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Sectoral Economies, Economic Contexts, and Attitudes toward Immigration

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Do economic considerations shape attitudes toward immigration? In this article, we consider the relationship between economic interests and immigration preferences by examining how developments in individuals' sectors of employment affect these views. Using survey data across European countries from 2002 to 2009 and employing new measures of industry-level exposure to immigration, we find that sectoral economies shape opinions about immigration. Individuals employed in growing sectors are more likely to support immigration than are those employed in shrinking sectors. Moreover, the economic context matters: making use of the exogenous shock to national economies represented by the 2008 financial crisis, we show that sector-level inflows of immigrant workers have little effect on preferences when economies are expanding, but that they dampen support for immigration when economic conditions deteriorate and confidence in the economy declines. These sectoral effects remain even when controlling for natives' views about the impact of immigration on the national economy and culture. When evaluating immigration policy, individuals thus appear to take into account whether their sector of employment benefits economically from immigration.

Shortly after assuming power in 2010, the British government announced it would significantly reduce the number of immigrants arriving in the United Kingdom.[1] One of its first moves was to enact a ban on new migrants originating from outside the European Economic Area and planning to work in specific sectors, including restaurants, real estate, and the beauty industry. According to the government, these targeted bans are meant to free up jobs for natives who face competition from immigrant labor in their sectors during challenging economic times (BBC News 2011). In the process, these measures are likely also meant to endear the government to native workers in immigrant-receiving sectors.

Do workers employed in industries that become popular destinations for immigrants oppose immigration? To date, few scholars have investigated relationships between exposure to migrant labor at the industry level and views about immigration.[2] Yet, immigrant workers are often concentrated in specific sectors of the economy, exposing natives who work in these sectors to the potential costs—and benefits—of immigration. In this article, we argue that native workers consider the economic effects of immigration on their industry when formulating preferences over immigration policy. We propose that changes in broader economic conditions alter the perceived impacts of immigration on one's sector and therefore influence views about the desirability of immigration. We hypothesize that native opposition to immigration should rise during downturns, when shrinking demand makes it less likely that industries will expand production in response to an increase in the supply of migrant workers and when the prospects of interindustry mobility decline and downward wage pressures rise. In this context, native workers perceive higher costs than benefits of immigration into their sectors. Consistent with these propositions, our empirical results demonstrate that flows of migrant labor into one's industry dampen support for immigration, but only once economic conditions deteriorate and

[1]An online appendix with supplementary material is available at http://journals.cambridge.org/jop. Replication data and code will be available on publication at http://www.princeton.edu/~rdancygi/.

[2]For recent exceptions, see Malhotra, Margalit, and Mo (forthcoming) and Hainmueller, Hiscox, and Margalit (2011).

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the potential downsides of immigration become more salient to native workers.

Based on four rounds of the European Social Survey (ESS) (2002–2009), we make use of exogenous variation in economic conditions triggered by the 2007–2008 financial crisis and show that the effect of non-European immigrant inflows at the sector level on immigration preferences depends on the state of the economy. When national economies are declining, immigration into one's industry is associated with reduced support for open immigration policies. Sectoral inflows do not have these negative effects when national economies are doing comparatively better and confidence is higher. Similarly, employment growth in one's sector tends to be associated with more liberal immigration preferences.

While demonstrating that the effects of sectoral migrant inflows on preferences depend on the health of the economy, we argue that sectoral concerns are not necessarily based on how these inflows affect one's own economic self-interest. Rather, natives also care about the collective economic impact of immigration on workers in their sector. Based on immigration's presumed wage effects in the specific factors model, native workers should object to immigrant inflows into their sectors only if their skill profile mirrors that of immigrants. We find little evidence, however, that the industry effects we uncover vary across native skill groups, suggesting that economic concerns beyond straightforward wage effects shape opinion. Moreover, sectoral effects remain once we control for respondents' beliefs about immigration's impact on the economy at large. These findings are consistent with the interpretation that when natives believe immigration benefits their industry of employment, they are more likely to favor an open immigration policy. Developments in national and sectoral economies in turn help shape the perceptions about the economic costs and benefits of immigration to workers' sectors.

Existing research presents conflicting evidence about the role of economic interests in immigration policy preference formation. Testing the public opinion implications of the Heckscher-Ohlin (HO) model, Scheve and Slaughter (2001a) and Mayda (2006) find that low-skilled workers are less likely to favor immigrant inflows than are high-skilled workers in contexts in which low-skilled immigrant labor is prevalent. In such settings, low-skill workers are expected to suffer wage losses due to immigration, whereas more highly skilled natives should see their wages rise. Yet, disaggregating by both immigrant and native skill, Hainmueller and Hiscox (2007, 2010) maintain that such skill-based wage effects cannot explain attitudes. Cultural and sociotropic concerns, they argue, are more likely to drive opinions than is labor market competition. Their findings are in line with research proposing that individuals reject immigrants because they feel culturally threatened. Immigrants who speak a different language, are ethnically distinct, or have different religious beliefs from the native majority may undermine natives' sense of belonging or national identity.[3]

Our results contribute to this literature in two ways. First, we show that economic factors do shape views on immigration, and in contrast to the existing literature, we do so by highlighting developments at the sector level, covering a wide range of industries, countries, and economic conditions. To test sectoral arguments, we create measures of the levels of and changes in the share of migrants at the industry level across 31 industries in 23 countries. This allows us to exploit variation in migration patterns at a level much more proximate to individuals than measures of national immigrant flows. In the period under study, industry classifications changed, making it difficult for scholars to trace industry effects over time. We therefore devised new industry classifications that permit us—and other scholars—to conduct such over-time analyses. Our findings indicate that developments at the industry level remain important even when taking into account cultural concerns about immigration. Changes in economic conditions and, by implication, in the perceived costs of immigration, alter the ways in which the arrival of immigrant labor in one's sector affects views about immigration.

Second, our results suggest that narrowly defined economic self-interest is not the only way in which economic concerns may influence immigration preferences. That changes in sectoral economies shape these views regardless of skill or cultural predispositions supports interpretations that emphasize the role of sociotropic considerations about immigration's impact on workers in one's industry as a whole.[4] Information about developments in the national economy as well as in their industry in turn shapes natives' assessments about immigration's likely

[3]For recent accounts highlighting cultural threat, see Sides and Citrin (2007), Sniderman and Haagendorn (2007), Brader, Valentino, and Suhay (2008), Kriesi et al. (2008), and Helbling (2012).

[4]Hainmueller and Hiscox (2010) conclude that the preference for skilled migrants is consistent with perceptions of their positive impact on local economies. Citrin, Green, and Wong (1997) argue that immigration opinions are tied to evaluations of the state of the economy. See also Mansfield and Mutz (2009).

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impact on their sector.[5] This information will matter in how natives evaluate the effects of immigration on not only their own economic well-being but on that of others in their sector. We thus move beyond the current literature's focus on simple economic interest as the best place to look for economic impacts on attitudes toward immigration.

Below, we briefly discuss how developments at the industry level may influence natives' economic welfare and consequently shape their views about immigration. We then describe the data, propose the main hypotheses, and present the empirical results. The final section concludes.

Sectoral Immigrant Inflows and Native Economic Interests

In a global economy, the cross-border flow of goods, capital, and labor can have substantial distributive consequences. Analyzing which groups gain or lose from these flows is a precursor to understanding the preferences of electorates in open economies. The two overarching frameworks for examining the impact of migration on native wages are the factor-proportions (FP)[6] and specific factors (SF) models. The former highlights the effects of immigration on the wages of workers whose skills are similar to those of migrants in the national economy as a whole, while the latter centers on the effects of immigration on the wages of natives employed in the same sector as migrants.[7]

The FP model predicts that the inflow of a locally scarce factor will reduce returns to that factor. The arrival of low-skilled migrants in labor-scarce economies will diminish wages for domestic low-skilled workers, while improving the welfare of high-skilled natives. One central assumption underpinning this model is costless intersectoral mobility: for instance, a worker in the construction industry can move easily to a job in the service sector. By contrast, if one assumes that movement across sectors is associated with some cost—an important assumption of the SF model—a flow of migrant workers into a given sector may generate wage and job losses for natives in that sector. In particular, individuals employed in the migrant-receiving sector who have similar skills as immigrant workers should suffer wage losses and, as a result, reject such inflows on economic grounds.

