

**Working Paper 115/2012**

**Changes in Attitudes  
towards Immigration:  
Evidence from the  
European Debt Crisis**

**Michael Freedman**



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*Acknowledgments*

This paper was prepared with the generous support of the Konrad Adenauer Foundation and the European Forum at the Hebrew University of Jerusalem. I wish to express my gratitude to Dr. Avraham Ebenstein for his help and guidance and to Mr. Paltiel Lauterstein for his administrative support.

## **Abstract**

Recent evidence has shown that sentiments towards immigration have improved for many European Union countries from 2002 to 2007 (Meuleman et al. 2009). However, some scholars posit that support for immigration into Europe is conditional on generous unemployment benefits and other welfare services (Lipsmeyer and Zhu 2011). In this paper, I examine the impact of the recent European debt crisis on native attitudes towards immigration in Europe, and present empirical evidence that European tolerance for immigration is highly sensitive to the stability of a country's fiscal situation. I use data from two consecutive waves of the European Social Survey (ESS), before and after the debt crisis (2008 and 2010). I find that anti-immigrant sentiment has risen during the debt crisis, and that the sharpest increases in anti-immigration attitudes were in countries with large national debts. Attitudes against immigrants were strongest among manufacturing workers, and these workers also experienced the largest decline in sentiment. Lastly, I present preliminary evidence that anti-immigrant sentiment is starting to fester among workers who had previously shown tolerance, including highly educated workers and in wealthier European countries, such as Germany. Overall, these results suggest that continued decline in the European fiscal situation could lead to an increase in backlash towards immigration, as public resources become strained.

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# 1. Introduction

Immigration has become an increasingly important phenomenon for European Union countries. For example, a recent Eurostat report (2011) on migration indicates that the EU received three to four million immigrants per year from 2004 to 2008, and this is complemented by large migration across country borders within the EU as well. Although sentiment towards immigration is generally positive, there are many citizens who support anti-immigration policies and immigration remains a controversial subject in Europe (Bauer et al. 2000). During the 1990s in Europe, anti-immigrant sentiment became quite strong (Semyonov et al. 2006). In recent years prior to Europe's debt crisis, sentiment towards immigration remained stable or even improved in most EU countries from 2002 to 2007 (Meuleman et al. 2009).

However, there is reason to be concerned that Europe is on the brink of a serious decline in sentiment towards immigrants. Previous research posits that support for immigration into Europe is conditional on generous unemployment benefits and other welfare services (Lipsmeyer and Zhu 2011). As the European debt crisis has been accompanied by cuts to social welfare and has generated fears of further cuts, worsening economic conditions may lead to a resurgence in European anti-immigration attitudes. Many scholars contend that when resources are scarce, society will be most likely to turn against those who are viewed as outsiders, leading to a precarious situation for immigrants and other groups at the margin (Semyonov et al. 2006).

In this paper, I examine the impact of the European debt crisis on anti-immigrant sentiment. For my analysis, I use data from two consecutive waves of the European Social Survey (ESS), before and after the debt crisis (2008 and 2010). These data contain rich information collected at the individual level for 16 European Union countries, including consistent questionnaire items that measure attitudes and perceptions towards different types of immigration allowing for comparisons across years and countries. The rich data allow me to trace the changes in attitudes towards immigrants in 16 European Union countries and 8 countries that fall within the Eurozone, which were particularly affected by Europe's debt crisis.

My results suggest that overall attitudes towards immigration have declined in response to the European debt crisis. I find that declines in attitudes towards immigrants were not in countries with high unemployment rates, which is often the focus of scholarship (Okkerse 2008). Rather, I find that the sharpest increase in anti-immigration

attitudes was in countries with a large national debt. I find that anti-immigrant sentiment was strongest among manufacturing workers, and these workers had the largest decline in sentiment as well. For example, I find that Eurozone manufacturing workers in debt-ridden countries are 0.20 units less likely to support immigration, which is roughly a quarter of a standard deviation of support for immigration ( $sd=0.81$ ). In contrast, I find that the declines among service-sector workers were more moderate.

I also examine mechanisms for these findings by examining differences in attitudes towards immigration *among* workers. I find that wealthier and highly educated individuals, who had previously exhibited higher tolerance towards immigration, show lower support for immigration. The data indicate a large decline in sentiment towards immigrants in previously tolerant countries such as Germany, Belgium, and the Netherlands. In combination with our country-level results, this may suggest that the primary mechanism driving anti-immigration attitudes is concerns about the costs of immigration and fears of welfare erosion, or possibly fears of being forced to pay for welfare in other Eurozone countries. In contrast, fears about unemployment due to labor market competition seem to play a more secondary role.

This article makes several important contributions to the literature. First, the results provide novel and compelling evidence that attitudes towards immigration have declined during the European debt crisis, and that these results were most pronounced in countries with high levels of debt. Second, my results move beyond the aggregate level and show among which groups of society attitudes towards immigration have declined, such as manufacturing workers. Third, the results support claims that people's attitudes towards immigration are shaped by economic factors, rather than simply reflecting cultural or social biases against immigrants.

The layout of the paper is as follows. Part 2 provides background material on attitudes towards immigration and the European debt crisis. Part 3 discusses our data and operative definitions. Part 4 presents my results; Part 5 concludes.



## 2. Background

### (A) Economic determinants of individual attitudes towards immigration

While many papers acknowledge that social or cultural factors play a pivotal role in the formation of attitudes towards immigration, the role of economic factors is contested.<sup>1</sup> Previous research has emphasized two primary economic determinants of individual attitudes towards immigration: labor market competition and concerns about the financial costs of supporting immigration (Hainmueller and Hiscox 2010).

