrialization, and Welfare State Preferences

We illustrate the usefulness of using the insights from the new generation of trade models by analyzing the demand-side implications of the so-called *compensation hypothesis* (e.g. Cameron 1978; Ruggie 1982; Katzenstein 1985; Rodrik 1998). This hypothesis suggests that economic openness leads to higher public spending, because governments seek to ensure their citizens against the risks associated with increased globalization by expanding the welfare state. The underlying argument rests on two components: a demand and a supply side component. On the demand side, it postulates that globalization increases voters’ demand for better social protection, because increased integration in the global economy leads to more insecurity among

citizens, either because of increased domestic economic volatility or because of globalization-induced structural adjustment. On the supply side, governments satisfy this demand by expanding – or at least not retrenching – the welfare state.

Even though this argument has inspired a large research program, no consensus has emerged whether the implications of the compensation argument hold empirically. The majority of studies on the compensation hypothesis investigate whether more integrated countries have larger welfare states. They focus on the supply-side, macro-level effects of globalization and are based on the assumption that globalization increases demand for social protection. Several authors find that higher integration into the world economy coincides with bigger welfare states, either because integration increases domestic economic volatility or globalization-induced structural adjustment (e.g. Hicks and Swank 1992; Garrett 1998; Rodrik 1998; Bernauer and Achini 2000; Burgoon 2001; Garrett and Mitchell 2001). These supportive findings of the compensation hypothesis have been challenged by a number of studies, who find that changes in economic openness and globalization have had a negative impact on public spending (e.g. Rodrik 1997; Garrett 2001; Genschel 2002; Busemeyer 2009). As an explanation, these authors point to governments' reduced ability to provide social spending in a world characterized by mobile capital (Cerny 1995; Rodrik 1997). This group maintains that even though globalization may increase demand for more social protection, it creates efficiency dynamics that constrain governments' ability to supply it. Other authors argue for a more nuanced understanding of the relationship between globalization and the welfare state (e.g. Burgoon 2001; Swank and Steinmo 2002; Adserà and Boix 2002; Mares 2004, 2005; Rickard 2008).

More recently, scholars also have begun to investigate the demand-side implications of the compensation hypothesis, rather than taking this part of the argument for granted. Several

authors report survey evidence that supports the argument that globalization increases insecurity and the demand for social protection among individuals. For example, Scheve and Slaughter (2004) find that individuals in more exposed sectors in Britain are more likely to experience feelings of economic insecurity. Walter (forthcoming) finds that globalization winners and losers in Switzerland exhibit significantly different policy and partisan preferences, and Hays et al. (2005) show that individuals in more generous welfare states view free trade more favorably.

Other scholars, however, increasingly challenge the assumption that globalization exposes individuals to higher risks and therefore increases their demands for compensation. Some studies investigate the openness-volatility nexus and find no evidence that more open economies face more economic volatility (Iversen and Cusack 2000; Iversen 2001; Kim 2007; Down 2007). This skepticism towards the compensation hypothesis has been bolstered by survey evidence presented by Rehm (2007, 2009), which finds no evidence of systematic and statistically significant differences between individuals working in non-tradable industries, in tradable industries with a comparative advantage, and individuals employed in tradable industries with a comparative disadvantage. Iversen and Cusack (2000) provide a potential explanation for these findings.²³ They argue that deindustrialization, rather than globalization, is the relevant determinant of labor market risks and social policy preferences. The challenge in evaluating this claim at the individual level has been to empirically distinguish between individuals' exposure to globalization-induced and deindustrialization-induced structural change.

Our approach of conceptualizing the individual-level impact of globalization as a combination of skills and occupational exposure to international competition allows us to discriminate between these two explanations. Since deindustrialization typically leads to structural change towards service-oriented and skill-intensive industries, low-skilled workers are

²³ See also Iversen (2001).

most exposed to this.²⁴ This suggests that if deindustrialization is the prime driver of individual income and job risks, then low-skilled workers in general should experience higher levels of risk and have a stronger preference for welfare state expansion than high-skilled individuals, and this relationship should be unaffected by individuals' exposure to international competition. In contrast, if globalization predominantly drives feelings of insecurity and social policy preferences, we should see systematic differences not only between high- and low-skilled individuals, but also within these groups, and these differences should be systematically related to individuals' exposure to the international economy.