There are several reasons workers face costs when switching sectors. For example, the experience accumulated in one sector may not be useful in another sector, making a move to a new sector less attractive from the standpoint of both the worker and the potential employer. Similarly, a move out of a sector may require costly relocation. Moreover, switching industries can cause nonmonetary costs such anxiety and stress (Lee and Wolpin 2006). Below, we describe the cross-national and intersectoral variation in migration patterns that allows us to examine the extent to which individuals react in accordance with frameworks focusing on sectoral migration.

Across countries, immigrants tend to cluster disproportionately in certain sectors of the economy. As a result, many natives are likely to have more exposure to immigrants in the workplace than in other spheres of their lives. In Sweden, for instance, where the overall share of immigrants in the labor force is 12.8%, 30% of workers in the hospitality industry are foreign-born compared to just 1% in the extractive industry (mining, oil, and gas). In Spain, where a recent influx boosted the share of immigrants in the labor force to 15.9%, one in four workers in the construction industry had immigrant origins, but this was true for fewer than one in 50 workers employed in publishing.[8] Thanks to the construction boom in Spain, the share of immigrants employed in this sector increased from 9.1% in 2002 to 26.3% in 2008. In the Netherlands, the percentage of foreign-born workers in waste management rose from 3.6 to 15.6% during the same time span.

Does the flow of immigrants at the industry level affect immigration preferences? According to the SF model, when workers' skills are specific to certain industries and workers cannot easily switch sectors, low (highly) skilled workers should suffer wage losses as low (highly) skilled labor enters their industries. Furthermore, we believe that these immigration-related costs matter when individuals evaluate immigration policy because economic sectors represent relevant sources of information. Following scholarship on

[5]See Kiewiet (1983) for a description of how macroeconomic outcomes can serve as useful information about the likely effects of public policy on personal interests.

[6]The application of the HO model to immigration can be seen as a special case of the factor proportions model (see Scheve and Slaughter 2001a for a brief explication).

[7]This is analogous to the "area approach," (see Borjas, Freeman, and Katz 1996) which focuses on the effect of geographically concentrated migration on local labor markets (e.g., Card 1990; Goldin 1994) and is similar to the Ricardo-Viner framework in the trade literature (e.g., Scheve and Slaughter 2001b).

[8]For measures of the overall share of immigrants in the labor force in 2007, see OECD (2009). Industry-level data is based on our own calculations for the year 2008, see below for more detail.

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attitude formation in the context of public opinion more generally (e.g., Conover 1985; Mutz and Mondak 1997) and reactions to immigration specifically (Dancygier 2010; Hopkins 2010), we argue that individuals arrive at their judgments about the desirability of immigration in part by considering the impact of immigration inflows on intermediate-level collectives. In contrast to developments at the personal level, which may be idiosyncratic and uninformative, information obtained at this level—in our case, at the sectoral level—is likely to have broader policy relevance.

Yet, economic conditions may influence the relationship between immigrant flows and native attitudes. In practice, immigrants often move to booming economies, in which case natives may not perceive a decline in their wages. Studies examining gateway cities indeed often fail to find wage effects following increases in the supply of local labor. In the face of locally segmented labor markets and limited worker mobility in the short term, the increased demand that accompanies the arrival of large numbers of migrants can mitigate downward wage pressures (Card 1990, 2001). Similarly, if immigrants seek employment in economies that are growing, they may provide the necessary reinforcement to meet rising demand (Massey 2008). Thus, native workers may not lose their jobs, and any negative effect on their wages may be disguised by the offsetting increase in wages, since the higher wages that would have arrived in the absence of migration are never observed.

Furthermore, national economic conditions also influence prospects of intersectoral mobility. During times of expansion, natives may feel less locked into their current sector of employment as job opportunities abound and help offset mobility costs. When increases in migrant labor can be matched by outflows of native workers in pursuit of better options, wages may remain unchanged.[9] Once the economy contracts, however, attractive outside options are less common, and the costs related to intersectoral mobility likely rise. During a recession, native workers may therefore view the inflow of immigrants into their sectors as economically threatening to themselves and their coworkers.

Finally, national economic conditions may matter in how natives evaluate the inflow of immigrants at the sector level, as the employment of immigrant labor may actually serve to shield native labor from the vicissitudes of the economy. When the economy slows down, immigrant workers are often the first ones to be laid off, ahead of their native coworkers. During recessions, joblessness among immigrants typically rises faster than among native labor, and net migration rates decline. During the 2007–2008 downturn the rise in the immigrant unemployment rate in the EU-15 was twice that of natives (OECD 2011a, 74). Natives who observe the departure—to the ranks of the unemployed or to their respective home countries—of migrant workers in their sectors might see the resulting job security as a benefit that outweighs the costs of decreased native hiring in good times. By contrast, if migrants arrive in one's industry as conditions worsen, this bargain appears to no longer hold, and natives are more likely to think that immigration harms themselves and their coworkers in their industry.

Research indeed suggests that the labor market impacts of immigration are worse for natives during downturns than during expansions (Peri 2010). As illustrated by recent actions in the United Kingdom as well as by the immigration bans across Europe in the 1970s, governments feel heightened pressure to control immigration when native workers struggle to hold on to their jobs. While the link between negative labor market impacts and voter perceptions of these impacts is an open question, this evidence strengthens the plausibility of the argument that voters are reacting to overall economic conditions when forming their preferences over migration policy.

Summing up, the arrival of migrant labor in one's industry is associated with both economic costs and benefits to native workers. Though native workers' wages may decline as immigrants enter their sector, there are several mechanisms by which natives' economic well-being may benefit—or at least not be harmed—when the share of migrant labor in their industry expands. Given these mechanisms, we argue that national employment growth as well as growth at the sector level may dampen native hostility to an increased supply of migrant labor. Conversely, during periods of economic decline, natives may oppose an increase in immigrant coworkers in their sector. When demand is falling, industries are not expected to expand, and outside options decline, the arrival of migrant newcomers in one's sector is likely to yield smaller benefits and greater costs.

Data

To measure immigration opinions, we use data from four waves of the ESS (2002–2009; ESS 2011). We calculated industry-level information, including the share of immigrants in a given sector and sectoral

[9] A similar logic applies to the effects of immigration in cities, where inflows often occur as natives depart (Borjas, Freeman, and Katz 1996; Card 2001).

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employment growth, on the basis of European labor force surveys provided to us by Eurostat. To examine the effects of sector on attitudes, we obtained data on the number of natives, EU- immigrants, and non-EU immigrants employed in each sector at the country level. To do so, we used the two-digit Classification of Economic Activities in the EU codes (NACE). NACE codes are based on a standard set of industries used by European statistical agencies. European labor force surveys typically identify respondents' industry of employment which corresponds with one of the broad industry classifications. One challenge in coding the industries of survey respondents over time is that a revised version of NACE went into effect in 2008. In order to make revision 1.1 (2000–2007) compatible with revision 2 (2008 onwards), we identified 31 mutually exclusive industries. Our new classification, which allows us to track employment in industries over time, covers the vast majority of the labor force. (For a detailed discussion of our coding process, including a mapping from NACE Revision 1.1 and NACE Revision 2 to our sector variable and the codes that cannot be classified (1.8% of the labor force and less than 1% of respondents in the ESS), see the appendix).

This new industry variable allows us to calculate several theoretically important sector-level variables for each country and survey year. First, we measure the proportion of foreign-born in a given sector broken down by EU and non-EU-origin (the specific country of birth is unavailable).[10] Second, we measure the annual employment growth for each sector. Finally, we calculate the share of migrants and the change in the share of immigrants in each sector for each country and year. The industry-level data range from 2000 to 2009 and include the EU-27 plus Norway and Switzerland. The German labor force survey does not provide country of birth, and hence Germany could not be included.

