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Towards Globalization

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## **Heckscher-Ohlin Theory and Individual Attitudes Towards Globalization**

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## **Abstract**

The aim of the paper is to see whether individuals' attitudes towards globalization are consistent with the predictions of Heckscher-Ohlin theory. The theory predicts that the impact of being skilled or unskilled on attitudes towards trade and immigration should depend on a country's skill endowments, with the skilled being less anti-trade and anti-immigration in more skill-abundant countries (here taken to be richer countries) than in more unskilled-labour-abundant countries (here taken to be poorer countries). These predictions are confirmed, using survey data for 24 countries. The high-skilled are pro-globalization in rich countries; while in some of the very poorest countries in the sample being high-skilled has a negative (if statistically insignificant) impact on pro-globalization sentiment. More generally, an interaction term between skills and GDP per capita has a negative impact in regressions explaining anti-globalization sentiment. Furthermore, individuals view protectionism and anti-immigrant policies as complements rather than as substitutes, as they would do in a simple Heckscher-Ohlin world.

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## 1. Introduction

The factor proportions theory of trade developed by Eli Heckscher and Bertil Ohlin is so intuitively appealing that it remains the bedrock of modern trade courses. Despite its popularity, however, doubts have persistently been raised about its empirical applicability, from the Leontief paradox (Leontief 1953) to the stylised facts (high levels of intra-industry trade; high levels of trade between similar countries) which motivated the development of new trade theory in the 1980s. In an influential paper which was particularly damaging to the theory's credibility, Bowen, Leamer and Sveikauskas (1987) showed that the Heckscher-Ohlin-Vanek model was of no help when trying to predict the net factor content of a country's trade.

However, recent work by Don Davis, David Weinstein and others has suggested that Heckscher-Ohlin theory does indeed help to explain trade patterns, so long as the researcher bears in mind the fact that countries are not distinguished by differences in factor endowments alone; for example, Davis and Weinstein (2001) show that Heckscher-Ohlin-Vanek theory is consistent with the data, as long as it is modified to take account of the (self-evidently true) facts that technology differs across countries, that factor price equalization does not hold, that some goods are non-traded, and that international trade is not costless.

In this paper, I take an entirely different approach in assessing the empirical usefulness of Heckscher-Ohlin theory. I do not ask whether it explains trade patterns, which is what the theory is supposed to do; rather, I ask whether individuals' attitudes towards globalization (and more specifically, their attitudes towards trade and immigration) are consistent with factor proportions theory. In particular, I start from the premise that trade and migration patterns are today driven largely by differences in the relative endowments of skilled and unskilled labour in different countries; it follows from Heckscher-Ohlin theory

that skilled and unskilled workers should differ in their attitudes towards globalization, in a predictable manner. Do these predictions hold true, when confronted with the data?

In a series of papers Kenneth Scheve and Matthew Slaughter have addressed these issues, and found evidence for the Heckscher-Ohlin world view. Scheve and Slaughter (2001a) examined individual-level survey data for the US in 1992 and found that low-skilled workers were more likely to support 'new limits on imports' than high-skilled workers; they also found that factor type (i.e. skill level) was more important than the sector in which individuals were employed in explaining preferences. This finding was consistent with Heckscher-Ohlin models in which factors of production are mobile between sectors, but inconsistent with specific factors models in which agents are intersectorally immobile. Scheve and Slaughter (2001b) use US survey data for 1992, 1994 and 1996 to examine attitudes towards immigration. They find that high-skilled workers are less likely to support restrictionist immigration policies than their low-skill counterparts.

While such findings may be consistent with a Heckscher-Ohlin world view, single country studies cannot convincingly demonstrate that factor proportions models are relevant in explaining individual preferences regarding globalization. The reason is straightforward: Heckscher-Ohlin theory predicts that the impact of skill on attitudes should vary in a systematic way across countries. In skill-abundant countries, high-skilled workers should favour trade; in low-skill-abundant countries, it is the unskilled who should favour trade. The Scheve and Slaughter findings, on their own, do not preclude the possibility that the high-skilled are in favour of globalization everywhere – for example, because better educated people understand the intellectual arguments in favour of international integration. Such a world would be at dramatic variance with the predictions of Heckscher-Ohlin theory.

In order to test the theory, therefore, we need data giving attitudes towards

globalization in a number of different countries. The crucial issue then becomes whether the relationship between skills and attitudes varies across countries in a manner consistent with theory. This paper will survey recent attempts to do precisely this, looking separately at attitudes towards trade and attitudes towards immigration, and drawing on my work with Richard Sinnott (O'Rourke and Sinnott 2001, 2003).<sup>1</sup> The next section will discuss what theory has to say about how individuals in different countries should feel about trade and immigration. Section 3 will outline the data used, while section 4 will discuss the determinants of individual attitudes towards trade. Section 5 discusses the determinants of individual attitudes towards immigration, while section 6 uses seemingly unrelated bivariate probit methods to simultaneously explore the determinants of attitudes towards both trade and immigration. Section 7 concludes.

## **2. Theoretical expectations**

### **2.A. Trade**

Standard Heckscher-Ohlin trade theory is quite clear in its predictions regarding who should benefit and who should lose from free trade in commodities. Imagine a two factor world in which countries are distinguished only by their relative endowments of skilled and unskilled workers. The relative wages of skilled workers will be lower, other things being equal, in skill abundant countries (which we will denote by R, and refer to as rich countries) than in unskilled labour abundant countries (denoted by P, and referred to as poor countries): we have  $(w_s/w_{us})^R < (w_s/w_{us})^P$ , where  $w_s$  and  $w_{us}$  denote skilled and unskilled wages

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<sup>1</sup> Since beginning this project, Sinnott and I became aware of the independent work that was being done on the same issues by Anna Maria Mayda and Dani Rodrik (Mayda and Rodrik 2001, Mayda 2003). While their findings confirm our own, they use different methods and measures of skill, and the paper will allude to these differences when our own empirical findings are discussed.

respectively. It is this inequality that drives comparative advantage: the rich countries will export skill intensive goods, while the poor countries will export unskilled labour intensive goods. The result is then relative factor price convergence (or, in the limit, factor price equalization): when countries move towards freer trade, the relative price of skilled labour rises in rich countries, and falls in poor countries. Moreover, the abundant factor gains in real terms in all countries, while the scarce factor loses. Thus the skilled should favour free trade in rich countries, while they should favour protection in poor countries; the unskilled in rich countries should favour protection, while the unskilled in poor countries should support free trade.

Note that Heckscher-Ohlin theory argues that individuals' interests are related to countries' factor endowments; in order to test the theory, we ought in principle to see whether the relationship between skills and protectionist sentiment varies across countries in a manner related to their skill endowments (e.g. their average educational levels). For reasons outlined in Section 3, however, the available educational data are not satisfactory, and in testing the theory we assume that GDP per capita is strongly and positively correlated with human capital endowments. We therefore have:

***Prediction 1:*** the impact of skills on protectionist sentiment should be related to a country's GDP per capita. In the richest countries, being high-skilled should have a negative impact on protectionist sentiment. In the poorest countries, being high-skilled should have a positive impact on protectionist sentiment. More generally, an interaction term between skills and GDP per capita should enter with a negative sign in a regression explaining protectionist sentiment.



## 2.B. Immigration

In a pure Heckscher-Ohlin world in which technology is identical across countries, and in which countries are only distinguished by their relative endowments of skilled and unskilled labour, it is again possible to make unambiguous predictions about who should favour immigration and who should not. This is the case, even though international migration is not driven by comparative advantage and relative factor prices, but by absolute advantage, and by absolute factor price differentials. In a pure HO world, the real wages of skilled workers will be higher in poor countries (where skilled workers are scarce) than in rich countries (where they are abundant), while unskilled wages will be higher in rich countries than in poor countries: we have (in real terms)  $w_S^P > w_S^R$ , but  $w_{US}^R > w_{US}^P$ . Thus, we should observe skilled workers migrating from rich to poor countries, and unskilled workers migrating from poor to rich countries. Immigration will hurt skilled workers in poor countries, but benefit the unskilled there; therefore in poor countries the unskilled should favour immigration, while skilled workers should oppose it. The situation is the reverse in rich countries: immigration will hurt the unskilled, but benefit skilled workers. Thus skilled workers should be pro-immigration, while the unskilled should oppose it.

We thus have:

**Prediction 2:** the impact of skills on anti-immigrant sentiment should be related to a country's GDP per capita. In the richest countries, being high-skilled should have a negative impact on anti-immigrant sentiment. In the poorest countries, being high-skilled should have a positive impact on anti-immigrant sentiment. More generally, an interaction term between skills and GDP per capita should enter with a negative sign in a regression explaining anti-immigrant sentiment.

Note that in such a pure 2-country, 2-factor Heckscher-Ohlin world, in which countries are distinguished solely by their relative factor endowments, agents are consistent in their attitudes towards globalization. That is, in rich countries skilled workers favour both trade and immigration, while unskilled workers are protectionist and anti-immigration. In poor countries, it is the unskilled who are liberal in their attitudes towards both trade and immigration, while the skilled favour both protection and immigration restrictions. This symmetry reflects the fact that in a pure 2-factor Heckscher-Ohlin world in which technology is identical across countries, trade and factor flows are substitutes: they have identical effects on factor prices (i.e. they both lead to relative and absolute factor price convergence), and thus the more you have of one dimension of globalization, the less incentive there will be for the other dimension to take place. In such a world, scarce factors lose as a result of either trade or immigration, while abundant factors gain from either. One immediate political consequence of the fact that trade and migration are substitutes for each other is that agents who are protectionist should also be anti-immigration: both trade and immigration have to be simultaneously restricted, since either phenomenon will hurt the scarce factor. Protection without immigration restrictions will not work, since protection without immigration restrictions will simply lead to more immigration; immigration barriers without protection will not work, since immigration barriers on their own will simply lead to more trade (Mundell 1957).

We thus have:

**Prediction 3:** *ceteris paribus*, being protectionist should increase the likelihood that an individual is anti-immigrant; while *ceteris paribus*, being anti-immigrant should increase the likelihood that an individual is protectionist.