3.1 Data and Method

To evaluate these competing claims, we use survey data from two consecutive waves of the European Social Survey (2002 and 2004) for 16 West European countries to examine the determinants of individuals' perceptions of economic risk and their policy preferences for redistributive policies.²⁵ The countries included in our analysis share two important characteristics: they are advanced industrialized and open economies. Thus, all of these countries are involved in both the process of deindustrialization and globalization.

To operationalize individual feelings of economic risk, we concentrate on the aspect of economic security that individuals are most likely to focus on in the context of labor market risks: job security. We used the answers to the following question to operationalize this concept:

“how difficult or easy would it be for you to get a similar or better job with another employer if

²⁴ Since deindustrialization is directly related to technological change, however, it affects low-skilled workers significantly more negatively than high-skilled workers. Iversen and Cusack (2000) emphasize the aspect of skill-specificity rather than skills per se, but it seems to us that individuals with specific skills are at risk from structural change irrespective of its source (deindustrialization or globalization).

²⁵ <http://www.europeansocialsurvey.org>. Since some of the questions relevant for our design were not asked in the 2006 survey, we limit our analysis to these two waves. The countries included in the analysis are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom.

*you wanted to?*²⁶ We recoded the 11-point scale such that higher values denote more insecurity (the scale ranges from 0 “*extremely easy*” to 10 “*extremely difficult*”).²⁷ Respondents’ preferences on income redistribution are operationalized as respondents’ opinion on the statement “*The government should take measures to reduce differences in income levels.*” Answers on the recoded five-point-scale range from 1 “*disagree strongly*” to 5 “*agree strongly*”.²⁸ Since this question explicitly mentions the role of the government, we interpret low values as a preference for welfare state expansion, while high values reveal a preference for welfare state retrenchment.²⁹

As discussed above, we operationalize the individual-level distributional impact of globalization with an interaction term between the number of years respondents invested in their education and their exposure to global competition, measured as the respondent’s type of industry and his or her job offshoreability respectively. The compensation hypothesis and the deindustrialization hypothesis make different predictions about this interaction term. The expectations generated by the compensation hypothesis are that that globalization losers systematically experience more labor market risk and demand more income redistribution than globalization winners. This suggests that the interaction term should be negative and statistically significant, implying that the differences between uneducated and well-educated individuals becomes increasingly pronounced the more these individuals are exposed to international competition. Furthermore, the conditional effect of globalization exposure is expected to vary

²⁶ Question E35* in the 2002 ESS questionnaire and question G79 in the 2004 questionnaire. This is obviously not a perfect measure of individual employment risk, but the best approximation available in the context of this survey.

²⁷ The results are robust to recoding this variable into dummy variables that codes as „insecure“ all responses with values equal or greater than 5, 6, 7, 8, 9, and 10, respectively.

²⁸ Question B44 in the ESS questionnaire of 2002; question B30 in the 2004 questionnaire

²⁹ Reducing income inequality through redistributive policies is a central issue in welfare state policies, so that responses to this question have been used to operationalize respondents’ social policy preferences, even though this question does not directly measure respondents’ opinion about welfare state expansion per se (e.g. Svallfors 1997; Cusack et al. 2006; Rehm 2007).

over different education levels. It should be positive for individuals with little education and negative for well-educated individuals, representing the expectation that globalization affects individuals differently based on their ability. In contrast, the deindustrialization argument predicts that low-skilled individuals experience higher economic risks and prefer more redistribution than high-skilled workers, and that individuals' exposure to international competition should not affect this relationship. This suggests that the interaction term and the conditional effect of the offshoreability and the trade exposure-variable should be substantially and statistically insignificant, whereas education should have a negative and statistically significant effect.

We include a number of control variables that are routinely included in studies that analyze the causes of economic insecurity and social welfare preferences at the individual level (Svallfors 1997; Iversen and Soskice 2001; Mughan and Lacy 2002; Scheve and Slaughter 2004; Rehm 2007, 2009; Cusack et al. 2006; Scheve and Stasavage 2006; Anderson and Pontusson 2007). These variables include skill specificity, income, gender, age, labor union membership, and unemployment. Skill specificity captures how specialized an individual's skills are. Following Iversen and Soskice (2001) and Rehm (2009), the measure is based on information on individuals' occupational classification (ISCO88) and labour force data on the occupational distribution of employment.³⁴ Income is measured on an ordinal 12-point scale (questions F30 in ESS 2002 and F32 in ESS 2004). Gender is a dummy variable for female respondents (based on variable F2) and age is operationalized as age in years (measured as the difference between the year the survey was conducted and the year the respondent was born F3). Labor union membership is a dummy variable coded 1 for respondents who are or have been a member of a