Furthermore, we focus our analysis on the basis of three criteria. First, we limit our investigation to countries that have experienced significant immigration because we expect the opinion formation and politics surrounding immigration to be very different in countries where large numbers of immigrants have settled (our results are not sensitive to this choice; see appendix). As Malhotra, Margalit, and Mo (forthcoming) argue, economic concerns may shape immigration opinions among workers who are actually exposed to immigrants in the labor market, but may have little effect on workers who do not have such contact. In the four waves of the ESS, there are 14 countries where foreign-born residents constitute a sizable share of the population and therefore comprise our sample.[11]

Second, we concentrate our analysis on opinions about immigrants originating from outside of the EU. Across Europe, debates about the desirability of immigrants have largely been about non-European migrants. These migrants are said to pose the greatest challenge to the economic prosperity and social fabrics of receiving countries.[12] Furthermore, if views about immigration matter in shaping policy, it makes sense to investigate how the inflow of non-European migrants influences opinion as governments have greater leeway in shutting the doors to migrants from outside the EU/EEA than they do with respect to intra-EU migration, which is essentially unrestricted.[13]

Finally, we take seriously the possibility that both the economic and the cultural background of immigrants affect native preferences over immigration policy. Focusing our analysis on the effects of non-European immigration allows us to assume the existence of a salient difference—in language, skin color, or religion—between immigrants and the native population. By contrast, failing to disaggregate regional background or focusing on European migrants only leaves open the possibility that some respondents will think of ethnically different groups while others will not.

The question measuring support for immigration is as follows: "Now, using this card, to what extent do you think [country] should allow people from the poorer countries outside Europe to come and live

[10]Accession of 12 new countries in 2004 and 2007 could create a problem if a sizable share of non-EU migrants resided in a country in one of our survey years, but, due to accession, this group would no longer be counted in postaccession years. We examined data on the national origins of immigrant groups (see World Bank 2007) and found this to be a potential problem in Austria, where migrants from several accession countries reside. The results below hold when Austria is dropped (available upon request from the authors). Moreover, the results are similar when we add country-year dummies, which help account for possible year-to-year changes introduced by accession (see appendix).

[11]Our sample includes countries whose immigrant population was at or above the sample's median (8.86%) at any point between 2002 and 2009. These countries are: Austria, Belgium, Switzerland, Cyprus, Estonia, Spain, France, Great Britain, Greece, Ireland, Luxembourg, Netherlands, Norway, and Sweden. We obtain very similar results when we define our sample based on the share of non-EU migrants in the labor force and when we include all available countries (see appendix).

[12]Even where the inflow of European migrants has been a topic of debate (e.g., in the case of Poles in the United Kingdom or Germans in Switzerland), the immigration of non-Europeans has been highly salient.

[13]Restrictions by Germany and Austria on migration from new accession countries expired in 2011.

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here?" Response categories (and values) include: "allow none" (1); "allow a few" (2); "allow some" (3); and "allow many" (4). By referring to "poor" countries, the question holds relatively constant the skill profile of incoming migrants, as most immigrants hailing from poor, non-European countries have lower skills than do natives in European destination countries (Hainmueller and Hiscox 2007).[14]

Before turning to the analysis, we present information on the distribution of non-EU migrants across industries based on our coding of industry classifications. Table 1 shows the share of employees born outside of the EU in industries where this share is at the low or at the high end, averaged over the period from 2002 to 2008 (for a table examining sectoral employment and growth patterns, see the appendix). We also include the sector size to convey the importance of a given sector to the national economy as well as to immigrant employment. Several patterns stand out. Few non-EU immigrants work in clerical industries such as insurance and pensions or public administration. Somewhat surprisingly, the agricultural sector contains relatively low shares of non-EU immigrants. One may be concerned that these low numbers are due to the fact that a sizable share of migrants in the agricultural sector are undocumented and therefore less likely to be counted by labor force surveys. This type of underreporting should not vary across years within countries, and when we run the analyses presented below excluding sectors that are commonly associated with illegal employment (agriculture, construction, and household goods and service production), the results remain very similar (see the appendix). The share of non-EU workers tends to be high in the manufacturing sector (especially food processing), the construction industry, and in accommodation and food services. Non-EU migrants also often find jobs in the household sector, as domestic staff, for instance (particularly in southern economies). In brief, non-European migrants are employed in both industrial and service sectors, and their distribution across industries varies substantially across national economies.[15]

[14]In rare instances, some respondents may think of highly skilled migrants from poor countries, such as Indian professionals in Great Britain. However, it seems unlikely that most respondents are focused on these types of migrants when the question highlights the poverty of the sending countries.

[15]The appendix further discusses these data and the uncertainty introduced by sampling error.

Empirical Tests

This extensive variation allows us to examine differences between native respondents in sectors that are adding or losing migrants while controlling for many possible sources of endogeneity. In the empirical tests, we pursue the following central question: how do immigrant inflows and job growth at the industry level influence preferences over immigration policy in changing economic times? Since we argue that the economic climate conditions the relationship between sectoral inflows and policy opinions, we are especially interested in the changing relationship over time. The financial crisis provides a large exogenous shock to European economies in 2008, and we use this sudden and dramatic event to examine how changes in the economy impact how the employment of immigrant coworkers at the sector level shapes native views on immigration policy.

The crisis hit Europe relatively late, so we might be worried that 2008 surveys will not detect these effects. As late as April, the OECD-Europe average unemployment rate was 6.7% and had remained at that level for three consecutive months. However, by December it had reached 7.9%, well on its way to the cyclical peak of 9.6% in January 2010 (OECD 2011b). By the end of the third quarter of 2008, the OECD-Europe area was officially in recession, having experienced two consecutive quarters of negative GDP growth (OECD 2011c). Most respondents in the fourth survey round were not sampled until late 2008 (interviews began in August 2008 and extended into 2009; 70% of respondents were sampled in the third and fourth quarter of 2008). It is therefore reasonable to assume that differences between the effects of migrant inflows on attitudes in 2008 and 2009 and the effects in other years are in large part driven by the economic crisis.

Yet, examining time trends is a somewhat crude test of economic effects. Though we should observe that sectoral immigration reduces support for future inflows during gloomy economic times, evidence of temporal effects may not be persuasive on its own. We therefore also include measures of the public's expectations of the "general economic situation over the next 12 months," taken for each country every month. This assessment of the overall economy is a particularly useful measure, as it incorporates the public's perception of the current and expected state of the economy. We hypothesize that as national assessments of their country's economic well-being change, so should individual views about the desirability

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Table 1 Distribution of Non-EU Immigrants across Industries (2002–2008)

