

Do Concerns about Labour Market Competition Shape Attitudes Toward Immigration? New Evidence from U.S. Workers

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ABSTRACT

To what extent are voters' attitudes toward immigration determined by considerations of material self interest and fears about labor market competition? General equilibrium models predict that immigration has negligible effects on the wages and employment of most native workers, and these predictions are generally confirmed by the bulk of the empirical research on the labor market impacts of immigration flows. But several prominent studies have recently examined survey data on voters and argued that fears about labor market competition are actually a potent source of anti-immigrant sentiment. We address several measurement problems that plague the use of survey data in these previous studies by conducting a large targeted survey of current U.S. employees in 12 industries. These industries vary with respect to their exposure to key dimensions of globalization. We test potential relationships between the skill levels, industry locations, occupations, and mobility of these employees and their attitudes towards different types of immigrants. In contrast with previous studies, our tests indicate that fears about labor market competition do not have substantial effects on voter attitudes towards immigration.

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I. INTRODUCTION

Are concerns about labor market competition a powerful source of anti-immigrant sentiment? Several prominent studies have examined survey data on voters and concluded that fears about the negative effects of immigration on wages and employment play a major role in generating anti-immigrant attitudes (Scheve and Slaughter; 2001; Mayda; 2006). The claim made in these studies is that, to a large degree, voters form attitudes about immigration based upon calculations of material self interest and expectations about the labor market impacts of immigration.

The conclusions drawn in these previous studies are puzzling for two reasons. First, general equilibrium models predict that immigration has negligible or ambiguous effects on the wages and employment of most native workers. Second, these predictions from the models are generally confirmed by the bulk of the empirical research on the labor market impacts of immigration flows into European and American labor markets which indicates that the effects of such flows on income and employment are quite small. In short, the best theory and evidence strongly suggests that the job market effects of immigration should not be a concern for most voters, yet scholars examining survey data have concluded just the opposite. Resolving this contradiction is an important step towards improving our understanding of public opposition to immigration and support for anti-immigrant political movements and policy initiatives.

An important constraint for studies examining voter attitudes towards immigration is that most opinion surveys are blunt instruments that fail to gather detailed data on the economic characteristics of the respondents and their views about specific types of immigrants. In particular, the most prominent (and frequently used) general surveys ask few or no questions about respondents' employment experience, job training, and willingness and ability to find new jobs, and rarely identify the specific industries in which respondents are employed. In addition, these surveys ask respondents to describe their attitudes towards immigration in general without allowing for any differentiation in their views about varying types of immigrants (e.g., high-skilled versus low-skilled) that may be associated with different expectations about labor market impacts. As a consequence of these data constraints, previous studies that examine the importance of concerns about labor market competition in shaping anti-immigrant

sentiments among voters tend to apply crude and indirect tests.

We address several important data constraints that have hampered previous studies of voters' economic concerns about immigration by conducting a large targeted survey of current employees in 12 industries in the United States. We examine potential relationships between the skill levels, industry locations, occupations, and mobility of these individual employees and their attitudes towards different types of immigrants. In contrast with previous studies, but consistent with predictions from general equilibrium models and research on the labor impacts of immigration, our tests indicate that fears about labor market competition do not have substantial effects on voter attitudes towards immigration.

Specifically, we find no evidence that individuals are systematically more likely to oppose the immigration of workers that possess skills similar to their own. Rather, workers of all types express greater support for inflows of high-skilled rather than low-skilled immigrants. Strikingly, this preference is almost identical among respondents in all segments of the labor force one compares: among high skilled and low skilled workers, for example, among production workers as well as managers, poor and rich individuals, high school drop-outs and individuals with graduate degrees, and workers located in all the industries we studied. While support for immigration varies across industries, this variation is explained by individual characteristics of respondents and not features of industries such as the degree to which industries rely upon immigrant labor in general, or high-skilled versus low-skilled immigrants. Industry-specific effects are not evident even when accounting for variation in skill specificity and job mobility among respondents.

We replicate all our main results based on stated attitudes towards immigration among survey respondents using an innovative, quasi-behavioral measure of the willingness of survey respondents to have an email message about their views on immigration policy sent on their behalf to their Member of Congress (which includes the respondents name and city). The results from this quasi-behavioral measure confirm the main conclusions. Overall, the results indicate that material self-interest and fears about labor market competition do not appear to be powerful determinants of anti-immigrant sentiment. The results are more consistent with alternative accounts emphasizing non-economic concerns among voters associated with

ethnocentrism or sociotropic considerations about the effects of immigration on the country as a whole (Bauer et al.; 2000; Burns and Gimpel; 2000; Dustmann and Preston; 2007). These accounts connect to an extensive body of research indicating that material self-interest rarely plays a large role in shaping voters' opinions about major policy issues (Kinder and Sears; 1981; Sears et al.; 1980).

II. LABOR MARKET COMPETITION AND IMMIGRATION

A large scholarly literature on individual attitudes toward immigration attributes anti-immigrant sentiments to a range of potential sources, including concerns about negative cultural, social, and economic effects. Several prominent studies have emphasized considerations involving material self-interest, and in particular, peoples' concerns about immigrants threatening their earning capacities and employment opportunities (Scheve and Slaughter; 2001; Mayda; 2006). According to these accounts, individuals are substantially more opposed to immigration the more they perceive the incoming immigrants as harming their own earning prospects. This claim, while ex ante plausible, raises the question of what underlies assessments of the labor market impacts of immigration.

Standard general equilibrium models of the effects of immigration focus on the impact that immigration has on relative supplies of factors of production in the local economy. Interestingly, these models generally predict that immigration has negligible or ambiguous effects on the wages and employment of most native workers (Friedberg and Hunt; 1995; Gaston and Nelson; 2000; Scheve and Slaughter; 2001). Below we briefly describe two standard types of general equilibrium models, the Heckscher-Ohlin (HO) model in which factors of production are assumed to be mobile between local industries over the long run, and the Specific Factors (SF) model, in which some factors are assumed to be employable only in specific industries, at least in the short run.

