Educated Preferences: Explaining Attitudes Toward Immigration in Europe

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Abstract Recent studies of individual attitudes toward immigration emphasize concerns about labor-market competition as a potent source of anti-immigrant sentiment, in particular among less-educated or less-skilled citizens who fear being forced to compete for jobs with low-skilled immigrants willing to work for much lower wages. We examine new data on attitudes toward immigration available from the 2003 European Social Survey. In contrast to predictions based on conventional arguments about labor-market competition, which anticipate that individuals will oppose immigration of workers with similar skills to their own but support immigration of workers with different skill levels, we find that people with higher levels of education and occupational skills are more likely to favor immigration regardless of the skill attributes of the immigrants in question. Across Europe, higher education and higher skills mean more support for all types of immigrants. These relationships are almost identical among individuals in the labor force (that is, those competing for jobs) and those not in the labor force. Contrary to the conventional wisdom, then, the connection between the education or skill levels of individuals and views about immigration appears to have very little, if anything, to do with fears about labor-market competition. This finding is consistent with extensive economic research showing that the income and employment effects of immigration in European economies are actually very small. We find that a large component of the link between education and attitudes toward immigrants is driven by differences among individuals in cultural values and beliefs. More educated respondents are significantly less racist and place greater value on cultural diversity than do their counterparts; they are also more likely to believe that immigration generates benefits for the host economy as a whole.

Political debates over immigration policy have been rising in volume and intensity in recent years in almost all Western economies. On the one hand, immigration is seen by many as an economic and cultural lifeline that can supply firms in

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key industries with skilled workers, relieve strains on tax-funded pension systems threatened by the graying of the local population, and inject new artistic and intellectual life into the nation. On the other hand, there are concerns that immigrants may take jobs away from local workers, subtract more from the government in the form of social services than they give back in taxes, and create ethnic enclaves that balkanize the nation, undermine traditional culture, and lead to crime and other social ills. These latter concerns have encouraged the recent imposition of much tighter immigration controls in several countries while also nurturing the growth of extremist anti-immigrant political movements in many parts of Europe and increasing the incidence of hate crimes directed toward immigrants. The debate seems certain to continue in the years ahead, and grow fiercer.

A great deal of new research has examined survey data on individual attitudes toward immigration, focusing on the determinants of anti-immigration sentiments.[1] Some of the most recent and prominent studies have concluded that realistic fears about the economic effects of labor-market competition among low-skilled, blue-collar workers lie at the heart of much anti-immigration feeling.[2] These studies all rest their analysis on economic models of the distributive effects of immigration anticipating that low-skilled (that is, less-educated) native workers will lose out when forced to compete for jobs with low-skilled immigrants.[3] The key supporting evidence for their claims is that opposition to immigration among survey respondents in advanced industrialized countries is negatively and significantly associated with individual levels of educational attainment. Viewed from this perspective, the immigration debate is to a large extent about economics, and a critical battle line is the one that separates high-skilled and low-skilled workers.

But this account does not fit well with the growing body of evidence, available from a variety of studies of European and American labor markets, showing that the effects of immigration flows on income, employment, and unemployment actually appear to be quite small.[4] Since the most sophisticated economic models are quite equivocal about whether immigrants will have an adverse impact on the wages or employment opportunities of local workers, perhaps these latter results should not be so surprising. But this does raise a big question about how exactly one should interpret the clear relationship between the education or skill levels among individuals and their views about immigration. One established line of scholarship would regard this pattern not as a reflection of labor-market dynamics, but instead as confirmation that higher levels of education lead to greater ethnic and racial tolerance among individuals and more cosmopolitan outlooks.[5] Viewed in

1. See, for example, Gang and Rivera-Batiz 1994b; Citrin et al. 1997; and Dustmann and Preston 2001.
2. See, for example, Scheve and Slaughter 2001a and 2001b; Kessler 2001; and Mayda 2006.
3. See Borjas 1999a and 1999b.
4. See Friedberg and Hunt 1995; Bhagwati 2000 and 2002; Dustmann et al. 2004; and Card 2005; although see Borjas 2003.
5. See, for example, Espenshade and Calhoun 1993; Citrin et al. 1997; and McLaren 2001.

this light, immigration is an issue that raises fundamental questions about values and identities among individuals, debates over immigration are shaped less by labor-market competition than by cultural conflict, and the division between more- and less-educated natives is primarily a cultural or ideological distinction.

Which of these interpretations is more correct? Is the main motivator for opposition to immigration the threat of economic competition, felt most acutely among the less educated? Or is it a deeper animosity toward foreigners and foreign cultures, felt least strongly among the more educated? The answer to this question is critical to our understanding of the politics of immigration and the treatment of ethnic minorities. It is crucial, too, for policymakers and others who support immigration and worry about the growth of extremist, often violent, anti-immigrant movements. If anti-immigration sentiments are based primarily on economic calculations, there are some very direct ways in which policymakers might address them: for instance, by targeting forms of adjustment assistance and job creation programs toward the communities or industries in which the economic impact is felt most heavily. If opposition to immigration is motivated by more deep-seated cultural factors, on the other hand, these types of adjustment assistance are unlikely to be effective and it is much more difficult to imagine simple, short-run measures that would mitigate the political tensions.

We examine new data on attitudes toward immigration available from the 2003 European Social Survey (ESS). Unlike other sources of survey data on attitudes toward immigrants, the 2003 ESS provides a rich, detailed set of questions about the immigration issue, probing respondents' views about immigrants from different countries. The detailed data allow us to provide new tests of the labor-market competition explanation for anti-immigration sentiments among European voters. We focus, in particular, on the complex relationship between education and attitudes toward immigration. Our results indicate that, in contrast to predictions based on the conventional arguments about labor-market competition, which anticipate that individuals will oppose immigration of workers with similar skills to their own but support immigration of workers with different skill levels, people with higher education levels are more likely to favor immigration regardless of where the immigrants come from and their likely skill attributes. Across Europe, higher education means more support for all types of immigrants. This is true for alternative measures of education in all twenty-two ESS countries. The same relationship holds for direct (occupational) measures of respondent skill levels: higher skills are associated with greater support for all types of immigration. These relationships are almost identical among those in the labor force and those not in the labor force.

The findings thus suggest that, contrary to the conventional wisdom, the connection between the educational or skill attributes of individuals and their views about immigration appears to have very little, if anything, to do with fears about labor-market competition. The conventional story appears to be based on a fundamental misinterpretation of the available evidence. We find that a large component of the effect of education on individual attitudes toward immigrants is

associated with differences among individuals in cultural values and beliefs. More educated respondents are significantly less racist and place greater value on cultural diversity; they are also more likely to believe that immigration generates benefits for the host economy as a whole. Together, these factors account for around 65 percent of the estimated relationship between education and support for immigration.

Explaining Individual Attitudes Toward Immigration

Which individuals are most likely to oppose immigration? Standard economic models of the income effects of immigration emphasize the importance of the different types of productive factors people own. What is critical in this respect is the impact that immigration has on relative supplies of factors of production in the local economy. In the most commonly analyzed scenario, it is assumed that immigrants have relatively low skill levels when compared with native workers. Immigration thus increases the supply of low-skilled labor relative to other factors (land, capital, and high-skilled labor). In a simple closed-economy model in which new (low-skilled) immigrants can price themselves into employment only by lowering the wages of native low-skilled workers, as more low-skilled labor is applied to fixed amounts of the other factors, the real wages of the less skilled will decline while the earnings of owners of land, capital, and skills will rise.[6] This model of the impact of immigration is often referred to as "factor-proportions" (FP) analysis.[7] It renders the distributive effects of inflows of low-skilled immigrants in stark terms: native low-skilled workers are clearly the economic losers. Of course, if immigrants were high-skilled (rather than low-skilled) workers the effect of the inflows would be to lower real wages for native high-skilled workers and to raise real earnings for all others (including low-skilled workers).

There has been a good deal of research on public attitudes toward immigration that has looked for signs that economic concerns related to job security do lie behind anti-immigrant sentiments, with mixed results.[8] But several recent studies have set out explicitly to test the proposition that a fear of lower wages induces low-skilled individuals, in particular, to oppose immigration. Most prominently, Scheve and Slaughter have examined data from National Election Studies (NES)

6. Standard models assume full employment and wage flexibility, so that the distributional effects are reflected in wages. In models that permit labor-market imperfections, these effects can also take the form of changes in local unemployment rates (see Razin and Sadka 1995; and Angrist and Kugler 2003). Alternative models also allow for geographic differences within national labor markets so that the wage and employment effects of immigration may be concentrated in "gateway communities" where immigrants tend to settle in large numbers (see Card 1990; LaLonde and Topel 1991; and Borjas 1999a, 10–11).

7. See Borjas, Freeman, and Katz 1996 and 1997; and Borjas 1999a.

8. See, for example, Studlar 1977; Harwood 1986; Simon 1987; Gang and Rivera-Batiz 1994b; Citrin et al. 1997; Burns and Gimpel 2000; Fetzer 2000; and Dustmann and Preston 2001.

surveys in the United States in 1992, 1994, and 1996 that asked respondents about their preferences regarding immigration restrictions.[9] They found that individuals with lower skills, measured primarily by years of education, were far more likely to support restrictions on immigration than those with higher skills. Mayda reached similar conclusions after examining cross-national survey data on twenty-three nations from the 1995 National Identity Module of the International Social Survey Programme (ISSP), as well as data on forty-four nations from the third wave of the World Value Survey (WVS), conducted between 1995 and 1997.[10] She reports that respondents with higher levels of skill (again, measured by years of education) are much more likely to voice pro-immigration opinions than those with lower levels of skill.

There are several reasons to be cautious about how we interpret these findings. One issue is whether immigration, in practice, has actually had the distributional effects anticipated by the standard closed-economy models. A growing set of empirical studies dedicated to this question has found only small wage and employment effects attributable to immigration flows into European labor markets (there is still much debate about the evidence in the American case).[11] In part this may be because there appears to be a great deal of variation in the skill levels of immigrants, and there is considerable debate now over whether immigrants actually tend, in general, to have low levels of skills relative to native workers.[12] To varying degrees, of course, the immigration policies in many Western countries are actually aimed at selecting candidates for entry based on the quality of their skills and excess local demand for those skills.[13]

More fundamentally, the most sophisticated economic models are actually quite equivocal about whether immigrants will have an adverse impact on the wages or employment opportunities of local workers with similar skills.[14] In the following we briefly summarize the theoretical predictions of current open-economy models of immigration; we provide a detailed technical description in a separate Web

9. Scheve and Slaughter 2001a and 2001b.

10. Mayda 2006.

11. For general reviews, see Friedberg and Hunt 1995; and Bhagwati 2000 and 2002. For evidence on the impact of immigration in European labor markets, see Zimmerman 1995; Hunt 1992; DeNew and Zimmerman 1994; Hartog and Zorlu 2005; and Dustmann et al. 2004. Evidence on immigration effects on wages in the United States is discussed in Card 1990; Gang and Rivera-Batiz 1994a; Borjas, Freeman, and Katz 1997; and Borjas 1999a. Two recent studies of the effects of immigration on wages and employment in the United States, Borjas 2003 and Card 2005, reach opposing conclusions about the magnitude of these effects.

12. Angrist and Kugler 2003, 16, report "considerable overlap between the immigrant and native schooling distributions" for thirteen European countries in 1995 and 1999. Borjas, Freeman, and Katz 1997 and Borjas 1999a present evidence from U.S. census data indicating that, on average, immigrants to the United States had approximately two fewer years of education than natives in 1998. According to Bhagwati 2002, 310, however, the evidence of a large native versus immigrant skill difference is less clear judging from data from the *Immigration and Naturalization Service*.

13. See Bauer, Pool, and Dexter 1972.

14. See Friedberg and Hunt 1995; and Scheve and Slaughter 2001a, 135–37.

appendix to this article.[15] In an open-economy Heckscher-Ohlin (HO) model, trade can offset the impact of immigration as an economy adjusts to any change in factor supplies by importing less of the goods that can now be produced locally at a lower cost. Again assuming low-skilled immigrants, it is possible that an economy can absorb new workers simply by altering the mix of output of tradable goods, increasing production of low-skill-intensive goods and decreasing production of other goods (in line with the Rybcynski theorem). Wages will not change at all if the local economy is small enough that a change in its output mix has no effect on world prices—a result known as "factor price insensitivity."[16] There are two possible exceptions. If the local economy is very large relative to the rest of the world, of course, the change in output mix can produce a decline in the world prices of low-skill-intensive goods and a subsequent decline in the real wages of low-skilled labor. But this result does not seem applicable for the individual European countries. Alternatively, if the inflow of immigration is itself large, it might induce a change in the set of tradable products that the local economy produces, thus causing a decline in the real wages of low-skilled labor. Yet this also seems like an extreme result, and not one that could be a reasonable basis for calculations about the effects of immigration in most European nations.