	Non-EU Immigrants in Employment (%)	Industries with the Smallest Share of Non-EU Employees (in Bottom Quintile, %)		Sector Size (% Employed)	Industries with the Largest Share of Non-EU Employees (in Top Quintile, %)		Sector Size (% Employed)
Austria	11.00	Utilities	0.69	0.75	Construction	14.62	7.88
		Financial auxiliary activities	2.22	0.51	Food manufacturing	16.50	1.82
		Insurance & pensions	2.33	0.57	Accommodation & food	22.18	5.80
Belgium	5.93	Mining, oil, & gas	0.58	0.12	Retail	5.47	8.05
		Manuf. of electrical equipment	1.68	0.49	Hshld. goods & service production	7.28	0.44
		Research & development	1.74	0.28	Accommodation & food	15.63	3.03
Cyprus	11.20	Manuf. of electrical equipment	0.00	0.03	Agriculture, fishing, & logging	11.36	4.58
		Postal & courier activities	0.30	1.13	Construction	15.78	10.90
		Public administration	0.50	8.19	Hshld. goods & service production	94.50	3.80
Estonia	14.70	Waste	0.00	0.24	Water transportation	29.87	0.75
		Information technology	0.83	0.76	Real estate	36.21	1.90
		Finance	3.43	0.75	Financial auxiliary activities	44.98	0.04
France	7.89	Agriculture, fishing, & logging	2.71	3.38	Information technology	9.38	1.24
		Utilities	3.56	0.78	Hshld goods & service production	11.19	2.21
		Insurance & pensions	3.87	0.69	Accommodation & food	14.86	3.11
Greece	7.22	Financial auxiliary activities	0.49	0.19	Manuf. of consumer & other goods	10.67	5.68
		Insurance & pensions	0.54	0.55	Construction	26.51	7.49
		Public administration	0.66	7.36	Hshld. goods & service production	68.19	1.38
Ireland	3.32	Manuf. of electrical equipment	0.50	0.34	Hshld. goods & service production	6.42	0.40
		Real estate	0.54	0.44	Information technology	6.57	1.70
		Publishing	0.78	0.89	Accommodation & food	11.02	5.80
Luxembourg	5.53	Utilities	0.00	0.56	Other business activities	8.18	6.83
		Publishing	0.97	0.83	Financial auxiliary activities	9.26	1.19
		Agriculture, fishing, & logging	0.98	1.86	Accommodation & food	16.81	3.51
Netherlands	8.76	Water transportation	2.11	0.18	Manuf. of consumer & other goods	10.46	6.18
		Mining, oil, & gas	2.59	0.10	Accommodation & food	14.30	3.79
		Hshld. goods & service production	2.80	0.04	Air transportation	16.13	0.41

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TABLE 1 (Continued)

	Non-EU Immigrants in Employment (%)	Industries with the Smallest Share of Non-EU Employees (in Bottom Quintile, %)		Sector Size (% Employed)	Industries with the Largest Share of Non-EU Employees (in Top Quintile, %)		Sector Size (% Employed)
Norway	4.31	Finance	0.19	1.37	Food manufacturing	6.43	2.10
		Agriculture, fishing, & logging	0.30	3.21	Land transportation	6.54	2.39
		Research & development	0.50	0.48	Accommodation & food	14.80	2.87
Spain	10.33	Research & development	0.81	0.17	Construction	15.98	11.19
		Manuf. of electrical equipment	0.81	0.41	Accommodation & food	20.74	6.22
		Public administration	1.59	5.56	Hshld. goods & service production	43.07	3.09
Sweden	8.27	Insurance & pensions	1.20	0.44	Land transportation	10.62	2.56
		Agriculture, fishing, & logging	1.42	2.19	Food manufacturing	10.68	1.26
		Waste	2.10	0.31	Accommodation & food	23.92	2.74
Switzerland	11.57	Agriculture, fishing, & logging	2.29	3.74	Manuf. of electrical equipment	16.84	0.75
		Insurance & pensions	3.94	1.47	Food manufacturing	20.62	1.26
		Public administration	6.42	5.19	Accommodation & food	24.69	3.58
UK	7.54	Agriculture, fishing, & logging	1.96	1.22	Land transportation	9.66	2.26
		Waste	2.19	0.45	Health & social services	9.70	11.36
		Water transportation	2.74	0.13	Accommodation & food	14.64	4.15

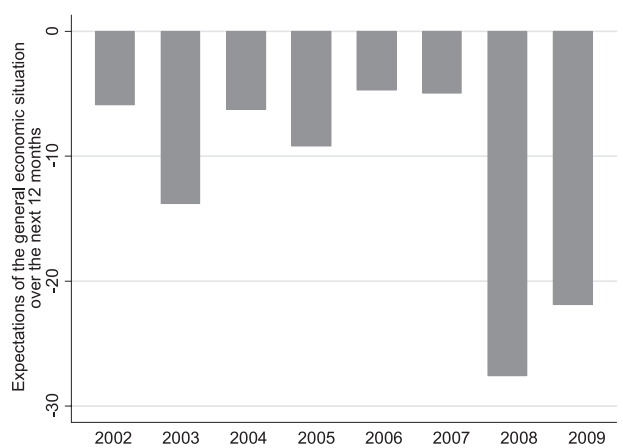
Note: "Non-EU immigrants in employment (%)" measures the percentage of the employed labor force that is born outside of the European Union in a given country. "Industries with the smallest (largest) share of non-EU employees" lists a selection of industries that are in the bottom (top) quintile with respect to their share of non-EU employees and provides measures of the percentage of non-EU employees in these sectors. "Sector size" measures the percentage of the total labor force employed in a sector. All measures are based on annual figures obtained from Eurostat, averaged over the period 2002 to 2008.

of immigrants. When economic conditions are anticipated to worsen, natives will be less likely to expect that immigration generally as well as immigration into their sectors will provide benefits such as meeting rising demand or cushioning natives from lay-offs. Instead, when natives are pessimistic in their evaluations of the economy, they are likely to expect such positive effects to vanish. As is apparent in Figure 1, which depicts the mean level of confidence in the economy in the countries that are part of our sample, confidence fell precipitously in 2008 and recovered only slightly in 2009 (see the appendix for similar trends by country). This sharp drop allows us to identify how changes in the economy—real and expected—influence how immigrant employment impacts policy preferences over immigration.

The models below consist of ordered probit regressions with country fixed effects. The sample is restricted to natives and excludes retirees. Since the main treatment variables of interest (change in the number of non-EU immigrants and in the number of total employees in one's sector) are assigned to groups of people likely to share a wide variety of unobserved characteristics, we allow errors to be correlated within each country-sector. Note that since these variables are measured at the level of country-year sectors, the effective sample size for estimating these coefficients is closer to the total number of country-year sectors (which vary across models, but are typically around 1,200, or 80 per country) than to the total number of respondents (Moulton 1986).

We first test whether the arrival of immigrants into one's sector shapes preferences over immigration. To measure sectoral immigrant inflows, we subtract the number of non-EU immigrants in a sector in the previous year from the number in the current year and divide by the number of total employees in the sector in the previous year. The measure of sector employment growth is similar and examines the change in the employment of all workers by sector. We next estimate regressions that test whether the effects of immigration at the industry level are conditional on the state of the economy. A rise in immigrant coworkers may not prompt opposition to future inflows in prosperous times but may very well cause such rejection when the economy is deteriorating, as it did in 2008–2009 when the public's evaluation of the economy was plummeting. Individual-level controls included in the regressions are gender (an indicator for male), age, educational attainment,[16] and union membership.[17] We further add contextual variables: the unemployment rate, GDP per capita, the share of foreign-born residents, and social benefits as a share of GDP (on the latter, see Facchini and Mayda 2009; Hanson, Scheve, and Slaughter 2007), as well as indicators for the survey rounds (to account for Europe-wide changes in opinions over time).

FIGURE 1 Public Confidence in the Economy, 2002–2009



Results in Table 2 (Model 1) indicate that the arrival of immigrants in respondents' sectors (*Sectoral Immigrant Inflows*) may have a negative impact on immigration preferences. This effect, though, is quite small[18] and barely significant at the .1 level. Though this may be surprising if we assume that natives are hurt by immigrant inflows into their industries, as stated above, it can also be the case that the native workforce actually benefits from a rise in migrant employment in their sectors.

Being employed in sectors that experienced growth over the previous year (*Sector Growth*) leads respondents to be more welcoming of migrants. This effect is consistent with our argument that immigrants may not displace natives when demand is high and that the employment of immigrants benefits their sector as a whole. Recognizing that their industry is expanding, their job is relatively secure, and their employers may need to hire more workers to remain competitive, natives in growing sectors have good reason to support open immigration policies. Note

[16]The indicators for educational attainment are: lower secondary or less (the excluded category), upper secondary, postsecondary, nontertiary, and tertiary. We do not add respondents' income as doing so reduces the sample size by 30%. Results remain similar with income included (see appendix).

[17]Donnelly (2011) argues that union members are more supportive of open immigration policies.

[18]A one standard deviation increase in *Sectoral Immigrant Inflows* raises the probability of a respondent answering "None" by about a quarter of a percentage point.