Things get a lot more complicated if technology differs across countries, or if there are more than two factors of production. Any test of Heckscher-Ohlin theory will in all likelihood do better by admitting such possibilities (recall that it is precisely by admitting the existence of such complications that the empirical trade literature has to some extent rehabilitated the theory in recent years). If technology is better in the rich country, or if the rich country is better endowed with some third factor of production than the poor country, then it no longer follows from an inequality such as  $(w_s/w_{US})^R < (w_s/w_{US})^P$  that skilled workers will migrate from rich to poor countries: it is quite possible that  $(w_s/w_{US})^R < (w_s/w_{US})^P$ , but that (in real terms)  $w_s^R > w_s^P$ . In this case, skilled workers will move from poor (unskilled labour abundant) countries to rich (skill abundant) countries: unskilled workers will move in the same direction as skilled workers. This is, of course, what happens in the real world, suggesting that richer countries do indeed enjoy superior technology to poor countries, and that endowments alone cannot explain differences in income, or for that matter trade patterns and factor flows. The issue of whether skilled or unskilled workers should be more anti-immigration in rich countries thus becomes unclear. Presumably it depends upon whether immigration predominantly involves skilled or unskilled workers; but which is true is not immediately obvious.<sup>2</sup>

In fact, there is a large theoretical literature which asks whether migrants are more likely to be skilled or unskilled, but this literature tends not to be located within standard HO trade models. For example, Katz and Stark (1984) argue that asymmetric information can

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<sup>2</sup> Furthermore, it is no longer the case that trade and factor flows are necessarily substitutes: they could instead be complements. For example, Markusen (1983) shows that technological differences between countries can lead to trade and factor mobility being complements; while in the context of a three-factor model such as the specific factors model, trade and factor mobility can be either substitutes or complements (O'Rourke and Williamson 1999, Chapter 13).

lead to migration flows disproportionately involving unskilled workers, since employers in rich countries may not be able to correctly discern the skill levels of potential migrants; although the equilibrium outcome can change if various devices reinstating informational symmetry are employed (Katz and Stark 1987). While appealing, it is not clear to me how this theory could be empirically tested with the data at my disposal.

An alternative theory is provided by Borjas (1987), who adapts Roy's (1951) model of occupational self-selection to the issue of migration. The conclusion of the analysis is that there will be positive self-selection of migrants if (a) the correlation between the earnings which they receive in the home and destination countries is sufficiently high; and (b) if income is more dispersed in the destination country than in the home country. On the other hand, there will be negative self-selection if (a) the correlation between the earnings which they receive in the home and destination countries is sufficiently high; and (b) if income is less dispersed in the destination country than in the home country. The theory thus predicts that immigrants into more unequal countries should be higher-skilled than immigrants into more equal countries: it follows that the high-skilled should be less favourably disposed towards immigrants in more unequal countries than in more equal countries. We have:

***Prediction 4:*** the impact of skills on anti-immigrant sentiment should be related to a country's level of inequality. In the most unequal countries, being high-skilled should have a positive impact on anti-immigrant sentiment. In the most equal countries, being high-skilled should have a negative impact on anti-immigrant sentiment. More generally, an interaction term between skills and inequality should enter with a positive sign in a regression explaining

anti-immigrant sentiment.<sup>3</sup>

### **3. The data<sup>4</sup>**

The 1995 International Social Survey Programme (ISSP) module on national identity provides the kind of cross-country survey data that are needed to test the hypotheses outlined above. The ISSP national identity survey was conducted in twenty-four countries in 1995-96. The countries concerned were: Australia, West Germany, East Germany, Great Britain, the USA, Austria, Hungary, Italy, Ireland, the Netherlands, Norway, Sweden, the Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, the Philippines, Japan, Spain, Latvia and Slovakia.

The survey provides two questions that are relevant in assessing attitudes towards globalization. The first asks respondents how much they agree or disagree with the statement that their country 'should limit the import of foreign products in order to protect its national economy'. The second asks respondents if the number of immigrants to their economy should be increased a lot (1), a little (2), remain the same (3), be reduced a little (4) or reduced a lot (5). Table 1 reports the mean response to these questions in each country: a score greater than 3 indicates that on average respondents were leaning towards greater restriction, rather than freer trade or immigration. In every country in the sample, respondents on average favoured lowering the number of immigrants; in every country in the sample bar two (the Netherlands

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<sup>3</sup> In principle, self-selection should depend not only on income distribution within host countries, but on the relationship between host country and source country income distribution. A complete test of the Borjas theory would thus involve calculating source country distributions for each host country. In this paper I make the simplifying assumption that source country distributions are sufficiently similar for all host countries that self-selection varies across host countries based on differences in host country distributions alone.

<sup>4</sup> The next section draws on O'Rourke and Sinnott (2001).

and Japan) respondents on average favoured limiting imports.

Answers to these two questions constitute the dependent variables that are to be explained in the analysis which follows. The data set also provides individual-level measures of a range of demographic, socio-economic and political variables that are of relevance in understanding attitudes towards globalization. Among the socio-economic variables, the most valuable from the point of view of testing the implications of the theories surveyed earlier is the respondent's skill level. This is arrived at by coding the answers to questions on respondents' occupation using the International Labour Organisation's ISCO88 (International Standard Classification of Occupations) coding scheme. While a complex coding scheme of this sort allows for very fine distinctions between different occupations, it makes most sense to focus on the four main skill categories provided by ISCO88. In brief, these are: (1) 'elementary occupations' (i.e. 'manual labor and simple and routine tasks, involving...with few exceptions, only limited personal initiative' (ILO 1990, p.7)); (2) 'plant and machine operators and assemblers; craft and related trades workers; skilled agricultural and fishery workers; service workers and shop and market sales workers; clerks;' (3) 'technicians and associate professionals;' and (4) 'professionals.' A fifth group, 'legislators, senior officials and managers,' do not have a skill coding under this four-step skill classification and were included as a separate, fifth, skill category. Finally, members of the armed forces were excluded, since it was unclear what their skill levels were. Skill data were available for 20 of our 24 countries; the other four (Spain, Italy, Sweden and Japan) were omitted when estimating models involving skill.

The analysis also uses a subjective economic variable, namely the stated willingness of people to move from one location to another in order to improve their standard of living or their work environment. Respondents were asked: "If you could improve your work or living

conditions, how willing or unwilling would you be to move to another neighbourhood or village; another town or city within this county or region; another county or region; outside [named country]; outside [named continent]?” Based on the responses to these questions, two binary variables were derived, indicating whether or not individuals were nationally mobile, and internationally mobile.<sup>5</sup> Arguably, those willing to relocate within the country should be less affected by any dislocation implied by immigration or free trade than those who are immobile. This will be particularly true if national labour markets are not perfectly integrated; and if immigrants tend to concentrate in particular regions or cities, or if import-competing industries are similarly concentrated. The rationale behind including the international mobility variable is to test Rodrik’s (1997) argument that globalization is currently favouring internationally mobile factors of production (i.e. physical and human capital) over immobile factors such as unskilled labour; alternatively (in the context of migration), being willing to live overseas may signal an openness to other cultures, and hence a greater tolerance for immigrants. The survey also indicates whether the respondent had ever lived abroad; previous experience of living abroad may provide a signal regarding willingness to move again (or, again in the context of immigration, it may indicate familiarity with foreigners). In addition, the survey provides information on respondents’ age; their gender; their religion; on whether they and their parents are native born or not; on their marital and employment status; and on a variety of other personal characteristics and attitudes.

The ISSP national identity data set includes a wide range of indicators of nationalist attitudes. The analysis here focusses on the following seven questions (versions implemented in Ireland, other country/nationality labels substituted as appropriate):

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<sup>5</sup> Details available on request.

- “Generally speaking, Ireland is a better country than most other countries”
- “The world would be a better place if people from other countries were more like the Irish”
- “I would rather be a citizen of Ireland than of any other country in the world”
- “It is impossible for people who do not share Irish customs and traditions to become fully Irish”
- “People should support their country even if the country is in the wrong”
- “Ireland should follow its own interests, even if this leads to conflicts with other nations”
- “How important do you think each of the following is for being truly Irish?”... .. “to have been born in Ireland”

In each case, respondents were asked to rank their responses along a scale, in the case of the first six items, from 1 (strongly disagree) to 5 (strongly agree) and, in the case of the seventh item, from 1 (very important) to 4 (not at all important). The seventh item was reordered to make it consistent with the other six. Principal components analysis of these responses yielded two factors or underlying dimensions of nationalist attitudes. As can be seen from the rotated factor loadings in Table 2, the first factor is a straightforward preference for and sense of the superiority of one’s own country (here labelled patriotism). The second factor identifies a narrow or exclusive sense of nationality combined with a degree of chauvinism of the “my country right or wrong” variety (here labelled chauvinism). On the basis of this analysis, patriotism and chauvinism scores have been calculated by averaging responses across the relevant subsets of items identified in the factor analysis.

Finally, in order to test the various hypotheses outlined in the previous section, data



on GDP per capita in 1995 were collected from the World Bank's *World Development Indicators* (these are PPP-adjusted figures, in 1995 international dollars); the same source yielded information on inequality (i.e. Gini coefficients).<sup>6</sup> Data on educational attainments are also available; the standard source is the Barro and Lee (2000) dataset on average years of schooling in each country. However, the transition countries account for 9 of the 24 countries in the ISSP dataset, and the Barro-Lee figures for schooling in several transition countries are very high: for example, average schooling is higher in Slovakia, Bulgaria, Latvia and Poland than in the Netherlands, Ireland, and Austria. It seems reasonable to doubt whether these figures provide a genuine reflection of the economically relevant human capital endowments of these countries; it is for this reason that GDP per capita data are used when testing Heckscher-Ohlin theory.

#### **4. Understanding protectionist preferences**

Table 3 presents results of a series of ordered probit regressions in which the dependent variable is 'protect', an ordered variable running from 1 (least protectionist) to 5 (most protectionist). The results differ from those presented in O'Rourke and Sinnott (2001) in that the specification of the equations is altered to make them more comparable with the results for anti-immigrant sentiment.<sup>7</sup>

The first equation shows that nationalist sentiment is an extremely strong determinant

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<sup>6</sup> The data are available online at <http://devdata.worldbank.org/dataonline/>.

<sup>7</sup> Note that in the context of an ordered probit model, a significant positive coefficient indicates that increasing the relevant independent variable increases the probability that 'protect' takes on the value 5, and reduces the probability that 'protect' takes on the value 1. The impact on the probabilities that 'protect' takes on the values 2-4 is however *a priori* unclear. Nonetheless, in what follows I will speak loosely of variables being either positively or negatively related to anti-globalization sentiment. See Greene (2000, pp. 875-879) for further details.

of attitudes towards trade, with patriotism, and especially chauvinism, having a large positive effect on protectionist sentiment. This result is robust across all specifications, and confirms the importance of ideology in determining attitudes towards globalization.