#### (i) Labor market competition:

The labor market competition theory posits that immigration may adversely affect the wages or employment rates of native workers if the immigrants' skill distribution differs from the native workforce (Dustmann et al. 2008). In particular, the theory predicts that low-skilled workers in developed countries will oppose low-skilled immigration from developing countries while high-skilled workers will support low-skilled immigration. Indeed, using the ISSP 2003 survey, Mayda (2005) finds in a cross-country investigation that low-skilled individuals are more opposed to low-skilled immigration, as predicted by labor market competition theory. In contrast, other papers have found little evidence that labor market competition plays a role regarding attitudes towards immigration (Hainmueller and Hiscox 2007).

However, recent research has pointed out that the disagreement among scholars regarding economic factors is most likely due to poor research designs (Malhotra et al. 2013). For example, Malhotra et al. (2013) argue that since labor market competition is conditional on there being an actual economic threat, it is unlikely to be detected in aggregate survey data. Thus, their paper examines how information technology (IT) workers view H-1B visa-holders; a group who pose a direct threat to IT workers and where labor market fears are more likely to be prevalent. Similarly, in order to determine whether concerns about the financial costs of supporting immigration are a determinant of attitudes towards immigration, Hainmueller and Hiscox (2010) designed a survey that examines how rich and poor natives view high- and low-skilled immigration in places where immigrants receive public welfare.

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<sup>1</sup> For example, Scheve and Slaughter (2001), Mayda (2006), and O'Rourke and Sinnott (2006) find that concerns about labor market completion are an important determinant of attitudes towards immigration. In contrast, Hainmueller and Hiscox (2007, 2010) find little evidence for the role of economic determinants in forming attitudes towards immigration.

With regard to Europe, while empirical studies are divided over the *actual* labor market effects of immigration,<sup>2</sup> several papers have found that the *belief* that immigrants take jobs from natives is widespread (Angrist and Kugler 2003). For example, using the first round of the European Social Survey, Malchow-Møller et al. (2008) found significant evidence that economic self-interest plays an important role. In particular, the paper finds a strong link between the belief that immigration has adverse effects on the labor market and opposition to more liberal immigration policies. Similarly, Okkerse (2008) notes that one in two European Union citizens is afraid of losing their job due to labor market competition from immigrants.

(ii) Financial costs of supporting immigration:

This theory posits that natives will oppose immigration due to the widespread belief that immigrants are a burden on public welfare. In a comprehensive cross-country empirical study, Facchini and Mayda (2009) find that rich individuals will oppose low-skilled immigration if they are forced to pay more taxes to finance public welfare (“tax adjustment model”), while poor individuals will oppose low-skilled immigration if there is a reduction in public services (“benefit adjustment model”). However, recent research has concluded that these findings should be treated with caution (Hainmueller and Hiscox 2010).

A related literature considers the compensation hypothesis. This theory posits that the public level of support for immigration or global trade in developed countries is dependent on being protected by a high level of social services (Rodrik 1997). In particular, “the welfare state permitted governments to promise assistance to those elements of society most badly hurt by adjustments to changes in the world economy” (Hart and Prakash 1997). This suggests that if workers are less protected from the adverse consequences of globalization, then there should be an increase in support for anti-immigration (and protectionist) policies. In a recent empirical study on Europe, Lipsmeyer and Zhu (2011) found that European countries which are open to immigration also maintain a generous level of unemployment benefits, in order to appease displaced native workers.

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<sup>2</sup> For example, Carassco et al. (2008) (1997) found that immigration to Spain during the 1990s did not lead to a worsening of employment or wage conditions for native workers. Similarly, Pischke and Velling (1997) found that immigration to Germany in the 1980s did not have any adverse labor market effects. In contrast, Okkerse (2008), in a paper that summarized the available empirical evidence on the labor market impact of immigration, concludes that the wages (and not jobs) of low-skilled natives are vulnerable to increased competition from immigrants.

In the next section, I examine in more detail why the European debt crisis should negatively affect attitudes towards immigration.

## (B) European debt crisis

There are several reasons why the European debt crisis could lead to a rise in anti-immigration attitudes. First, this crisis has been accompanied by high levels of unemployment. This may lead to greater inter-group hostility as natives compete with immigrants over a smaller pool of jobs (Meuleman et al. 2009). Second, the crisis has led to many countries cutting their social welfare expenditures, and other austerity measures. Presumably, this erosion of welfare services could lead to a rise in anti-immigrant sentiments as well.

H1: the European debt crisis should negatively affect attitudes towards immigration, and the sharpest increases in anti-immigration attitudes should be in countries with large national debts.

Furthermore, I posit that manufacturing workers will exhibit even more extreme declines in their attitudes towards immigration. First, the standard Heckscher-Ohlin (H-O) model predicts that countries which are rich in capital and high-skilled labor will specialize in capital-intensive goods, while countries which are rich in low-skilled labor will specialize in labor-intensive goods (Freeman 1995).<sup>3</sup> Indeed, many empirical studies have examined the reasons for the steady decline in the aggregate number of manufacturing jobs in developed economies. Since most manufacturing jobs are low-skilled jobs, this suggests that manufacturing workers are more dependent on strong social services than service-sector workers. Second, as noted above, trade and labor market theory predicts that low-skilled workers in developed countries will oppose low-skilled immigration from developing countries while high-skilled workers will support low-skilled immigration. This suggests that manufacturing workers will be more opposed to immigration since they are more exposed to labor market competition.

H2: manufacturing workers will exhibit even more extreme declines in their attitudes towards immigration due to the European debt crisis.

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<sup>3</sup> Empirically, several recent papers present evidence that trade has indeed had adverse effects for manufacturing workers. For example, Autor et al. (2012) estimate that about 25 percent of the recent decline in the aggregate number of US manufacturing jobs can be attributed to trade. Furthermore, Ebenstein et al. (2011) finds that there has been a decline in wages and other adverse effects as manufacturing workers are forced to find employment in other industries or occupations.