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TABLE 2 Determinants of Immigration Policy Preferences

	1	2	3	4	5	6
Sectoral immigrant inflows	-0.561		-0.472	-0.108		-0.206
	(0.331)		(0.334)	(0.373)		(0.345)
Sector growth	0.319**	0.332***	0.281**	0.287**	0.269**	0.258**
	(0.0969)	(0.0976)	(0.0982)	(0.0988)	(0.0926)	(0.0962)
ESS 2	-0.0126	-0.00617	-0.0121	-0.0116	0.0155	0.0272
	(0.0159)	(0.0162)	(0.0174)	(0.0175)	(0.0237)	(0.0246)
ESS 3	-0.0404*	-0.0353*	-0.0376	-0.0381*	-0.0274	-0.0285
	(0.0168)	(0.0170)	(0.0194)	(0.0193)	(0.0366)	(0.0380)
ESS 4	-0.0301	-0.0226	-0.0123	-0.0101	0.0266	-0.00364
	(0.0186)	(0.0184)	(0.0216)	(0.0214)	(0.0396)	(0.0432)
ESS 1 × Sectoral immigrant inflows		0.505			-0.0726	
		(0.571)			(0.609)	
ESS 2 × Sectoral immigrant inflows		-0.376			-0.231	
		(0.565)			(0.524)	
ESS 3 × Sectoral immigrant inflows		-0.146			-0.0775	
		(0.465)			(0.462)	
ESS 4 × Sectoral immigrant inflows		-1.989***			-1.867***	
		(0.550)			(0.502)	
Economic outlook			-0.0000368	-0.0000233		-0.000809
			(0.000690)	(0.000689)		(0.000717)
Economic outlook × sectoral immigrant inflows				0.0399**		0.0409***
				(0.0137)		(0.0121)
Medium education	0.164***	0.164***	0.164***	0.164***	0.165***	0.165***
	(0.0152)	(0.0152)	(0.0151)	(0.0151)	(0.0151)	(0.0151)
High education	0.257***	0.259***	0.258***	0.260***	0.258***	0.260***
	(0.0477)	(0.0478)	(0.0478)	(0.0478)	(0.0475)	(0.0477)
Highest education	0.531***	0.530***	0.536***	0.535***	0.532***	0.536***
	(0.0188)	(0.0188)	(0.0190)	(0.0190)	(0.0188)	(0.0190)
Age	-0.00696***	-0.00695***	-0.00712***	-0.00710***	-0.00695***	-0.00712***
	(0.000549)	(0.000550)	(0.000538)	(0.000537)	(0.000546)	(0.000535)
Male	-0.0156	-0.0162	-0.0160	-0.0167	-0.0171	-0.0181
	(0.0146)	(0.0146)	(0.0147)	(0.0147)	(0.0145)	(0.0146)
Union member	0.0566***	0.0572***	0.0558***	0.0557***	0.0565***	0.0566***
	(0.0166)	(0.0166)	(0.0169)	(0.0168)	(0.0166)	(0.0168)
Unemployment rate					-0.0163*	-0.0283***
					(0.00633)	(0.00715)
GDP per capita (in thousands)					0.0202	0.0322*
					(0.0127)	(0.0138)
Percent foreign born					-0.0452***	-0.0596***
					(0.00905)	(0.00919)
Social benefits (% of GDP)					-0.00402	-0.00493
					(0.00772)	(0.00738)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Cutpoint 1	-1.293***	-1.287***	-1.302***	-1.304***	-1.552***	-1.531***
Cutpoint 2	-0.0901	-0.0840	-0.0931	-0.0947	-0.347	-0.320
Cutpoint 3	1.274***	1.280***	1.269***	1.268***	1.019*	1.043*
Number of individuals	51,826	51,826	51,035	51,035	51,826	51,035
Number of country-sectors	408	408	406	406	408	406
Number of countries	14	14	14	14	14	14
Pseudo-R^2	0.074	0.074	0.076	0.076	0.075	0.077

Note: Ordered probit coefficients with robust standard errors, clustered on country sector, in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$.

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that it is unlikely that the positive association between *Sector Growth* and immigration preferences is driven by selection effects, whereby expanding industries attract workers who are generally in favor of open borders. Each sector in our sample experienced both positive and negative employment growth over the survey period (as well as a negative and positive balance of immigrant inflows). Furthermore, when we include sector fixed effects, *Sector Growth* remains statistically significant (at $p < .05$) and positive (see appendix).[19]

In order to test our hypothesis that the effect of sectoral immigrant inflows on attitudes is conditional on the economic climate, we estimate separate impacts of sectoral immigration on attitudes for each survey round (Model 2). The quantity of interest is the interaction of *Sectoral Immigrant Inflows* and *ESS4*, the fourth round, which was in the field during the economic crisis. In contrast to prior years, this interaction is significant and negative in 2008–2009: during the downturn, inflows of immigrant coworkers into one's industry dampen support for immigration ($p < .001$; this effect is significantly different from effects in previous rounds at $p = .001$, $p = .028$ and $p = .008$ in rounds one, two, and three, respectively).[20] A similar picture emerges when we examine the effect of *Economic Outlook*, the public's monthly assessment of the state of the economy. Though on its own public expectations about the economy have little impact on respondents' approval of immigration, when confidence in the economy drops, an increased immigrant presence in one's sector diminishes support for continued immigration (Models 3 and 4).

How big are these effects? A one standard deviation increase in *Sector Growth* decreases the probability of believing that no immigrants should be allowed by about half a percentage point, similar to the effect of five years of age. By contrast, a one standard deviation increase in the share of migrants in a respondent's sector when the economy declines decreases the probability of supporting policies allowing "Many" immigrants to enter by a little more than half a percent. This suggests that the effects of sector-level variables, while not overwhelming, are large enough to have real political consequences in sectors that experience substantial changes in immigrant employment during downturns.

In 2008, the net change in non-EU migrant employment in the hospitality sector in the United Kingdom was positive. The sector added migrants at a rate of about 1.9% of its 2007 total employment. At the same time, total employment in that sector declined by about 1.6%. In other words, natives and EU migrants lost jobs, while non-EU migrants gained them. If the coalition's restrictions on non-EU migrants described above had been in force and job losses among these migrants had accounted for the overall decline, we estimate that the total number of employees in that sector who support open immigration policies ("Some" or "Many") would have increased from about 41.6% to about 44.0%. This is larger than the hypothetical effect of unionizing the entire sector (41.6 to 43.5%) or replacing the workforce with individuals five years younger, but otherwise identical (41.6 to 42.9%). Since the British economic outlook in 2011 was, if anything, worse than it appeared in 2008, the coalition's policy is likely to have an even larger effect on attitudes toward immigration in the sectors to which it applies.

Figure 2 shows the size of the impact of immigrant inflows at different values of *Economic Outlook*. It is based on simulations from Model 4 and displays the policy preference differences between individuals in sectors in which immigrant inflows are one standard deviation above and below the mean. Such a change is associated with about a 5-point increase in complete opposition to immigration when the economic outlook is gloomy (at its minimum of negative 64; see upper-left panel): As faith in the health of the economy wanes, the addition of immigrant workers in one's industry raises opposition to immigration. In contrast, when assessments of the economy improve, changes in sector-level migrant employment have little effect on these policy preferences.[21]

In Models 5 and 6, we add further contextual controls. Including the unemployment rate and GDP

[19]The appendix also includes similar results based on a series of alternative specifications, including hierarchical modeling, multistage clustering, randomization tests, and propensity score matching.

[20]These effects are stronger in countries most harmed by the recession. When we split the sample (using the median *Economic Outlook* score in 2008), *ESS4* × *Sectoral Immigrant Inflows* is larger in magnitude and more significant where economic confidence was low (these differences are significant at $p < .05$). Moreover, when we estimate models by round, *Sectoral Immigrant Inflows* is negative and significant in round 4. This effect is different from the effect of this variable in all other rounds ($p = .009$, $p = .09$, $p = .0008$ when compared to rounds 1, 2, and 3, respectively). Lastly, the main results remain unchanged when we allow the effect of education, union membership, age, and gender to vary by survey round (only union membership varies across rounds).