A. Heckscher-Ohlin

Assume an economy produces two commodities, X_1 and X_2 , with constant returns to scale, using two factors of production: high-skilled labor (i.e., human capital), K_i , and low-skilled

labor, L . Factors are perfectly mobile between industries, markets are perfectly competitive, and the economy is assumed to be small, in the sense that the volume of domestic production of each good has a negligible effect on world prices. Equilibrium is described by full employment of each factor (equations 1 and 2) and competitive profits (3 and 4):

$$a_{K1}X_1 + a_{K2}X_2 = K \quad (1)$$

$$a_{L1}X_1 + a_{L2}X_2 = L \quad (2)$$

$$a_{K1}w_K + a_{L1}W_L = P_1 \quad (3)$$

$$a_{K2}w_K + a_{L2}W_L = P_2 \quad (4)$$

where a_{Ki} and a_{Li} are the quantities of K and L required per unit output of X_i , w_K and w_L are wages for high-skilled labor and low-skilled labor, and P_i are commodity prices. Full employment requires that techniques of production are variable and, since competition ensures that unit costs are minimized, each a_{Ki} and a_{Li} depends upon the ratio of factor prices. After total differentiation of equations (3) and (4) we can derive the standard solutions that express changes in factor prices as a function of changes in goods prices:

$$\hat{w}_K = \frac{1}{\Delta}(\theta_{L2}\hat{P}_1 - \theta_{L1}\hat{P}_2) \quad (5)$$

$$\hat{w}_L = \frac{1}{\Delta}(\theta_{K1}\hat{P}_2 - \theta_{K2}\hat{P}_1) \quad (6)$$

where hats indicate proportional changes, θ_{Ki} and θ_{Li} are the distributive shares of K and L in the value of output of industry i , and $\Delta = \theta_{K1} - \theta_{K2}$. As long as commodity prices are constant, factor returns will not change. The effect of any changes in the supplies of high- or low-skilled labor (e.g., due to immigration of one type of labor or another) will be reflected in a change in the output mix. Totally differentiating equations (1) and (2) and solving yields:

$$\hat{X}_1 = \frac{1}{\Pi}(\lambda_{L2}\hat{K} - \lambda_{K2}\hat{L}) \quad (7)$$

$$\hat{X}_2 = \frac{1}{\Pi}(\lambda_{K1}\hat{K} - \lambda_{L1}\hat{L}) \quad (8)$$

where Λ_{Li} and Λ_{Ki} are the fractions of total low-skilled and high-skilled labor in each industry i , and $\Pi = \lambda_{K1} - \lambda_{L1}$. This is the well-known “factor price insensitivity” result (Leamer and Levinsohn; 1995). Trade will offset the impact of immigration as the economy adjusts to any change in factor supplies by importing less of the goods that can now be produced locally at a lower cost (in line with the Rybcynski theorem). Wages will not change at all as long as the economy is not so large that a change in its output mix affects world prices. This result holds for any number of factors (n) used in the production of any number of traded commodities (m), and allowing for production of any number of non-traded commodities, as long as $n \leq m$ (section B below considers cases in which $n > m$). The fixity of the prices of traded goods pins down the prices of the factors and non-traded goods.

The HO model’s basic prediction is that immigration has negligible effects on wages of local workers. There are two possible (seemingly exceptional) sets of conditions under which the model might anticipate concerns among natives about labor market competition effects due to immigration. If the local economy is exceptionally large relative to the rest of the world, a change in its output mix brought about by inflows of immigrants could alter world prices of traded goods and thereby reduce the real wages of some native workers. This is apparent from equations (5) and (6): if production of X_2 is intensive in low-skilled labor, for instance, so that $\theta_{K1} > \theta_{K2}$, any increase in the supply of low-skilled labor due to immigration that generates an increase in the production of X_2 can lead to a decline in P_2 (and an increase in P_1) which also implies lower wages for low-skilled workers (w_L) and higher wages for high-skilled workers (w_K) in both nominal and real terms. This is an extreme case, however, and not a relevant one for general predictions about the impacts of immigration in the modern world economy.

Alternatively, factor price insensitivity could also be upset if we allow that the country specializes in producing a limited set of traded goods, and if the inflows of immigrants are exceptionally large, immigration could induce a change in the set of goods produced locally. With minimal assumptions about the ranges of the input coefficients, a_{K1} and a_{L1} , associated with production of each separate commodity across a continuum from most to least intensive in low-skilled versus high-skilled labor, one can demonstrate (from alternative forms of 5 and 6) that any endogenous shift to a diversification cone with higher ratios of low-skilled to high-

skilled labor implies a fall (rise) in the real wages of low (high)-skilled workers. However, it seems extremely unlikely, that current levels of immigration in the United States or in European countries have reached levels such that they could alter the set of tradable products (eliminating entire industries).

B. Specific Factors

Now consider instead a simple version of the two-commodity, three-factor model examined by Jones (1971). Each commodity, X_i , is produced using high-skilled labor (human capital) specific to it, K_i and low-skilled labor, L , shared with the other industry and mobile between industries. In cases such as these, where (due to specificity) the number of factors exceeds the number of traded goods, factor returns are not determined solely by commodity prices, they also depend on factor supplies. Equilibrium is again described by full employment of each factor and competitive profits:

$$a_{K1}X_1 = K_1 \quad (9)$$

$$a_{K2}X_2 = K_2 \quad (10)$$

$$a_{L1}X_1 + a_{L2}X_2 = L \quad (11)$$

$$a_{K1}w_{K1} + a_{L1}w_L = P_1 \quad (12)$$

$$a_{K2}w_{K2} + a_{L2}w_K = P_2 \quad (13)$$

where a_{K1} and a_{L1} are the quantities of K_i and L required per unit output of X_i , w_{K_i} and w_L are wages for high-skilled labor in each industry and low-skilled labor, and P_i are commodity prices. After some manipulation, totally differentiating yields the classic Jones solutions:

$$\hat{w}_{K1} = \frac{1}{\Phi} \left\{ \left[\lambda_{L1} \frac{\sigma_1}{\theta_{K1}} + \frac{1}{\theta_{K1}} \lambda_{L2} \frac{\sigma_2}{\theta_{K2}} \right] \hat{P}_1 - \frac{\theta_{L1}}{\theta_{K1}} \lambda_{L1} \frac{\sigma_1}{\theta_{K2}} \hat{P}_2 + \frac{\theta_{L1}}{\theta_{K1}} (\hat{L} - \lambda_{L1} \hat{K}_1 - \lambda_{L2} \hat{K}_2) \right\} \quad (14)$$

$$\hat{w}_{K2} = \frac{1}{\Phi} \left\{ \left[\lambda_{L2} \frac{\sigma_2}{\theta_{K2}} + \frac{1}{\theta_{K2}} \lambda_{L1} \frac{\sigma_1}{\theta_{K1}} \right] \hat{P}_2 - \frac{\theta_{L2}}{\theta_{K2}} \lambda_{L1} \frac{\sigma_1}{\theta_{K1}} \hat{P}_1 + \frac{\theta_{L2}}{\theta_{K2}} (\hat{L} - \lambda_{L2} \hat{K}_2 - \lambda_{L1} \hat{K}_1) \right\} \quad (15)$$

$$\hat{w}_L = \frac{1}{\Phi} \left\{ \left[\lambda_{L1} \frac{\sigma_1}{\theta_{K1}} \right] \hat{P}_1 + \lambda_{L2} \frac{\sigma_2}{\theta_{K2}} \hat{P}_2 + (\lambda_{L1} \hat{K}_1 + \lambda_{L2} \hat{K}_2 - \hat{L}) \right\} \quad (16)$$

where

$$\theta = \lambda_{L1} \frac{\phi_1}{\theta_{K1}} + \lambda_{L2} \frac{\phi_2}{\theta_{K2}} > 0 \quad (17)$$

and σ_i is the elasticity of substitution between low-skilled and high-skilled labor in industry i . Any increase in the supply of low-skilled labor ($\hat{L} > 0$), at fixed commodity prices, will lower real wages for low-skilled workers while raising real wages for high-skilled workers of *all* types – the latter gains are largest (smallest) for high-skilled workers in industries that use low-skilled labor more (less) intensively. Inflows of any type of high-skilled labor ($\hat{K}_1 > 0, \hat{K}_2 > 0$) will raise real wages of low-skilled workers while reducing real wages of all high-skilled workers again, the latter losses are largest (smallest) for high-skilled workers in industries that use low-skilled labor more (less) intensively.

In this basic form, the SF model predicts that real wages of high (low)-skilled local workers will rise with inflows of low (high)-skilled immigrants. Local workers should fear labor competition effects from immigrants entering with similar skill levels, but they can anticipate positive effects when immigrants have different skill levels. Notice that these results approximate the simple prediction made from a one-commodity (closed economy), two-factor model sometimes referred to as the “factor proportions” analysis (Borjas et al.; 1996; Borjas; 1997, 1999) which may be regarded as a special case.¹ In the full, multiple-commodity, open-economy SF model, the anticipated real wage effects vary in magnitude in a systematic fashion among the high-skilled depending upon factor-intensities in their industries.

Unlike the general insensitivity result in the HO model, however, these predicted distributional effects in the SF model are compromised by the inclusion of non-traded goods in the analysis. If X_2 is a non-traded commodity (e.g., medical care), any inflow of workers with skills specific to its production (K_2) that generates an increase in the production of X_2 can lead to a decline in P_2 . This can occur when consumption tastes among individuals are such that the expansion in the output of X_2 is not matched by the increase in aggregate consumer demand for X_2 (if, say, immigrants have tastes biased in favor of traded goods). If this is

¹In such a model, the distributional effects in the local economy follow directly from the impact that immigration has on the relative supplies of factors of production. Changes in relative factor supplies translate into changes in real factor returns: wages of high (low) skilled workers will fall as high (low) skilled immigrants price themselves into employment. The impact of competition with similarly-skilled immigrants may also be manifest in higher rates of unemployment among natives if the assumption of wage flexibility is relaxed.

the case, as is clear from (14) above, high-skilled workers in the traded industry may actually benefit, in real terms, from immigration of high-skilled workers who have skills specific to the non-traded industry. Perhaps even more illustrative, if production in the non-traded industry is highly intensive in low-skilled labor (e.g., if the non-traded industry is construction), the same kind of analysis leads to the conclusion that inflows of low-skilled immigrants may lead to a subsequent decline in P_2 and the real wage effects for native low-skilled workers then become ambiguous. This is clear from (16): since we cannot be sure that nominal wages for low-skilled workers fall more quickly than does P_2 , local workers may actually benefit in real terms if their consumption tastes are biased strongly in favor of the non-traded good.

C. Existing Research on Labor Market Impacts and Attitudes

The standard HO and SF models thus suggest, overall, that immigration has negligible or ambiguous implications on real wages for native workers.² This overall impression is consistent with the findings reported in the bulk of the empirical research on the labor market impacts of immigration flows into European and American labor markets.³ While some studies report evidence of adverse wage and employment effects for local workers as a consequence of immigration (Borjas et al.; 1996; Borjas; 1999, 1997, 2003, 2005), other studies conclude that the impacts of immigration are fleetingly small (Card; 1990, 2001, 2005, 2007; Lewis; 2005), and some studies report positive long-term effects for local workers as a result of inflows of similarly skilled immigrants (Ottaviano and Peri; 2008). In a recent study Borjas (2003, pg. 1335) summarizes the evidence observing that “the measured impact of immigration on the wages of native workers fluctuates widely from study to study (and sometimes even within the same study) but seems to cluster around zero.”