In sum, my research design builds on the existing literature in several ways. First, I define attitudes towards immigration in a similar operative manner where respondents are asked to what extent they support immigration to one's country. Second, I control for a range of diverse social and economic factors that have been found to influence attitudes towards migrants – such as age, income, and years of education. Third, like the recent Hainmueller and Hiscox (2010) and Malhotra et al. (2013) papers, this research design analyzes the relationship between economic factors and attitudes towards immigration in “a most-likely case,” where one would expect economic factors to be more widespread. As well, I focus on manufacturing workers, a group of workers who would be expected to be more prone to the adverse effects of the economic crisis. In the next section, I describe the data that I use to evaluate the paper's hypotheses.

### 3. Data

#### (A) Data set and operative definitions

I have in my possession data for two rounds of the European Social Survey (ESS), for the years 2008-2010. The data contain rich information collected at the individual level by country, including items that measure attitudes and perceptions towards different types of immigration. These data also contain key demographic information such as education, age, income status, employment status, and type of industry. These data have been designed to allow for a cross-country comparison across years (Card et al. 2005). I exploit these features of the data to identify the effect of the economic crisis on attitudes towards immigration among natives in the 16 European Union countries that were surveyed by the ESS in both 2008 and 2010.<sup>4</sup> As well, I merged the ESS data with data on general government gross debt as a percentage of GDP and unemployment data, which are taken from the Eurostat statistics database.

Our dependent variable, attitudes towards immigration, captures the level of support for immigration to one's country. This measure is based on a combination of three survey questions, whose internal consistency is very high: Cronbach's alpha is equal to 0.89.<sup>5</sup> The first question is: "To what extent should the country allow people of the same race or ethnic group to come and live here?" The second question is: "To what extent should the country allow people of a different race or ethnic group to come and live here?" The third question is: "To what extent should the country allow people from the poorer countries outside Europe to come and live here?" These items were recoded on a 1-4 point scale: where "1" corresponds to "allow none to come and live here," "2" corresponds to "allow a few," "3" corresponds to "allow some," and "4" corresponds to "allow many." The use of this integrated measure may lend more robustness to the results, which may be lacking in papers that rely on a single immigration item.

In terms of our other variables, I identify manufacturing workers by their industry NAICS code. As well, I control for a range of diverse social and economic factors that have been found to influence attitudes towards migrants – such as age, income, gender,

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<sup>4</sup> The 16 European Union countries that are surveyed in both the 2008 and 2010 ESS are: Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and the United Kingdom.

<sup>5</sup> Cronbach's alpha is a measurement for the inter-item covariance between variables. A high Cronbach's alpha measurement implies an internal consistency among the variables, allowing for the creation of a more robust measure (compared to relying on one item).

and years of education.<sup>6</sup>

## (B) Summary statistics

The summary statistics for the ESS sample are presented in Table 1 (N=58,116). In terms of our dependent variable, attitudes towards immigration, the table indicates a mean value of 2.78 for immigrants from the same ethnic group, a mean value of 2.51 for immigrants from a different ethnic group, and a mean value of 2.42 for immigrants from poor countries. These statistics imply that Europeans are relatively more supportive of certain forms of immigration, such as immigrants from one's ethnic group. Overall, the mean average of these three items is 2.57 with a standard deviation of 0.81. Since our variable is on a 1-4 scale, this implies that respondents in European Union countries are on average willing to allow "few" to "some" immigrants. The table also indicates that manufacturing workers are 0.13 units less likely to support immigration, which is about 15 percent of a standard deviation.

Appendix Table 1 shows the distribution for our three main immigration items. This table is motivated by the recognition that when dealing with ordinal variables, such as those that measure opinion, one should not rely exclusively on descriptive statistics such as the mean and standard deviation, and the plot of the data-distribution is crucial for interpretation as well. Appendix Table 1 indicates that about 70 percent of the sample believe that "few" migrants or "some" migrants should be allowed to migrate to the country. The table also indicates that less than a fourth of respondents either fully support immigration or are fully opposed to it. This implies that most Europeans support moderate levels of immigration. Appendix Table 2 lists the country averages for the 16 European Union countries surveyed by the ESS in 2008 and 2010. As expected, there is a large divergence in attitudes towards immigration among countries. For example, the average measure for Sweden was 3.24 while the average measure for Portugal was 2.18, which represents more than one standard deviation.

In terms of our independent variables, Table 1 indicates that about 16 percent of the sample was manufacturing workers. The table also implies that there are statistically significant differences between manufacturing workers and service-sector workers. For example, service-sector workers are on average slightly more educated (1.27 years) and

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<sup>6</sup> Income level is on a ten-point scale (1-10), and respondents are asked to place themselves in one of ten income buckets, with higher scores corresponding to a higher income. Gender is recorded on a two-point scale (0-1), with a value of "1" representing female. Education is measured on a 1-50 scale, with higher scores indicating higher education levels.

have slightly more income (half an income level). This underscores the importance of including demographic controls and country dummies for our OLS results.

## 4. Results

### (A) Baseline results

Before analyzing the impact of the European debt crisis on attitudes towards immigration, I first estimate the relationship between one's attitudes towards immigration and working in manufacturing. These results can also serve as a benchmark model for attitudes towards immigration, as the model includes basic demographic controls such as education, income, age, and gender. The results indicate that the full model with year and country dummies explains 16.9 percent of the variance in attitudes towards migrants ( $R\text{-squared}=0.169$ ). This implies that only a moderate part of the variance is explained by economic factors, and that cultural or social factors are also important determinants of attitudes towards immigration.

Column 1 of Table 2 summarizes the OLS results without controls, and indicates that European manufacturing workers have more negative attitudes towards immigration. For instance, the table indicates that manufacturing workers are 0.088 units less likely to support immigration than service-sector workers, and this result is statistically significant at the 1 percent level. Column 2 indicates that the introduction of demographic controls reduced the coefficient of our core result (from 0.088 to 0.024). Since manufacturing workers are slightly less educated and have less income than service-sector workers, this implies that some of the initial variation in column 1 that was attributed to being in manufacturing was mistakenly attributed. At the same time, the results remain statistically significant. Furthermore, column 3 indicates that our manufacturing results are slightly improved by year- and country-fixed effects. This implies that my results are not being driven by a particular country or survey year, and are robust to different specifications.