[21]The effect sizes in bad economic times are comparable to the effects of fiscal exposure for the upper class detected in Hainmueller and Hiscox (2010, Figure 4), who show that wealthier Americans living in states with high levels of welfare spending and immigration are less supportive of low-skilled migration than similar respondents living in less generous states.

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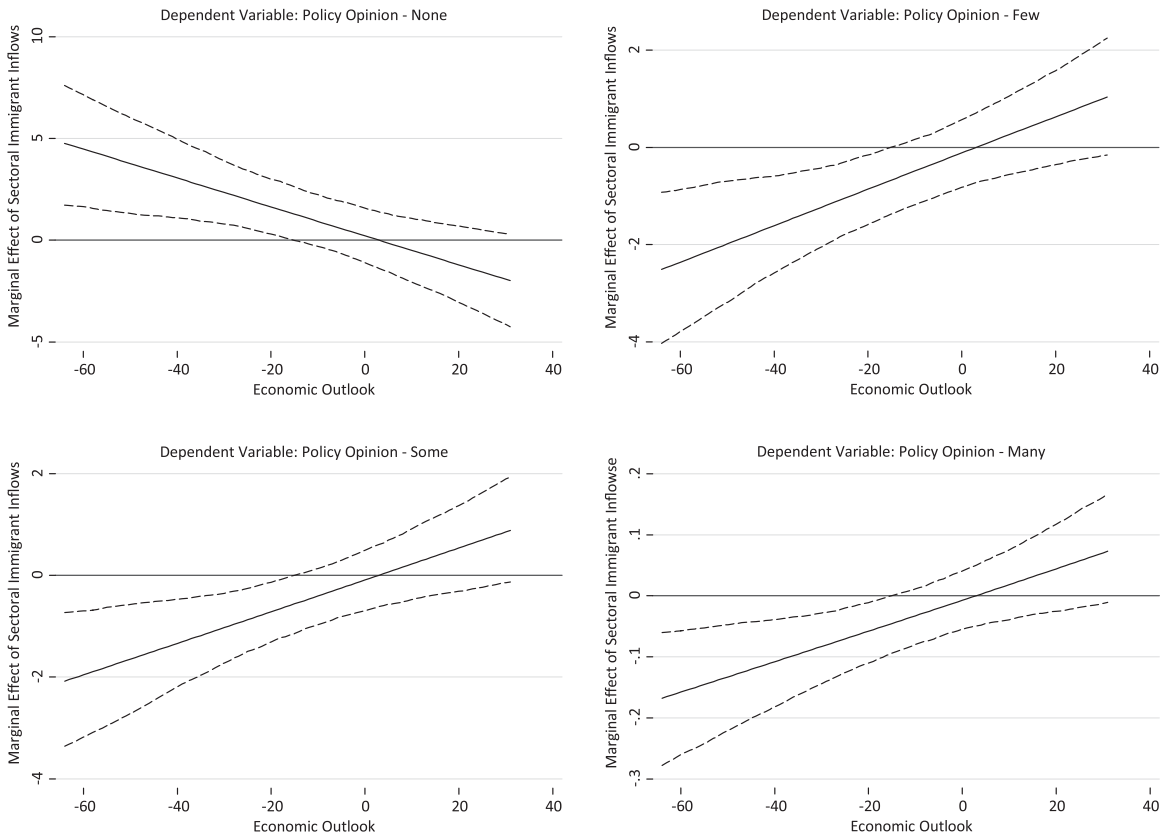
FIGURE 2 The Effect of Sectoral Immigrant Inflows at Different Levels of Confidence in the Economy



Note: The solid line traces the effect; the dashed lines represent the upper and lower bounds of the 95% confidence interval.

per capita does not substantially change the magnitude or significance of the interactions between *Sectoral Immigrant Inflows* and, respectively, *ESS4* and *Economic Outlook*. Note also that *Sector Growth* stays positive and significant with macroeconomic controls included, indicating that workers do take sectoral employment trajectories into account when formulating views about immigration.[22]

Summing up, results indicate that the state of the economy conditions the effect of immigrant inflows at the industry level on immigration preferences. When national economies decline, as they did in 2008–2009, and confidence in the economy dwindles, an increased presence of immigrant workers in their sectors makes natives more likely to be hostile to the prospect of future inflows.

[22]We also find that the interaction of *Sectoral Immigrant Inflows* and *Sector Growth* is only positive and statistically significant ($p = .061$) when public confidence in the economy is low (i.e., when *Economic Outlook* is below the median).

Further Evaluation and Robustness

To assess the robustness of the benchmark results presented in Table 2 as well as to evaluate more closely how sectoral economies drive immigration opinions, we estimate a set of additional models based on theoretically interesting subsets and controlling for potential alternative explanations. These further strengthen our confidence that sectoral economies shape immigration preferences. First, we probe whether the responsiveness of immigrant labor to downturns and upswings at the sector level matters in shaping opinion. Native workers may be more open to foreign labor in countries where immigrant employment tracks sectoral developments. If immigrant workers arrive as industries expand and depart as they face contraction, native labor is more likely to benefit from immigration than in contexts where immigrant employment is less sensitive to economic fluctuations.

To test whether the responsiveness of migrant labor to sectoral economic conditions impacts views about immigration, we created a new variable, *Migrant*

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Employment Responsiveness, by measuring the correlation of the change in total employment in a sector and the change in immigrant employment in that sector, making use of annual industry-level data from 2000 to 2009. We calculated correlation coefficients for each country, weighting by sector size and number of immigrants to account for the importance of a given sector for immigrant employment and for the national economy. This measure is designed to provide an assessment of the extent to which migrants flow to industries that experience growth while leaving those in decline.[23] At the low end, Luxembourg registers .16 while Switzerland has the highest score of .92 (the mean and median are .57), suggesting that in Luxembourg immigrant sectoral employment does not follow the same patterns as overall sectoral employment whereas in Switzerland, immigrants tend to move into growing sectors and leave shrinking ones.

Table 3 includes our summary measure, *Migrant Employment Responsiveness* and this variable's interaction with *Sectoral Immigrant Inflows* (for reasons of space, we only include models with contextual controls; results are very similar when these controls are excluded and are available upon request). Since the former variable is measured at the country level, we cannot include country fixed effects. Nevertheless, most of the variables behave as in previous models.[24] Turning to *Migrant Employment Responsiveness*, results show that when the employment of immigrant labor tracks sectoral growth patterns, opinions towards immigration become more favorable. One can imagine that natives might not object to additional foreign-born coworkers if these new workers are expected to leave their jobs once employment begins to dry up. Moreover, the positive and significant interaction between *Sectoral Immigrant Inflows* and *Migrant Employment Responsiveness* is consistent with our expectations: When the size of the immigrant workforce tracks industry growth, natives become more likely to respond positively to immigrant inflows. Conversely, when economic contractions do not lead to the departure of immigrant workers, native support for immigration declines (see the appendix for simulations of these conditional effects). Note that the effects of *ESS 4*, *Economic Outlook*, as well as these variables' interactions with *Sectoral Immigrant Inflows*, remain substantively unchanged when *Migrant Employment Responsiveness* is included (but note that *ESS4*×*Sectoral Immigrant Inflows* is not significantly different from the interaction in round 2; $p = .170$).

We next probe to what extent our results are consistent with explanations stressing economic self-interest on the one hand and concerns about immigration's effect on one's sector on the other. If anticipated wage effects shape preferences over policy, sectoral inflows of low-skilled migrants should be associated with negative views among low-skilled natives, especially as the economy contracts, and with more positive views among skilled natives. Yet, recent research has called into question whether natives indeed formulate immigration preferences on the basis of these wage effects (Hainmueller and Hiscox 2007, 2010), and economists have found that the magnitudes by which immigration changes wages is, on average, rather small (Friedberg and Hunt 1995; Ottaviano and Peri 2008). In this article, we have hypothesized that several mechanisms other than changes in pay (e.g., the need for immigrants to meet demand shocks or the notion that migrant labor may shield natives from being laid off) could influence how natives evaluate the impact of immigration into their sectors. Further, if workers consider immigration's impact on their sector as a whole, these skill-based wage effects should be less salient as workers care about the welfare of others in their sector. Both highly and low-skilled workers might favor immigration as their sector expands, and the effects of changes in migrant employment at the industry level should be conditional on the economy among both sets of workers.