Nevertheless, several studies in recent years have reported finding strong evidence that concerns about labor market competition are a major determinant of attitudes towards im-

²Both HO and SF approaches assume competitive markets. In alternative types of models allowing for economies of scale in production in the industries employing immigrants the predictions become no clearer: inflows of new workers can be shown to generate higher real wages for native workers with similar skills, for instance, which contradicts the prediction from the simplest SF models (with no non-traded goods) and factor proportions analysis (Brezis and Krugman; 1996).

³For general reviews see for example Friedberg and Hunt (1995); Bhagwati (2002); Card (2005); Borjas (1999); Longhi et al. (2005).

migration among voters. Most prominently, perhaps, Scheve and Slaughter (2001) drew upon data from the National Election Studies (NES) surveys of U.S. voters in the 1990s and highlighted the positive correlation between the skill levels of respondents (as measured by years of education) and their support for immigration. Scheve and Slaughter interpreted this correlation as evidence that low skilled (less educated) local workers feared being forced to compete for jobs with low skilled immigrants, in line with predictions from a simple factor-proportions analysis. More recently Mayda (2006) examined cross-national survey data from the 1995 National Identity Module of the International Social Survey Programme (ISSP), as well as data collected between 1995 and 1997 by the World Value Survey (WVS). Mayda contends that the correlation between individual skill and support for immigration is related to the skill composition of the immigrants relative to the natives in the destination country; support among skilled workers should be highest in those countries where natives are more skilled than the immigrants and oppose it otherwise. She thus calculates the relative skill ratio between immigrants and natives in different countries. As in the Scheve and Slaughter analysis, the empirical relationship between the proxies of individual skill (measured by years of education or by categories of occupational skills) and support for immigration is interpreted as confirmation that fears about labor market competition provide a potent source of anti-immigrant sentiments among voters in a way that is consistent with predictions from a simple, factor proportions analysis. Notably, neither study examines whether there is any variation in the magnitude of effects across industries consistent with predictions from the full SF model (with no non-traded goods).

These studies are impressive and novel attempts to use survey data to link theoretical claims about the labor market impact of immigration to peoples views on immigration policy. Yet these studies are constrained in important ways by the data available from existing opinion surveys, which tend to be quite blunt instruments. The surveys used in those studies do not gather detailed data on the economic characteristics of the respondents, nor about their views on specific types of immigrants. For example, neither the NES (used by Scheve and Slaughter) nor the ISSP or WVS surveys (used by Mayda) ask detailed questions about respondents' employment experience, job training, their willingness and ability to find new jobs, or their

industry location.⁴ The ISSP and WVS surveys actually provide no direct questions that would identify the specific industries in which respondents are employed. The NES surveys include only one open-ended question about the “type of business” in which employed respondents were working (answers to this questions must then be coded afterwards in an effort to identify industry locations according to standard industrial classifications).

Even more constraining, perhaps, these existing surveys only ask respondents to describe their attitudes towards immigration in general without allowing for any differentiation in their views about different types of immigrants (e.g., high-skilled versus low-skilled) associated with expectations about labor market impacts.⁵ This is a major constraint, of course, because the main prediction from the SF model (and the simpler factor proportions analysis) is that, if anything, natives should oppose immigrants with similar skills to their own but support immigrants with different skills. The interpretations made in previous studies of voter attitudes thus rest on an assumption that respondents have low skilled immigrants in mind when answering questions about immigration in general. This assumption seems highly doubtful. Yet even permitting it, the data does not allow one to examine whether local workers have different views about low-skilled and high-skilled immigrants that are consistent with the anticipated labor market effects and individuals’ calculations of their material self interest.⁶

As a consequence of these data constraints, previous studies that examine the importance of concerns about labor market competition in shaping anti-immigrant sentiments among voters have applied only crude and indirect tests. We address several important data con-

⁴Among these surveys, only the ISSP surveys include a question about willingness of respondents to move to another town or city to improve their work or living conditions.

⁵Scheve and Slaughter (2001) used responses to the NES immigration question: “Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be increased a little, increased a lot, decreased a little, decreased a lot, or left the same as it is now?” Mayda (2006) examined answers to the ISSP question: “Do you think the number of immigrants to (respondents country) nowadays should be: (a) reduced a lot, (b) reduced a little, (c) remain the same as it is, (d) increased a little, or (e) increased a lot.” The WVS asked the following question: “How about people from other countries coming here to work. Which one of the following do you think the government should do (a) Let anyone come who wants to (b) Let people come as long as there are jobs available (c) Place strict limits on the number of foreigners who can come here (d) Prohibit people coming here from other countries? (e) Don’t know.”

⁶The only studies we are aware of which designed surveys that ask respondents specifically and separately about their attitudes towards high-skilled and low-skilled immigrants are those by Sniderman et al. (2004) and Hainmueller and Hiscox (2010). Both studies find that, contrary to previous claims that local workers are most concerned about immigrants who have similar skill levels to their own, instead both low skilled and highly skilled workers strongly prefer highly skilled immigrants over low skilled immigrants.

straints that have hampered previous studies of voters' economic concerns about immigration by conducting a large-scale targeted survey of current employees in 12 industries in the United States. Those twelve industries were selected based on their variation along several important dimensions, including factor intensities and reliance upon immigrant workers. We sampled between 200 and about 560 currently employed native workers in each of these 12 industries; sample sizes reflected the different aggregate sizes of the industries themselves. These large industry samples provide us with a unique opportunity to examine whether industry location shapes the formation of policy preferences in ways anticipated by SF models of the impact of immigration. Furthermore, the survey collected a great variety of detailed information about the employment experiences of respondents and their willingness and ability to find new jobs. Finally, the survey asked respondents directly and separately for their views about different types of immigrants, differentiating clearly between high-skilled and low-skilled immigrants to allow for much more direct tests of the theoretical predictions.