In terms of our demographic controls, the table indicates that better-educated and wealthier groups are more likely to support immigration. For instance, the table indicates that a one-unit increase in years of education is associated with a 0.045-unit increase in support for immigration. Similarly, the table indicates that a one-unit increase in income level is associated with a 0.024-unit increase in support for immigration. In contrast, the table indicates that females and older people are less likely to support immigration. Reassuringly, these baseline results are consistent with several previous studies (Mayda 2006; O'Rourke and Sinnott 2006).



As a graphical analogue to these results, Figure 1 indicates that European countries where a higher share of the workforce is employed in manufacturing are less likely to support migration, although the result is not statistically significant. For example, Sweden in 2010 had the highest level of support for migrants (3.26) but also had a very low level of manufacturing workers – about 12 percent of the workforce. In contrast, Hungary in 2010 had a very low level of support for migrants (2.20) and a relatively high level of manufacturing workers – about 25 percent of the workforce. These results suggest that some of the cross-country differences in attitudes towards migrants may be attributed to the structure of the labor force.

### (B) European Debt Crisis

In this section, I consider the impact of the European debt crisis on attitudes towards immigration. I posit that during a time of economic crisis there will be a decline in attitudes towards immigration among the whole population. Furthermore, I posit that manufacturing workers will exhibit even more extreme declines in their attitudes towards immigration.

In Table 3, I examine the changes in attitudes towards immigration for the 16 European Union countries that were surveyed by the ESS in both 2008 and 2010, using an OLS model. I rerun the model used in Table 2 (demographic controls and country-fixed effects) with a year-dummy for the crisis. In columns 1-3, the table examines the impact of the crisis on attitudes towards immigration among all respondents. Columns 4-6 examine just manufacturing workers, and columns 7-9 examine just service-sector workers. Note that each column defines the key independent variable in a different fashion: columns 1, 4, and 7 consider the EU27 countries, columns 2, 5, and 8 consider the EU17 countries, and columns 3, 6, and 9 consider EU17 countries whose gross debt as a percentage of GDP is above 90.

Column 1 indicates that respondents in 2010 were 0.025 units less likely to support immigration, relative to 2008, and this result is statistically significant at the 1 percent level. Column 2 indicates that respondents in Eurozone countries in 2010 were 0.030 units less likely to support immigration, and this result is also statistically significant at the 1 percent level. Column 3 indicates that respondents in Eurozone countries in 2010 with a very high debt as a share of GDP (over 90 percent) were 0.097 units less likely to support immigration, and this result is statistically significant at the 5 percent level. Overall, these results imply that respondents are less likely to support immigration

during an economic crisis, and these changes are most pronounced among the countries that were most affected by the crisis.

Columns 4-6 indicate that the decline in attitudes towards immigration during the crisis was most pronounced among manufacturing workers. For example, column 4 indicates that European Union manufacturing workers are 0.075 units less likely to support immigration, which is about three times the size of the coefficient for all respondents. Similarly, column 6 indicates that manufacturing workers in Eurozone countries in 2010 with very high debt were 0.197 units less likely to support immigration, which is more than double the size of the coefficient for all respondents. This indicates that my results are largely driven by manufacturing workers. In contrast, columns 7-9 indicate that the declines among service-sector workers were more moderate.

In Table 4, I examine the aggregate changes in attitudes towards immigration separately for each country. I also stratify the sample by manufacturing workers (columns 4-6) and service-sector workers (columns 7-9). The table reveals several interesting results. First, the table indicates that there has been a decline in attitudes towards migrants in 12 out of the 16 surveyed countries, and the largest declines were in Belgium, Finland, and Germany. Second, the table indicates that the decrease in the level of support for immigration during the crisis was sharpest among manufacturing workers. For example, overall attitudes towards immigration among manufacturing workers have declined by 0.06 units among the European Union countries, and declined by 0.10 units (almost 5 percentage points) among Eurozone countries, and these results are significant at the 1 percent level. In contrast, overall attitudes towards immigration among service-sector workers have remained steady or even improved. Finally, the crisis has fostered a larger cleavage between manufacturing and service-sector workers regarding their respective attitudes towards migrants. For example, the gaps between manufacturing workers and service-sector workers doubled from 0.06 to 0.12 units among European Union countries, and increased from 0.03 to 0.13 units among Eurozone countries.

As a graphical analogue to these results, Figure 2 indicates that attitudes towards immigrants among manufacturing workers have declined in countries with high debt. For example, Belgium, whose gross debt as a percentage of GDP is above 90, has seen attitudes towards immigrants decline by .27 units, representing a 10 percent decline in overall manufacturing workers' attitudes from 2008. Overall, the figure indicates that a

1 percent increase in debt as share of GDP is associated with a 0.002 decline in attitudes towards immigration. This relationship is striking, as it borders on statistical significance even though it represents aggregate data and  $N=16$ . This suggests that a continued decline in the European fiscal situation could lead to an increase in backlash towards immigration. In contrast, Figure 3 indicates that attitudes towards immigrants among manufacturing workers have *improved* in countries with high unemployment. This counterintuitive result seems to suggest that the primary mechanism driving anti-immigration attitudes is the cost of supporting immigration or fears of welfare erosion, and not unemployment caused by labor market competition.