Is there also a role for interests in shaping voter preferences? The other equations suggest that there is. Equation (2) provides a test of *Prediction 1*. It adds a skill variable, Skill345, to the specification, as well as an interaction term between Skill345 and GDP per capita. Skill345 is a variable indicating whether the respondent is high-skilled or not; it is equal to one if the respondent belongs to one of the three high-skill categories mentioned earlier (categories 3, 4 and 5) and zero otherwise. The results are a triumphant confirmation of Heckscher-Ohlin theory, in that the interaction term between Skill345 is negative and statistically significant. It is in fact the case that the high-skilled are more likely to support free trade in rich countries than in poor countries, just as the theory predicts. This result is also robust across specifications.

Equation (3) adds a variety of control variables to the regression, but the basic Heckscher-Ohlin result remains. A stated willingness to move within the country has no impact on attitudes, but international mobility is associated with free trade preferences, consistent with Rodrik (1997). Women and Roman Catholics tend towards more protectionist viewpoints, while there is no evidence that the unemployed tend to be more protectionist.

How important quantitatively is this Heckscher-Ohlin effect? Taking the specification in equation (3), and setting all right hand side variables equal to their median values, the expected probability that a respondent will give the most protectionist response possible (protect = 5) is 31.5%. In a country with a per capita GDP of \$5000, being high-skilled reduced this probability by just 2.3%; but being high-skilled reduces the probability by 5.6% in a country with a per capita GDP of \$15000, and by 8.7% in a country with a per capita

GDP of \$25000. It appears that income matters a lot in determining the impact of being high-skilled on preferences.<sup>8</sup>

Finally, equation (4) tests *Prediction 3* by adding a measure of anti-immigrant sentiment. *Prediction 3* is vindicated, in that those who are more anti-immigrant also tend to be more protectionist: trade and immigration policy are viewed as complements rather than as substitutes, just as Heckscher-Ohlin theory predicts.

An alternative way of testing Heckscher-Ohlin theory is to run a series of regressions for individual countries, and see how the relationship between skills and protectionist sentiment which comes out of these regressions varies across countries. Appendix Table 1 gives the result of a series of country-specific regressions, which include most of the variables in equation (3) of Table 3.<sup>9</sup> Figure 1 plots the coefficients on Skill345 for each of these countries, against that country's GDP per capita. Again, *Prediction 1* is confirmed, in that there is clearly a negative relationship between the impact of skill on protectionist attitudes, and GDP per capita. Indeed, in three of the poorest countries in the sample (Latvia, Slovakia and Bulgaria) being high-skilled is actually associated with being more protectionist, rather than less protectionist, although the effects are small and statistically insignificant. Ideally, of course, one would like to have information on even poorer countries, and see if skills are strongly and positively related to protectionist preferences, but this is not possible with the ISSP dataset.

The robustness of these results is confirmed by Mayda and Rodrik (2001), who

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<sup>8</sup> These results, and similar ones quoted in the next section, were calculated using the CLARIFY programme described in Tomz, Wittenberg and King (1999) and King, Tomz and Wittenberg (2000).

<sup>9</sup> Country dummy variables are obviously omitted from these regressions, as is the interaction term between Skill345 and GDP.

independently arrived at the same conclusions using slightly different methods and specifications. In particular, they

- ran ordered logit rather than ordered probit regressions
- used years of education rather than occupational skill-level to measure human capital
- use other control variables, such as individuals' relative incomes, and their sector of employment (which they infer from the data on occupations).

Despite these differences, their basic findings are strikingly similar to the ones presented here. Moreover, the Heckscher-Ohlin results carry over when Mayda and Rodrik employ data for a larger sample of countries (taken from the World Values Survey). It appears that peoples' preferences regarding trade policy are fully consistent with the predictions of factor proportions theory.

## 5. Understanding anti-immigrant preferences

Table 4 presents the results of a series of regressions explaining 'anti-immigrant', which is an ordered variable running from 1 (least anti-immigrant) to 5 (most anti-immigrant). The same variables are used as in the previous analysis, and as before patriotism, and especially chauvinism, are important determinants of anti-immigrant sentiment. Equation (2) tests the unconditional version of *Prediction 2*, and this time the results are not favourable to Heckscher-Ohlin theory: the coefficient on the interaction term between Skill345 and GDP per capita is negative, as expected, but the effect is statistically insignificant. Similarly, equation (3) tests the unconditional version of *Prediction 4*, and again the results are disappointing for the Borjas self-selection theory. The coefficient on an interaction term between Skill345 and the Gini coefficient is positive, as expected, but again insignificant.

Equation (4) tests a conditional version of *Prediction 2*, and this time the results are

favourable. Controlling for international differences in income distribution the interaction term between Skill345 and GDP per capita is negative and statistically significant, just as theory predicts. Moreover, controlling for international income differentials, the interaction term between Skill345 and the Gini coefficient is positive and statistically significant, confirming a conditional version of *Prediction 4*. These results remain robust when other control variables are used (in equations 5 and 6), although the coefficient on the interaction term between Skill345 and GDP per capita becomes statistically insignificant at conventional levels in equation 6 (with a p-value of 0.14).

How strong are these effects? Again, taking the specification in equation (5), and setting all the explanatory variables equal to their median values, yields an expected probability of the most anti-immigrant response of 49%. Assuming that the Gini coefficient is held at its median value, 31.6, being high-skilled reduces the expected probability of the most anti-immigrant response by 3.5% at a per capita income of \$5000, but by 6.2% at per capita incomes of \$15000, and by 8.8% at per capita incomes of \$25000. Assuming that per capita income is held constant, at its median value for this sample of countries of \$19270, being high-skilled reduces the expected probability of the most anti-immigrant response by 9.4% when the Gini coefficient is 25, by 6.2% when the Gini coefficient is 35, and by only 2.9% when the Gini coefficient is 45. The net impact of being high-skilled is positive for Gini coefficients of 54 and over.

As before, national mobility is unrelated to attitudes to globalization, but a stated willingness to move internationally, or a history of such mobility, reduces the probability that a respondent will express anti-immigrant opinions. Both natives and the children of natives are more anti-immigrant, as are older people. In contrast with the results for trade, being a woman or a Roman Catholic does not have a statistically significant impact on preferences

(and the coefficient for Roman Catholics is actually negative). Neither does being unemployed have any such effect, which may seem surprising.

Finally, equation (6) tests *Prediction 3*, by including ‘protect’ as an additional explanatory variable; protectionism is positively and statistically significantly correlated with anti-immigrant sentiment, just as Heckscher-Ohlin theory would predict (although, as noted above, when ‘protect’ is included in the specification the interaction term between Skill345 and GDP per capita becomes statistically insignificant).

Again, another approach to testing the Heckscher-Ohlin and self-selection theories is to run a series of regressions explaining attitudes towards immigration in individual countries, and compare the coefficients on Skill345 across countries. Appendix Table 2 gives the results of doing this using the specification in equation (5) (without country dummies or the two interaction terms). Figure 2 plots the resultant coefficients on Skill345 for each country, against that country’s level of GDP per capita. As can be seen, support for the HO predictions is in this case unclear. There is indeed a negative relationship between the coefficient on Skill345 and per capita GDP for the poorer countries in the sample (i.e. the Philippines and the transition economies of Central and Eastern Europe); and in two of the poorest countries, Latvia and the Philippines, the impact of skills on anti-immigrant attitudes is actually positive. However, for the richer countries in the sample the relationship is unclear. This methodology provides much stronger evidence for the Borjas theory: Figure 3 shows a clear positive relationship between the Skill345 coefficient and the Gini coefficient.

Of course, Figure 2 just plots the bivariate relationship between the Skill345 coefficient and GDP per capita; while the regressions in Table 4 control for a simultaneous relationship between the Skill345 coefficient and inequality. It appears that the evidence for the predictions of Heckscher-Ohlin theory is weak when the unconditional version of that

theory is tested; however, conditional on other factors the predictions of the theory hold up well. The Borjas theory does better than factor proportions theory when tested unconditionally, but does even better yet when tested conditional on other factors.

The above exercises are fairly simple in their methodology. However, Mayda (2003) has recently and independently arrived at similar conclusions to these, using the same data set, as well as the World Values Survey, but going into much greater detail and employing many additional individual- and country-level variables to test the basic Heckscher-Ohlin predictions. She uses both education and skills as measures of human capital, and runs probit regressions explaining a dichotomous ‘immigrant opinion’ variable. Her results are even more favourable for factor proportions theory than mine, even though she does not correct for differences in inequality across countries. The findings in this section thus appear to be robust.

## **6. Explaining attitudes towards trade and immigration simultaneously**

The previous sections have documented relationships between attitudes towards globalization that conform well with factor proportions theory. One objection to the results, however, is that they do not take adequate account of the fact that attitudes towards trade and immigration are correlated with each other, and (crucially) that unobserved determinants of globalization could have similar effects on both variables. Table 5 therefore presents the results of seemingly unrelated bivariate probit regressions explaining attitudes towards both trade and immigration. It estimates two regressions with the same explanatory variables as before, but allows the disturbance terms in both regressions to be correlated with each other.<sup>10</sup> The dependent variables in both cases are binary variables, indicating whether the respondent

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<sup>10</sup> See Greene (2000), pp. 849-856.

gave the most anti-globalization response possible: 'Highly protectionist' is 1 if 'protect' = 5, while 'Highly anti-immigrant' is 1 if 'anti-immigrant' = 5; otherwise both variables are zero. The 'rho' coefficient reported at the bottom is the correlation between the disturbances in the two equations, or '(roughly) the correlation between the outcomes after the influence of the included factors is accounted for' (Greene 2000, p. 854). The results confirm **Prediction 3** in that 'rho' is strongly positive. **Predictions 1, 2 and 4** are also confirmed, in that the interaction terms between 'Skill345' and GDP per capita are negative, while the interaction term between 'Skill345' and the Gini coefficient in equation (2) is positive. National mobility now becomes an important determinant of attitudes towards protectionism, and with the expected sign, while it remains unimportant for attitudes towards immigration. Otherwise the results are fairly similar to those obtained earlier.

## **7. Conclusion**

Presumably the debate about to what extent factor proportions theory explains trade flows will continue in the decades ahead. However, it appears that peoples' attitudes towards globalization are strikingly similar to those that would be predicted if Heckscher-Ohlin trade theory accurately described the world. The high-skilled are pro-globalization in rich countries, confirming the results of Scheve and Slaughter. Even more tellingly, in some of the very poorest countries in the ISSP sample, being high-skilled has a negative (if statistically insignificant) impact on pro-globalization sentiment. More generally, an interaction term between skills and GDP per capita has a negative impact in regressions explaining anti-globalization sentiment. Furthermore, individuals view protectionism and anti-immigrant policies as complements rather than as substitutes, as they would do in a simple Heckscher-Ohlin world.