III. DATA

To test our hypotheses we administered a survey that measures attitudes towards immigration among a large sample of U.S. workers in selected industries. The survey was fielded with online survey firm YouGov/Polimetrix between September 2010 and February 2011. The survey design followed a customized two stage sampling approach in which we first selected a set of 12 key industries, of them five in the manufacturing sector and the rest in services. Selection of industries was based on a number of criteria reflecting variability in their exposure to the impacts of globalization. We plotted all major industries along several dimensions, including factor intensity, value-added per worker, dependence on immigrant labor, total employment, trade balance, and exposure to offshoring activity. Based on these plots we identified the set of 12 industries that provided suitably broad variation along the dimensions of interest. The service industries included in the final list are: construction, telecommunications, educational services, ambulatory health care services, nursing and residential care, financial services, and internet and data processing services. The manufacturing industries include: food manufacturing, chemical manufacturing, computer and electronic product manufacturing, transportation

equipment manufacturing, and fabricated metal product manufacturing.

Figure 1 compares the selected industries with the industries that we did not select with respect to their reliance on foreign-born workers.⁷ The figure indicates that our selected industries are quite representative of the universe of industries with respect to dependence on immigrant labor. Our selection spans the range of industries from those with a relatively small share of immigrant workers, such as educational services and fabricated metal production (7% and 8%, respectively), to those with much larger shares, including the computer electronics and food manufacturing industries (21% and 27%, respectively).

Figure 2 compares selected and non-selected industries according to value added per worker (a basic indicator of skill intensity) and their score on Blinder’s offshorability index.⁸ The size of the bubbles indicates the size of the industry as measured by total employment. Our selection of industries for the survey includes a representative sample of the universe of industries. With respect to the skill intensity, our selected industries cover the whole range from highly skill-intensive industries (e.g., chemical manufacturing and financial services), industries characterized by mid-range skill intensity (e.g., transportation equipment and computer electronics manufacturing), as well as industries with low levels of value added per worker (e.g., construction and nursing). Similarly, the 12 selected industries cover the whole range of industries along the offshorability scale, from those with the most offshorable occupations (internet and data processing services) to the least offshorable (nursing and education). Note that the omitted industries which are more extreme on these dimensions are very small in terms of their overall employment, such as the oil and gas extraction industry. We chose not to include those industries in the study because of the inherent difficulty in sampling them properly.

Based on those considerations, we subsequently recruited from each of the target industries a sizeable sample of native respondents that are currently employed (we excluded foreign born and unemployed workers from our sample). The sample sizes we obtained were roughly

⁷Industries are classified at the 3 digit NAICS level

⁸The “offshorability index” is a subjective ranking that was constructed by Alan Blinder to measure the potential offshorability of occupations. The index measures the offshorability of a job on a 100 point scale, where 100 equals most offshorable. Notice that the ranking is meant to be ordinal not cardinal (see Blinder (2009) for details). We summarize the offshorability of each industry based on a weighted average of the offshorability scores of the five most important occupations in each industry (weighted by their relative shares on total industry employment).

proportional to the size of the industry. Table 1 provides the descriptive statistics.⁹

The survey includes a variety of questions that measure workers' preferences over immigration policy. For the main part of the analysis we focus on a survey experiment that measures the preferences of workers with respect to immigrants that differ on two dimensions: (i) they are either described as highly skilled or as low skilled; and (ii) are described as familiar or as not familiar with American values and traditions. Respondents were thus asked about their support for one of four types of immigrants.¹⁰ This differentiation allows for a nuanced examination of the role of concerns about labor market competition. The question we use to gauge peoples' attitudes on the different types of immigration reads as follows:

Immigrants to the U.S. differ in terms of their professional skill levels as well as their degree of familiarity with American values and tradition. Consider the group of [highly-skilled/low skilled] immigrants that are [well familiar/ not familiar] with American values and traditions. Do you think the U.S. should allow more or less of these immigrants to come and live here?

The answer categories included a five point scale that ranges from "Allow a lot more of these immigrants" to "Allow a lot less of these immigrants". Both the skill frame (i.e. high versus low skill) and the values frame (i.e. well familiar vs. not familiar with U.S. values and tradition) were randomly assigned in their order across respondents, with each one being asked about all four categories of immigrants in random order.

Since our primary concern here is with assessing the differential effect of skill, we pool attitudes over both the cultural conditions for our empirical tests. We code a binary indicator *ProImmigration* that takes the value one for respondents that support allowing a lot or somewhat more immigrants, and zero otherwise. In addition to the test using the variables described above, we also replicated the subsequent analyses using a variety of other immigration

⁹To address potential non-response bias, here and in all other analysis the results are weighted by post-stratification weights which ensure that the industry samples in our survey match the population level characteristics in each industry as measured by the 2009 March Supplement of the Current Population survey. The weighting adjustment includes the brackets for the age, race, and education distributions of the workers employed in each industry.

¹⁰The four types are: (i) highly skilled immigrants that are well familiar with U.S. customs and traditions; (ii) highly skilled immigrants that are not familiar with U.S. customs and traditions; (iii) low skilled immigrants that are well familiar with U.S. customs and traditions; (iv) low skilled immigrants that are not familiar with U.S. customs and traditions.

questions; the results are substantively identical to the ones presented below.¹¹

IV. RESULTS

A. Skill Levels of Respondents

Are individuals most concerned about immigration of workers with similar skills to their own? Recall the main prediction from the SF model (and the simpler factor proportions analysis) is that, if anything, voters should oppose immigrants with similar skills to their own but support immigrants with different skills. We begin the analysis by testing this prediction that low- (high-) skilled natives are more concerned about the inflow of low- (high-) skilled migrants than they are about the entry of high- (low-) skilled migrants.

We estimate a probit model in which the dependent variable is the level of support for an increase in immigration of either highly or low-skilled immigrants. The estimation includes a full set of baseline covariates, including the native worker's highest level of educational attainment.¹² Of key interest in this test is whether an increase in natives' skill is associated with less support for the entry of highly skilled immigrants. In the top row of Table 2 we report the effect of education on support for increasing immigration estimated from models that are fitted to the full sample of workers in all industries; column (1) reports the effect of education on preferences with respect to the entry of highly skilled immigrants and column (2) with respect to low skilled immigrants. As the reported coefficients indicate, the marginal effect of education is positive and larger in the case of attitudes on high skilled immigrants than on lower skilled immigrants. The difference in the estimated effects is significant statistically (when we pool the observations across treatments and estimate a single model in which we interact natives' education and the skill-level of the immigrants in question, the coefficient of the interaction term is positive and precisely estimated. (See Appendix Table A.1 for results)).