The theoretical picture becomes no clearer if we allow that the skills of workers can be highly "specific" to particular industries—the standard approach taken in most theoretical recent work on international trade.[17] If all goods are traded, so that prices are fixed in world markets, it can be shown that inflows of low-skilled workers will indeed lower real wages for low-skilled natives while raising real wages for high-skilled workers in all industries. (The latter benefits will be larger for high-skilled workers in sectors that use low-skilled labor more intensively.) On the flip side, inflows of any type of high-skilled workers will raise real wages for low-skilled workers while lowering real wages for all high-skilled workers (the latter losses being larger for those who own the same specific skills as the immigrants). While these distributive effects match the predictions generated by the simple closed-economy FP model, they are overturned with the inclusion of nontraded goods in the model. If immigration can lead to a reduction in the price of nontraded goods (that is, if it raises the output of such goods more rapidly than it raises aggregate demand for them), it is unclear whether native workers with skills similar to those of immigrants will be worse off in real terms. (The outcome will depend in part on their consumption tastes.) The effects of immigration inflows on real earnings are similarly ambiguous in the specific-factors model when the country in question is large relative to world markets.[18]

15. This appendix and other supplements referred to in later sections are available for download at the authors' Web site at ⟨http://www.people.fas.harvard.edu/~jhainm/research.htm⟩.

16. Leamer and Levinsohn 1995.

17. See Jones 1971; and Grossman and Helpman 1994.

18. Note that, while we have concentrated on the labor-market effects here, there is also considerable debate over the impact of immigration on government spending and tax revenues. One common

Other types of general equilibrium models raise more doubts about the impact we should expect immigration to have on the wages of similarly skilled native workers. If we allow for economies of scale in production in the industries employing immigrants, inflows of new workers can be shown to generate higher real wages for native workers with similar skills in an open-economy model.[19] If we treat immigration inflows as a component in the growth of the labor supply, in a fully specified dynamic model of the economy, the impact of such flows on wages over time will depend on the rates of capital accumulation and population growth (and how these are affected by immigration), as well as the rate of skill acquisition among immigrants—points noted by Bhagwati.[20] All in all, it is extremely difficult to make firm predictions about the equilibrium effects of immigration on wages and employment opportunities among local workers.

If the economic impact of immigration is actually quite small, as both theory and empirics tend to suggest, then what explains the strong negative association between education and anti-immigration sentiments? One clear explanation is provided by theories that relate education to higher levels of ethnic and racial tolerance among individuals and to a preference for cultural diversity. This is an interpretation favored by many scholars who have made note of the connection between education and individual support for immigration.[21] There is a large literature showing that education tends to socialize students to have more tolerant, pro-outsider views of the world.[22] As Gang and colleagues note, most Western educational systems are designed quite explicitly to increase social tolerance.[23] Chandler and Tsai point out that education fosters tolerance, not just by increasing students' knowledge of foreign cultures and raising levels of critical thinking, but also by generating more diverse and cosmopolitan social networks, especially at the college level.[24] On a related theme, Betts argues that support for immigration among the college educated is one aspect of a larger class identity associated with cosmopolitanism and an appreciation for diverse cultures.[25] We provide tests of these accounts in the analysis below.

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concern is that low-skilled immigrants, because they tend to earn less and thus pay less in taxes than natives, and because they are more likely to draw unemployment and other welfare benefits from government, are a net drain on government coffers. Economists are divided on whether this is actually the case (see Krugman and Obstfeld 2000, 166). Notice, however, that to the extent it is true, since the added tax burden of immigration would fall disproportionately on richer, more highly skilled native workers, these distributional effects would run counter to (and thus mitigate) the types of distributional wage effects emphasized in closed-economy FP models of labor-market competition.

19. See Brezis and Krugman 1993.

20. Bhagwati 2000.

21. See, for example, Betts 1988; Espenshade and Calhoun 1993; Espenshade and Hempstead 1996; Citrin et al. 1997; Fetzer 2000; Chandler and Tsai 2001; and Gang, Rivera-Batiz, and Yun 2002.

22. See, for example, Campbell et al. 1960, 475–81; Erikson, Luttbeg, and Tedin 1991, 155–56; McClosky and Brill 1983; and Schuman, Steeh, and Bobo 1985.

23. Gang, Rivera-Batiz, and Yun 2002, 13.

24. Chandler and Tsai 2001. See also Case, Greeley, and Fuchs 1989; and Allport 1954.

25. Betts 1988.

Note that one might simply suggest that the actual economic effects of immigration are less relevant than people's perceptions of those effects, and that stories reported by the media or statements made by politicians perhaps lead people to believe that immigration poses a larger economic threat to blue-collar workers than it actually does.[26] This type of assertion seems quite plausible, but it begs for a theoretical explanation of how and why individuals misperceive the threat posed by immigration. The most obvious explanation for people—and especially less-educated individuals—being prone to see immigrants as an economic threat no matter what the actual labor-market effects, would seem simply to be an argument that links low education levels with xenophobic or racist predilections. That is, such an argument would seem ultimately to rest on the same (noneconomic) cultural or ideological factors just discussed, and these factors become the critical determinants of anti-immigrant sentiments rather than the real economic effects of immigration.

Besides tolerance and support for cultural diversity, of course, there are a variety of other noneconomic variables that have been identified as predictors of attitudes toward immigrants (and which are not so closely connected to education levels). Age tends to be negatively associated with support for immigration, for instance, and women seem generally more opposed to immigration than do men.[27] Children of foreigners are predictably more supportive of immigration, as are members of minority ethnic groups.[28] The latter finding would appear to support claims that members of marginalized groups often form common political bonds.[29] Meanwhile, individuals with right-wing or conservative political ideologies, and those evincing more national pride, are generally more likely to oppose immigration.[30] Anti-immigration sentiment in Europe seems to be more intense in communities where immigrants are concentrated, suggesting that more contact with immigrants or perceived strains on locally provided government services foster nativist feelings.[31] We attempt to account for all of these possibilities in the empirical analysis below.

New Data from the European Social Survey

We draw our data from the fifth edition of the recently administered European Social Survey.[32] The survey covers twenty-two European countries: Austria, France, Norway, Sweden, Finland, Britain, Belgium, Ireland, the Netherlands, Denmark,

26. See Gang, Rivera-Batiz, and Yun 2002, 7; and Citrin et al. 1997, 859.
27. Citrin et al. 1997; Dustmann and Preston 2001; and Gang, Rivera-Batiz, and Yun 2002.
28. Citrin et al. 1997; and Chandler and Tsai 2001.
29. See Espenshade and Calhoun 1993; and Betz 1994.
30. Chandler and Tsai 2001.
31. Gang, Rivera-Batiz, and Yun 2002.
32. See Stoop, Jowell, and Mohler 2002. A detailed description of the survey can be found at ⟨http://www.europeansocialsurvey.org⟩. Accessed 2 February 2007.

Germany, Italy, Luxembourg, Switzerland, Greece, Spain, Portugal, Israel, Czech Republic, Hungary, Poland, and Slovenia. It consists of answers of up to 42,000 respondents to an hour-long questionnaire, with an average country sample of about 2,000 respondents. The broad coverage provides substantial cross-national variation in social, political, and economic contexts. The stratified random sample was designed to be representative of the residential population of each nation, aged sixteen years and above, regardless of their nationality, citizenship, or legal status.[33]

The questionnaire consists of a "core" module that contains a large range of socioeconomic and demographic questions and several rotating, topic-specific modules, one of which focuses on the issue of immigration. Our primary empirical tests involve individual responses to a set of questions taking the following form:

> To what extent do you think [respondent's country] should allow people from [source] to come and live here?

- Allow many to come and live here
- Allow some
- Allow a few
- Allow none
- Don't know

There are four different versions of this question in which the source of the immigrants is identified alternatively as:

- The richer countries in Europe
- The poorer countries in Europe
- The richer countries outside Europe
- The poorer countries outside Europe

For each of the questions we created a dichotomous variable that equals 1 (pro-immigration) if the answer was "allow many" or "allow some" and 0 (anti-immigration) if the answer was "allow a few" or "allow none."[34] The dichotomous dependent variables just allow a simpler and more intuitive summary of the basic results than alternative treatments using the "raw" categorical variables and estimating ordered probit models (which would require reporting the marginal effects that each independent variable has on the probability of a response falling into each possible category). In the section below on robustness tests, we describe the sensitivity analysis we have performed using ordered probit models and also rerunning all the analysis reported below using all alternative cutoff points for

33. The majority (55 percent) of the questionnaires were administered in face-to-face interviews. For a full discussion of the EES methodology, see Stoop, Jowell, and Mohler 2002.

34. We excluded the few "don't know" and missing answers from the sample. Including these observations as either pro- or anti-immigration answers does not change any of the substantive results we report since only 4 to 5 percent of the answers to each question fall in this category.

dichotomization of the dependent variable. None of our findings is sensitive at all to the choice of cutoff point.

The crucial advantage gained from examining these ESS data, compared to data from alternative surveys used in previous research, is that separate questions have been posed about specific categories of immigrants that are likely to have very different skill characteristics. These distinctions allow for a much more direct test of the arguments about labor-market competition. Prior studies have rested on the assumption that respondents must always have low-skilled immigrants in mind when answering a general survey question about immigration.[35] Here we can assume that respondents will have substantially different expectations about the average skill levels of immigrants from "richer" countries than of those from "poorer" countries. The questions were asked consecutively in the survey, making it clear to respondents that "richer" versus "poorer" was the critical difference—a difference that is most obviously meaningful as it bears upon the expected skill levels of immigrants. Respondents are more likely to associate immigrants from the richer nations with higher-skilled individuals (for example, professional and managerial employees from Germany, France, Britain, and the United States), while associating immigrants from poorer nations with lower-skilled individuals (for example, manual workers and refugees from eastern and southern Europe and from Africa). This set of expectations seems intuitively compelling, but we can also verify that it is empirically very accurate. Immigrants from richer nations do have higher skills, on average, than immigrants from poorer nations.

To verify this we examined evidence on the skill levels of immigrants compiled in the International File of Immigration Surveys (IFIS) database by van Tubergen.[36] This database combines survey data on more than 300,000 immigrants from 180 countries of origin and eighteen destination countries, extracted from the European Union's Labour Force Survey, national censuses, and additional country-specific immigrant surveys.[37] For the European destination nations the IFIS provides data on immigrants from fifty-one origins: twenty-six European and twenty-five non-European countries.[38] The data include codes for whether the individual immigrants had low, middle, or high levels of educational attainment (these corre-

35. See Scheve and Slaughter 2001a, 135.

36. van Tubergen 2004.

37. All surveys were harmonized and pooled by van Tubergen into a cross-national data set that provides comparable individual-level information on immigrants, classified by country of origin, for the period 1980–2001. To our knowledge this represents the most comprehensive data set on immigrant populations currently available. We are indebted to Frank van Tubergen for allowing us to use these data here.

38. The fourteen European destination nations in the IFIS database are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. In addition to these fourteen, the European origin countries included Albania, Bulgaria, Ex-Czechoslovakia, Ex-Yugoslavia, Hungary, Iceland, Italy, Malta, Norway, Poland, Romania, and Switzerland. The non-European origin nations are Algeria, Argentina, Australia, Brazil, Cambodia, Canada, China, Cyprus, Egypt, Ex-Russia, India, Indonesia, Japan, Lebanon, Mexico, Morocco, New Zealand, Pakistan, Philippine, South Africa, Thailand, Tunisia, Turkey, the United States, and Vietnam.

spond, respectively, to whether the person had completed only primary or basic schooling, secondary schooling, or tertiary education).[39] For each of the fifty-one origin countries we were thus able to compute the proportion of immigrants to Europe in each education category. Here we present the main results of this analysis; more detailed results are available in are separate supplement to this article.[40] As expected, we found that the proportion of low- (high-) skilled immigrants is sharply decreasing (increasing) in origin country gross domestic product (GDP) per capita. In the case of immigrants from European origins, the correlation between origin GDP per capita and the proportion of low (high) education immigrants is −0.22 (0.16). This pattern is even more pronounced for immigration from non-European origins, where the respective correlations are −0.49 and 0.72. Parsing the data another way, if we take the average per capita GDP among origin countries in each subsample (that is, European and non-European) as the dividing line between "richer" and "poorer" countries, the skill differences among immigrants from each category are substantial. For instance, the proportion of immigrants from poorer non-European countries that have low (high) educational levels is 0.50 (0.21), compared to 0.21 (0.48) for immigrants from richer countries. The differences between the skill levels of immigrants from richer and poorer nations are stark. Table 1 reports the summary measures of the skill attributes of different categories of immigrants.