As a final exercise, in Table 5 I investigate changes in attitudes towards immigration between 2008 and 2010 among different groups in society. Panel A restricts the sample to manufacturing workers and Panel B restricts the sample to service-sector workers. I stratify the sample by education and income. Columns 1-3 restrict the sample to workers who have low education or income and columns 4-6 restrict the sample to workers who have high education or income. Columns 3 and 6 measure the difference in means between columns 1 and 2 (and 4 and 5). The results suggest that there were declines in attitudes towards immigration among all groups, and that these declines were more pronounced among higher-educated and wealthier workers. For example, the table indicates that attitudes towards immigration declined by 0.09 units for highly educated manufacturing workers, which is roughly an eighth of a standard deviation of support for immigration ( $sd=0.81$ ). Since highly educated workers are less prone to extended periods of unemployment, this may suggest that the primary mechanism driving anti-immigration attitudes is concerns about the costs of immigration.

Figure 4 indicates that attitudes towards immigrants among manufacturing workers have declined primarily in wealthier countries. For example, the figure indicates a decline in sentiment towards immigrants in countries with a high GDP level, such as Germany, Belgium, and the Netherlands. Overall, these results suggest that the continued decline in the European fiscal situation could lead to an increase in backlash towards immigration, even among groups or countries that had previously exhibited higher tolerance towards immigration.

## **5. Conclusion**

This paper presents evidence that anti-immigrant sentiment has risen during the debt crisis, and that the sharpest increases in anti-immigration attitudes were in countries with large national debts. This suggests that European tolerance for immigration is highly sensitive to the stability of a country's fiscal situation. My results also suggest that the mechanism driving anti-immigration attitudes may be concerns about the costs of immigration and fears of welfare erosion, and fears of being forced to pay for welfare in other Eurozone countries. Overall, the results support recent evidence which posits that attitudes towards immigration are partly driven by economic self-interest. Furthermore, I find that factors relating to the financial cost of supporting immigration or fears of welfare erosion are more important than concerns about labor market competition (Dustmann and Preston 2004; Lipsmeyer and Zhu 2011).

It is worth noting several limitations to this study. First, the analysis relies on survey-participant attitudes towards immigration, but it is possible that these attitudes are correlated with anti-trade attitudes and part of a broader discomfort with globalization, rather than xenophobia. Second, while my results rely on the best macro and micro data that are available for my sample period, these data only offer coverage for several years of the crisis. Therefore, it is possible that the changes in attitudes towards immigration are only a short-term fluctuation and not representative of a long-term trend. Future research may want to further reexamine the relationship between attitudes towards immigration and the crisis as more data become available.

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**Table 1**

## Descriptive Statistics, European Union 2008-2010

Variable	All	Manufacturing	Services	Difference
	Mean (1)	Mean (2)	Mean (3)	
Dependent Variable: Attitudes towards Immigration				
Allow Migrants from Same Ethnic Group	2.78 (0.87)	2.69 (0.88)	2.81 (0.86)	-0.11*** (0.01)
Allow Migrants from Different Ethnic Group	2.51 (0.89)	2.40 (0.89)	2.54 (0.89)	-0.14*** (0.01)
Allow Migrants from Poor Countries	2.42 (0.91)	2.31 (0.91)	2.44 (0.91)	-0.13*** (0.01)
Attitudes towards Immigration (1-4)	2.57 (0.81)	2.47 (0.81)	2.60 (0.81)	-0.13*** (0.01)
Independent Variables: Key Explanatory Variables				
Years of Education	12.17 (4.22)	11.22 (3.80)	12.64 (4.25)	-1.41*** (0.05)
Income Level (1-10)	5.46 (2.81)	5.10 (2.71)	5.61 (2.81)	-0.51*** (0.04)
Age	48.73 (18.79)	52.51 (17.70)	49.40 (17.58)	3.11*** (0.20)
Economic Satisfaction (0-10)	3.99 (2.38)	3.76 (2.39)	4.02 (2.39)	-0.26*** (0.03)
Share Female	0.53 (0.50)	0.45 (0.50)	0.54 (0.50)	-0.09*** (0.01)
Share of Union Members	0.18 (0.38)	0.18 (0.38)	0.20 (0.40)	-0.02*** (0.00)
Share Employed	0.94 (0.23)	0.93 (0.25)	0.95 (0.95)	-0.01*** (0.00)
Observations	58,116	9,818	41,839	

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

Source: European Social Survey (ESS) Rounds 4-5, (2008-2010).

Notes: Standard deviations are listed in parentheses. Sample is restricted to European Union countries. Manufacturing workers are defined as workers who listed their industry as manufacturing (NACES industry codes 15-36 in 2008, and 10-32 in 2010). There is no industry information for 6,459 respondents (about 10% of the sample). Column 4 measures the difference in means between columns 2 and 3. Some of the variables have been recoded to enable regression analysis and comparison across years. See the text and table notes for more details.



**Table 2**

## Attitudes towards Immigration, Baseline Results

Variable	LHS: Attitudes towards Immigration		
	(1)	(2)	(3)
Manufacturing	-0.0879*** (0.00917)	-0.0240** (0.00998)	-0.0432*** (0.00959)
Years of Education		0.0454*** (0.00108)	0.0447*** (0.00105)
Income Level		0.0268*** (0.00148)	0.0244*** (0.00143)
Age		-0.00221*** (0.000236)	-0.00249*** (0.000227)
Female		-0.0217*** (0.00762)	-0.0160** (0.00729)
Observations	50,574	38,902	38,902
R <sup>2</sup>	0.002	0.089	0.169
Demographic Controls	No	Yes	Yes
Year Fixed Effects	No	No	Yes
Country Fixed Effects	No	No	Yes

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

*Source:* See Table 1.

*Notes:* OLS regression model. Standard errors are listed in parentheses. The dependent variable in columns 1-3 is attitudes towards immigration with higher values indicating a higher level of support for immigration to one's country. Column 1 is the basic model, column 2 is the model with additional demographic predictors, and column 3 is the full model with year and country fixed effects. Each survey respondent has been weighted by his or her weight in the sample. Cross-national comparisons are made using the sample weights provided by the ESS.