To provide a more intuitive sense of the magnitudes associated with this estimation, Figure 3 presents graphically the predicted level of support for increased immigration as a function

¹¹The other measures include: "Overall, do you think the number of immigrants allowed into the United States should be increased, decreased, or kept at the current level?"

¹²The covariates include respondents' education, gender, age, race, marital status, income, union membership, region, and an indicator variable denoting whether the respondent was asked about immigrants with a high or low degree of familiarity with local culture and tradition.

of each educational level, using the regression estimates from the first row in Table 2. For each educational level we report separately the predicted rate of support for the entry of high skilled immigrants (in black) and low skilled immigration (in lighter gray) while fixing the other covariates at the values that describe the median worker. The vertical lines denote the 95% confidence interval surrounding the point estimates. Figure 3 highlights several notable patterns. First, in line with previous studies, we find that anti-immigrant sentiments run very high among U.S. workers. On average, only about 21% of workers are in favor of increasing immigration beyond its current levels. Among native workers with only high school education, support for expanded immigration of low skilled workers drops as low as 10%, rising up to a maximum of 53% in the case of natives with post-graduate education.¹³ A second pattern that the graph reveals is the one noted above, namely a strong positive relationship between the skill level of the natives (as measured by educational attainment) and the corresponding level of support for immigration. The differences across the skill groups are statistically significant as well as sizable in a substantive sense: mean support for increased immigration is 10% [8% to 13%] among natives with less than high school education and rising to 35% [32% to 39%] among natives with graduate education. Third, the graph shows that workers at all levels of skill are more supportive of high skilled immigration than of low skilled immigration (on average, only 15% [14% to 17%] of native workers are in favor of increasing low skilled immigration while 27% [25% to 28%] are in favor of increasing highly skilled immigration). This pattern is at odds with the prediction of the factors proportions model, which suggests that highly skilled natives should oppose inflows of highly skilled immigrants but be less concerned about the inflow of low-skilled immigrants.

Finally, the analysis reveals that the “premium” that natives attach to the skill level of the immigrants (i.e. the gap in support for high versus low skilled immigration) is consistently increasing as a function of the natives’ own level of skill in both relative and absolute terms. Among workers with less than high school education 9% are in favor of low skilled, and 16% are in favor of highly skilled immigration. Among workers with graduate education, 32% are in favor of low skilled immigration, while 53% are in favor of highly skilled immigration. Again,

¹³Note that this is the only case in which the probability of support is higher than fifty percent.

this pattern stands in sharp contrast to the predictions of a simple factor-based model.

B. Test for Industry Specific Effects

By imposing the constraint that anticipated effects are constant across industries, we are not allowing a complete test of the SF model. Recall that in the full, multiple-commodity, open-economy SF model (in contrast to the simple factor-proportions analysis), the anticipated effects of immigration may vary in magnitude among high-skilled natives depending upon factor-intensities in their industries. In particular, the model anticipates that high-skilled natives will be more (less) concerned about inflows of high-skilled immigrants if they are in industries that use low-skilled labor more (less) intensively. In essence, if workers have skills that are specific to particular industries, their policy preferences may vary significantly as a function of how immigration affects the demand for labor within their industry. To test this proposition, we return to the benchmark model but this time estimate the effect of higher educational qualifications separately for each industry.

The results for this estimation are reported in the next rows of Table 2. Each of the cell entries corresponding to an industry denotes the estimated effect of education on the probability of supporting increased immigration. To simplify the comparison of the magnitude of the education effects across industries, Figure 4 graphs the simulated marginal effects of education (a one unit increase of going from less than college education to a college degree) holding all the other covariates at the industry medians.¹⁴ The industries along the horizontal axis are sorted by a measure of skill intensity (value added per worker), ranging from highly skill-intensive industries (chemical manufacturing and financial services) to those with the low levels of value added per worker (construction and nursing). The figure indicates that variation in support for immigration among high-versus-low skilled workers has little to do with industry factor intensity; no clear pattern differentiates the effect of natives' skills on support for immigration in the industries along the scale.

The fact that all but one of the point estimates are located on the positive range of the horizontal axis indicates that higher education among natives is consistently associated with

¹⁴The results are statistically and substantively similar if we estimate the predicted probabilities for the median respondents in the sample rather than in the industry.

increased support for immigration, regardless of the industry one is employed in. And as with the previous analysis, we again observe that higher education is associated with more support for high as opposed to low skilled-immigration, an empirical relationship that holds true in a large majority of the industries.¹⁵ There is no support here for the SF model (with no non-traded goods) that suggests variation in the impacts of immigration on high-skilled workers employed in different industries.

To allow for other potential differences in workers' preferences across the industries, perhaps related to ad hoc labor market concerns that are not incorporated in the standard general equilibrium models, we estimate a model in which we use the same covariates of the benchmark model but also include indicator variables for each of the industries. With this model we can compare the mean differences in support for immigration across the different industries (using nursing industry as the baseline category). Table 3 reports the estimates from this regression.¹⁶

We plot the estimates in Figure 5. We report in black the predicted rate of support for the entry of high-skilled immigrants and in lighter gray the support for low-skilled immigration. The plot presents the predicted support level of the median worker in each industry as a function of the industry's share of foreign born workers, ranging from the industry most reliant on immigrant labor (food manufacturing) to the least reliant industry (educational services). It is possible that native workers in industries in which there is a high share of immigrants feel more concerned about competition for jobs as a result of immigration. The opposite is also feasible: perhaps workers in industries that already rely upon immigrant workers expect positive impacts from increased immigration as a result of (industry-specific) complementarities between themselves and immigrant workers. The graph indicates that variation in support for immigration actually has little to do with share of foreign-born workers in the industry: no clear pattern differentiates the level of support for immigration in the industries along the scale and in fact, support for both types of immigration is almost identical in the industries at the

¹⁵In those industries where the marginal effect of education is associated with a larger positive coefficient for low-skilled immigration, the differences between coefficients for low and high-skilled immigration are statistically indistinguishable from zero.