Thus, if concerns about labor-market competition are critical determinants of immigration preferences, given the large gap in average skills between immigrants from richer and poorer countries, we should expect that respondent skill levels should have a substantially different effect on answers to the ESS questions about immigration from richer and poorer countries. Respondent skill levels should have a large and positive effect on support for immigration from poorer countries, since these are predominantly low-skilled immigrants who compete for jobs with low-skilled natives. This is in line with the proposition tested in previous studies. But respondent skill levels should have a substantially smaller, and perhaps even a negative, effect on support for immigration from richer countries, since these are predominantly high-skilled immigrants who are substitutes (rather than complements) to native workers with high skills. In Table 1 we have reported education levels of natives (the ESS sample) to compare with those of different types of immigrants. By this simple measure, immigrants from poorer countries (both from within and outside Europe) are, on average, less skilled than the ESS natives, while immigrants from richer countries are more highly skilled than natives. While these relationships can vary according to the education levels of natives within each particular ESS country, the large skill gap between immigrants from richer versus

39. These categories match the EDUCATIONAL ATTAINMENT measure in the ESS data that we employ below with the exception that van Tubergen also includes PHDS in the high education category rather than coding them separately.

40. This supplement is available at the authors' Web site at ⟨http://www.people.fas.harvard.edu/~jhainm/research.htmI⟩. It provides a detailed breakdown of education levels in each ESS country and compares these with education levels of immigrants to ESS countries using the van Tubergen data.

TABLE 1. *Education levels of immigrants from richer/poorer countries and natives*

Immigrant source countries[1]	*Proportion of immigrants with*			*Observations*	*Average education score*[2]	*Standard deviation*	*Difference: Average of immigrants—average of natives*[3]
	Low education	*Middle education*	*High education*				
Richer European countries	0.286	0.384	0.330	187	2.044	0.785	0.263
Poorer European countries	0.487	0.334	0.179	133	1.692	0.757	−0.089
Richer countries outside Europe	0.212	0.307	0.481	101	2.269	0.792	0.488
Poorer countries outside Europe	0.500	0.293	0.207	209	1.707	0.791	−0.074
Education levels of natives (full ESS sample)	0.402	0.414	0.184	41988	1.781	0.737	

Notes: 1. Richer/poorer European/non-European source countries are defined as countries that fall above/below the sample mean in the respective GDP per capita distribution of the fifty-one European/non-European origin countries available in the International File of Immigration Surveys Database (Van Tubergen 2004). See the Web supplement to this article for more detailed analysis and additional tests of the differences in education levels among immigrants from richer and poorer source countries.
2. The average education score is computed as the mean of a discrete attainment variable coded: low education = 1, middle education = 2, and high education = 3.
3. Differences are assessed using two-sample t-tests (two-tailed) with unequal variances assumed. All differences in means are significant at the 0.99 confidence level.

poorer nations is abundantly clear and the implications are straightforward: if labor-market concerns are critical, the effects of individual skills levels on attitudes toward these different categories of immigrants should be markedly different. This is a simple, critical test for the labor-market competition account of anti-immigration sentiments.

Asummary of the ESS data on immigration preferences is reported in Table 2.[41] On average, survey respondents prefer European immigrants to non-Europeans (holding wealth constant), as perhaps we might expect, and they prefer immigrants from richer countries to those from poorer countries (holding "Europeanness" constant).[42] The most preferred immigrants are thus those from richer European nations; the least preferred are from poorer countries outside Europe. Many different forces may be shaping these general preferences, of course, but it

41. Following the official ESS recommendation, we applied the design weight (DWEIGHT) to all estimations that examine single countries (all country-specific averages and probit estimations) and both the design weight and the population weight (PWEIGHT) to all estimations where data are pooled across countries (full sample averages and probit estimations). See the ESS guidelines "Weighting European Social Survey Data" at ⟨http://ess.nsd.uib.no/files/WeightingESS.pdf⟩. Accessed 10 November 2006.

42. Difference-of-mean tests indicate that these differences for both the Europe versus outside comparisons and for both of the rich versus poor comparisons are highly significant (the lowest *t*-value in the four tests is 8.98), although the substantive differences are of course rather small.

TABLE 2. *Immigration preferences by source: Full ESS sample*

							Dichotomous variables[1]	
Immigration from	*Allow none*	*Allow a few*	*Allow some*	*Allow many*	*Missing*	*Total*	*Mean*	*Standard deviation*
Richer European countries	4,048 9.57%	11,936 28.22%	17,946 42.42%	6,336 14.98%	2,035 4.81%	42302	0.603	0.489
Poorer European countries	3,617 8.55%	13,759 32.53%	18,306 43.27%	4,904 11.59%	1,717 4.06%	42302	0.572	0.495
Richer countries outside Europe	4,466 10.56%	13,178 31.15%	17,351 41.02%	5,256 12.43%	2,050 4.85%	42302	0.562	0.496
Poorer countries outside Europe	4,316 10.20%	14,670 34.68%	17,127 40.49%	4,364 10.32%	1,826 4.32%	42302	0.531	0.499

Notes: Cases weighted by DWEIGHT and PWEIGHT.
1. For dichotomous variables: 1 = allow many/some; 0 = allow few/none.

is interesting to note that they clash rather directly with a simple labor-market competition story in at least one clear way: since the average ESS respondent is more highly skilled than the average immigrant from poorer countries inside Europe, but has an even greater skill advantage over the average immigrant from poorer countries outside Europe, the distributional effects (on their own) would imply that the latter should be more preferred than the former on average.

Table 3 reports immigration preferences by country of respondent. Here we just provide the mean of each dichotomous dependent variable (indicating whether respondents supported immigration from each different source), and we have ranked the ESS countries according to per capita GDP. Overall, Sweden seems to be the most pro-immigrant country across the board, while Hungary is the most anti-immigrant. Interestingly, respondents in Germany and Italy, nations often regarded as fertile soil for chauvinism and antiforeigner movements (such as the Republikaner and the National Democratic Party in Germany or the Lega Nord party in Italy), appear to look more favorably on immigration, in general, than citizens in many other European nations. Other countries yield less of a surprise as, for example, Austria, with its strong right-wing party (the Freiheitlichen), shows rather low support for immigration. Another interesting result is that respondents in Denmark appear to differentiate most strongly between types of immigrants, preferring "rich" over "poor" immigrants by larger margins than respondents elsewhere. (Given the recent success of the right-wing Folkeparti in Denmark, campaigning largely on opposition to poor immigrants, perhaps this should not be surprising.)

The general pattern in preferences is again rather inconsistent with the labor-market competition argument. Assuming the skill level of the average respondent is increasing in per capita GDP across these countries, we should expect that

TABLE 3. *Immigration preferences by source: Individual ESS countries*

	Means of dichotomous dependent variables Favor immigration from					
Country	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Observations*[1]	*GDP per capita*[2]
Luxembourg	0.52	0.51	0.49	0.47	1370	56290
Norway	0.62	0.66	0.54	0.60	2017	35132
Ireland	0.68	0.68	0.62	0.64	1964	30100
Denmark	0.69	0.56	0.59	0.46	1415	29306
Switzerland	0.69	0.73	0.63	0.69	1947	28128
Austria	0.43	0.39	0.37	0.35	2063	28009
Netherlands	0.54	0.58	0.50	0.56	2312	27071
Belgium	0.61	0.62	0.55	0.56	1843	26435
Germany	0.65	0.64	0.61	0.59	2841	26067
France	0.57	0.57	0.48	0.51	1448	25318
Finland	0.50	0.46	0.41	0.40	1940	25155
Italy	0.69	0.65	0.68	0.62	1141	24936
United Kingdom	0.56	0.53	0.51	0.49	2020	24694
Sweden	0.79	0.87	0.75	0.85	1900	24525
Israel	0.74	0.58	0.72	0.55	2261	20597
Spain	0.55	0.51	0.53	0.49	1557	19965
Portugal	0.43	0.39	0.43	0.38	1405	17310
Greece	0.33	0.16	0.27	0.14	2459	16657
Slovenia	0.69	0.59	0.64	0.57	1452	16613
Czech Republic	0.66	0.54	0.65	0.51	1262	13997
Hungary	0.30	0.16	0.24	0.12	1531	12623
Poland	0.68	0.59	0.66	0.57	1971	9935

Source: World Development Indicators 2003. Cases weighted by DWEIGHT.
Notes: 1. Mean number of observations for the four dependent variables.
2. GDP per capita, purchasing power parity in current international dollars for the year 2000.

(average) attitudes would become markedly less supportive of immigration from richer versus poorer nations at higher levels of per capita GDP. While it does seem to be the case that the preference for immigrants from richer versus poorer nations is largest in ESS countries with the lowest levels of per capita GDP, that same preference still appears in many of the most developed ESS countries (such as Luxembourg, Denmark, Italy, United Kingdom, Germany, or Finland). In fact, in all countries except Sweden, the Netherlands, Norway, and Switzerland, richer immigrants are preferred to poorer ones or people (on average) are essentially indifferent between the two.

Previous studies of opinion data on immigration have typically been severely constrained by the absence of good measures of key variables and theoretically relevant controls, since the surveys generating the data were not focused explicitly on the immigration issue. The ESS allows us to overcome these problems

to a substantial degree, since it provides multiple measures of a wide array of critical socioeconomic, demographic, and attitudinal variables. In the next sections we incorporate a large variety of these variables when estimating the probability of support for different types of immigration among individual survey respondents. Our principal goal, which we address immediately in the next section, is to provide a rigorous new set of tests of the labor-market competition explanation for anti-immigration sentiments. We also investigate alternative explanations of attitudes toward immigration that focus on cultural conflict.

Labor-Market Competition and Anti-Immigration Views?

Benchmark Model

To provide a basic test of the conventional labor-market competition argument, we estimate a series of probit models for the dichotomous dependent variables described above (indicating support for immigration from different types of source countries). We employ the two indicators of individual levels of education that have been applied as proxy measures of individual skill levels in previous studies: the first measure, YEARS OF SCHOOLING, simply counts the total number of years of full-time education completed by the respondent; the second measure, which we label EDUCATIONAL ATTAINMENT, is a categorical indicator of the highest level of education attained by the respondent, adjusted by the ESS to allow for differences between the various European educational systems so that the results are comparable across countries.[43] (See Table A1, p. 438 for complete descriptive statistics for all variables described here and used in the analysis).

We include the standard socioeconomic and demographic control variables in an otherwise streamlined "benchmark" model. These variables include the respondent's AGE (in years), GENDER (1 = female, 0 = male), and INCOME (measured on a categorical scale from 1 to 12).[44] We include whether the respondent is a NATIVE of his or her country of residence (1 = born in country; 0 = foreign born), for obvious reasons. To account for "neighborhood" effects, we include a

43. The coding is: 0 = not completed primary education; 1 = completed primary or first stage of basic education; 2 = completed lower secondary or second stage of basic education; 3 = completed upper secondary; 4 = postsecondary, nontertiary; 5 = first stage of tertiary; and 6 = completed second stage of tertiary education.

44. Since individual income is correlated with education, one could make the case for excluding it from the benchmark model when assessing aggregate effects of educational attainment on attitudes toward immigrants. Mayda 2006; and Scheve and Slaughter 2001a estimated models with and without an income control. We report estimations including income here but have replicated all the analysis after excluding the income variable—the results (available from the authors) are virtually identical. The coding for income is: 1 = less than €150 monthly; 2 = €150–30; 3 = 300–500; 4 = 500–1000; 5 = 1000–1500; 6 = 1500–2000; 7 = 2000–2500; 8 = 2500–3000; 9 = 3000–5000; 10 = 5000–7500; 11 = 7500–10000; 12 = >10000.

measure of how many people of a minority race or ethnic group are living in the area where the respondent currently resides, which we refer to as MINORITY AREA (1 = almost nobody, 2 = some, 3 = many).[45] In addition, since far-right parties in Europe have typically been the most vocal opponents of immigration, we also account for the RIGHT PARTISAN political orientation of each respondent (measured on a scale from 0 = left to 10 = right).[46] Each of the estimations also includes a full set of country fixed effects.[47] The results for the simple, benchmark model are displayed in Table 4. To facilitate interpretation, rather than showing estimated probit coefficients, we report simulated marginal effects; that is, the change in the estimated probability of being pro-immigration associated with a unit increase in the value of the relevant regressor (holding all other regressors at their sample means). For dichotomous variables the discrete change in the probability is shown.

Recall that if the labor-market competition effects are critical determinants of immigration preferences, and education measures respondents' skill levels, then education should be strongly and positively linked with support for immigration from poorer countries, but much more weakly (and perhaps even negatively) related to support for immigration from richer countries. The critical finding from the estimations of the benchmark model is that, contrary to these expectations, people with higher education are more likely to favor immigration regardless of where the immigrants come from. The estimated effects of education are always positive, statistically significant, and quite large in magnitude across all the dependent variables. For example, a shift from the lowest to the highest level of educational attainment increases the predicted probability of favoring immigration from poorer European (non-European) countries by 0.35 (0.35), holding all other variables at their sample means. Contrary to expectations, the corresponding effect is even slightly larger for immigration from richer European (non-European) countries, with the increase in educational attainment raising the predicted probability of support for immigration by 0.35 (0.36). But the critical finding is that the positive relationship between education and attitudes toward immigrants from richer versus poorer nations is virtually identical (all the four 0.90 confidence intervals overlap for both educational attainment and schooling). These results raise serious questions about the importance of labor-market considerations in shaping individ-

45. This is based on the question asking respondents: "How would you describe the area where you currently live?" Answers are coded: 1 = almost nobody (of minority race or ethnic group); 2 = some; 3 = many.