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**Table 1. Summary statistics, selected variables**

Country	Protect		Anti-immigrant	
	Mean	Std. Dev.	Mean	Std. Dev.
Australia	3.997	0.988	3.768	1.042
W. Germany	3.083	1.232	4.226	0.910
E. Germany	3.563	1.189	4.338	0.871
Britain	3.723	1.004	4.052	0.962
USA	3.707	1.016	3.873	1.044
Austria	3.873	1.163	3.804	0.933
Hungary	4.047	1.075	4.402	0.817
Italy	3.571	1.216	4.151	0.900
Ireland	3.65	1.128	3.071	0.829
Netherlands	2.912	0.992	3.826	0.924
Norway	3.144	1.038	3.847	0.982
Sweden	3.228	1.081	3.961	1.017
Czech Rep.	3.415	1.294	4.158	0.880
Slovenia	3.465	1.174	3.939	0.868
Poland	3.787	1.083	3.888	1.060
Bulgaria	4.190	1.09	4.219	0.990
Russia	3.670	1.282	3.717	0.971
New Zealand	3.406	1.147	3.742	1.053
Canada	3.264	1.135	3.317	1.135
Phillippines	3.624	0.918	3.796	1.102
Japan	2.919	1.282	3.391	1.008
Spain	3.813	0.906	3.401	0.813
Latvia	4.042	1.18	4.182	0.884
Slovakia	3.488	1.273	4.004	0.911

*Source:* Data from ISSP National Identity Survey 1995

**Table 2. Factor analysis of nationalist items in ISSP National Identity Survey 1995**

	Factor 1	Factor 2
[COUNTRY] better country than most other countries	0.86	0.02
World better place if people from other countries more like the	0.78	0.2
Rather be citizen of [COUNTRY] than of any other country in world	0.61	0.29
Impossible for people who do not share [NATNL.]traditions to be fully	-0.01	0.71
People should support their country even if country is wrong	0.20	0.63
Importance of having been born in [COUNTRY] to be fully	0.16	0.63
[COUNTRY] should follow own interests, even if conflicts with other	0.23	0.55
<b>Percent variance</b>	<b>26.34</b>	<b>24.50</b>

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

*Source:* O'Rourke and Sinnott (2001). Data from ISSP National Identity Survey 1995.

**Table 3. Determinants of protectionist preferences (ordered probit)**  
(dependent variable: protect)

	(1)	(2)	(3)	(4)
Patriotism	0.2009*** [0.0182]	0.1949*** [0.0201]	0.1720*** [0.0189]	0.1567*** [0.0178]
Chauvinism	0.3559*** [0.0203]	0.3423*** [0.0234]	0.3359*** [0.0236]	0.2993*** [0.0210]
Skill345		-0.0166 [0.0803]	-0.0197 [0.0813]	-0.0318 [0.0871]
Skill345*GDPCAP		-0.0103*** [0.0040]	-0.0097** [0.0039]	-0.0085* [0.0044]
National mobility			-0.0145 [0.0199]	-0.0245 [0.0207]
International mobility			-0.1193*** [0.0170]	-0.1122*** [0.0225]
Never lived abroad			0.1098*** [0.0145]	0.1076*** [0.0134]
Native			-0.0494 [0.0619]	-0.0962 [0.0710]
Native parents			0.0292 [0.0619]	0.0221 [0.0619]
Age			0.0089** [0.0039]	0.0073* [0.0041]
Age squared			-0.0001* [0.0000]	-0.0001 [0.0000]
Female			0.2042*** [0.0276]	0.2100*** [0.0262]
Married			0.0228 [0.0191]	0.0052 [0.0210]
Catholic			0.0648*** [0.0208]	0.0692*** [0.0210]
Unemployed			0.0287 [0.0411]	0.0370 [0.0400]
Anti-immigrant				0.1291*** [0.0138]
Cut1	-0.1478* [0.0798]	-0.2743*** [0.1008]	0.0519 [0.1633]	0.2464 [0.1683]
Cut2	0.7823*** [0.0646]	0.7245*** [0.0512]	1.0697*** [0.1197]	1.3066*** [0.1296]
Cut3	1.4824*** [0.0659]	1.4056*** [0.0539]	1.7589*** [0.1194]	1.9694*** [0.1195]
Cut4	2.4691*** [0.0887]	2.3973*** [0.0825]	2.7552*** [0.1347]	3.0043*** [0.1464]
No. of observations	30082	21563	19596	17316
Log likelihood	-41427.54	-29425.21	-26622.28	-23244.82
Pseudo-R-squared	0.08	0.08	0.09	0.09

Robust standard errors in brackets assume clustering at country level. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Country dummy variables included; coefficients not reported.

**Table 4. Determinants of anti-immigrant preferences (ordered probit)**  
(dependent variable: anti-immigrant)

	(1)	(2)	(3)	(4)	(5)	(6)
Patriotism	0.1090*** [0.0193]	0.1039*** [0.0213]	0.1024*** [0.0212]	0.1033*** [0.0212]	0.0807*** [0.0158]	0.0627*** [0.0153]
Chauvinism	0.3606*** [0.0461]	0.3478*** [0.0519]	0.3497*** [0.0519]	0.3482*** [0.0520]	0.3309*** [0.0554]	0.2953*** [0.0540]
Skill345		-0.0662 [0.0802]	-0.3683* [0.1917]	-0.3124* [0.1843]	-0.3215* [0.1722]	-0.3473** [0.1624]
Skill345*GDPCAP		-0.0056 [0.0053]		-0.0074* [0.0044]	-0.0067* [0.0040]	-0.0059 [0.0040]
Skill345*Inequality			0.0066 [0.0058]	0.0086* [0.0047]	0.0085* [0.0043]	0.0095** [0.0041]
National mobility					-0.0149 [0.0237]	-0.0131 [0.0234]
International mobility					-0.0825** [0.0354]	-0.0678* [0.0363]
Never lived abroad					0.1386*** [0.0310]	0.1241*** [0.0310]
Native					0.1705*** [0.0526]	0.1790*** [0.0550]
Native parents					0.1711** [0.0708]	0.1690** [0.0662]
Age					0.0063** [0.0030]	0.0057* [0.0029]
Age squared					-0.0000 [0.0000]	-0.0000 [0.0000]
Female					0.0328 [0.0304]	0.0073 [0.0294]
Married					0.0148 [0.0259]	0.0137 [0.0257]
Catholic					-0.0213 [0.0415]	-0.0279 [0.0420]
Unemployed					0.0178 [0.0705]	0.0146 [0.0690]
Protectionism						0.1189*** [0.0135]
Cut1	-1.0700*** [0.1347]	-1.1544*** [0.1488]	-1.1869*** [0.1414]	-1.1786*** [0.1428]	-0.7353*** [0.1644]	-0.5237*** [0.1674]
Cut2	-0.3720*** [0.1356]	-0.4443*** [0.1580]	-0.4766*** [0.1494]	-0.4681*** [0.1520]	-0.0157 [0.1491]	0.1981 [0.1557]
Cut3	0.8796*** [0.1293]	0.8075*** [0.1550]	0.7747*** [0.1457]	0.7839*** [0.1488]	1.2711*** [0.1564]	1.4939*** [0.1584]
Cut4	1.6979*** [0.1426]	1.6143*** [0.1732]	1.5816*** [0.1642]	1.5910*** [0.1675]	2.0839*** [0.1710]	2.3134*** [0.1738]
No. of observations	26484	19039	19039	19039	17341	17316
Log likelihood	-32707.20	-23488.08	-23487.88	-23483.56	-21149.52	-21015.45
Pseudo-R-squared	0.07	0.07	0.07	0.07	0.07	0.08

Robust standard errors in brackets assume clustering at country level. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Country dummy variables included; coefficients not reported.

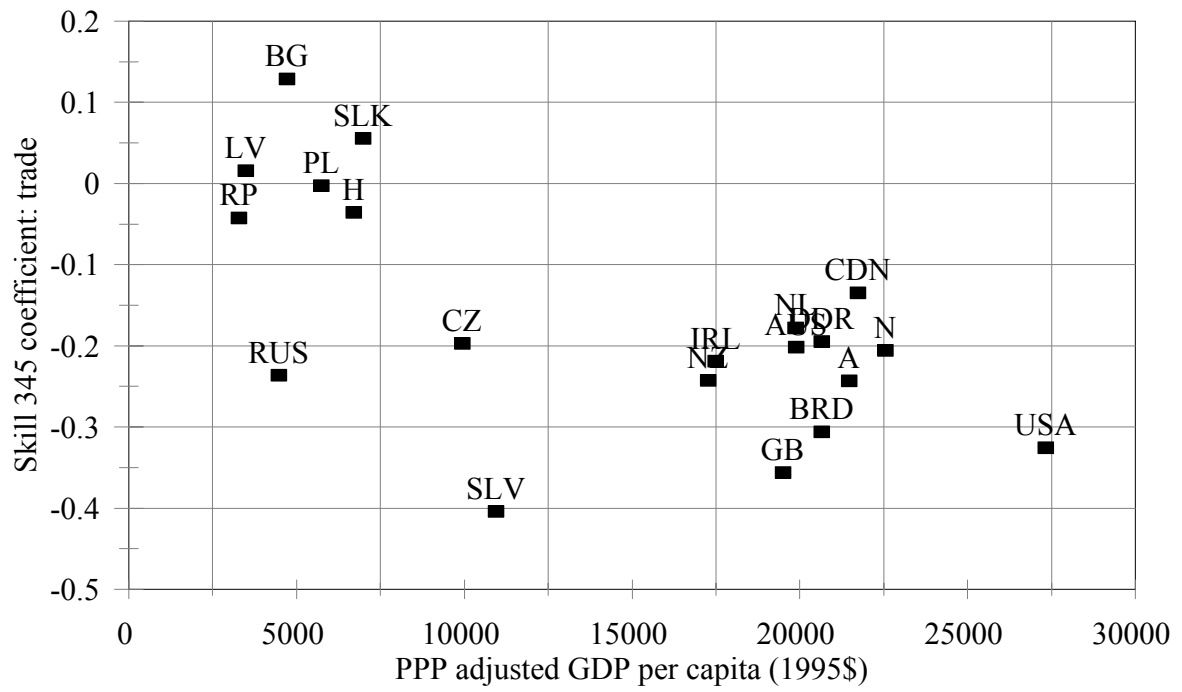
**Table 5. Determinants of anti-globalization preferences**  
(seemingly unrelated bivariate probit)