¹⁶Note that unlike the results reported in Table 2, in this table the cell entries report the coefficients of each industry dummy obtained from estimating a single regression (*not* a set of separate regressions for each industry).

opposite extremes of the scale.

Figure 6 shows that support for immigration, and the general preference for highly-skilled versus low-skilled immigration, is unrelated to the relative skill ratio of the industry. The skill ratio is measured as the share of highly-skilled natives relative to the share of highly skilled immigrants employed in the industry.¹⁷ In fact, the graph indicates that there is hardly any correlation between the premium assigned to migrants' skill level and the skill mix of the workers employed in the industry. This pattern cannot be reconciled with the conjecture that self-interested concerns about the wage or employment effects of immigrants are an important source of attitudes towards immigration.

The empirical patterns reported above remain largely unchanged when we separately examine the preferences of high and low-skilled natives. Using the four models reported in columns 3-6 in Table 3, we plot the cross-industry differences in predicted support for immigration separately by natives' own skill endowments. Figure 7 present the results, with the top panel comparing the views of the high-skilled native worker and the lower panel presenting the predicted preferences among low-skilled natives. In this analysis industries are sorted along the horizontal axis by their score on a measure of inter-industry mobility, whereby higher scores denote a lower degree of confidence among workers of being able to find a comparable job in another industry if they were to look for one.¹⁸ If labor market concerns underlie attitudes on immigration, we may expect support for immigration would be greater in those industries in which workers perceive their own labor market prospects to be less dependent on the employment opportunities within the industry.

The findings, however, offer very little to suggest that mobility prospects are an important factor explaining cross-industry differences in workers's preferences: Variation in attitudes on immigration across industries does not correspond in any discernable way with the mobility

¹⁷Let NR be the share of native workers that are highly skilled and MR be the share of foreign born workers that are highly skilled. The relative skill ratio is then simply NR/MR. We defined highly skilled as workers that have a college degree or higher educational attainment. We compute the relative skill ratios from the March supplement of the Current Population Survey.

¹⁸The measure is based on respondents' response to the question: "How easy or difficult would it be for you to find a job in another industry that pays as well or better than the job you currently have?". Responses ranged on a five-point scale from (1) "very easy" to (5) "very difficult". A separate measure of mobility was calculated for highly skilled and low-skilled native workers in each industry. For this reason, the industries are sorted differently along the horizontal axis in the two graphs.

prospects of workers in different industries (As Figure A1 in the appendix demonstrates, a similar pattern arises also when we use an alternative measure capturing mobility prospects within their industry).¹⁹ Furthermore, we find that this pattern does not alter when examining the policy preferences of high and low skilled natives separately. In both cases, support for allowing high-skilled immigration is consistently greater than for allowing the entry of low-skilled migrants. Again, this pattern does not vary with respect to the industry’s mobility measure; when one examines workers’ support for a specific type of labor inflow of highly-skilled or of low skilled immigrants – the level of support is almost flat across industries.²⁰

We have replicated these tests using a variety of other variables by which we order the industries, such as by the percent of highly skilled immigrant workers, the percent of low skilled immigrant workers, or by redefining the skill ratios with various different education-level cut-points; without exception, the substantive results remain unchanged.

C. An Alternative (Quasi-Behavioral) Dependent Variable

The findings presented above provide strong evidence that the expressed views of workers towards immigration do not correspond with extant arguments about the importance of concerns about labor market competition in shaping attitudes. Regardless of whether one analyzes the preferences of all workers as a whole, subsets the analysis by the skill endowments of the native workers, focuses on attitudes towards low skilled or highly skilled immigrants, allows for differences in factor intensities (and other characteristics) among industries, no matter what metric one uses, none of the analyses lends support to the notion that concerns about labor market competition systematically and substantially affect attitudes toward immigration.

To what extent might this (non)finding reflect the fact that workers are answering a hypothetical question about immigration in a survey context that poses no costs or consequences? Perhaps when people’s preferences necessitate the taking of some form of costly (and potentially consequential) action, be it participation in a demonstration, casting a vote for a certain candidate in an election, or contacting one’s elected officials to lobby for a certain policy, perhaps

¹⁹This measure is based on respondents’ answer to a question: “If for some reason you were to lose your job, how easy or difficult would it be for you to find another job in the same industry that pays as well or better than the job you currently have?”, with responses again ranging on a five-point scale.

²⁰Workers in the internet and data processing industry appear to be quite an outlier in this regard.

then people’s views better correspond with the predictions of the labor market competition model?

In considering this possibility, one might first note that the previous studies which have purported to find evidence of the role of concerns about labor market competition have themselves relied on exactly this same type of ‘costless’ measure - namely, people’s responses to a hypothetical question about their views in a survey context. Nonetheless, in order to test this proposition seriously, we also carried out an experiment which was embedded into our cross-industry study. The experiment was designed as follows: when nearing the end of the survey, respondents were asked whether they would like to communicate their position on immigration in an email to their Member of Congress that will be sent via the online platform of the survey company. If respondents answered in the affirmative, they then had the option of choosing whether they wished to express support or opposition to a more restrictive immigration policy. Yet not all respondents were asked the same immigration question. Instead, respondents were randomly assigned to receive one of two different versions of the question: some were asked whether they wished to send an email expressing their views on the entry of low skilled immigration while others were asked the same question only about high-skilled immigration. The exact wording of the experiment read as follows:²¹

Would you like us to send an email message to Members of Congress indicating either your support or opposition to pending immigration laws that propose to decrease the number of {highly skilled/ low skilled} immigrants allowed into the United States? The email will contain your name, city, and opinion on the issue.