46. The ESS question is: "In politics people sometimes talk of 'left' and 'right.' Using this card, where would you place yourself on this scale?" The answers are coded on a scale from 0 (left) to 10 (right). A potential problem with this variable is that what "left" and "right" mean in Britain might differ markedly from what those same terms mean in, say, Poland. However, as we discuss in sensitivity analysis (see the section below on robustness tests) none of our substantive results are affected by the inclusion, exclusion, or recentering of this control (by country means).

47. We estimate all models using robust standard errors, adjusted for potential within-region clustering. We also reestimated all models clustering standard errors by countries only (omitting the fixed effects), and the results are substantively identical.

TABLE 4. *Education and support for immigration: Benchmark results for full sample*

	EDUCATIONAL ATTAINMENT				YEARS OF SCHOOLING			
	Richer European countries	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*
Dependent variable: Favor immigration from	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
EDUCATIONAL ATTAINMENT	0.059***	0.059***	0.062***	0.061***				
	(0.004)	(0.005)	(0.005)	(0.005)				
YEARS OF SCHOOLING					0.022***	0.022***	0.023***	0.024***
					(0.002)	(0.002)	(0.002)	(0.002)
AGE	−0.001***	−0.002***	−0.002***	−0.003***	−0.001***	−0.001***	−0.001***	−0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GENDER	−0.048***	0.008	−0.027**	0.006	−0.044***	0.012	−0.023**	0.011
	(0.013)	(0.011)	(0.012)	(0.012)	(0.013)	(0.011)	(0.012)	(0.012)
INCOME	0.019***	0.015***	0.016***	0.013***	0.021***	0.017***	0.018***	0.014***
	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
NATIVE	−0.086***	−0.098***	−0.079***	−0.084***	−0.087***	−0.101***	−0.079***	−0.087***
	(0.018)	(0.022)	(0.016)	(0.022)	(0.017)	(0.020)	(0.015)	(0.020)
MINORITY AREA	0.007	0.030***	0.006	0.028***	0.010	0.033***	0.008	0.031***
	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)
PARTISAN RIGHT	−0.005	−0.021***	−0.010***	−0.023***	−0.005*	−0.021***	−0.009***	−0.023***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Observations	28733	28878	28671	28761	28648	28795	28586	28677
Log likelihood	−17800.48	−17802.68	−18141.87	−18054.65	−17769.55	−17759.48	−18106.51	−17982.56
Pseudo R-squared	0.07	0.09	0.07	0.09	0.07	0.09	0.07	0.09

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$); that is, the marginal effect on $Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, are in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each model includes a full set of country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

ual attitudes toward immigration. The evidence fits much better with alternative accounts that relate the effects of education on support for immigration to greater tolerance and improved understanding of foreign cultures and a taste for cosmopolitanism and cultural diversity, and expect that such effects are always positive and are not sensitive to expected immigrant skill levels.

The estimated marginal effects of the control variables are significant at the 0.99 confidence level in the majority of cases and enter the model with signs anticipated based on previously reported findings. The respondent's AGE is generally negatively related to support for immigration, although this relationship is not terribly robust.[48] Higher INCOME is associated with favoring immigration. Living in a MINORITY AREA is positively correlated with the probability of favoring immigration from poorer, but not from richer, countries. Foreign-born respondents are more likely than their NATIVE counterparts to favor immigration. People with more RIGHT PARTISAN political orientations are more likely to oppose immigration in general, and this relationship is stronger (and more robust) when it comes to immigrants from poorer versus richer countries. The only variable that has a somewhat different relationship with attitudes toward immigration from rich countries versus poor nations is GENDER: women are significantly more likely than men to oppose immigrants from richer countries, but there is an apparent difference between men and women when it comes to attitudes toward immigration from poorer countries. Again this seems to provide evidence inconsistent with a simple job competition account of attitudes toward immigration. Women respondents tend to have lower skill levels than men, on average, in the European economies: the average number of years of schooling among men in the ESS sample is 12.1, compared to 11.5 for women. Even controlling for formal education qualifications, female workers tend to be underrepresented in higher-skilled occupations.[49] If labor-market motivations were really critical here in shaping attitudes toward immigration, we would expect just the opposite of what we have found: that is, women would be more opposed to (low-skilled) immigrants from poorer countries than men, and more supportive than men of (high-skilled) immigrants from richer countries.[50]

Country-Specific Estimations

One possible objection to the analysis of the benchmark model above is that it does not allow the relationship between individual skill levels and immigration

48. Following Dustmann and Preston 2001, we also experimented with a second-order polynomial term here. We found some indication that the age effect may indeed be weakly U-shaped. However, this effect was so small that we excluded it from the benchmark model. Adding it does not change any of our results.

49. See Estevez-Abe, Iversen, and Soskice 2001.

50. A reviewer suggested that the female preference for immigration from poorer nations may be driven by feelings of compassion for poorer migrants that are felt more acutely by women than by men. On the other hand, it may reflect greater demand among women for (low-skilled) household help. We have experimented with a gender-income interaction term in hopes of testing the "household help" proposition, finding that, contrary to what it presumably implies, the gender gap in attitudes toward immigrants does not vary significantly across levels of income.

preferences to vary with national factor endowments (that is, the local abundance of skilled relative to unskilled labor). The ESS data are extensive enough that we can address this issue directly: we can estimate a full series of country-specific models of immigration preferences and obtain quite precise estimates of the link between education and attitudes in each of the twenty-two individual ESS countries. Table 5 summarizes the results from these estimations. It reports the marginal effects for YEARS OF SCHOOLING and EDUCATIONAL ATTAINMENT when the benchmark model is estimated using responses to the immigration questions in each ESS country.[51] The countries are again ranked according to levels of GDP per capita to provide for easy comparisons across countries with different factor endowments.

If labor-market competition is a critical determinant of attitudes toward immigration, we should expect the positive relationship between respondent skill levels and support for immigration from poorer countries to be stronger in magnitude in ESS countries with higher levels of GDP per capita (that is, those with greater skill abundance), since the standard models suggest that any distributional effects associated with inflows of low-skilled labor should be larger where low-skilled labor is more scarce. But again we should expect the relationship between individual skill levels and support for immigration from richer countries to be much smaller in magnitude in all cases, if not actually negative. The findings do not fit well with these expectations. All (that is, 176 out of 176) of the estimated marginal effects of the education variables are positive. All but thirteen (that is, almost 93 percent) are statistically significant, most of them at the 0.99 level, and most are quite large in terms of their estimated increase in the probability of support for immigration.[52] For example, in the case of immigration from richer European countries the increase in the predicted probability of being pro-immigration associated with a change from the lowest to the highest level of educational attainment ranges from 0.17 in Greece to 0.53 in the United Kingdom. Comparing the links between education and the support for immigration from richer countries and (the corresponding) poorer countries, in only thirty-nine of eighty-eight cases are the relationships between education and pro-immigration attitudes for richer country immigrants actually smaller in magnitude than the respective relationships for poorer

51. Detailed results from all country-specific regressions as well as replication data and accompanying code for all other results shown in this article are available at the authors' Web site at ⟨http://www.people.fas.harvard.edu/~jhainm/research.htm⟩.

52. The last row in the table counts the number of significant coefficients if the INCOME variable, the central bottleneck in terms of number of observations for most countries, is replaced by a variable measuring satisfaction with the current level of household income. The latter variable yields on average about 20 to 40 percent more observations per country. (The question reads: "Which of the descriptions on this card comes closest to how you feel about your household's income nowadays?" Coding: 1 = living comfortably on present income; 2 = coping on present income; 3 = finding it difficult on present income; 4 = finding it very difficult on present income). According to this specification, even 166 or 94 percent of the estimated marginal effects are significant at conventional levels, due to the larger number of observations.

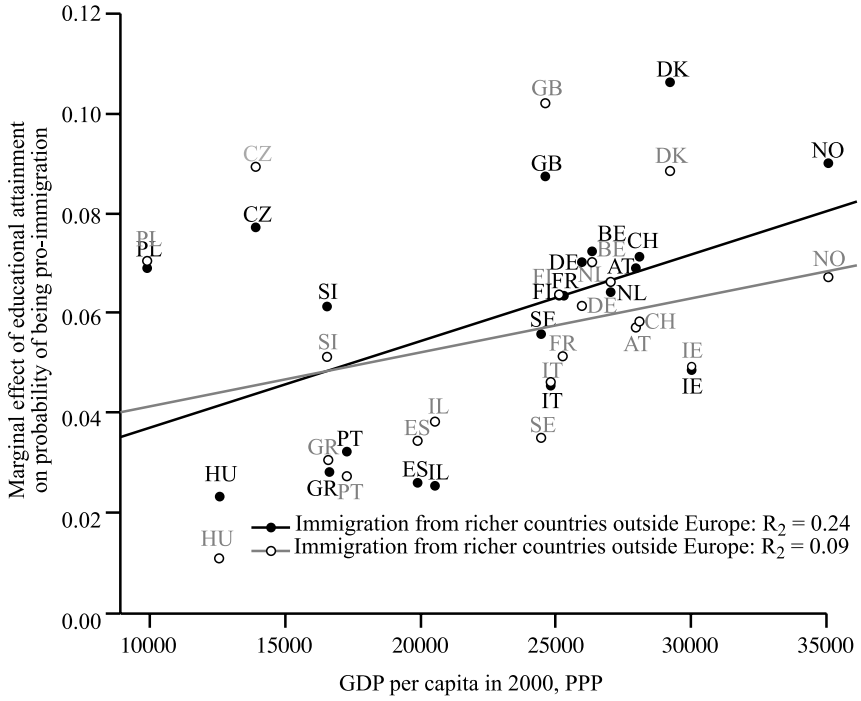
TABLE 5. *Effects of education on immigration preferences: Country-specific estimates*

	EDUCATIONAL ATTAINMENT					YEARS OF SCHOOLING				
Dependent variable: Favor immigration from	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Observations (average)*	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Observations (average)*
Luxembourg	0.052***	0.036***	0.041***	0.037***	700	0.023***	0.018***	0.020***	0.020***	697
	(0.014)	(0.013)	(0.013)	(0.013)		(0.006)	(0.006)	(0.006)	(0.006)	
Norway	0.085***	0.054***	0.090***	0.067***	1891	0.028***	0.018***	0.033***	0.023***	1913
	(0.016)	(0.014)	(0.018)	(0.013)		(0.007)	(0.003)	(0.005)	(0.003)	
Ireland	0.049***	0.053***	0.048***	0.049***	1379	0.026***	0.019***	0.023***	0.022***	1350
	(0.006)	(0.008)	(0.010)	(0.008)		(0.005)	(0.003)	(0.004)	(0.003)	
Denmark	0.090***	0.101***	0.106***	0.088***	1185	0.031***	0.033***	0.033***	0.027***	1185
	(0.011)	(0.013)	(0.018)	(0.013)		(0.004)	(0.004)	(0.006)	(0.006)	
Switzerland	0.081***	0.049***	0.071***	0.058***	1450	0.034***	0.023***	0.034***	0.023***	1449
	(0.012)	(0.016)	(0.019)	(0.008)		(0.004)	(0.003)	(0.006)	(0.006)	
Austria	0.075***	0.067***	0.069***	0.057***	1224	0.037***	0.033***	0.030***	0.027***	1208
	(0.011)	(0.013)	(0.011)	(0.015)		(0.005)	(0.004)	(0.004)	(0.005)	
Netherlands	0.070***	0.062***	0.066***	0.064***	1934	0.017***	0.023***	0.019***	0.021***	1921
	(0.009)	(0.009)	(0.006)	(0.009)		(0.004)	(0.004)	(0.003)	(0.003)	
Belgium	0.066***	0.066***	0.072***	0.070***	1243	0.025***	0.027***	0.025***	0.032***	1248
	(0.019)	(0.004)	(0.017)	(0.013)		(0.009)	(0.003)	(0.009)	(0.006)	
Germany	0.052***	0.052***	0.070***	0.061***	2155	0.019***	0.022***	0.026***	0.028***	2152
	(0.012)	(0.011)	(0.007)	(0.011)		(0.003)	(0.003)	(0.004)	(0.004)	
France	0.052***	0.056***	0.063***	0.051***	1176	0.021***	0.022***	0.028***	0.024***	1163
	(0.010)	(0.014)	(0.012)	(0.010)		(0.006)	(0.008)	(0.007)	(0.006)	
Finland	0.066***	0.059***	0.064***	0.064***	1679	0.028***	0.027***	0.029***	0.026***	1683
	(0.008)	(0.009)	(0.008)	(0.007)		(0.001)	(0.003)	(0.005)	(0.004)	
Italy	0.047***	0.026	0.045**	0.046**	512	0.014***	0.009	0.014***	0.015***	511
	(0.018)	(0.024)	(0.018)	(0.019)		(0.004)	(0.006)	(0.005)	(0.003)	