³⁴ For further details see: <http://www.people.fas.harvard.edu/~iversen/SkillSpecificity.htm>. We thank Philipp Rehm for sharing his STATA code for operationalizing skill specificity.

trade union or a similar organization (F28 in ESS 2002; F30 in ESS 2004). Individuals are coded as unemployed when they are currently unemployed and actively looking for a job (F8a in ESS 2002 and 2004).³⁵ Tables A1 and A2 in the appendix provide the descriptive statistics.

We use ordered logit analyses to test the empirical implications of the compensation and the deindustrialization arguments. Since respondents from the same country share a common context, observations within the same country are not independent. To account for this context-dependence, we include country dummies and additionally cluster the standard errors on the country level to address the related problem of within-country correlation of errors. We also include a dummy variable that controls for the fact that we combine data from two survey waves. The data are weighted by the product of the design and the population size weights.³⁶

3.2 Results

The results of ordered logit analyses estimating how exposure to international competition and skills affect individuals' perception of job insecurity and their preferences for redistribution are presented in Tables 1 and 2 respectively.

Job insecurity.

Models 1 to 4 estimate the probability that a respondent experiences job insecurity, measured as the perceived difficulty of finding an adequate alternative job. For all specifications, the results for the control variables are in line with the results of several other individual-level studies on the determinants of economic insecurity (Mughan and Lacy 2002; Scheve and

³⁵ The results reported are robust to using a wider definition of unemployment (irrespective of whether the respondent is actively looking for a job or not) and to including a number of additional control variables that control for respondents' labor market status (such as whether they are retired, disabled, or studying), and his or her religiosity.

³⁶ Variables „dweight“ and „pweight,“ respectively.

Slaughter 2004; Cusack et al. 2006). Respondents who have very specific skills, those with low incomes, women, older respondents, trade union members and unemployed individuals are more likely to express insecurity about their job situation.

Table 1: Ordered Logit Analyses for Job Insecurity

	Model 1	Model 2	Model 3	Model 4
Years of Education	-0.030*** (0.008)	-0.020*** (0.005)	-0.031*** (0.006)	-0.017*** (0.006)
Tradeable Industry (Dummy)	0.083 (0.054)	0.646*** (0.230)		
Tradeable Industry *Education		-0.043** (0.019)		
Job Offshoreability			0.064*** (0.020)	0.319*** (0.076)
Offshoreability* Education				-0.019*** (0.006)
Skill Specificity	0.060 (0.061)	0.043 (0.056)	0.082* (0.046)	0.076 (0.047)
Income	-0.046*** (0.004)	-0.047*** (0.005)	-0.046*** (0.006)	-0.047*** (0.007)
Female	0.074 (0.093)	0.067 (0.091)	0.041 (0.093)	0.032 (0.091)
Age in Years	0.028*** (0.003)	0.028*** (0.003)	0.028*** (0.002)	0.028*** (0.002)
Labor Union Member (Dummy)	0.270*** (0.054)	0.263*** (0.053)	0.277*** (0.042)	0.266*** (0.041)
Unemployed (Dummy)	0.621 (0.386)	0.623 (0.388)	0.550** (0.243)	0.552** (0.248)
ESS Wave 2004 (Dummy)	-0.101 (0.070)	-0.102 (0.071)	-0.106 (0.066)	-0.105 (0.066)
Country Dummies	yes	yes	yes	yes
N	18900	18900	21284	21284
Countries	16	16	16	16
Log pseudolikelihood	-42229.46	-42215.56	-47655.75	-47638.09
BIC	-3460.53	-3488.35	-3863.89	-3899.21
Pseudo R2 (McFadden's)	0.041	0.0413	0.0404	0.0408

Values in parentheses are robust standard errors, clustered on country. Cutoff points and estimates for country dummies are not reported. * $p \leq .1$; ** $p \leq .05$; *** $p \leq .01$

Model 1 and 3 represent the conventional approach of including a measure of exposure to international competition and a measure of the respondent's skills as separate explanatory variables. These models serve as baseline models that neglect the conditional effects discussed above. The results suggest that education decreases and exposure to international competition modestly raises respondents' perceptions of job insecurity, thus providing some support for both the deindustrialization and the compensation hypothesis. As we have argued above, however, this model specification neglects important differences in the effects of exposure to globalization conditional on individual ability.