In Table 4 we seek to differentiate these two accounts by breaking down the results by skill, where we define low (high) skilled respondents as those whose number of formal years of education is at or below (above) the median years of education in their respective countries. The results are not consistent with the expectation that anticipated wage effects shape opinion. In fact, while the highly skilled are more likely to support open immigration policies, the main patterns are quite similar across skill groups. Among both groups, *Sector Growth* is associated with support for immigration. Additionally, among both types of workers, an expansion of the non-EU labor force in their industries boosts or dampens their support for such immigration depending on the health of the economy (differences across skill groups in the coefficient magnitudes of the quantities of interest are not statistically significant). That the effect of industry-level immigration on policy preferences is conditional on the economic context is consistent with the mechanisms we posit above

[23]Discussion of this correlation also enters the public debate; see Ford (2009) and Cardona (2012).

[24]Two differences are the effect of the unemployment rate and the coefficient on *Social Benefits*.

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TABLE 3 Determinants of Immigration Policy Preferences – Additional Controls

	Migrant Employment Responsiveness		Immigration Good for the Economy		Cultural Impact	
	1	2	3	4	5	6
Sectoral immigrant inflows		-2.780**		0.218		-0.244
		(1.050)		(0.356)		(0.333)
Sector growth	0.318*	0.299*	0.186*	0.175	0.255**	0.250**
	(0.131)	(0.136)	(0.0924)	(0.0955)	(0.0875)	(0.0901)
ESS 2	-0.0753***	-0.108***	0.0661*	0.0798**	0.0229	0.0338
	(0.0243)	(0.0309)	(0.0272)	(0.0269)	(0.0259)	(0.0262)
ESS 3	-0.114***	-0.144***	0.0387	0.0390	-0.00619	-0.00902
	(0.0223)	(0.0301)	(0.0400)	(0.0391)	(0.0391)	(0.0386)
ESS 4	-0.127***	-0.109**	0.0995*	0.0639	0.0309	0.00380
	(0.0224)	(0.0340)	(0.0415)	(0.0459)	(0.0388)	(0.0435)
ESS 1 × Sectoral immigrant inflows	-2.019		0.533		-0.226	
	(1.271)		(0.692)		(0.727)	
ESS 2 × Sectoral immigrant inflows	-4.495***		-0.0231		-0.112	
	(1.077)		(0.527)		(0.486)	
ESS 3 × Sectoral immigrant inflows	-1.627		0.329		-0.419	
	(1.063)		(0.546)		(0.514)	
ESS 4 × Sectoral immigrant inflows	-5.852***		-1.229*		-1.225*	
	(1.309)		(0.478)		(0.491)	
Economic outlook		0.00167				-0.000688
		(0.00128)				(0.000793)
Economic outlook × Sectoral immigrant inflows		0.0419*		-0.000999		0.0264*
		(0.0199)		(0.000809)		(0.0108)
Migrant employment responsiveness	0.586***	0.589***		0.0407***		
	(0.0719)	(0.0787)		(0.0118)		
Migrant employment responsiveness × Sectoral immigrant inflows	4.624**	3.674*				
	(1.497)	(1.669)				
Immigration good for the economy			0.248***	0.249***		
			(0.00389)	(0.00388)		
Cultural impact					0.228***	0.228***
					(0.00346)	(0.00348)
Medium education	0.103***	0.0964***	0.0683***	0.0661***	0.0750***	0.0733***
	(0.0215)	(0.0212)	(0.0145)	(0.0144)	(0.0150)	(0.0150)
High education	0.159**	0.145*	0.125**	0.126**	0.137**	0.138**
	(0.0581)	(0.0586)	(0.0475)	(0.0477)	(0.0430)	(0.0433)
Highest education	0.449***	0.448***	0.262***	0.264***	0.272***	0.275***
	-0.03	(0.0260)	(0.0163)	(0.0165)	(0.0153)	(0.0156)

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TABLE 3 (Continued)

	Migrant Employment Responsiveness		Immigration Good for the Economy		Cultural Impact	
	1	2	3	4	5	6
Age	-0.00709***	-0.00724***	-0.00865***	-0.00881***	-0.00673***	-0.00685***
	(0.000600)	(0.000593)	(0.000521)	(0.000514)	(0.000509)	(0.000509)
Male	-0.0227	-0.0241	-0.102***	-0.103***	-0.00836	-0.00838
	(0.0274)	(0.0282)	(0.0133)	(0.0134)	(0.0120)	(0.0122)
Union member	0.192***	0.187***	0.0409**	0.0412**	0.0283*	0.0289*
	(0.0357)	(0.0335)	(0.0156)	(0.0158)	(0.0143)	(0.0144)
Unemployment rate	0.0465***	0.0480***	0.00418	-0.00970	-0.00705	-0.0180*
	(0.00668)	(0.00888)	(0.00669)	(0.00698)	(0.00654)	(0.00782)
GDP per capita (in thousands)	0.0380***	0.0371***	-0.0130	0.000225	0.0261*	0.0373**
	(0.00289)	(0.00285)	(0.0131)	(0.0139)	(0.0119)	(0.0130)
Percent foreign born	-0.0152***	-0.0144**	-0.0495***	-0.0657***	-0.0406***	-0.0534***
	(0.00423)	(0.00438)	(0.00842)	(0.00850)	(0.00846)	(0.00918)
Social benefits (% of GDP)	-0.0172**	-0.0188***	-0.00975	-0.0100	-0.0125	-0.0130
	(0.00571)	(0.00551)	(0.00738)	(0.00725)	(0.00735)	(0.00723)
Country fixed effects	No	No	Yes	Yes	Yes	Yes
Cutpoint 1	-0.169	-0.241	-1.504***	-1.472***	-0.481	-0.442
Cutpoint 2	0.995***	0.927***	-0.118	-0.0787	0.889*	0.934*
Cutpoint 3	2.302***	2.231***	1.420***	1.458***	2.421***	2.464***
Number of individuals	51,826	51,035	50,744	49,956	50,958	50,171
Number of country-sectors	408	406	408	406	408	406
Number of countries	14	14	14	14	14	14
Pseudo-R^2	0.048	0.0489	0.163	0.164	0.156	0.157

Note: Ordered probit coefficients with robust standard errors, clustered on country sector, in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$.

whereby both high- and low-skilled labor perceive the benefits of sectoral immigration for their fellow coworkers as the economy is expanding.

In another test, we examine whether the sectoral effects we uncover are due to evaluations of immigration's impact on sectoral economies rather than on the economy at large. It may be the case that workers use developments in their sector to draw inferences about immigration's effect on the national economy; those who think that immigration benefits the economy as a whole will in turn be likely to support immigration. As Mansfield and Mutz (2009) find, support for international trade among Americans rises if they believe the United States as a whole stands to gain from trade. We include a similar measure tapping into sociotropic attitudes with respect to immigration, which asks whether "it is generally bad or good for [country]'s economy that people come to live here from other countries." Responses range from 0 to 10, with low values indicating negative perceptions.

Returning to Table 3, Models 3 and 4 provide evidence that sociotropic evaluations do impact immigration opinions: When respondents perceive immigration to be good for the national economy, they are more likely to endorse liberal immigration policies. These effects do not eliminate the influence of sectoral economies. As before, *Sector Growth* raises support for open borders, while *Sectoral Immigrant Inflows* during the recession are associated with less favorable views of immigration. In other words, in making judgments about the desirability of immigration, individuals consider the health of their sector and how the inflow of migrant workers influences their sector's economic well-being, irrespective of the perceived effects of immigration on the economy at large.