United Kingdom	0.100***	0.109***	0.087***	0.102***	1612	0.038***	0.036***	0.030***	0.034***	1605
	(0.010)	(0.011)	(0.013)	(0.017)		(0.006)	(0.005)	(0.004)	(0.005)	
Sweden	0.058***	0.031***	0.056***	0.035***	1709	0.032***	0.014***	0.033***	0.018***	1708
	(0.007)	(0.006)	(0.007)	(0.005)		(0.004)	(0.003)	(0.003)	(0.003)	
Israel	0.032**	0.038**	0.025**	0.038	1576	0.010*	0.015*	0.008	0.014	1538
	(0.013)	(0.018)	(0.012)	(0.023)		(0.006)	(0.008)	(0.006)	(0.009)	
Spain	0.033***	0.025	0.026	0.034*	799	0.013***	0.010	0.009	0.012	762
	(0.012)	(0.020)	(0.017)	(0.020)		(0.005)	(0.008)	(0.006)	(0.007)	
Portugal	0.046*	0.027	0.032	0.027*	802	0.017**	0.011*	0.013*	0.011*	802
	(0.025)	(0.017)	(0.021)	(0.014)		(0.008)	(0.006)	(0.008)	(0.006)	
Greece	0.028**	0.034***	0.028***	0.030***	1425	0.010***	0.012***	0.010***	0.011***	1425
	(0.011)	(0.004)	(0.011)	(0.006)		(0.004)	(0.002)	(0.004)	(0.002)	
Slovenia	0.054***	0.071***	0.061***	0.051**	957	0.017***	0.025***	0.023***	0.020***	970
	(0.013)	(0.022)	(0.019)	(0.022)		(0.005)	(0.007)	(0.007)	(0.006)	
Czech Republic	0.063***	0.075**	0.077***	0.089***	831	0.023***	0.037***	0.025***	0.036***	822
	(0.022)	(0.032)	(0.024)	(0.027)		(0.006)	(0.008)	(0.005)	(0.007)	
Hungary	0.035**	0.012**	0.023**	0.011*	1103	0.016***	0.005*	0.014**	0.004	1143
	(0.014)	(0.006)	(0.011)	(0.007)		(0.006)	(0.003)	(0.005)	(0.004)	
Poland	0.075***	0.073***	0.069***	0.070***	1421	0.035***	0.032***	0.033***	0.032***	1423
	(0.011)	(0.009)	(0.011)	(0.009)		(0.005)	(0.004)	(0.005)	(0.004)	
Total (of 22) positive coefficients	22	22	22	22		22	22	22	22	
Total significant ($p < .1$)	22	19	20	21		22	20	20	19	
Total significant if drop[1] *($p < .1$)*	22	21	21	20		21	21	20	20	

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$); that is, the marginal effect on $Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each cell displays results from a separate country specific estimation of our benchmark model with one of the four dependent variables and either educational attainment or schooling as predictors alongside a full set of benchmark controls (coefficients not shown here). Cases weighted by DWEIGHT.

1. The last row in the table counts the number of significant coefficients if the INCOME variable, the central bottleneck in terms of number of observations for most countries, is replaced by a variable measuring satisfaction with the current level of household income. The latter variable (see text fn. 52 for discussion) yields on average about 20 to 40 percent more observations per country



Notes: Regression equation; standard errors in parentheses.

Immigration from poorer countries outside Europe: $\hat{Y} = 0.030 + 0.00000107$ GDP
(0.00000088)
Immigration from richer countries outside Europe: $\hat{Y} = 0.019 + 0.00000174$ GDP **
(0.000000713)

The chart excludes Luxembourg, which is a clear outlier in terms of GDP per capita. Note that the pattern looks substantively identical if we include Luxembourg and plot against LN (GDP per capita.)

FIGURE 1. *GDP per capita and the effect of education on attitudes toward immigration: Marginal effects of educational attainment on support for immigration*

country immigrants. In not one of these thirty-nine cases is the difference statistically significant (at the 0.90 level). That is, in terms of finding the anticipated, marked difference in the relationship of individual skills and attitudes toward different types of immigrants, the results are zero out of eighty-eight. The central message here is that, among individuals across Europe, more education means more support for all types of immigration and this relationship is not affected by expected immigrant skill levels.

The job competition argument fares no better when we examine variation in the magnitude of the education effects across the ESS countries. Figure 1 plots the

marginal effect of education on immigration preferences in each country against per capita GDP.[53] While the size of the marginal effect of education on support for immigration from poorer nations rises with GDP per capita, as expected, the positive relationship between education and support for immigration from richer nations is almost identical and rises in magnitude with GDP per capita even somewhat more rapidly.[54] High-skilled individuals favor higher-skilled immigrants even more than do low-skilled respondents, and this difference is more pronounced in more skill-abundant economies. As the scissoring of the lines of (linear) best fit in Figure 1 show, education has a larger marginal effect on support for low-skilled rather than high-skilled immigration in the most skill-scarce economies, and the reverse in the most skill-abundant economies, a pattern that makes no sense at all in terms of the labor competition account.[55]

Alternative Measures of Individual Skill Levels

Perhaps using education as a general indicator of labor-market skills, rather than more specific measures related to the occupations of individual respondents, creates a problem for tests of the labor-market competition argument? We can address this concern by substituting the measures of education we have used above with alternative measures of skills. The most straightforward approach involves using the occupations of currently employed respondents—coded by ESS according to the International Labour Organization's ISCO88 classification scheme—to distinguish individual skill levels. The ISCO88 scheme groups specific occupations into four skill categories: (1) elementary occupations or manual labor; (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, and clerks; (3) technicians and associate professionals, and; (4) professionals. We follow O'Rourke and Sinnott in using the ISCO88 occupational codes to identify a fifth skill category—legislators, senior officials, and managers—that presumably includes only highly skilled individuals.[56] Again following O'Rourke and

53. Here we follow the approach used by Mayda 2006, who argued that the positive association between the size of the education effect and GDP per capita across countries supported the job competition account.

54. The correlation between the magnitude of the education effect (based on educational attainment) and GDP per capita is 0.24 (0.19) in the case of immigration from richer European (non-European) countries. These correlations increase to 0.45 (0.48) if the GDP per capita outlier Luxembourg is excluded from the sample. The respective correlations for immigration from poorer European (non-European) countries are 0.02 (0.07) for the full sample and 0.22 (0.31) excluding Luxembourg.

55. Further research might examine whether in fact the country-specific effects of education are related in any systematic way to immigration policies across European countries, or to the actual skill (or ethnic) composition of immigration inflows, labor-market regulations, welfare policies, or educational systems. One clear possibility is that education differs in political content across nations in ways that matter for immigration policy preferences.

56. O'Rourke and Sinnott 2002. The few (179) members of the armed forces are excluded since no ISCO88 skill level is defined for this group.

Sinnott, we first use these categories to create a dichotomous skill variable, called SKILL345, which provides a basic distinction between high- and low-skilled workers (1 = ISCO88 category 3, 4, or 5; 0 = ISCO88 category 1 or 2).[57] We also create a full set of dummy variables, SKILL*, indicating whether the respondent fits into the particular ISCO88 skill category (so, for example, SKILL2 is coded as a 1 for all respondents who fall in the second ISCO88 skill category, and 0 otherwise).

Table 6 reports the results when we reestimate the benchmark model, substituting the measures of education with SKILL345 and then with the four SKILL* dummy variables. Again, the results run counter to what a job competition account would expect. Higher skills are robustly associated with greater support for all types of immigration regardless of whether we use the dichotomous variable or the individual skill dummies, and this relationship is not sensitive to expected immigrant skill levels. Again, contrary to expectations, the relationships between individual skills and support for immigrants from richer countries are not significantly different (and are actually slightly larger) than the corresponding relationship between education support for immigration from poorer countries.[58]

We get substantively identical results if we include measures of education and (occupational) skill levels in the same estimates. These measures are strongly correlated, as expected, but they are not identical: the pair-wise correlation between YEARS OF SCHOOLING and SKILL345 is 0.47, while the correlation between EDUCATIONAL ATTAINMENT and SKILL345 is 0.52. The correlation breaks down in the higher skill categories, as a considerable number of people with low levels of formal education possess jobs classified as high skilled (for example, managers without university degrees). The results from the amended form of the benchmark model are shown in Table 7. Again, the effects of individual education and skill levels on support for immigrants from richer countries are not significantly different than the corresponding effects on support for immigration from poorer countries.[59] Both SKILL345 and EDUCATIONAL ATTAINMENT seem to have distinct (positive) conditional relationships with support for immigration, as both variables are highly

57. Note that this is the same variable Mayda 2006 used in her analysis of the ISSP survey data. Rather than using occupational distinctions themselves, Scheve and Slaughter 2001a tried a measure of the average wage for each respondent's occupation (assuming average wages reflect skill levels) in place of education.

58. We also estimated the effect of skill level (based on SKILL345) for individual countries and found substantively identical results: the skill variable has a positive impact in all countries (eighty-four of eighty-four estimated coefficients are positive) and in 89 percent of cases the effect is statistically significant. In no case is the effect of education on support for immigrants from richer nations significantly smaller (at the 0.99 level) than the corresponding effect for immigrants from poorer nations. Note that France is omitted here due to missing occupational data (hence we end up with twenty-one countries and eighty-four coefficients). Full results are available from the authors.

59. As expected, multicollinearity does seem to produce a small increase in the standard errors for the estimated effects when both education and skill variables are included together in the same models (compare to standard errors in Tables 4 and 6), but this makes no difference to the findings: the 95 percent confidence intervals would be overlapping across the models even if the standard errors were reduced by half!

TABLE 6. *Skill-level and immigration preference by source: Full ESS sample*

	High/low skill distinction				*Disaggregated skill levels*			
	Richer European countries	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*
Dependent variable:								
Favor immigration from	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
SKILL345	0.148***	0.144***	0.144***	0.149***				
	(0.011)	(0.010)	(0.012)	(0.009)				
SKILL2					0.060***	0.031*	0.031*	0.042**
					(0.019)	(0.018)	(0.019)	(0.020)
SKILL3					0.159***	0.133***	0.134***	0.145***
					(0.022)	(0.018)	(0.021)	(0.019)
SKILL4					0.232***	0.216***	0.218***	0.235***
					(0.016)	(0.017)	(0.019)	(0.019)
SKILL5					0.163***	0.145***	0.146***	0.164***
					(0.018)	(0.020)	(0.020)	(0.020)
AGE	−0.002***	−0.002***	−0.002***	−0.003***	−0.002***	−0.002***	−0.002***	−0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GENDER	−0.037***	0.016*	−0.018*	0.020*	−0.036***	0.017*	−0.017	0.021**
	(0.011)	(0.009)	(0.011)	(0.010)	(0.012)	(0.010)	(0.011)	(0.010)
INCOME	0.020***	0.019***	0.018***	0.017***	0.019***	0.018***	0.016***	0.015***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
NATIVE	−0.074***	−0.082***	−0.078***	−0.074***	−0.073***	−0.081***	−0.076***	−0.073***
	(0.021)	(0.019)	(0.019)	(0.021)	(0.021)	(0.019)	(0.019)	(0.021)
MINORITY AREA	0.006	0.035***	0.004	0.030***	0.007	0.036***	0.005	0.031***
	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.009)
PARTISAN RIGHT	−0.007**	−0.023***	−0.009***	−0.024***	−0.006**	−0.022***	−0.008***	−0.024***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Observations	25100	25231	25045	25125	25100	25231	25045	25125
Log likelihood	−15562.88	−15554.80	−15902.44	−15812.86	−15513.27	−15517.76	−15864.30	−15770.57
Pseudo R-squared	0.06	0.09	0.07	0.09	0.07	0.09	0.07	0.09

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$); that is, the marginal effect on $\Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each model includes a full set of country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

TABLE 7. *Skill-level, education, and immigration attitudes by source: Full ESS sample*