Model 2 and 4 therefore include the interaction term between an individual's years of education and his or her exposure to globalization.³⁸ As expected, both interaction terms are negative and statistically significant at the 5% level (for the tradeables-dummy) and 1% level (for job offshoreability).³⁹ This result confirms the intuition of the new trade models that international exposure has heterogeneous effects. Whether the impact of exposure to international competition decreases or increases job insecurity is conditional on an individual's education: while uneducated individuals feel significantly more insecure than uneducated individuals in sheltered sectors, this effect is reversed for well-educated individuals. Among well-educated respondents, individuals with more exposure to the international economy feel more secure than their similarly educated counterparts in sheltered sectors.⁴⁰ The finding that the highly-educated feel least at risk when they work in highly internationalized industries and occupations corroborates the argument that these individuals can be characterized as globalization winners.

³⁸ Our results are robust to using education levels instead of years of education and to using more continuous measures of trade exposure and offshoreability.

³⁹ For a discussion of how to interpret interaction terms see Braumoeller (2004) and Brambor et al. (2006).

⁴⁰ Working in the nontradables sector decreases job insecurity for all individuals with at least 14 years of education, higher levels of offshoreability decrease insecurity for all individuals with at least 18 years of education.

Figure 1: Predicted probabilities that respondent finds it difficult to find a similar or better job