Dependent variable	(1)	(2)
	Highly protectionist	Highly anti-immigrant
Patriotism	0.1835049** [0.0253394]	0.0823336** [0.023154]
Chauvinism	0.3706249** [0.0311716]	0.3820259** [0.0525764]
Skill345	0.0440152 [0.0702934]	-0.2562795 [0.1814657]
Skill345*GDPCAP	-0.014257** [0.0037473]	-0.0097401** [0.0039432]
Skill345*Inequality		0.0071558* [0.0041885]
National mobility	-0.0378918** [0.0187412]	0.0021559 [0.0196733]
International mobility	-0.0598899** [0.0276831]	0.0232483 [0.0302411]
Never lived abroad	0.0636217** [0.0248751]	0.069303* [0.0394922]
Native	-0.0200152 [0.0666926]	0.1682504** [0.078123]
Native parents	-0.0252981 [0.0673682]	0.2464953** [0.0866314]
Age	0.0125318** [0.005807]	0.0188489** [0.0035215]
Age squared	-0.0001022* [0.0000556]	-0.0001764** [0.0000404]
Female	0.104113*** [0.0272118]	-0.0286068 [0.0258404]
Married	0.0122845 [0.0237658]	-0.0125977 [0.0255736]
Catholic	0.0563322** [0.0229408]	-0.0017615 [0.030957]
Unemployed	0.061112 [0.0587459]	0.087538 [0.0697765]
No. of observations	19624	
Rho [standard error of rho]	0.2207173 [0.0168104]	
Wald test of rho=0	Chisquared(1)= 161.268, p-value = 0.000	

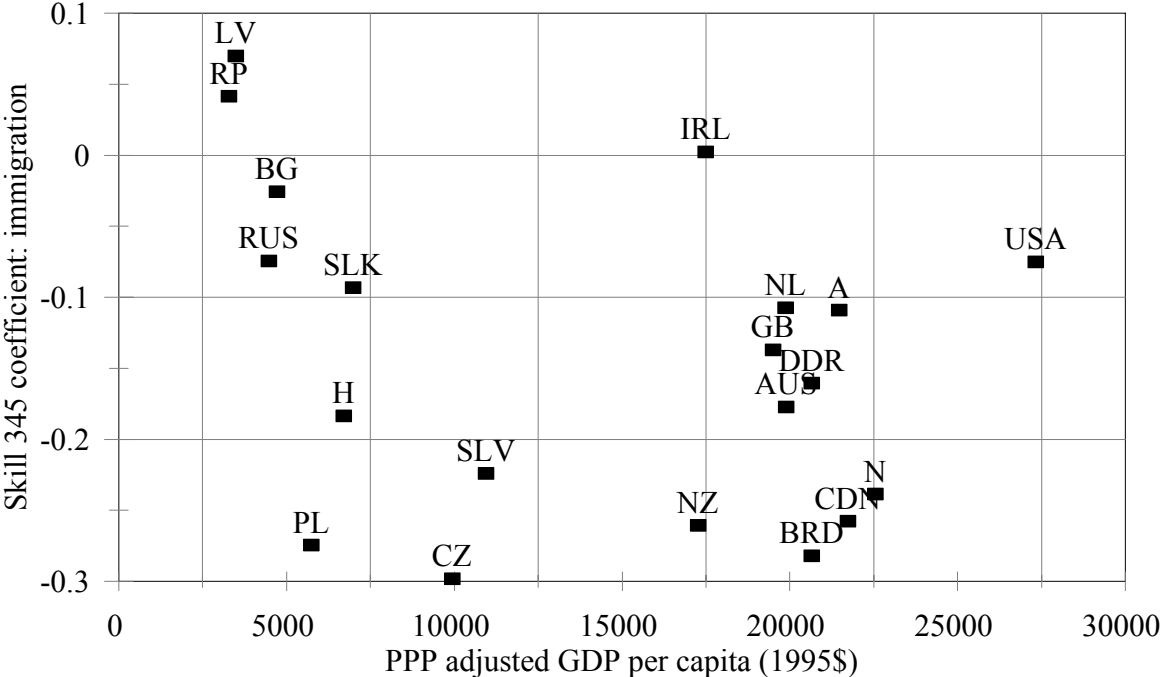
Robust standard errors in brackets assume clustering at country level. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Country dummy variables included; coefficients not reported.



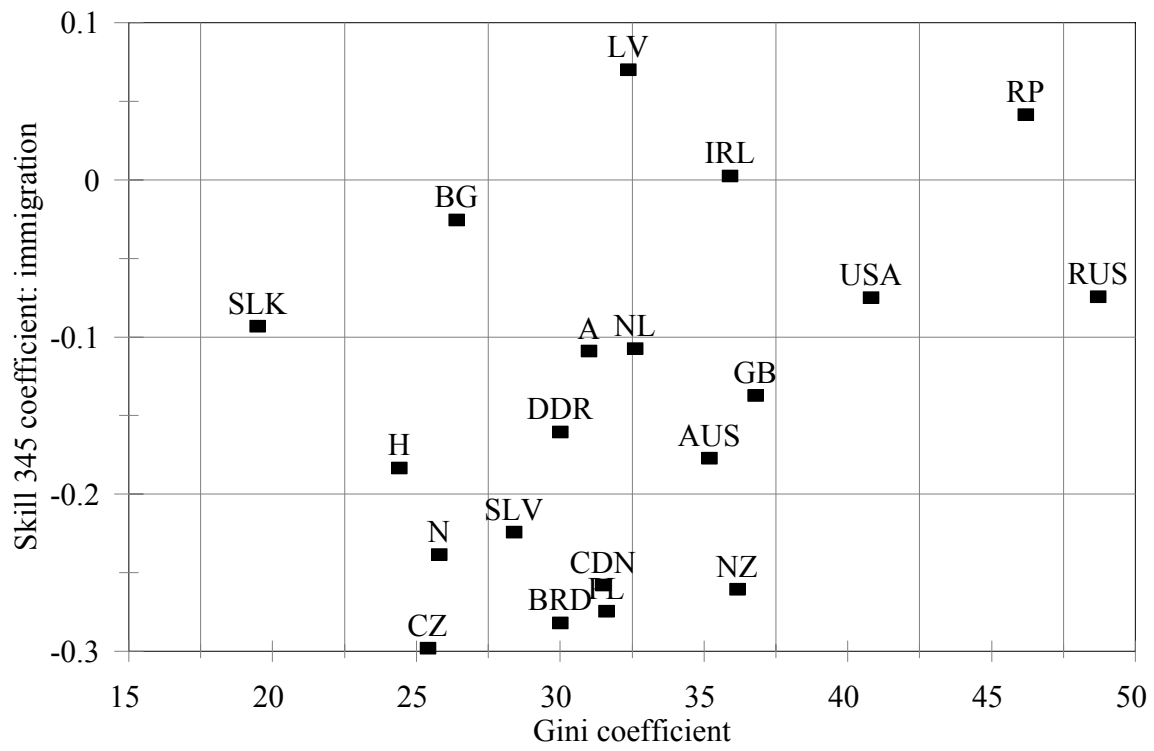
**Figure 1. Impact of skill & GDP**



**Figure 2. Impact of skill and GDP**



**Figure 3. Impact of skill & inequality**



**Appendix Table 1. Country-specific regressions: protectionism**

	(1)	(2)	(3)	(4)	(5)	(6)
	Australia	West Germany	East Germany	Great Britain	USA	Austria
Patriotism	0.24718*** [0.04298]	0.12458** [0.06190]	0.24097** [0.09756]	0.15176*** [0.05744]	0.28065*** [0.05321]	0.05360 [0.05181]
Chauvinism	0.34457*** [0.03550]	0.42786*** [0.05993]	0.43049*** [0.08932]	0.50420*** [0.05584]	0.42843*** [0.04430]	0.45043*** [0.05104]
Skill345	-0.20077*** [0.05411]	-0.30549*** [0.08919]	-0.19423 [0.13641]	-0.35556*** [0.08081]	-0.32483*** [0.06640]	-0.24271** [0.09453]
National mobility	0.03356 [0.05643]	-0.21310** [0.09654]	-0.33147** [0.14201]	0.07758 [0.08304]	0.04875 [0.07599]	-0.17063** [0.08220]
International mobility	-0.12382* [0.06758]	-0.18746* [0.10595]	-0.13731 [0.19690]	-0.12914 [0.09739]	0.00310 [0.08978]	-0.12572 [0.11690]
Never lived abroad	0.13652** [0.06412]	0.28014** [0.13023]	0.44052 [0.30037]	0.05392 [0.08967]	0.06819 [0.08336]	0.13291 [0.10914]
Native	0.07981 [0.14631]	-0.16546 [0.34776]		0.02913 [0.25129]	0.10269 [0.22681]	-0.57517* [0.29984]
Native parents	-0.17578 [0.13480]	-0.11793 [0.31754]		0.16936 [0.23753]	0.05629 [0.21069]	0.62792** [0.27452]
Age	-0.01764 [0.01157]	-0.01775 [0.02702]	-0.05191 [0.04592]	0.01810 [0.01276]	0.02859*** [0.01094]	0.00990 [0.01249]
Age squared	0.00021* [0.00011]	0.00020 [0.00031]	0.00047 [0.00056]	-0.00015 [0.00013]	-0.00027** [0.00011]	-0.00013 [0.00013]
Female	0.33900*** [0.05319]	0.41232*** [0.08971]	0.69098*** [0.13499]	0.20494*** [0.07580]	0.16633*** [0.06385]	0.30159*** [0.07200]
Married	-0.02223 [0.06379]	-0.17569* [0.10393]	0.17721 [0.16479]	-0.01508 [0.07920]	0.08391 [0.06472]	0.14290* [0.08051]
Catholic	0.07573 [0.06226]	0.00527 [0.08613]	-0.14897 [0.35765]	0.09495 [0.12752]	-0.01425 [0.07357]	-0.10109 [0.09227]
Unemployed	-0.02064 [0.16265]			0.22278 [0.15577]	0.18460 [0.18132]	-0.21443 [0.17976]
Cut1	-0.76708** [0.32656]	-0.65732 [0.57759]	-0.66919 [0.98503]	0.36653 [0.37604]	1.19990*** [0.33868]	0.01538 [0.35357]
Cut2	0.41268 [0.31971]	0.49358 [0.57785]	0.54219 [0.98396]	1.69621*** [0.36567]	2.10359*** [0.33645]	0.94263*** [0.35014]
Cut3	0.95169*** [0.31976]	1.25254** [0.57872]	1.20072 [0.98440]	2.50922*** [0.36773]	2.89973*** [0.33885]	1.46231*** [0.35068]
Cut4	2.23369*** [0.32207]	2.24261*** [0.58116]	2.17764** [0.98798]	3.80010*** [0.37663]	4.22901*** [0.34653]	2.42593*** [0.35436]
No. of observations	1827	648	285	906	1225	985
Log likelihood	-2161.64	-898.11	-384.78	-1110.66	-1530.54	-1251.86
Pseudo-R-squared	0.07	0.09	0.12	0.10	0.09	0.09