	High/low skill distinction and educational attainment				*Disaggregated skill levels and educational attainment*			
	Richer European countries	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*
Dependent variable: Favor immigration from	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
EDUCATIONAL ATTAINMENT	0.050***	0.052***	0.050***	0.053***	0.046***	0.048***	0.046***	0.049***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
SKILL345	0.089***	0.083***	0.085***	0.085***				
	(0.013)	(0.012)	(0.013)	(0.011)				
SKILL2					0.040**	0.011	0.011	0.021
					(0.020)	(0.018)	(0.019)	(0.020)
SKILL3					0.112***	0.081***	0.082***	0.090***
					(0.025)	(0.020)	(0.024)	(0.020)
SKILL4					0.152***	0.123***	0.128***	0.138***
					(0.023)	(0.021)	(0.025)	(0.024)
SKILL5					0.106***	0.082***	0.084***	0.097***
					(0.021)	(0.023)	(0.022)	(0.022)
AGE	−0.001***	−0.002***	−0.002***	−0.002***	−0.001***	−0.002***	−0.002***	−0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GENDER	−0.034***	0.019*	−0.016	0.023**	−0.034***	0.019*	−0.016	0.023**
	(0.012)	(0.010)	(0.011)	(0.011)	(0.012)	(0.010)	(0.012)	(0.011)
INCOME	0.015***	0.014***	0.012***	0.011***	0.015***	0.013***	0.012***	0.011***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
NATIVE	−0.063***	−0.071***	−0.067***	−0.062***	−0.063***	−0.071***	−0.066***	−0.062***
	(0.021)	(0.019)	(0.019)	(0.020)	(0.021)	(0.019)	(0.019)	(0.020)
MINORITY AREA	0.006	0.035***	0.004	0.031***	0.006	0.035***	0.004	0.031***
	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.009)
PARTISAN RIGHT	−0.006**	−0.023***	−0.009***	−0.024***	−0.006**	−0.022***	−0.008***	−0.024***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
Observations	24996	25126	24941	25021	24996	25126	24941	25021
Log likelihood	−15355.29	−15345.64	−15698.06	−15599.89	−15340.29	−15338.31	−15689.72	−15590.49
Pseudo R-squared	0.07	0.10	0.07	0.09	0.07	0.10	0.07	0.10

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$), that is, the marginal effect on $Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each model includes a full set of country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

significant predictors across all models.[60] Including the skill variable leaves the positive effect of education substantively unaffected. The education effect appears to be much larger in substantive terms than the skill effect in all models. For example, in the case of immigration from richer (poorer) European countries, a change from the lowest level of EDUCATIONAL ATTAINMENT to the highest (with all other variables at the means) is associated with an increase in the probability of being pro-immigration by 0.30 (0.31). The corresponding gain, when changing from low to high skills, is only 0.09 (0.08). Interestingly, compared to the models without SKILL345, the magnitude of the education effect in the combined models decreases only slightly. Thus, again for immigration from richer (poorer) non-European countries, only about 14 percent (11 percent) of the more general education effect appears to be accounted for by skill differences (the total uncontrolled education effect decreases by 0.05 (0.04) once SKILL345 is included).[61]

The same holds true if individual skill dummies are included instead of SKILL345. Again, all except one of the skill dummies enter positively and highly significant across all models. It is clear that, when we include the more fine-grained indicators of skills, the estimated association between EDUCATIONAL ATTAINMENT and attitudes is not substantively different than when we employed the dichotomous SKILL345 measure.

Additional Tests: Employment Status and Nonlinear Education Effects

One additional test of the labor-market competition account, following Scheve and Slaughter and Mayda, involves examining whether the effects of education (or skill) levels on the attitudes of respondents in the labor force differ significantly from the effects of these variables among those not currently in the labor force.[62] In particular, we might expect that concerns about labor-market competition should be observable only among those currently in the labor force and thus sensitive to the immediate effects of immigration on wage rates. To check for this possibility we split the ESS sample into subsamples, distinguishing those in the labor force (including the temporarily unemployed) from those not in the labor force (students, the disabled, those who are retired, and those caring for children at home). We also break down the labor force subsample to examine just those who are unemployed and those among the unemployed who say they are actively

60. All these, and other results reported below, are substantively the same if we use YEARS OF SCHOOLING as the education proxy.

61. Recall that in the models without skill, the total shift in probability associated with a change from the lowest to highest level of educational attainment was 0.35 (0.35). See Table 4. We do need to exercise some caution with this direct comparison, as the estimations reported in Table 7 have slightly fewer observations than those in Table 4 (due to missing data for the SKILL345 variable). However, when we reestimate the models shown in Table 4 using just the subsample available for the analysis shown in Table 7, we get substantively identical results.

62. See Scheve and Slaughter 2001a, 141; and Mayda 2006, 12.

TABLE 8. *Skill-level, education, and immigration attitudes by source: In- and out-of-labor force subsamples*

	Dependent variable: Favor immigration from			
Coefficient for EDUCATIONAL ATTAINMENT *in*	*Richer European countries*	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*
Full ESS sample	0.059***	0.059***	0.062***	0.061***
	(0.004)	(0.005)	(0.005)	(0.005)
Observations	28733	28878	28671	28761
In labor force sample[1]	0.068***	0.065***	0.067***	0.064***
	(0.006)	(0.006)	(0.007)	(0.006)
Observations	17655	17724	17624	17660
Out of labor force sample[2]	0.047***	0.051***	0.054***	0.056***
	(0.006)	(0.007)	(0.006)	(0.007)
Observations	11078	11154	11047	11101
Unemployed (all)	0.068***	0.039**	0.073***	0.049**
	(0.019)	(0.018)	(0.015)	(0.021)
Observations	1575	1579	1567	1570
Unemployed and actively looking for work	0.058**	0.035	0.078***	0.056**
	(0.024)	(0.023)	(0.020)	(0.024)
Observations	1010	1013	1008	1007

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$), that is, the marginal effect on $Pr(y = 1)$ given a unit increase in the value of EDUCATIONAL ATTAINMENT, holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. $*p < 0.10$; $**p < 0.05$; $***p < 0.01$. Each model includes a full set of benchmark controls and country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

1. Includes those currently employed in paid work and those temporarily unemployed.

2. Includes those permanently disabled or retired, students, and those doing housework and caring for children at home.

looking for work—these last two groups of respondents are the ones, presumably, in which concerns about the impact of immigrants on competition for jobs should be the most acute. We estimated our benchmark model for all these subsamples. The results are reported in Table 8, which displays just the estimated education effects in the different subsamples.

Comparing the results across subsamples, as well as those for the full ESS sample, we find no meaningful or significant differences in the estimated relationship between education and attitudes toward immigration. Comparing in-labor-force and out-of-labor-force respondents, and looking at the estimated effects for each model, the point estimates are similar in each case and the 0.90 confidence intervals for all the marginal effects are overlapping.[63] The estimated effects across models (for

63. Here our results clash directly with those reported by Scheve and Slaughter 2001a, 142; and Mayda 2006, 13, who find that the education effect on attitudes toward immigration is significantly

immigrants from richer versus poorer countries) are almost identical in each subsample. If we focus on the unemployed, there is still no support for the notion that fears about competition for jobs are driving attitudes toward immigrants. Across the models, the association between education and the probability of being pro-immigration is not significantly stronger among the unemployed than among other respondents, including those who are out of the labor force altogether. Nor are there significant differences in the effects on attitudes toward immigrants from richer and poorer countries among the unemployed (if anything, the estimated effects of education appear to be larger when it comes to explaining attitudes toward immigrants from richer versus poorer countries, the opposite of the pattern we would anticipate if job market concerns, and thus expected differences in the skills of immigrants, were critical). This is true even for unemployed respondents who say they are actively looking for work. These findings speak strongly against the notion that concerns about job competition are a primary driving force in determining attitudes toward immigration.

Finally, following Chandler and Tsai, we have reestimated our benchmark model while allowing for nonlinearities in the relationship between education and attitudes.[64] The standard tests of the labor competition model all simply assume that attitudes are a linear function of education; measured on any cardinal scale such as YEARS OF SCHOOLING or EDUCATIONAL ATTAINMENT linearity seems an appropriate assumption given the way skill levels are expected to affect wages and preferences in the standard economic models. To test whether the relationship between education and attitudes toward immigration actually takes this simple form, we created a full set of dummy variables for each different level of education that a respondent could have attained, as coded in the ESS data: ELEMENTARY (1 = completed primary or first stage of basic education; 0 = otherwise); HIGH SCHOOL (1 = completed upper secondary schooling; 0 = otherwise); COLLEGE (1 = completed first stage of tertiary education; 0 = otherwise); and PHD (1 = completed second stage of tertiary education; 0 = otherwise). This coding is based on the UNESCO's ISCED97 classification of educational systems, which is designed to account for the different types of educational systems across countries.[65] We simply reestimated the benchmark model incorporating the dummy variables in place of the standard measures of education employed above (the excluded category refers

larger among respondents in the labor force than among those not in the labor force. Beyond the difference in data sets, it is difficult to speculate about possible reasons for this divergence. We have experimented with various specifications and with various ways of defining the subsamples (for example, including or excluding all students and all unemployed individuals from the labor force subsample, comparing those in work with only retirees), but the substantive findings remain the same. The results are the same, too, when we estimated all these models including both education and skills measures.

64. Chandler and Tsai 2001.

65. Details can be found at ⟨http://www.uis.unesco.org/TEMPLATE/pdf/isced/ISCED_A.pdf⟩. Accessed 28 December 2005.

TABLE 9. *The college "plateau" effect in attitudes toward immigration*

	Dependent variable: Favor immigration from			
	Richer European countries	*Poorer European countries*	*Richer countries outside Europe*	*Poorer countries outside Europe*
Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*
ELEMENTARY	−0.055***	−0.061***	−0.077***	−0.092***
	(0.016)	(0.018)	(0.020)	(0.019)
HIGH SCHOOL	0.056***	0.029**	0.043***	0.016
	(0.012)	(0.013)	(0.012)	(0.016)
COLLEGE	0.172***	0.175***	0.175***	0.166***
	(0.014)	(0.016)	(0.012)	(0.017)
PHD	0.221***	0.197***	0.220***	0.189***
	(0.021)	(0.024)	(0.031)	(0.028)
AGE	−0.002***	−0.002***	−0.002***	−0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
GENDER	−0.049***	0.007	−0.028**	0.006
	(0.013)	(0.011)	(0.012)	(0.012)
INCOME	0.020***	0.017***	0.017***	0.015***
	(0.003)	(0.003)	(0.003)	(0.003)
NATIVE	−0.084***	−0.095***	−0.076***	−0.082***
	(0.018)	(0.022)	(0.016)	(0.022)
MINORITY AREA	0.008	0.031***	0.007	0.029***
	(0.008)	(0.009)	(0.009)	(0.008)
PARTISAN RIGHT	−0.005	−0.021***	−0.010***	−0.023***
	(0.003)	(0.003)	(0.003)	(0.003)
Observations	28733	28878	28671	28761
Log likelihood	−17801.73	−17823.18	−18156.61	−18090.36
Pseudo R-squared	0.07	0.09	0.07	0.09

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$), that is, the marginal effect on $Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each model includes a full set of country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

to respondents who did not finish elementary schooling). The results are shown in Table 9.

It seems clear that there are substantial nonlinearities in the relationship between education and attitudes toward immigrants. Confirming the results Chandler and Tsai report using separate data on U.S. respondents,[66] we find that college educa-

66. Chandler and Tsai 2001.

tion has far greater positive effects on support for immigration than high school education, and finishing elementary schooling actually appears to have negative effects on support for immigration. In the case of immigration from richer (poorer) non-European countries, for instance, holding all other covariates at their sample means, completing college education shifts the probability of being pro-immigration by 0.18 (0.17) as compared to only 0.04 (and an insignificant 0.02) for high school education; while finishing elementary schooling reduces the probability of being pro-immigration by 0.08 (0.09). High school education is not a robust predictor of immigration preferences. There appears to be a clear plateau effect here, with exposure to university education being the critical contributor to the generally positive relationship between education and support for immigration. If we run the benchmark model using YEARS OF SCHOOLING on two subsamples—those who completed college and those who only completed high school—we find very distinct results: in the case of immigration from richer (poorer) European countries, for instance, the marginal effect of an additional year of schooling on the probability of being pro-immigration is only 0.009 (0.014) among college graduates as compared to 0.024 (0.026) among high school graduates.

This plateau effect associated with exposure to university education seems out of place with the common labor-market competition argument that posits a linear relationship between pro-immigration attitudes and education/skill levels. In contrast, the plateau effect appears to fit much better with alternative approaches to explaining attitudes toward immigration that focus on cultural values and identity and the way they are related to education: college curricula and the intellectual and social environment cultivated in most modern universities do typically emphasize the virtues of tolerance and cultural diversity and provide students with access to a cosmopolitan network of teachers and fellow students.[67]

Education, Cultural Values, and Attitudes Toward Immigration

The tests above indicate that the clear association between education levels and individual support for immigration (of both high- and low-skilled workers) is simply not consistent with the standard labor-market competition argument. We now explore whether the relationship might be better accounted for by alternative claims about the way education generates greater ethnic and racial tolerance among individuals and more cosmopolitan outlooks. To do so, we employ an array of different measures of individuals' values and beliefs available in the ESS data. We choose a set of measures most similar to those used in previous studies that have examined the importance of values.[68] We employ a measure we call ANTIHATE (coded

67. See Case, Greeley, and Fuchs 1989; and Betts 1988.
68. See, for example, Citrin et al. 1997; and Chandler and Tsai 2001.