**Table 3**

The European Debt Crisis and Attitudes towards Immigration, 2008-2010

Variable	LHS: Attitudes towards Immigration								
	All Respondents			Manufacturing Workers			Service Workers		
	EU 27 (1)	EU 17 (2)	EU 17 + Debt (3)	EU 27 (4)	EU 17 (5)	EU 17 + Debt (6)	EU 27 (7)	EU 17 (8)	EU 17 + Debt (9)
Dummy for Crisis (2010)	-0.0254*** (0.00700)	-0.0309*** (0.00885)	-0.0975** (0.0395)	-0.0747*** (0.0168)	-0.120*** (0.0216)	-0.197** (0.0933)	-0.0191** (0.00808)	-0.0207** (0.0102)	-0.0933** (0.0466)
Years of Education	0.0427*** (0.00100)	0.0427*** (0.00100)	0.0427*** (0.00100)	0.0416*** (0.00281)	0.0411*** (0.00281)	0.0416*** (0.00281)	0.0451*** (0.00114)	0.0451*** (0.00114)	0.0451*** (0.00114)
Income Level	0.0238*** (0.00137)	0.0239*** (0.00137)	0.0238*** (0.00138)	0.0229*** (0.00351)	0.0234*** (0.00351)	0.0227*** (0.00352)	0.0247*** (0.00157)	0.0248*** (0.00157)	0.0247*** (0.00158)
Observations	42,443	42,443	42,443	7,338	7,338	7,338	31,564	31,564	31,564
R <sup>2</sup>	0.166	0.166	0.166	0.169	0.170	0.167	0.168	0.168	0.168
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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

*Source:* See Table 1. Data on government debt is taken from the Eurostat statistics database.

*Notes:* See Table 2. In columns 1-3, the table examines the impact of the crisis among all respondents, columns 4-6 are restricted to manufacturing workers, and columns 7-9 are restricted to service-sector workers. Note that each column defines the crisis in a different fashion: columns 1, 4, and 7 assume that the crisis affects the EU27 countries, columns 2, 5, and 8 assume that the crisis affects the EU17 countries, and columns 3, 6, and 9 assume that the crisis affects EU17 countries whose general government gross debt is greater than 90 percent of a country's GDP (Belgium and Portugal).

**Table 4**

## Attitudes towards Immigration, European Union 2008-2010

Country	All Respondents			Manufacturing Workers			Service Workers		
	2008	2010	Difference	2008	2010	Difference	2008	2010	Difference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Belgium	2.68	2.54	-0.13***	2.59	2.32	-0.27***	2.71	2.58	-0.13***
Bulgaria	2.84	2.87	0.03	2.77	2.82	0.05	2.85	2.87	0.02
Czech Republic	2.28	2.24	-0.04*	2.24	2.17	-0.07	2.26	2.21	-0.05*
Denmark	2.72	2.76	0.05*	2.48	2.60	0.12*	2.75	2.80	0.04
Estonia	2.36	2.45	0.09***	2.29	2.33	0.03	2.37	2.45	0.08**
Finland	2.54	2.37	-0.17***	2.44	2.23	-0.21***	2.56	2.39	-0.18***
France	2.58	2.54	-0.04*	2.49	2.42	-0.07	2.59	2.54	-0.05*
Germany	2.85	2.80	-0.05**	2.83	2.67	-0.15***	2.85	2.81	-0.04*
Hungary	2.17	2.21	0.04	2.07	2.14	0.07	2.17	2.21	0.04
Netherlands	2.67	2.61	-0.07***	2.59	2.48	-0.11	2.69	2.63	-0.06**
Poland	2.94	2.94	-0.01	2.86	2.84	-0.03	2.96	2.94	-0.02
Portugal	2.16	2.20	0.04	2.17	2.14	-0.04	2.13	2.21	0.08***
Slovenia	2.62	2.63	0.01	2.54	2.46	-0.07	2.66	2.71	0.05
Spain	2.33	2.47	0.14***	2.32	2.31	-0.01	2.34	2.53	0.19***
Sweden	3.22	3.26	0.05*	3.14	3.06	-0.08	3.24	3.30	0.06**
United Kingdom	2.48	2.40	-0.08***	2.33	2.24	-0.08	2.49	2.40	-0.09***
EU 17 Total	2.62	2.60	-0.02*	2.60	2.49	-0.10***	2.63	2.62	0.02*
EU 27 Total	2.63	2.61	-0.02***	2.58	2.50	-0.06***	2.64	2.62	-0.00

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

Source: See Table 1.

Notes: The data set has been collapsed by country using each survey respondent's sample weight. Cross-national comparisons are made using the sample weights provided by ESS. The differences in columns 3 and 6 are calculated by an OLS regression.