Do these findings hold up once we also consider views about the cultural impact of international migration? Scholars have consistently found that perceptions of immigration's cultural threat increase

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TABLE 4 Determinants of Immigration Policy Preferences by Skill

	Low-Skill Respondents		High-Skill Respondents	
	1	2	3	4
Sectoral immigrant inflows		-0.253		-0.331
		(0.440)		(0.406)
Sector growth	0.282*	0.297*	0.266*	0.242
	(0.117)	(0.123)	(0.123)	(0.124)
ESS 2	0.0230	0.0385	0.00969	0.0271
	(0.0336)	(0.0358)	(0.0350)	(0.0379)
ESS 3	-0.0155	-0.0109	-0.105*	-0.0896
	(0.0515)	(0.0539)	(0.0497)	(0.0541)
ESS 4	0.0515	0.0298	-0.0567	-0.100
	(0.0587)	(0.0636)	(0.0555)	(0.0582)
ESS 1 × Sectoral immigrant inflows	-1.121		1.079	
	(0.811)		(0.906)	
ESS 2 × Sectoral immigrant inflows	-0.540		-0.128	
	(0.668)		(0.653)	
ESS 3 × Sectoral immigrant inflows	0.441		-0.887	
	(0.565)		(0.699)	
ESS 4 × Sectoral immigrant inflows	-1.287		-2.285***	
	(0.716)		(0.674)	
Economic outlook		-0.000693		-0.00178*
		(0.000956)		(0.000862)
Economic outlook × Sectoral immigrant inflows		0.0325*		0.0483**
		(0.0165)		(0.0167)
Years of education	0.0173***	0.0178***	0.0651***	0.0650***
	(0.00402)	(0.00406)	(0.00346)	(0.00352)
Age	-0.00673***	-0.00689***	-0.00531***	-0.00538***
	(0.000669)	(0.000651)	(0.000772)	(0.000770)
Male	-0.0134	-0.0135	-0.0347	-0.0375
	(0.0170)	(0.0170)	(0.0192)	(0.0194)
Union member	0.0515*	0.0518*	0.0667**	0.0664**
	(0.0201)	(0.0202)	(0.0237)	(0.0243)
Unemployment rate	-0.00952	-0.0216*	-0.0275**	-0.0369***
	(0.00903)	(0.0109)	(0.00962)	(0.0104)
GDP per capita (thousands)	0.0235	0.0329	0.0433*	0.0509*
	(0.0187)	(0.0205)	(0.0193)	(0.0202)
Percent foreign born	-0.0640***	-0.0740***	-0.0223	-0.0363**
	(0.0126)	(0.0133)	(0.0119)	(0.0118)
Social benefits (% of GDP)	-0.0117	-0.0113	0.0188	0.0176
	(0.0100)	(0.00984)	(0.0122)	(0.0119)
Country fixed effects				
Cutpoint 1	-1.634**	-1.578*	0.322	0.245
Cutpoint 2	-0.439	-0.380	1.542*	1.475*
Cutpoint 3	0.890	0.946	2.945***	2.875***
Number of individuals	25,633	25,288	25,889	25,442
Number of country-sectors	395	395	401	401
Number of countries	14	14	14	14
Pseudo-R^2	0.064	0.065	0.064	0.065

Note: Ordered probit coefficients with robust standard errors, clustered on country sector, in parentheses. Since we split the sample by years of education, we employ the continuous education variable here. * $p < .05$, ** $p < .01$, *** $p < .001$.

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hostility towards immigration (e.g., Sides and Citrin 2007; Sniderman and Hagedoorn 2007). That sectoral effects depend on the state of the economy as well as on the public's expectations about the future health of the economy suggests that material concerns indeed structure immigration opinions. Nevertheless, it could be the case that economic decline activates ethnocentrist attitudes. As Kriesi et al. (2008) have argued, individuals whose economic security is endangered by processes of globalization—such as the international financial crisis—are more susceptible to ethnocentrist anti-immigrant appeals. In Models 5 and 6 (Table 3), we therefore include views about the cultural impact of immigration (see the appendix for the question wording). As expected, respondents who think that immigration damages their country's culture are less likely to favor more immigration. However, even when we control for this assessment, sectoral employment growth is associated with positive views about immigration while the effect of sectoral immigrant inflows continues to hinge on the state of the economy (similar results obtain when we control for respondents' ideology; see appendix).[25]

Conclusion

This article has made theoretical and empirical contributions to the debate about the sources of public opinion toward immigration. By introducing new industry-level data and examining surveys administered under widely varying economic conditions, we have tested sectoral arguments and shown that attitudes toward immigration are, in part, a function of the patterns that natives experience in their work life. Sectoral economies influence the immigration policy preferences of natives. When sectors are expanding and when industry-level migrant inflows occur during good economic times, immigration is likely to be associated with sectoral economic benefits, and support for immigration rises. By the same logic, when economies contract an increase in immigrant workers in one's sector is more likely to be associated with the downsides of immigration and restrictionist views.

Our findings are consistent with a fairly simple pattern of inference. To behave in ways that are compatible with the theoretical propositions presented above, natives do not have to understand the intricacies of economic theory in order to assess their own interests. Instead, they must simply observe conditions in the economy at large as well as developments in their sector and consider their options. These options, in turn, vary based on economic conditions and sectoral immigration patterns.

By constructing meso-level measures that more closely approximate the information available to respondents, we increase the validity of analyses that are necessarily somewhat crude. As is the case with all observational data, demonstrating causal effects requires strong assumptions. Scholars who have investigated immigration preferences by designing survey experiments to identify the sources of opposition are able to make weaker assumptions (e.g., Brader, Valentino, and Suhay 2008; Hainmueller and Hiscox 2010; Malhotra, Margalit, and Mo forthcoming). By taking advantage of variation across a wide range of sectors, countries, and sectoral economic conditions, this article complements research that uses a more targeted approach to isolate the effects of labor market competition on immigration preferences among particular workers in specific industries and at one point in time. We arrive at results that are consistent with the idea that economic interests matter, but that these interests do not reflect a straightforward wage-competition mechanism. High- and low-skilled workers respond to changes in the economy and to sectoral migrant inflows in similar ways. Furthermore, sectoral effects remain once we control for assessments about the impact of immigration on the national economy and culture. Together, these findings suggest that when thinking about the desirability of immigration, workers take into account the impact of migrant labor on the well-being of their industry as whole.

These results suggest a need for additional research on the role of sectors and workplace experiences in shaping attitudes toward immigration. The sectoral model developed here may be fruitfully extended to research on immigrant and native skill specificity (e.g., Iversen and Soskice 2001). Combining our sectoral approach with more fine-grained measures of immigrant and native skills could yield important theoretical and empirical advances. Additionally, future research can build on our work by investigating how information environments and institutions help natives connect workplace developments with their evaluation of immigration. In preliminary explorations of this line of inquiry, we tested whether sectoral effects are weaker among union members, who in recent years have been shown to share more solidarity with immigrants, and whether workers employed in large firms might be

[25]Note that though *ESS 4* × *Sectoral Immigrant Inflows* is significant at $p = .013$, this effect is not significantly different from interactions with rounds 1 and 3 ($p = .240$ for both rounds).

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better able to make these sectoral connections than those working for smaller employers. Though we do not find that these institutions shape how sectoral immigrant inflows together with national economic trends influence immigration opinions, establishing how individuals learn about immigration and its consequences represents a promising avenue for future research.

European governments have responded to the recent global economic downturn by imposing new limits on immigration (OECD 2011a). Our findings suggest that policy makers who seek to gain voter support by altering immigration policies would benefit from considering the sectoral distribution of their intended audiences and the patterns of migrant employment in their country at the time. If, for instance, a politician wishes to satisfy workers in growing sectors and a strong economic environment, encouraging migrants to seek employment in those sectors may be a winning strategy. Conversely, in a weak employment market, a more successful policy may be to restrict migration into sectors that are suffering the most, thus satisfying those native workers most likely to oppose immigration. Our study provides some of the microfoundations for these policy prescriptions. Future research can investigate whether politicians take these microfoundations into account when formulating immigration policy.

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