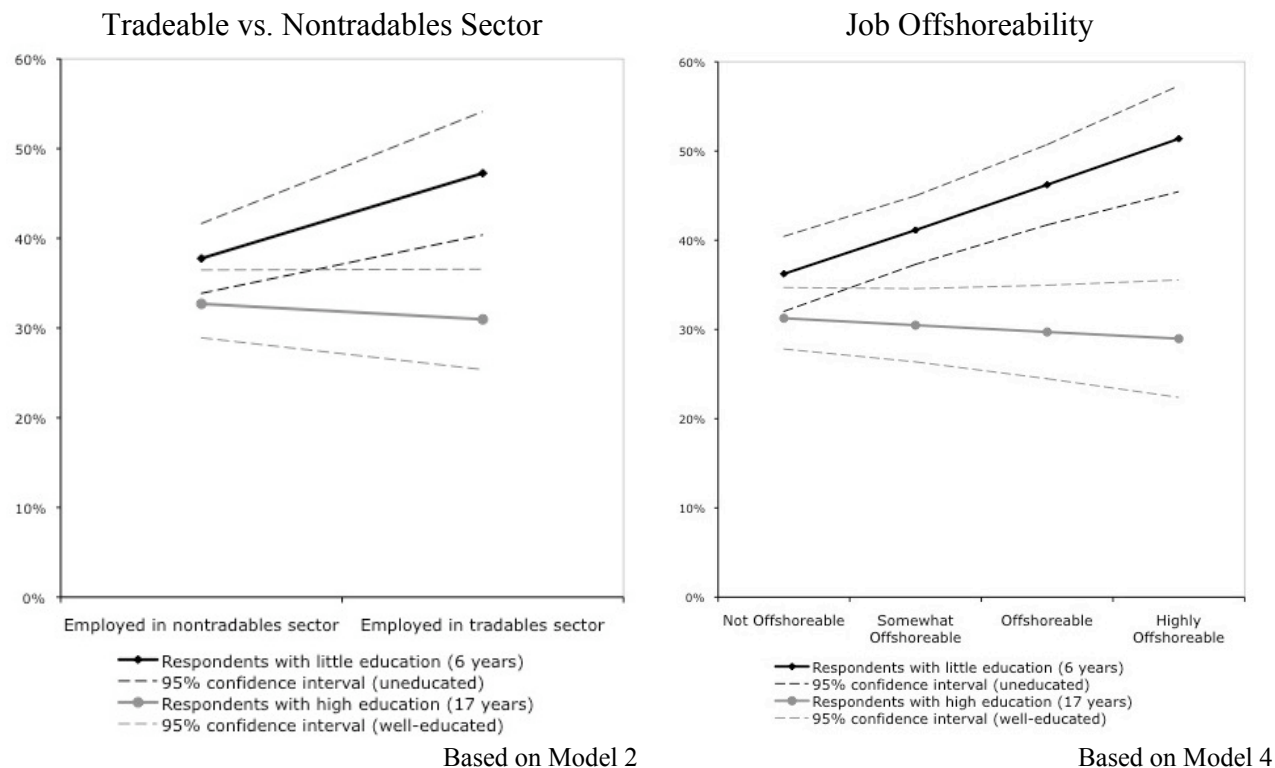


Figure 1 illustrates these findings graphically. Based on model 2, it plots the predicted probabilities that a respondent will judge it difficult to find a similar or better job for each of the two measures of globalization exposure. In each figure, the black lines denote respondents who have only had very limited education, whereas the grey line represents well-educated respondents who otherwise share the same characteristics.⁴¹ Figure two highlights two key results. First, less educated individuals always feel more insecure than better educated individuals. Second, considerable differences exist between globalization losers and globalization. Globalization-losers have a much higher probability of reporting high levels of job

⁴¹ We use six years of education (the 10th percentile of the education variable) to illustrate the effects for low-skilled individuals and seventeen years of education (the 90th percentile) to illustrate the effects for highly-skilled individuals. While the effects would be even stronger for more extreme values, we believe these values are more representative. All other variables are held at their median. The predicted probabilities in this paper are calculated for an „average respondent,“ i.e. an employed 45-year old woman with an average net monthly income between €2000 and €2500 and a skill specificity index of 0.98, who is not a member in a labor union.

insecurity than globalization winners: The difference is 16.3% between educated and uneducated respondents in the tradables sector and 22.4% between educated and uneducated respondents in highly offshorable occupations. Approximately every second globalization loser perceives high labor market risk. These individuals also experience much more job insecurity than individuals with equally low levels of education, who work in sheltered industries or occupations. In contrast, only about every third high-skilled individuals experiences similar levels of insecurity, and exposure to international competition has no strong effect.

This result has important implications for the deindustrialization vs. globalization debate. If deindustrialization were the only driver of individuals' risk perceptions, we would expect a large difference between high- and low-skilled individuals, but this difference and the level of insecurity should not be affected by the individual's exposure to the international economy.⁴² While figure 1 supports the notion that low-skilled individuals face more labor market risks than high-skilled individuals, it clearly rejects the notion that globalization has no effect on job insecurity. In line with the theoretical predication from new trade models, the within-group differences are systematically related to individuals' exposure to the international economy. Both deindustrialization and globalization seem to affect individuals' risk perceptions. Because low-skilled individuals in highly exposed occupations are faced with two adverse risks – the risk of losing their job to technological change and the risk of losing it to international competition – these individuals feel most insecure.

⁴² Essentially we would expect two parallel and horizontal lines, with higher level of insecurity for low-skilled individuals.

Preferences for Redistribution.

To validate this finding, we repeat the analyses for welfare state preferences, in particular the preference for more redistribution (models 5-8 in Table 2). As before, the control variables largely conform to the results of other studies on determinants on social policy and redistributive preferences (Iversen and Soskice 2001; Cusack et al. 2006; Rehm 2007, 2009). Individuals with specific skills, poorer respondents, women, union members and the unemployed are significantly more likely to favor redistribution. As before, models 5 and 7 include exposure and education as separate independent variables and neglects potential conditional effects. Not surprising, more education results in less support for redistribution. In contrast to the results for job insecurity, however, the coefficients for the two measures of globalization exposure are now negative and statistically significant. This finding, which stands in clear contradiction to the compensation hypothesis, implies that individuals in exposed occupations favor less redistribution.

Here the usefulness of accurately conceptualizing the individual-level effects of globalization becomes apparent. Once we allow the effect of exposure to international competition to be mediated by education by including the corresponding interaction terms (models 6 and 8), the effect of globalization on redistribution-preference becomes positive for uneducated individuals and negative for well-educated individuals. As predicted by the new models of international trade, the interaction term is negative and statistically significant at the 1%-level. The gap in redistribution-preferences between low- and high-skilled thus increases the more exposed individuals are to global competition.