TABLE 10. *Correlations between education and cultural tolerance*

Cultural variable	EDUCATIONAL ATTAINMENT	YEARS OF SCHOOLING
IMMIGRANT FRIENDS	0.22	0.21
CRIME	−0.10	−0.11
ANTIHATE	0.13	0.12
CULTURE	0.23	0.22
MULTICULTURALISM	0.23	0.24

Notes: Correlation coefficients for the full ESS sample. All correlations are significant at the .99 level. Cases weighted by DWEIGHT and PWEIGHT.

from 0 to 10), reflecting the degree to which respondents would support a general law against actions promoting racial or ethnic hatred.[69] We also include a measure of support for MULTICULTURALISM (coded from 1 to 5), indicating the degree to which respondents disagreed with the notion that it was better for his or her country if everyone shared the same customs and traditions.[70] To examine feelings about immigrants specifically, we include a measure of how many IMMIGRANT FRIENDS a respondent has (1 = none, 2 = a few, 3 = several).[71] We also employ an index of the degree to which each respondent believes that immigration enriches the CULTURE of his or her native country (also coded from 0 to 10).[72] Finally, we use a measure of the extent to which respondents believe immigration worsens CRIME problems in the native country (coded on a scale from 0 to 10) because this appears to capture a rather negative stereotype of foreigners or outsiders.[73] Table 10 reports the correlations between these variables and the measures of education. As expected, more educated respondents are significantly more likely to have immigrant friends, place greater value on cultural diversity, and are less likely to think that immigrants worsen crime problems.

69. The ESS question is: "How good or bad are each of these things for a country? . . . A law against promoting racial or ethnic hatred." The answers are coded on a scale from 0 = extremely bad, to 10 = extremely good.

70. The ESS question is: "Please tell me how much you agree or disagree with each of these statements. . . . It is better for a country if almost everyone shares the same customs and traditions." The answers are coded on a scale from 1 = agree strongly, to 5 = strongly disagree.

71. This measure is based on the question: "Do you have any friends who have come to live in [respondent's country] from another country?" The answers are originally coded: 1 = yes, several; 2 = yes, a few; 3 = no, none at all. We have recoded these along more intuitive lines.

72. The ESS question is: "Would you say that [respondent's country's] cultural life is generally undermined or enriched by people coming to live here from other countries?" The answers are coded on a scale from 0 = cultural life undermined, to 10 = cultural life enriched.

73. The question is: "Are [respondent's country's] crime problems made worse or better by people coming to live here from other countries?" The answers are originally coded on a scale from 0 = crime problems made worse, to 10 = crime problems made better. We have recoded these along more intuitive lines.

Next we reestimate our benchmark model, incorporating each of these new "values" variables one at a time and examining both how they are related to immigration preferences and the degree to which adding each new variable reduces the residual effect of education levels on attitudes. One issue here is whether it is appropriate to think of these new variables as exogenous causes of opposition to immigration. This concern is perhaps clearest when considering whether respondents have immigrants as friends and if they believe that immigrants enrich the culture and have no effect on crime. These may simply be regarded as characteristics or attitudes that, while associated with pro-immigration preferences, do not actually generate or affect such preferences. In any case, we do not attempt here to provide a conclusive test of the alternative causal theories[74] linking values such as tolerance and appreciation for cultural diversity to views about immigration. We aim only to test whether the available measures of these values are strongly associated with immigration preferences as anticipated by the theories. Sorting out the causal issues is beyond the scope of this article and would require a different research design.[75] (Note that we do conduct very specific tests, reported in next section, to be sure that the values and beliefs variables are not endogenous to labor-market concerns among respondents.)

Table 11 presents the results of the new estimations. We have estimated these models for all of the dependent variables, but for brevity here we report only the results for attitudes toward immigrants from poorer European countries.[76] Each of the cultural value variables is significantly associated with attitudes toward immigration in the anticipated direction (with coefficients indicating substantively large effects). Respondents who are more tolerant (as measured by ANTIHATE) and report higher values on MULTICULTURALISM are more likely to support immigration, as are those who have more IMMIGRANT FRIENDS and those who feel that immigration enriches rather than undermines the national CULTURE. Concerns that immigration worsens CRIME problems are associated with opposition to immigration. These noneconomic variables have significant associations with immigration attitudes across all models (and the relationships are stronger, in each case, for attitudes toward immigration from poorer versus richer nations—not shown here). The pattern suggests that people differentiate between immigrants not primarily according to the level of their skills, and the corresponding threat they pose to respondents' wages, but rather along cultural or other noneconomic dimensions.

74. Cited above in the section on individual attitudes toward immigration.

75. To provide more rigorous tests of causal arguments, it would seem imperative to have multiyear panel data on individuals so that one could examine the sequenced effects of changes in values on attitudes toward immigrants in a differences-in-differences design. Using the available (cross-sectional) ESS data, one could presumably try to identify instrumental variables for the values in question, but we doubt whether reliable exogenous instruments could be found here.

76. Full results from all the estimations are available from the authors.

TABLE 11. *Education, cultural tolerance, and economic literacy*

	Dependent variable: Favor immigration from poorer European countries							
Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
EDUCATIONAL ATTAINMENT	0.059***	0.055***	0.043***	0.039***	0.026***	0.025***	0.020***	0.019***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)
ANTIHATE		0.018***	0.014***	0.013***	0.009***	0.010***	0.009***	0.009***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
MULTICULTURALISM			0.109***	0.104***	0.072***	0.065***	0.061***	0.063***
			(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)
IMMIGRANT FRIENDS				0.089***	0.066***	0.064***	0.058***	0.051***
				(0.009)	(0.009)	(0.009)	(0.009)	(0.010)
CULTURE					0.058***	0.049***	0.034***	0.035***
					(0.003)	(0.003)	(0.003)	(0.004)
CRIME						−0.037***	−0.027***	−0.030***
						(0.005)	(0.005)	(0.005)
ECONOMY							0.044***	0.042***
							(0.003)	(0.003)
SKILL345								0.036***
								(0.011)
AGE	−0.002***	−0.002***	−0.001***	−0.001	−0.001*	−0.001	−0.001**	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GENDER	0.008	0.007	−0.001	0.005	0.002	−0.002	0.012	0.024**
	(0.011)	(0.012)	(0.012)	(0.012)	(0.010)	(0.010)	(0.011)	(0.010)
INCOME	0.015***	0.014***	0.011***	0.010***	0.009***	0.010***	0.009***	0.010***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
NATIVE	−0.098***	−0.092***	−0.077***	−0.029	−0.003	0.007	0.030	0.053***
	(0.022)	(0.023)	(0.022)	(0.024)	(0.022)	(0.022)	(0.024)	(0.020)
MINORITY AREA	0.030***	0.032***	0.023***	0.011	0.012	0.014	0.015*	0.023**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)
PARTISAN RIGHT	−0.021***	−0.020***	−0.013***	−0.012***	−0.007**	−0.006*	−0.006*	−0.011***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)
Observations	28878	28080	27974	27920	27310	26910	26374	22965
Log likelihood	−17802.68	−17130.99	−16406.86	−16204.24	−15136.53	−14712.97	−14108.84	−12232.75
Pseudo R-squared	0.09	0.10	0.13	0.14	0.18	0.19	0.21	0.21

Notes: For probit estimations: coefficients are estimated marginal effects ($\partial F/\partial x_k$), that is, the marginal effect on $\Pr(y = 1)$ given a unit increase in the value of the relevant (continuous) regressor (x_k), holding all other regressors at their respective sample means. The discrete change in the probability is reported for binary regressors. Robust standard errors, adjusted for potential regional clustering, in parentheses. *$p < 0.10$; **$p < 0.05$; ***$p < 0.01$. Each model includes a full set of country dummies (coefficients not shown here). Cases weighted by DWEIGHT and PWEIGHT.

The results indicate that the division between more- and less-educated natives over support for immigration is primarily a distinction in values. As each cultural variable is added to the model the estimated relationship between education and pro-immigration attitudes decreases in magnitude while the explanatory power of the model increases. In the most extensive model (column 6), the magnitude of the (residual) education effect is decreased to the extent that shifting from a respondent with the lowest to the highest level of education (with all other variables at their means) increases the probability of being pro-immigration by only 0.15, as compared with 0.35 for the benchmark model (column 1). The measured differences in cultural values across respondents thus appear to account for some 57 percent of the uncontrolled education effect.

What else, besides these types of values, might be reflected in the residual effect that education is having on attitudes toward immigration? One strong possibility is that it may reflect the fact that more educated respondents are more informed about the overall efficiency gains associated with economic integration in general.[77] The ESS includes a good proxy that seems to capture beliefs about the general welfare effects of immigration. The measure is based on the degree to which each respondent thinks immigration is good for his or her country's ECONOMY as a whole (coded on a scale from 0 to 10).[78] This variable is correlated in a positive fashion with education levels, as expected: the correlation between EDUCATIONAL ATTAINMENT (YEARS OF SCHOOLING) and ECONOMY is 0.20 (0.18).

Table 11 (column 7) reports the results when we include this additional variable in the most extensive of the "values" models estimated above, again focusing on immigration from poor European source countries.[79] Whether individuals believe immigration implies welfare gains for the ECONOMY as a whole is significantly and positively linked to support for immigration. Interestingly, this economic literacy effect is larger for the case of immigration from poorer countries versus richer countries (not shown here)—in line with the notion that, due to greater complementarities, the aggregate "immigration surplus" should be larger the more immigrants differ from natives in their skill endowments. More importantly, including ECONOMY in the model further reduces the residual effect of education by about 9 percentage points (to only 0.12) and slightly increases the explanatory power of the model. This suggests that "economic literacy," largely a product of higher education, may account for a component of the general link

77. See Bauer, Pool, and Dexter 1972, 103; and Schneider 1985, 932.

78. The question is: "Would you say it is generally bad or good for [respondent's country]'s economy that people come to live here from other countries?" The answers are coded on a scale from 0 = bad, to 10 = good.

79. Again, one might raise the question here about whether these measured beliefs about the welfare effects of immigration should be considered as causes of preferences regarding immigration inflows, rather than as simple correlates of those preferences. Given the available (cross-sectional) data, we do not claim to demonstrate causal effects here but aim to show the plausibility of an informational account for some of the link between education and on attitudes toward immigration.

between education and attitudes toward immigration that is quite separate from cultural predictors.

Overall, the measured differences in cultural values and economic literacy across respondents thus appear to account for some 65 percent of the uncontrolled education effect. The residual education effect is even further reduced (and falls to 0.11) once we also add our SKILL345 proxy to the model (column 8).[80]

Robustness Tests

We have conducted a large variety of additional tests. We focused on two issues: whether the various indicators of cultural values and beliefs are actually endogenous to concerns about the labor market; and whether the core findings are robust to changes in the specification of the model, including the addition of a larger variety of controls.[81]

Endogenous Values and Beliefs?

One possibility we have also examined is that the connection noted above between education levels and cultural variables such as racism and tolerance might itself be, at least in part, a function of labor-market concerns. Perhaps fear of competition for jobs with foreigners and minorities makes less-educated individuals generally more racist and less tolerant, and thus more opposed to immigration, without regard for how likely it is that particular types of immigrants will actually compete for the same jobs as them. To test this idea, we examined whether the effects of education (or skill) levels on racism and tolerance among respondents in the labor force differ significantly from the effects of these variables among those not currently in the labor force. If the connection is influenced by concerns about labor-market competition, it should be significantly stronger among those currently in the labor force than among other groups. We again split the ESS sample according to whether people are currently in "paid work" or not and then estimated levels of the ANTIHATE and MULTICULTURALISM variables using EDUCATIONAL ATTAINMENT and SKILL345 as predictors for both subsamples. We found no significant difference in the size or significance of the estimated effects of education and skills on these cultural variables across the subsamples. This finding strongly suggests

80. Note that while the independent effect of skills (as measured by SKILL345) is still significant here, it is minuscule: a shift from low to high skills is associated with an increase in the probability of favoring immigration by only 0.03. And as we have reported above, this link is always positive (and almost identical in magnitude) regardless of where the immigrants come from. This finding does not fit with the simple labor-market competition account.

81. Results, replication data, and code for all sensitivity tests reported here are available in a supplement to this article at the authors' Web site at ⟨http://www.people.fas.harvard.edu/~jhainm/research.htm⟩.

that concerns about job competition are not a primary factor in explaining the connection between education levels and racism or tolerance.