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 1. Country-specific regressions: protectionism (continued)**

	(7)	(8)	(9)	(10)	(11)	(12)
	Hungary	Italy	Ireland	Netherlands	Norway	Sweden
Patriotism	0.04258 [0.05429]	0.17661*** [0.04451]	0.21542*** [0.05947]	0.07502** [0.03646]	0.21709*** [0.04846]	0.33905*** [0.04670]
Chauvinism	0.22476*** [0.04890]	0.29844*** [0.04985]	0.34458*** [0.06001]	0.48299*** [0.03785]	0.27975*** [0.04118]	0.35751*** [0.04232]
Skill345	-0.03473 [0.08621]		-0.21849*** [0.08350]	-0.17760*** [0.05460]	-0.20491*** [0.06223]	
National mobility	-0.04994 [0.08448]	0.06601 [0.07394]	-0.02494 [0.08588]	-0.03849 [0.05604]	-0.09306 [0.06485]	-0.11041 [0.07004]
International mobility	-0.15733 [0.13206]	-0.02314 [0.08565]	-0.09870 [0.10977]	-0.08861 [0.06428]	-0.28350*** [0.08204]	-0.26493*** [0.08018]
Never lived abroad	0.01921 [0.15341]	0.26469** [0.10442]	0.19578** [0.08290]	0.12405* [0.07357]	0.16045** [0.07426]	0.19515** [0.08612]
Native	-0.93877** [0.40501]	0.12373 [0.48411]	-0.38479 [0.30101]	0.11477 [0.23015]	0.27993 [0.23047]	0.43161 [0.26621]
Native parents	0.29531 [0.32558]	-0.02415 [0.28016]	-0.35607 [0.23664]	-0.11470 [0.19374]	-0.22866 [0.18940]	-0.60306** [0.24976]
Age	0.00934 [0.01275]	0.01431 [0.01477]	0.00356 [0.01542]	0.01026 [0.00948]	-0.00809 [0.01042]	0.01182 [0.01280]
Age squared	-0.00004 [0.00013]	-0.00015 [0.00016]	-0.00006 [0.00015]	-0.00010 [0.00010]	0.00008 [0.00011]	-0.00005 [0.00014]
Female	0.07114 [0.07509]	0.21499*** [0.06600]	0.37339*** [0.07551]	0.33495*** [0.05100]	0.23698*** [0.05737]	0.50681*** [0.06330]
Married	0.01098 [0.07620]	0.11621 [0.08259]	-0.05057 [0.08631]	0.08561 [0.05954]	0.05878 [0.06842]	-0.07390 [0.07125]
Catholic	-0.03039 [0.07917]	-0.13039 [0.15549]	0.09220 [0.14607]	0.06128 [0.06421]	-0.90985** [0.42297]	-0.33150 [0.36509]
Unemployed	0.15131 [0.14120]	0.07446 [0.20376]	0.20892 [0.14527]	-0.05394 [0.12961]	0.13494 [0.16423]	0.27397** [0.11982]
Cut1	-1.38665*** [0.49315]	0.58395 [0.53253]	-0.55653 [0.48797]	0.27914 [0.26984]	-0.23249 [0.31132]	0.86680** [0.34605]
Cut2	-0.71301 [0.48939]	1.40714*** [0.53355]	0.75324 [0.48313]	1.73315*** [0.26901]	0.99021*** [0.31019]	1.85614*** [0.34598]
Cut3	0.04903 [0.48821]	1.92476*** [0.53416]	1.11918** [0.48301]	2.68550*** [0.27170]	1.96909*** [0.31209]	2.98025*** [0.35018]
Cut4	0.75568 [0.48845]	2.89318*** [0.53617]	2.29749*** [0.48659]	3.97795*** [0.28042]	3.14939*** [0.31708]	4.09491*** [0.35681]
No. of observations	930	1084	866	1827	1391	1186
Log likelihood	-1184.89	-1553.23	-1127.56	-2325.06	-1844.13	-1540.38
Pseudo-R-squared	0.02	0.04	0.06	0.07	0.07	0.11

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 1. Country-specific regressions: protectionism (continued)**

	(13)	(14)	(15)	(16)	(17)	(18)
	Czech Rep.	Slovenia	Poland	Bulgaria	Russia	New Zealand
Patriotism	0.15472*** [0.04956]	0.23969*** [0.05573]	0.17753*** [0.05832]	0.10004** [0.04830]	0.20064*** [0.05102]	0.12233** [0.05721]
Chauvinism	0.31876*** [0.04675]	0.36292*** [0.05460]	0.22924*** [0.05819]	0.38168*** [0.05392]	0.32368*** [0.05141]	0.40729*** [0.05059]
Skill345	-0.19663*** [0.07475]	-0.40321*** [0.08279]	-0.00232 [0.08204]	0.12941 [0.08824]	-0.23585*** [0.08017]	-0.24206*** [0.08327]
National mobility	-0.06493 [0.07304]	-0.09016 [0.08302]	-0.01781 [0.07594]	0.02963 [0.08505]	0.18281** [0.09209]	-0.03456 [0.08108]
International mobility	-0.13037 [0.11360]	-0.09039 [0.12286]	-0.03813 [0.09749]	-0.21244** [0.09661]	-0.16498 [0.12412]	0.00592 [0.08906]
Never lived abroad	0.07031 [0.10779]	0.10264 [0.09557]	0.16519 [0.11078]	0.13800 [0.11330]	-0.18796 [0.17903]	0.16213* [0.08351]
Native	-0.66940** [0.33319]	-0.32913 [0.24478]	0.52506 [0.36482]	-0.01292 [0.47990]	0.03601 [0.41721]	-0.22627 [0.18706]
Native parents	0.15366 [0.22021]	0.16759 [0.22300]	-0.65941** [0.29383]	0.79805*** [0.29356]	0.01430 [0.38235]	0.13691 [0.16953]
Age	-0.00310 [0.01335]	-0.02701* [0.01594]	0.00381 [0.01394]	0.02760** [0.01337]	-0.00740 [0.02115]	0.00265 [0.01395]
Age squared	0.00014 [0.00015]	0.00029* [0.00017]	-0.00009 [0.00014]	-0.00025* [0.00013]	0.00024 [0.00025]	0.00004 [0.00014]
Female	0.21321*** [0.06862]	0.11113 [0.07381]	0.02659 [0.07294]	0.01692 [0.07331]	0.20942*** [0.07858]	0.24283*** [0.07179]
Married	0.06942 [0.08214]	-0.02032 [0.09135]	-0.12050 [0.08388]	0.07052 [0.08730]	0.23386*** [0.08626]	-0.17263** [0.08439]
Catholic	0.09333 [0.07234]	0.06838 [0.09092]	0.05109 [0.10491]	-0.60942 [0.59146]		-0.06754 [0.10172]
Unemployed	-0.05649 [0.26924]	-0.15104 [0.14389]	0.08311 [0.13688]	0.10302 [0.11901]		-0.02255 [0.17851]
Cut1	-0.14670 [0.40618]	-0.73161* [0.40416]	-0.62968 [0.47714]	1.67060*** [0.53465]	0.33533 [0.58971]	0.07967 [0.40718]
Cut2	0.60795 [0.40610]	0.51609 [0.39999]	0.29668 [0.47344]	1.96906*** [0.53470]	1.16827** [0.58878]	1.14611*** [0.40547]
Cut3	1.22345*** [0.40706]	1.22319*** [0.40053]	0.99512** [0.47431]	2.66957*** [0.53624]	1.73629*** [0.58938]	1.79259*** [0.40561]
Cut4	2.00545*** [0.40882]	2.05506*** [0.40351]	1.94239*** [0.47629]	3.41359*** [0.53892]	2.45718*** [0.59168]	2.86278*** [0.41102]
No. of observations	994	876	951	1050	821	893
Log likelihood	-1458.69	-1211.58	-1317.11	-1184.65	-1176.85	-1251.33
Pseudo-R-squared	0.06	0.07	0.02	0.06	0.05	0.06

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 1. Country-specific regressions: protectionism (continued)**

	(19)	(20)	(21)	(22)	(23)	(24)
	Canada	Phillippines	Japan	Estonia	Latvia	Slovakia
Patriotism	0.11689** [0.05271]	0.13299* [0.07117]	0.14412*** [0.04807]	0.12724** [0.05088]	0.13406* [0.07423]	0.29205*** [0.04163]
Chauvinism	0.35434*** [0.05500]	0.10195 [0.07862]	0.30150*** [0.03833]	0.29817*** [0.05661]	0.22445*** [0.07568]	0.16779*** [0.03844]
Skill345	-0.13405 [0.08753]	-0.04178 [0.15689]			0.01629 [0.11630]	0.05587 [0.07199]
National mobility	0.13634 [0.09593]	0.20712** [0.09402]	0.00607 [0.06982]	0.15634** [0.07589]	0.01286 [0.12811]	0.02709 [0.06414]
International mobility	-0.13623 [0.09328]	0.03359 [0.10416]	-0.13884 [0.12124]	0.09261 [0.09116]	-0.19872 [0.15810]	-0.12892* [0.07604]
Never lived abroad	0.02271 [0.09545]	-0.10389 [0.15725]	0.14466 [0.13853]	-0.18806* [0.10206]	0.13293 [0.14466]	0.12275 [0.10331]
Native	0.24547 [0.18642]	-1.09314* [0.61040]		0.35584** [0.17214]	-0.03044 [0.20341]	-0.45167 [0.30414]
Native parents	-0.21896 [0.16263]	-0.35169 [0.37372]	0.30297 [0.59224]	0.33835 [0.29090]	0.12354 [0.18665]	0.28452 [0.18569]
Age	0.00588 [0.01977]	-0.00951 [0.01994]	-0.05411*** [0.01141]	0.01077 [0.01139]	0.02034 [0.03175]	0.01522 [0.01182]
Age squared	-0.00013 [0.00023]	0.00010 [0.00022]	0.00053*** [0.00012]	-0.00016 [0.00011]	-0.00008 [0.00038]	-0.00013 [0.00013]
Female	0.17303** [0.08005]	0.09182 [0.09384]	0.40681*** [0.06184]	0.13989** [0.06481]	-0.00872 [0.11823]	0.13648** [0.05922]
Married	0.08702 [0.08800]	0.07539 [0.11136]	0.15285* [0.08694]	0.09106 [0.08213]	-0.18652 [0.12650]	-0.00061 [0.06865]
Catholic	0.18495** [0.08335]	-0.06254 [0.11840]	0.41286 [0.38388]	0.42064*** [0.11699]	0.35934** [0.15424]	0.08506 [0.06085]
Unemployed			-0.10057 [0.28966]	0.11289 [0.10388]		-0.12453 [0.12045]
Cut1	-0.05442 [0.50903]	-3.26490*** [0.83647]	0.03236 [0.65602]	0.18292 [0.43059]	0.19849 [0.69329]	0.29882 [0.36575]
Cut2	1.01962** [0.50849]	-1.72963** [0.81917]	0.54853 [0.65564]	1.32805*** [0.42195]	0.86017 [0.68979]	1.06628*** [0.36557]
Cut3	1.78981*** [0.50985]	-1.16310 [0.81771]	1.53249** [0.65697]	2.06212*** [0.42358]	1.33818* [0.68976]	1.66869*** [0.36651]
Cut4	2.84757*** [0.51413]	0.37281 [0.81715]	2.15359*** [0.65833]	3.50595*** [0.42837]	1.90898*** [0.69277]	2.47498*** [0.36847]
No. of observations	727	630	1228	1184	418	1346
Log likelihood	-1033.75	-772.88	-1806.41	-1420.36	-545.95	-1967.98
Pseudo-R-squared	0.04	0.01	0.05	0.04	0.04	0.05