Table 2: Ordered Logit Analyses for Preferences for Redistribution

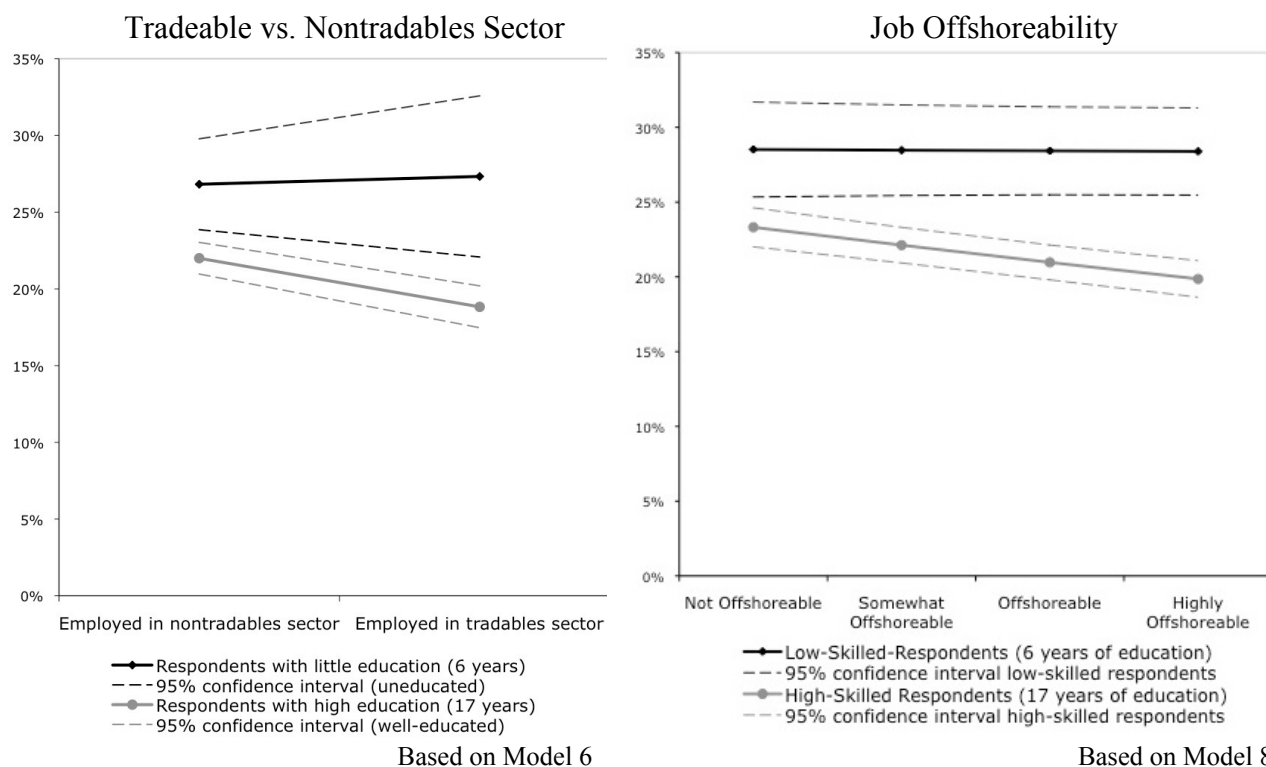
	Model 5	Model 6	Model 7	Model 8
Years of Education	-0.029*** (0.008)	-0.024*** (0.007)	-0.029*** (0.007)	-0.025*** (0.007)
Tradeable Industry (Dummy)	-0.097*** (0.026)	0.147 (0.115)		
Tradeable Industry *Education		-0.020*** (0.007)		
Job Offshoreability			-0.042*** (0.008)	0.034** (0.017)
Offshoreability* Education				-0.006*** (0.001)
Skill Specificity	0.182*** (0.050)	0.175*** (0.049)	0.173*** (0.038)	0.170*** (0.038)
Income	-0.121*** (0.008)	-0.121*** (0.008)	-0.118*** (0.008)	-0.118*** (0.008)
Female	0.326*** (0.029)	0.321*** (0.029)	0.315*** (0.029)	0.312*** (0.029)
Age in Years	0.001 (0.001)	0.001 (0.001)	0.000 (0.002)	0.000 (0.002)
Labor Union Member (Dummy)	0.232*** (0.029)	0.230*** (0.029)	0.240*** (0.025)	0.238*** (0.025)
Unemployed (Dummy)	0.499*** (0.120)	0.500*** (0.120)	0.489*** (0.099)	0.488*** (0.099)
ESS Wave 2004 (Dummy)	0.079*** (0.030)	0.078*** (0.030)	0.097*** (0.030)	0.097*** (0.030)
Country Dummies	yes	yes	yes	yes
N	36395	36395	41847	41847
Countries	16	16	16	16
Log pseudolikelihood	-46981.21	-46974.458	-54027.32	-54023.61
BIC	-6253.22	-6256.23	-6919.32	-6916.09
Pseudo R2 (McFadden's)	0.0636	0.0637	0.0612	0.0613