**Table 5**

## Attitudes towards Migrants, Stratified by Education and Income (2008-2010)

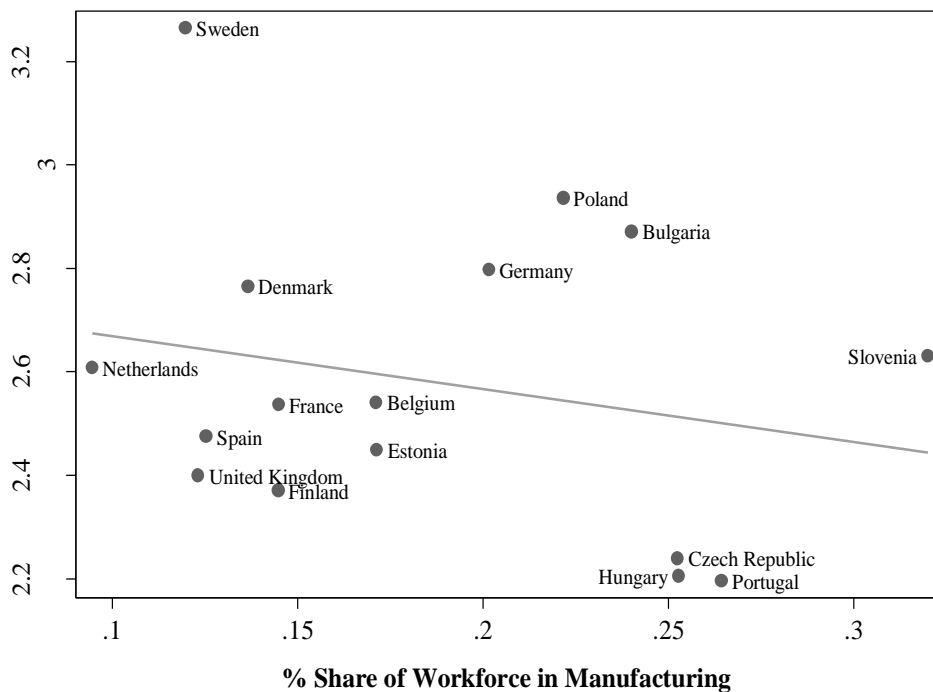
Variable	Dependent Variable: Attitudes towards Immigration					
	Low Skill/Income			High Skill/Income		
	2008	2010	Difference	2008	2010	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: Manufacturing Workers</b>						
Years of Education	2.35 (0.82)	2.32 (0.83)	-0.03*** (0.01)	2.65 (0.75)	2.56 (0.77)	-0.09*** (0.02)
Income	2.41 (0.78)	2.40 (0.82)	-0.02** (0.03)	2.67 (0.74)	2.64 (0.75)	-0.03** (0.01)
<b>Panel B: Service-Sector Workers</b>						
Years of Education	2.43 (0.82)	2.42 (0.82)	-0.02*** (0.01)	2.79 (0.75)	2.77 (0.76)	-0.02** (0.01)
Income	2.52 (0.83)	2.50 (0.83)	-0.02*** (0.00)	2.76 (0.75)	2.73 (0.75)	-0.04*** (0.00)

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

Source: See Table 1.

Notes : Standard deviations are listed in parentheses. Panel A restricts the sample to manufacturing workers and Panel B restricts the sample to service-sector workers. In columns 1-3, the sample is restricted to workers who have a level of education or income below the median and columns 4-6 restricts the sample to workers who have a level of education or income above the median. Columns 3 and 6 measure the difference in means between columns 1 and 2 (and 4 and 5) respectively.

**Figure 1**  
Share of Manufacturing and European Union Attitudes towards Immigration, 2010



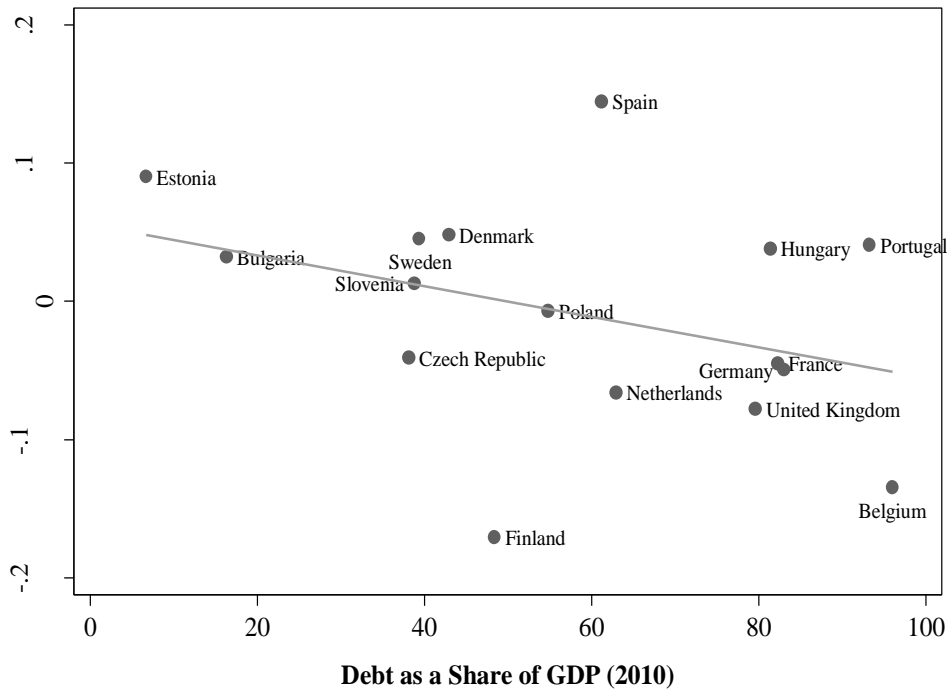
Note:  $\beta = -1.023$ ,  $t\text{-stat} = -0.880$

Source : See Table 1.

Notes : N=16. Each observation is a country per survey year. The data set has been collapsed by country in a weighted manner where each survey respondent has been weighted by his or her weight in the sample. Cross-national comparisons are made using the sample weights provided by ESS.