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 2. Country-specific regressions: anti-immigration**

	(1)	(2)	(3)	(4)	(5)	(6)
	Australia	West Germany	East Germany	Great Britain	USA	Austria
Patriotism	0.16619*** [0.04273]	0.11411 [0.07113]	0.07446 [0.11664]	0.09871 [0.06343]	0.14712** [0.05786]	0.06338 [0.05389]
Chauvinism	0.45065*** [0.03567]	0.59075*** [0.07200]	0.68532*** [0.10598]	0.58575*** [0.06060]	0.20950*** [0.04638]	0.42313*** [0.05300]
Skill345	-0.17689*** [0.05383]	-0.28156*** [0.10346]	-0.16002 [0.15516]	-0.13683 [0.08713]	-0.07478 [0.07106]	-0.10877 [0.09996]
National mobility	0.01595 [0.05586]	0.00937 [0.11482]	0.15318 [0.16158]	-0.05967 [0.08968]	0.00675 [0.08328]	-0.20660** [0.08512]
International mobility	0.00009 [0.06817]	-0.13703 [0.11942]	0.18230 [0.23452]	-0.08638 [0.10580]	-0.31669*** [0.09503]	-0.21891* [0.12534]
Never lived abroad	0.24560*** [0.06416]	0.06755 [0.14620]	0.45188 [0.35588]	0.03533 [0.09786]	0.11709 [0.08765]	0.02144 [0.11455]
Native	-0.01061 [0.14628]	0.45972 [0.38241]	0.68076 [1.28647]	0.02976 [0.26530]	-0.29696 [0.23991]	-0.15169 [0.30582]
Native parents	0.00484 [0.13538]	0.18104 [0.34337]	0.02608 [0.76153]	0.14006 [0.25228]	0.68860*** [0.22156]	0.20901 [0.27647]
Age	-0.01678 [0.01145]	0.01620 [0.03013]	-0.01717 [0.05215]	0.02390* [0.01377]	0.01772 [0.01167]	0.01709 [0.01314]
Age squared	0.00010 [0.00011]	-0.00020 [0.00035]	0.00010 [0.00063]	-0.00023* [0.00014]	-0.00016 [0.00012]	-0.00018 [0.00013]
Female	0.20537*** [0.05270]	-0.04476 [0.10259]	0.15970 [0.15281]	-0.11246 [0.08149]	0.10914 [0.06817]	-0.02831 [0.07438]
Married	0.08364 [0.06344]	0.02906 [0.12094]	0.10000 [0.18815]	0.12001 [0.08566]	0.01982 [0.06935]	-0.04539 [0.08414]
Catholic	-0.21021*** [0.06188]	0.00668 [0.10108]	-0.10438 [0.39877]	-0.10833 [0.13284]	-0.12328 [0.07871]	-0.15872 [0.09740]
Unemployed	0.04179 [0.16466]			-0.00629 [0.16826]	-0.26910 [0.18407]	-0.32069* [0.18792]
Cut1	-0.68833** [0.32410]	-0.66932 [0.69421]	-0.26413 [1.61591]	0.27428 [0.41077]	0.04594 [0.36431]	-0.88005** [0.39941]
Cut2	0.23280 [0.31934]	0.58473 [0.64972]	0.62342 [1.57788]	0.88355** [0.39927]	0.58543 [0.35940]	-0.15082 [0.38331]
Cut3	1.28410*** [0.31947]	1.99771*** [0.64798]	1.95189 [1.56807]	2.42338*** [0.40433]	1.67540*** [0.36026]	1.68632*** [0.38356]
Cut4	2.19911*** [0.32132]	2.77398*** [0.65080]	2.78171* [1.57077]	3.17249*** [0.40821]	2.50303*** [0.36369]	2.43639*** [0.38607]
No. of observations	1781	584	268	854	1074	927
Log likelihood	-2266.35	-606.80	-258.69	-941.98	-1381.60	-1061.30
Pseudo-R-squared	0.08	0.13	0.12	0.10	0.05	0.07

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.



**Appendix Table 2. Country-specific regressions: anti-immigration (continued)**

	(7)	(8)	(9)	(10)	(11)	(12)
	Hungary	Italy	Ireland	Netherlands	Norway	Sweden
Patriotism	0.07185 [0.05840]	0.08609* [0.04761]	-0.07850 [0.06157]	0.04132 [0.03892]	0.13405*** [0.05198]	0.08223* [0.04926]
Chauvinism	0.09127* [0.05238]	0.38009*** [0.05414]	0.28597*** [0.06276]	0.69490*** [0.04149]	0.64514*** [0.04551]	0.71788*** [0.04824]
Skill345	-0.18320** [0.09181]		0.00268 [0.08780]	-0.10716* [0.05820]	-0.23832*** [0.06618]	
National mobility	0.00134 [0.09171]	-0.07219 [0.08001]	-0.24450*** [0.09103]	-0.04211 [0.06013]	-0.03268 [0.06945]	0.00167 [0.07679]
International mobility	0.05196 [0.14507]	-0.00761 [0.09258]	-0.07146 [0.11546]	-0.10210 [0.06830]	-0.20683** [0.08722]	-0.11991 [0.08617]
Never lived abroad	0.12944 [0.16054]	0.07508 [0.11423]	0.11483 [0.08687]	0.02148 [0.07792]	-0.08380 [0.07889]	0.01529 [0.09184]
Native	0.51021 [0.37901]	-0.18639 [0.52814]	-0.29560 [0.31878]	0.07937 [0.25325]	0.35683 [0.24627]	-0.62237** [0.27857]
Native parents	0.00687 [0.33899]	-0.66289** [0.32689]	0.05592 [0.25607]	0.54106*** [0.20757]	0.23907 [0.20137]	0.66484** [0.25933]
Age	0.00396 [0.01376]	-0.01006 [0.01590]	-0.02748* [0.01614]	0.00365 [0.01017]	0.00721 [0.01140]	0.00879 [0.01385]
Age squared	-0.00002 [0.00014]	0.00013 [0.00017]	0.00030* [0.00016]	-0.00002 [0.00011]	-0.00007 [0.00012]	-0.00016 [0.00015]
Female	0.13198 [0.08076]	0.08084 [0.07098]	-0.00037 [0.07878]	0.02028 [0.05405]	-0.08505 [0.06130]	0.02052 [0.06763]
Married	0.02979 [0.08243]	0.07759 [0.08930]	0.08719 [0.08917]	0.17145*** [0.06360]	-0.18302** [0.07409]	0.04127 [0.07753]
Catholic	-0.03097 [0.08528]	0.07053 [0.16076]	0.40335** [0.15669]	0.13841** [0.06845]	0.17221 [0.48278]	0.79884* [0.47880]
Unemployed	0.13931 [0.15066]	0.07113 [0.22370]	0.03093 [0.15430]	-0.18428 [0.13812]	0.15711 [0.17759]	-0.00865 [0.13118]
Cut1	-1.09622** [0.50219]	-1.89300*** [0.59500]	-1.77608*** [0.51278]	0.12462 [0.30322]	0.15771 [0.34988]	0.20744 [0.38164]
Cut2	-0.83448* [0.49322]	-1.29685** [0.58605]	-0.64425 [0.50675]	1.00958*** [0.29232]	1.14887*** [0.34041]	0.78438** [0.37686]
Cut3	0.34344 [0.48433]	-0.10634 [0.58316]	1.11469** [0.50736]	2.59722*** [0.29488]	2.52499*** [0.34301]	1.96774*** [0.37728]
Cut4	1.13406** [0.48525]	0.81077 [0.58359]	1.79664*** [0.50990]	3.63754*** [0.29915]	3.50187*** [0.34738]	2.94868*** [0.38105]
No. of observations	888	1033	816	1720	1311	1105
Log likelihood	-893.75	-1169.78	-918.51	-1935.56	-1515.48	-1275.69
Pseudo-R-squared	0.01	0.05	0.03	0.12	0.13	0.12

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 2. Country-specific regressions: anti-immigration (continued)**