Values in parentheses are robust standard errors, clustered on country. Cutoff points and estimates for country dummies are not reported. * $p \leq .1$; ** $p \leq .05$; *** $p \leq .01$

Figure 2 plots the predicted probabilities that a respondent prefers more income redistribution for respondents with little education (black line) and well-educated (grey line) respondents. In contrast to the findings on risk perceptions, the effect of globalization exposure now is stronger for well-educated individuals and significantly reduces their preference for government-led income redistribution. Globalization winners are least likely to prefer such

policies. Compared with globalization winners, uneducated individuals have an approximately 8.5% higher likelihood of strongly demanding increases in income redistribution. Surprisingly, globalization exposure does not appear to affect low-skilled individuals' risk perceptions (note, however, that the curve would in fact be upward sloping if we had chosen a smaller number of education years as benchmark for low-skilled individuals). Overall, the findings of this analysis corroborate the findings on risk perceptions that globalization matters, but in a nuanced manner. Uneducated individuals react very differently to international competition than highly educated individuals.

Figure 2: Predicted probability that respondent thinks that the government should take measures to reduce differences in income levels, high-skilled and low-skilled respondents



4. Conclusions

To what extent does a person's exposure to the global economy shape her perceptions, policy preferences, and political actions? We have argued in this paper that in order to adequately answer this question, we can make use of new developments in international trade theory. These models suggest very heterogeneous effects of trade (and globalization more generally) that depend on both individuals' exposure to the international economy and his or her "ability" as a worker. To make these insights useful for political scientists, we have suggest a new way of conceptualizing and measuring the extent to which an individual can be characterized as globalization winner or loser. This conceptualization of a conditional effect of globalization acknowledges that uneducated individuals exposed to global competition face much higher labor market risks than uneducated individuals in sheltered occupations and well-educated individuals able to successfully compete in global markets.

Our approach improves on existing measures in a number of ways. First, it takes into account that the effects of globalization are much more heterogeneous than previous research has assumed. Second, it incorporates the finding of recent studies that individuals' economic interests are more likely to be driven by occupational risks rather than risks associated with the sector of employment (Iversen and Soskice 2001; Rehm 2009). Finally, we suggest a viable way of implementing this approach in the context of cross-country survey research. While we demonstrated the applicability and usefulness of this approach in the context of debates surrounding the determinants of social policy preferences, it is by no means limited to this research area. Quite the contrary, our approach could fruitfully be applied to any research question concerned with the individual-level effects of globalization. It can also be used to study the effect of globalization on electoral politics and partisan preferences.

Our findings more generally reinforce the notion that the individual economic situation strongly affects people's policy preferences. Since many macro theories rest on micro-level assumptions about the distributional effects of certain economic policies, this is an important finding. A clear understanding of how exposure to globalization shapes voters' preferences is a paramount ingredient for many macro-level theories in international political economy. Improving the micro-foundations of these theories will help us to arrive at better predictions about the effects of globalization on politics.

APPENDIX

Table A1: Summary Statistics

Variable	Observations	Mean	Std. Deviation	Min	Max
Job Insecurity	21099	5.00	2.93	0	10
Preference for Redistribution	41847	4.00	1.07	1	5
Tradables-Sector (Dummy)	36395	0.28	0.45	0	1
Job Offshoreability	41847	0.76	1.05	0	3
Years of Education	41847	12.12	4.08	0	40
Education Level	39138	3.05	1.50	0	6
Skill Specificity	41847	1.08	0.62	.45	4.05
Income	41847	6.91	2.31	1	12
Female (Dummy)	41847	0.50	0.50	0	1
Age in Years	41847	46.77	16.71	16	96
Labor Union Member (Dummy)	41847	0.31	0.46	0	1
Unemployed (Dummy)	41847	0.03	0.18	0	1
ESS Wave 2004 (Dummy)	41847	0.52	0.50	0	1

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