**Figure 2**

Change in Attitudes towards Immigration and Government Debt



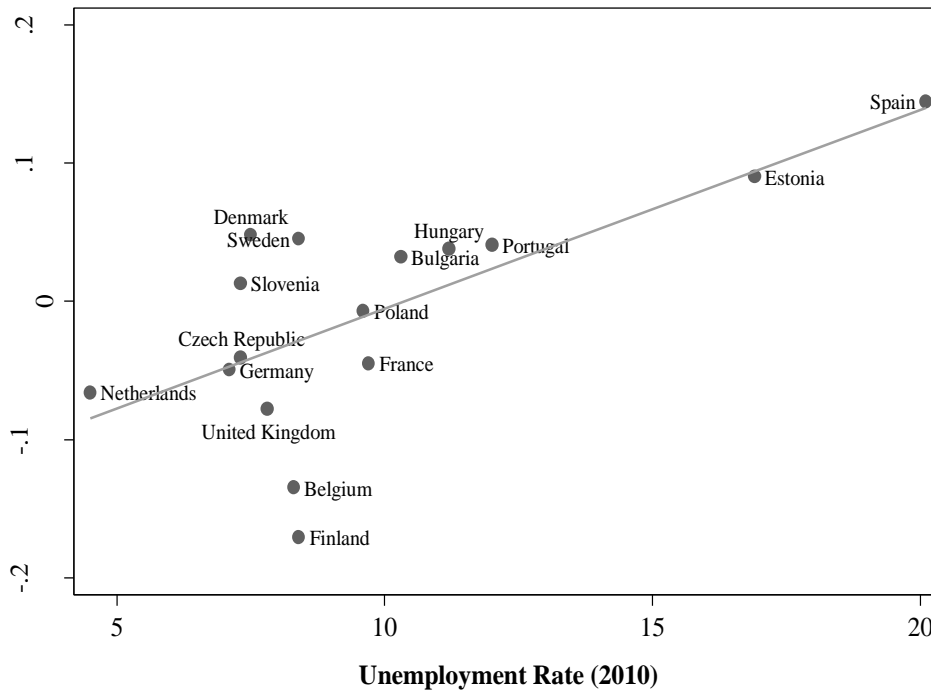
Note:  $\beta = -0.001$ , t-stat = -1.464

Source : See Table 1.

Notes : See Figure 1. Data on government debt is taken from the Eurostat statistics database.

**Figure 3**

Change in Attitudes towards Immigration and Unemployment Rate



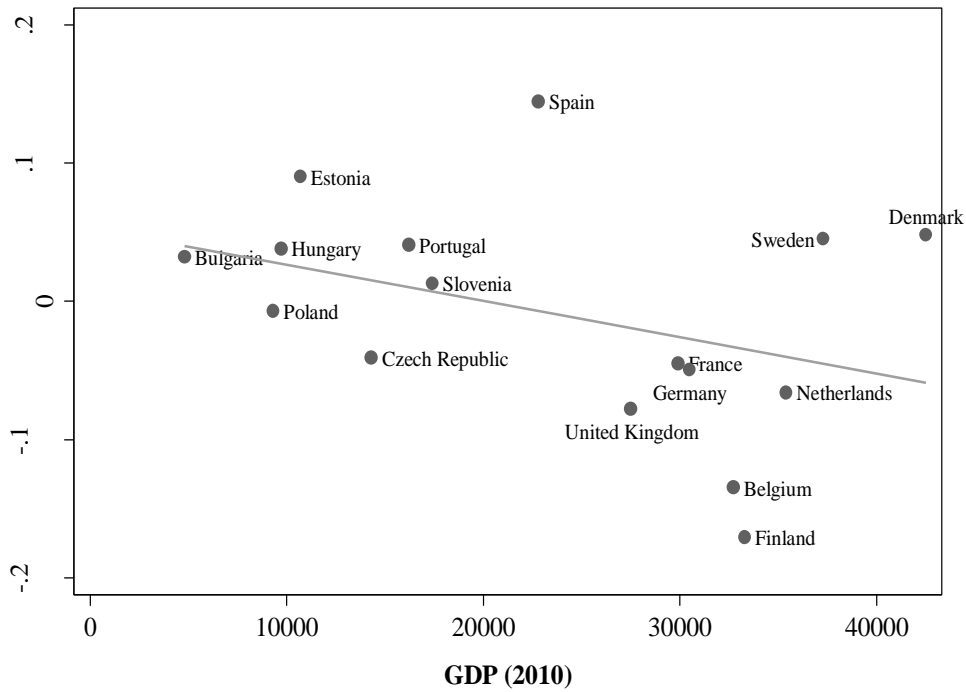
Note:  $\beta = 0.014$ , t-stat = 3.521

Source : See Table 1.

Notes : See Figure 1. Data on unemployment rates is taken from the Eurostat statistics database.

**Figure 4**

Change in Attitudes towards Immigration and GDP



Source : See Table 1.

Notes : See Figure 1. Data on GDP is taken from the Eurostat statistics database.



## Appendix Table 1

### European Union Attitudes towards Immigrants, 2008-2010

Dependent Variable: Attitudes towards immigration on a (1-4) point scale	Allow None (1)	Allow Few (2)	Allow Some (3)	Allow Many (4)
To what extent should the country allow people of the same race or ethnic group to come and live here?	8.51	25.69	44.98	20.81
To what extent should the country allow people of a different race or ethnic group to come and live here?	14.19	33.59	39.06	13.16
To what extent should the country allow people from the poorer countries outside Europe to come and live here?	17.56	34.97	35.61	11.86

Source : See Table 1.

## Appendix Table 2

### Attitudes towards Immigration, European Union 2008-2010

Country	Average	2008	2010
Sweden	3.24	3.22	3.26
Poland	2.94	2.94	2.94
Bulgaria	2.86	2.84	2.87
Germany	2.82	2.85	2.80
Denmark	2.74	2.72	2.76
Netherlands	2.64	2.67	2.61
Slovenia	2.62	2.62	2.63
Belgium	2.61	2.68	2.54
France	2.56	2.58	2.54
Finland	2.46	2.54	2.37
United Kingdom	2.44	2.48	2.40
Estonia	2.40	2.36	2.45
Spain	2.40	2.33	2.47
Czech Republic	2.26	2.28	2.24
Hungary	2.19	2.17	2.21
Portugal	2.18	2.16	2.20
Total	2.62	2.63	2.61

*Source:* See Table 1.

Notes: Countries are arranged according to their overall average in attitudes towards immigration in descending order from highest to lowest. Cross-national comparisons are made using the sample weights provided by ESS.



Published by  
Helmut Kohl Institute  
for European Studies  
and the Konrad-Adenauer-Stiftung

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