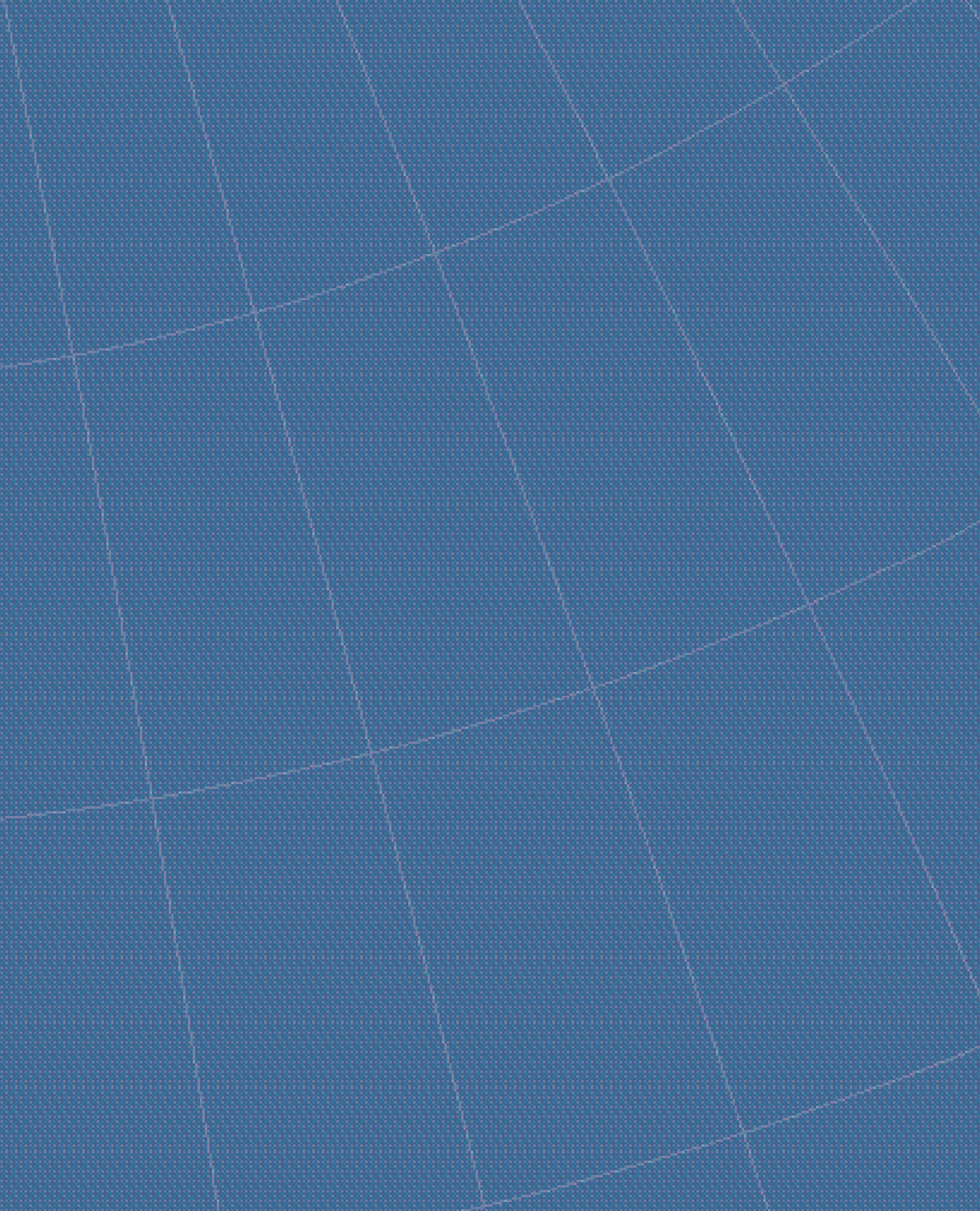
	(13)	(14)	(15)	(16)	(17)	(18)
	Czech Rep.	Slovenia	Poland	Bulgaria	Russia	New Zealand
Patriotism	0.13404** [0.05470]	0.15518*** [0.05969]	0.16355** [0.07113]	0.07865 [0.05687]	0.04626 [0.06204]	0.16221*** [0.05936]
Chauvinism	0.18948*** [0.05177]	0.30116*** [0.05836]	0.11832 [0.07274]	0.00298 [0.06732]	0.01538 [0.06417]	0.35354*** [0.05168]
Skill345	-0.29789*** [0.08299]	-0.22377** [0.08943]	-0.27419*** [0.10201]	-0.02521 [0.10126]	-0.07419 [0.10051]	-0.26017*** [0.08666]
National mobility	0.12011 [0.08170]	0.13386 [0.08999]	0.03891 [0.09427]	-0.37268*** [0.10049]	0.12538 [0.11374]	-0.01627 [0.08490]
International mobility	-0.18177 [0.12912]	0.13504 [0.13477]	0.10036 [0.12037]	0.24535** [0.11916]	0.01197 [0.14829]	-0.22544** [0.09283]
Never lived abroad	-0.12278 [0.12214]	0.17227* [0.10311]	0.27445** [0.13577]	-0.02969 [0.13851]	0.13284 [0.23193]	0.15165* [0.08765]
Native	-0.00036 [0.35124]	0.26967 [0.26979]	0.04295 [0.41303]	0.44768 [0.81370]	0.39961 [0.50083]	0.06602 [0.18840]
Native parents	0.05669 [0.23447]	0.40333 [0.24568]	0.02695 [0.32920]	0.68216** [0.32692]	0.04733 [0.41281]	0.26197 [0.17050]
Age	0.01197 [0.01528]	-0.02154 [0.01724]	-0.01178 [0.01747]	0.01537 [0.01671]	-0.03368 [0.02514]	-0.00124 [0.01453]
Age squared	-0.00010 [0.00017]	0.00020 [0.00018]	0.00023 [0.00017]	-0.00006 [0.00017]	0.00046 [0.00030]	-0.00006 [0.00014]
Female	0.05340 [0.07675]	-0.21342*** [0.07983]	0.27088*** [0.08988]	0.27815*** [0.09089]	0.12390 [0.09903]	-0.02764 [0.07498]
Married	-0.16379* [0.09372]	0.03054 [0.09942]	0.06547 [0.10384]	0.04345 [0.10759]	-0.00701 [0.10618]	-0.00239 [0.08815]
Catholic	-0.06296 [0.08035]	0.10927 [0.09867]	-0.01792 [0.12732]	-1.71805** [0.73279]		-0.33116*** [0.10438]
Unemployed	-0.10914 [0.29184]	-0.35774** [0.16192]	-0.05994 [0.15974]	0.44412*** [0.15734]		0.34287* [0.18840]
Cut1	-1.68936*** [0.49608]	-1.14103** [0.46212]	-0.61249 [0.58303]	-0.07720 [0.85648]	-1.86729** [0.73870]	-0.50459 [0.43131]
Cut2	-0.96838** [0.46369]	-0.66311 [0.44012]	-0.00087 [0.57799]	0.31359 [0.85313]	-1.11421 [0.72703]	0.33818 [0.42541]
Cut3	0.44334 [0.45683]	1.34574*** [0.43646]	1.06416* [0.57700]	1.17814 [0.85366]	0.19890 [0.72375]	1.33487*** [0.42442]
Cut4	1.23021*** [0.45804]	2.23129*** [0.43915]	1.74502*** [0.57879]	1.99809** [0.85571]	1.06879 [0.72584]	2.27161*** [0.42769]
No. of observations	886	823	653	672	530	848
Log likelihood	-992.49	-898.70	-838.07	-753.32	-691.36	-1095.52
Pseudo-R-squared	0.03	0.07	0.04	0.04	0.01	0.08

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix Table 2. Country-specific regressions: anti-immigration (continued)**

	(19)	(20)	(21)	-22	(23)	(24)
	Canada	Phillippines	Japan	Estonia	Latvia	Slovakia
Patriotism	-0.07972 [0.05805]	0.09791 [0.07245]	0.24603*** [0.05410]	0.06501 [0.05397]	0.02437 [0.08701]	0.02844 [0.04767]
Chauvinism	0.47624*** [0.05922]	-0.21549*** [0.07969]	0.12611*** [0.04176]	0.14339** [0.05950]	0.21364** [0.08765]	0.10933** [0.04304]
Skill345	-0.25748*** [0.09592]	0.04185 [0.15782]			0.07034 [0.13323]	-0.09295 [0.08122]
National mobility	0.09266 [0.10147]	-0.01623 [0.09579]	-0.15250** [0.07644]	-0.03523 [0.08068]	-0.00839 [0.14814]	0.12473* [0.07318]
International mobility	0.05110 [0.10141]	-0.21548** [0.10586]	-0.00582 [0.13074]	0.02603 [0.09551]	0.36041* [0.19579]	-0.01008 [0.08752]
Never lived abroad	0.33576*** [0.10299]	0.02670 [0.15739]	0.58703*** [0.15386]	-0.09645 [0.10492]	0.34402** [0.16946]	0.12282 [0.11865]
Native	0.35703* [0.19734]	-0.43866 [0.65369]		-0.08030 [0.17687]	0.39651 [0.24731]	0.74412** [0.36225]
Native parents	-0.26889 [0.17249]	-0.18926 [0.37943]	0.26512 [0.62486]	0.37024 [0.29796]	0.84740*** [0.21907]	-0.05204 [0.20362]
Age	0.02510 [0.02084]	0.04144** [0.02012]	0.00228 [0.01260]	0.01761 [0.01255]	0.01453 [0.03545]	0.02222 [0.01357]
Age squared	-0.00028 [0.00024]	-0.00051** [0.00022]	0.00006 [0.00013]	-0.00014 [0.00013]	0.00004 [0.00042]	-0.00017 [0.00015]
Female	0.03415 [0.08641]	-0.11597 [0.09533]	0.34011*** [0.06779]	-0.03582 [0.06866]	-0.27094* [0.13974]	0.00384 [0.06752]
Married	0.00580 [0.09491]	0.04633 [0.11298]	0.06598 [0.09684]	-0.08285 [0.08859]	-0.09388 [0.14539]	-0.04740 [0.07873]
Catholic	-0.14992* [0.09064]	0.26023** [0.12073]	-0.95497** [0.40899]	0.23779* [0.12870]	-0.13042 [0.16277]	0.12327* [0.06954]
Protectionism			-0.10182 [0.31614]	0.02285 [0.10751]		0.14954 [0.14583]
Cut1	0.06343 [0.54321]	-1.89014** [0.87387]	0.60265 [0.69951]	-0.77889* [0.45548]	-0.97895 [0.84544]	-0.58331 [0.43369]
Cut2	0.75154 [0.54142]	-1.37555 [0.87086]	1.48999** [0.69772]	0.09834 [0.44499]	1.83949** [0.77612]	-0.03203 [0.42426]
Cut3	1.93795*** [0.54349]	-0.41130 [0.86832]	2.81133*** [0.70106]	1.74842*** [0.44637]	2.53343*** [0.77964]	1.44115*** [0.42460]
Cut4	2.74983*** [0.54803]	0.35539 [0.86845]	3.67319*** [0.70352]	2.81775*** [0.45103]		2.22016*** [0.42631]
No. of observations	637	605	1024	1045	362	1102
Log likelihood	-876.30	-822.77	-1335.87	-1212.03	-333.58	-1318.47
Pseudo-R-squared	0.06	0.02	0.06	0.01	0.13	0.02

Note: Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.



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