Alternative Specifications

We have performed a variety of additional tests to gauge whether our key findings are robust to alternative specifications of the model, alternative measurements of a range of variables, and for various subsamples of survey respondents. One straightforward test involves removing the restriction that the economic threat posed by immigration will be felt equally by respondents, regardless of where they live in their home country. If we allow that the labor market can be segmented into geographically separate local markets, the wage effects of immigration may be significantly larger in immigrant "gateway communities" than elsewhere. To allow for this possibility, we interacted each of the education variables with the MINORITY AREA variable, which reflects the concentration of ethnic and racial minorities in the area in which the respondent resides. The results are inconclusive at best.[82] We found no significant interaction effects along these lines except for the cases of immigration from richer European countries, where the impact of education on support for immigration is significantly weaker in minority areas than in other locations (though the substantive differences are small). In these latter cases, the effects of education remain positive and substantively large in all areas, which is inconsistent with the expectations from the simple labor-market competition account.

We also estimated a series of ordered probit models to check whether our results are sensitive to the choice of the cutoff point specified for the dichotomous dependent variables. The results show that this possibility can be clearly rejected: the estimated effects of education remain positive, statistically significant, and substantively large in magnitude across all estimations of the benchmark model. We also simply reran all the analysis reported above using all alternative cutoff points for dichotomization of the dependent variable and found that none of the core results were altered.[83]

82. Scheve and Slaughter 2001a tested for similar effects using data on immigration preferences (and the geographic concentration of immigrants) in the United States, finding no significant area effects.

83. We also experimented with dependent variables measuring for each individual respondent the differences in attitudes toward immigrants from richer and poorer countries. At first glance this might seem to provide the simplest approach testing the labor-market competition argument: individuals more in favor of immigration from rich versus poor countries (that is, more in favor of high- versus low-skilled immigration) should have relatively lower levels of skills (education). But we found these variables rather more difficult to interpret and analyze than the basic pro- versus anti-immigration dependent variables we used in the main analysis. The major problem came with making assumptions about the intervals between response categories. Should one assume that the difference between an answer of, say, "allow many" and "allow some" immigrants is the same as the difference between "allow few" and "allow none"? There seemed to be a wide range of ways to proceed here, with no obvious best approach.

Finally, we tested whether the core results reported above were affected when we added a comprehensive set of additional control variables to the main benchmark variables and the measures of cultural values we incorporated in the estimations in the previous two sections. We experimented with a variety of "belief" variables (including respondents' concerns about refugees, free market attitudes, altruism, traditionalism, and the importance attached to equality). We controlled for indicators of trade union membership, religion, and various proxies of social capital and interpersonal trust. Finally, we controlled for various measures of economic insecurity or risk, including skill specificity, occupational unemployment, past unemployment, current unemployment, and (an inverse measure of risk) job mobility. Perhaps most significantly, we found that while more educated respondents are less likely to be unemployed or to have experienced unemployment in the recent past, and they are also more mobile in the labor market (measured by their self-assessed chances of finding a new job with another employer), these relationships are quite small in magnitude, and controlling for such measures of economic risk had no impact on the results of our tests. We also reestimated all full-sample estimations and all single-country models including regional fixed effects (in addition to the country fixed effects) to control for unobserved characteristics of location (for example, proximity to a border, economic recession) that might potentially affect attitudes toward immigration. None of the additions to the model affected the main findings: most importantly, all estimated coefficients for the education variables retained their (positive) signs and their significance in all the full-sample estimations.

Conclusions

The main question we have addressed in this article is whether opposition to immigration in Europe, most apparent among the less educated, is driven to a large degree by fears of labor-market competition. This interpretation—applied to Europe and to other advanced economies—is fast becoming an accepted, political-economy wisdom.[84] The best available survey evidence, the 2003 ESS, does not support this explanation at all. Our results indicate that, in contrast to what would be expected from conventional arguments about labor-market competition, people with higher education levels are more likely to favor immigration regardless of where the immigrants come from and their likely skill attributes. The same relationship holds if we consider the occupational measures of the skill levels of respondents rather than their educational qualifications, and it is essentially unchanged regardless of whether we examine respondents who are in the labor force or those not in the labor force. The findings thus suggest that the relationship between education and views about immigration actually has little to do with competition for jobs. This conclusion should not really be a surprise given

84. See Borjas 1999a; Scheve and Slaughter 2001a and 2001b; and Mayda 2006.

that the most sophisticated economic models are equivocal about whether immigrants will have an adverse effect on the real earnings of native workers, and a growing body of empirical research shows that the actual effects of immigration flows on income, employment, and unemployment are quite small. From this perspective, our findings actually fit well with expectations from the best available economic theory and evidence.

This conventional belief about labor-market competition and anti-immigration sentiments appears to rest on an unfortunate misreading of the available evidence. We find more support for alternative claims that anti-immigration sentiments are associated instead with values and beliefs that foster animosity toward foreigners and foreign cultures and that are most prevalent among less educated individuals. The data indicate that more educated respondents are significantly less racist and place far greater value on cultural diversity in society, and they are also more likely to believe that immigration generates benefits for their national economy as a whole. Together, these associated values and beliefs account for around 65 percent of the estimated link between education and support for immigration.

For those who support immigration and worry about the growth of extremist, often violent, anti-immigrant movements in Europe, the conclusions from this study are not encouraging. If anti-immigration sentiments were primarily a function of economic fears among native workers, it would be reasonably easy to imagine ways to mitigate them by targeting financial assistance and job-creation programs toward the individuals (and communities) facing the greatest potential costs. But this is not a conclusion supported by the evidence. Anti-immigration sentiments appear to be far more powerfully associated with cultural values that have more to do with conceptions of national identity than they do with concerns about personal, economic circumstances. Others have reached broadly similar conclusions using different types of measures from survey data gathered in particular countries.[85] Here we have shown that the basic result holds generally (across all European nations), even taking into account differences in the skill attributes of immigrants from different source countries, and we have highlighted the role played by education in demarcating the cultural division that separates those individuals most likely to see immigration as a cultural threat and those likely to see immigration instead as a cultural boon.

The next logical step for further study would be to examine how deep this cultural division goes. It would be trite and misleading to suggest that more or better education is "the answer" for those interested in alleviating anti-immigration and anti-foreigner sentiment. To the extent that these types of attitudes are due to misunderstandings and misperceptions about foreigners (that is, incomplete or biased information), then certainly we can expect that improvements in education

85. See, for example, Citrin et al. 1997; Dustmann and Preston 2001; Burns and Gimpel 2000; Hooghe and Marks 2003; and Sniderman, Hagendoorn, and Prior 2004.

may help to reduce support for exclusionary policies and alleviate tensions between natives and immigrants. To the extent that education actually transforms the values held by individuals, encouraging them to have more tolerant, pro-outsider views of the world, focusing on the education system for long-term solutions to cultural conflict is wise. But we must be careful not to understate the cultural gap that the data in this research reveals. Immigration brings to the fore very different conceptions of national identity—involving different views about the importance of ethnicity, religion, and language—which may be, to degrees still unknown, immutable, and irreconcilable. The educational differences we can observe between those individuals holding more pro- and anti-outsider views of the world may be more of a symptom of the cultural divide between the two groups than they are a cause.

Appendix: Summary Statistics

TABLE A1. *Descriptive statistics (full ESS sample)*

Variable	*Observations*	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
EDUCATIONAL ATTAINMENT	41988	2.82	1.47	0	6
YEARS OF SCHOOLING	41662	11.81	4.13	0	40
ELEMENTARY	41988	0.12	0.33	0	1
HIGH SCHOOL	41988	0.30	0.46	0	1
COLLEGE	41988	0.13	0.34	0	1
PHD	41988	0.05	0.21	0	1
SKILL345	35358	0.35	0.48	0	1
SKILL1	35358	0.12	0.33	0	1
SKILL2	35358	0.53	0.50	0	1
SKILL3	35358	0.16	0.36	0	1
SKILL4	35358	0.12	0.32	0	1
SKILL5	35358	0.07	0.26	0	1
AGE	42044	46.46	18.06	16	110
GENDER	42247	0.52	0.50	0	1
INCOME	33652	5.92	2.44	1	12
NATIVE	42220	0.93	0.26	0	1
IMMIGRANT FRIENDS	42052	1.61	0.73	1	3
MINORITY AREA	41457	1.66	0.68	1	3
PARTISAN RIGHT	37117	4.92	2.16	0	10
CRIME	40666	6.77	2.08	0	10
ANTIHATE	39940	7.11	3.08	0	10
CULTURE	39919	5.65	2.42	0	10
MULTICULTURALISM	41587	2.65	1.12	1	5
ECONOMY	39723	4.96	2.30	0	10

Notes: Cases weighted by DWEIGHT and PWEIGHT.

TABLE A2. *Bivariate correlation coefficients for independent variables*

	EDUCATIONAL ATTAINMENT	SCHOOLING	AGE	GENDER	INCOME	NATIVE	IMMIGANT FRIENDS	MINORITY AREA	PARTISAN RIGHT	SKILL5	SKILL4	SKILL3	SKILL2	SKILL1	SKILL345	ELEMENTARY	HIGH SCHOOL	COLLEGE	PHD	CRIME	ANTI-HATE	CULTURE	MULTI-CULTURALISM
EDUCATIONAL ATTAINMENT	1.00																						
YEARS OF SCHOOLING	0.78	1.00																					
AGE	−0.19	−0.28	1.00																				
GENDER	0.00	0.00	−0.02	1.00																			
INCOME	0.34	0.30	−0.14	−0.06	1.00																		
NATIVE	−0.08	−0.05	0.00	−0.02	−0.02	1.00																	
IMMIGRANT FRIENDS	0.21	0.19	−0.18	−0.02	0.20	−0.25	1.00																
MINORITY AREA	0.02	0.00	−0.06	0.02	0.01	−0.11	0.17	1.00															
PARTISAN RIGHT	−0.01	−0.01	0.03	−0.03	0.03	0.01	−0.05	−0.07	1.00														
SKILL5	0.14	0.12	0.07	−0.12	0.13	0.00	0.03	−0.02	0.05	1.00													
SKILL4	0.46	0.41	−0.02	0.02	0.19	−0.04	0.12	0.00	−0.03	−0.13	1.00												
SKILL3	0.14	0.12	−0.02	0.07	0.11	0.01	0.05	0.01	0.01	−0.14	−0.19	1.00											
SKILL2	−0.39	−0.33	−0.02	−0.02	−0.21	0.03	−0.12	−0.01	−0.01	−0.32	−0.42	−0.45	1.00										
SKILL2	−0.23	−0.22	0.01	0.05	−0.15	−0.02	−0.04	0.02	−0.01	−0.10	−0.13	−0.14	−0.31	1.00									
SKILL345	0.53	0.46	0.01	0.00	0.30	−0.01	0.14	0.00	0.01	0.38	0.51	0.54	−0.84	−0.26	1.00								
ELEMENTARY	−0.50	−0.44	0.20	−0.01	−0.21	0.02	−0.10	−0.03	−0.01	−0.06	−0.13	−0.11	0.12	0.15	−0.21	1.00							
HIGH SCHOOL	−0.08	−0.01	−0.11	0.00	0.03	0.02	0.00	0.03	0.01	−0.03	−0.19	0.05	0.15	−0.05	−0.12	−0.25	1.00						
COLLEGE	0.57	0.45	−0.05	0.01	0.21	−0.02	0.10	0.00	0.00	0.09	0.34	0.08	−0.29	−0.12	0.37	−0.15	−0.34	1.00					
PHD	0.52	0.37	−0.02	−0.01	0.12	−0.08	0.13	−0.01	−0.02	0.07	0.32	−0.01	−0.22	−0.08	0.27	−0.09	−0.20	−0.12	1.00				
CRIME	−0.13	−0.14	0.08	−0.03	−0.04	0.07	−0.13	0.00	0.07	−0.02	−0.09	−0.02	0.08	0.02	−0.09	0.05	0.07	−0.08	−0.08	1.00			
ANTIHATE	0.14	0.15	−0.10	0.00	0.05	−0.04	0.11	0.01	−0.07	0.02	0.10	0.02	−0.08	−0.03	0.10	−0.02	−0.05	0.10	0.08	−0.10	1.00		
CULTURE	0.24	0.24	−0.09	0.03	0.17	−0.10	0.24	−0.01	−0.09	0.04	0.16	0.07	−0.15	−0.07	0.19	−0.09	−0.02	0.15	0.14	−0.33	0.19	1.00	
MULTI-CULTURALISM	0.25	0.25	−0.16	0.06	0.22	−0.05	0.22	0.08	−0.13	0.03	0.15	0.07	−0.14	−0.07	0.18	−0.15	0.00	0.15	0.11	−0.24	0.15	0.37	1.00
ECONOMY	0.22	0.21	−0.02	−0.06	0.18	−0.13	0.23	0.04	−0.07	0.05	0.14	0.06	−0.14	−0.07	0.18	−0.09	−0.01	0.13	0.13	−0.36	0.14	0.55	0.29

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