Overall, 34% of respondents requested to use this option to send the email to their elected official. Among those that agreed, 68% asked to express their support for placing restrictions on immigration and 32% to express their opposition.

Utilizing the responses to this alternative measure of preferences, we replicate the analysis presented in Figure 2, this time using as the dependent variable the specific version of the letter which respondents chose to send their Member of Congress (note however that the

²¹The question also included an intro text: “There are currently several proposed trade and immigration reform laws before Congress that would significantly restrict the level of international trade and or substantially decrease the number of immigrants allowed into the United States.”

dependent variable is support for placing more restrictions on immigration, i.e., the opposite of the measure used in Figure 2).

As before, the figure reveals a *negative* relationship between educational attainment and opposition to immigration, a relationship that is similarly pronounced in regards to the entry of both low and high-skilled migrants. This indicates that the patterns presented herein using the hypothetical survey questions are substantively unchanged when using a more “behavioral” measure of workers’ immigration attitudes. We also replicate all the other analyses using this alternative behavioral measure and again find that the results remain substantively unchanged. (See appendix Figure A.2-A.5)

V. DISCUSSION

Taken together, our results suggest that fears about labor market competition do not have substantial effects on voter attitudes towards immigration. We examine potential relationships between the skill levels, industry locations, occupations, and mobility of native workers and their attitudes towards different types of immigrants. We find no evidence that individuals are systematically more likely to oppose the immigration of workers that have skills similar to their own. Rather, workers of all types express greater support for inflows of high-skilled rather than low-skilled immigrants. This preference is almost identical among high-skilled and low-skilled respondents, among production workers as well as managers, poor and rich individuals, high school drop-outs and individuals with graduate degrees, and workers located in all the industries we studied. While we do find that support for immigration varies across industries, this variation is mostly explained by individual characteristics of respondents and not features of industries such as the degree to which industries rely upon immigrant labor in general, or high-skilled versus low-skilled immigrants. Industry-specific effects are not evident even when accounting for variation in skill specificity and job mobility among respondents. We replicate all our main results based on stated attitudes towards immigration among survey respondents using a quasi-behavioral measure of the willingness of survey respondents to sign up to have their views conveyed to their Member of Congress via an email message. While we do find that support for immigration varies across industries, this variation is mostly explained

by individual characteristics of respondents and not features of industries such as the degree to which industries rely upon immigrant labor in general, or high-skilled versus low-skilled immigrants. Industry-specific effects are not evident even when accounting for variation in skill specificity and job mobility among respondents. We replicate all our main results based on stated attitudes towards immigration among survey respondents using quasi-behavioral measure of the willingness of survey respondents to have their views conveyed to their Member of Congress via an email message.

Our findings are consistent with expectations based upon standard general equilibrium models and research on the labor impacts of immigration, though they stand in marked contrast to prominent previous studies of voter attitudes toward immigration. Overall, the results indicate that material self-interest, manifest here among voters as a calculation about the personal labor market effects of immigration, do not appear to be powerful determinants of anti-immigrant sentiment. Our results are more consistent with alternative accounts of opposition to immigration that emphasize non-economic considerations and concerns about the effects of immigration on the country as a whole. They may be added to the impressive body of research that suggests that material self-interest rarely plays a large role in determining voters' attitudes towards major policy issues.

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TABLES

Table 1: Descriptive Statistics for Selected Industries

Industry:	Sample Size (#)	Total Employed (1000s)	Total Output (B\$)	Output per Worker (\$)	Trade Balance (B\$)	Share Foreign Born	Share BA Degree	Median Income (\$)
Manufacturing								
Food Products	208	1,485	434	292,093	8,400	32%	22%	51,000
Chemical	214	850	464	546,482	-3,100	16%	40%	88,945
Transportation equipment	255	1,607	583	362,878	-14,000	12%	24%	76,005
Computer electronics	307	1,248	515	412,519	-110,000	27%	48%	96,004
Fabricated metal products	338	1,528	251	163,973	-9,900	13%	15%	61,570
Services								
Data processing and internet	298	395	142	359,059	0	12%	45%	82,557
Financial	339	858	436	507,517	41	14%	65%	110,067
Telecommunications	346	1,022	480	470,191	2	12%	34%	83,000
Construction	351	7,215	861	119,281	0	23%	15%	55,197
Nursing and residential care	352	3,008	131	43,584	0	16%	18%	46,590
Ambulatory health care	421	5,661	636	112,263	0	14%	47%	73,067
Education	559	3,037	156	51,309	13	9%	65%	79,235

Note: Samples restricted to native workers that are currently employed.

Table 2: Education and Attitudes towards Highly Skilled and Low Skilled Immigration by Industry

Industry Sample:	Education Effect on Attitudes Toward:	
	Highly Skilled Immigration	Low Skilled Immigration
All Workers	0.365 (0.027)	0.278 (0.032)
Construction	0.274 (0.104)	0.393 (0.114)
Food Manufacturing	0.549 (0.109)	0.548 (0.131)
Chemical Manufacturing	0.832 (0.116)	0.751 (0.131)
Fabricated Metals	0.441 (0.106)	0.290 (0.096)
Computer Electronics	0.223 (0.106)	0.432 (0.116)
Transportation Equipment	0.487 (0.114)	0.286 (0.121)
Telecommunications	0.326 (0.101)	0.099 (0.111)
Internet data processing	-0.008 (0.101)	-0.067 (0.109)
Financial Sector	0.138 (0.101)	0.171 (0.116)
Educational Services	0.434 (0.071)	0.253 (0.079)
Ambulatory Healthcare	0.491 (0.104)	0.297 (0.119)
Nursing	0.269 (0.106)	0.395 (0.101)

Note: Probit coefficients show with standard errors (clustered by respondent) in parenthesis. Each cell provides the estimate of the education coefficient obtained from separate regressions of attitudes towards either highly skilled or low skilled immigration on native education and the full set of baseline covariates (estimates not shown) for different subsamples of workers that are currently employed in the different industries.

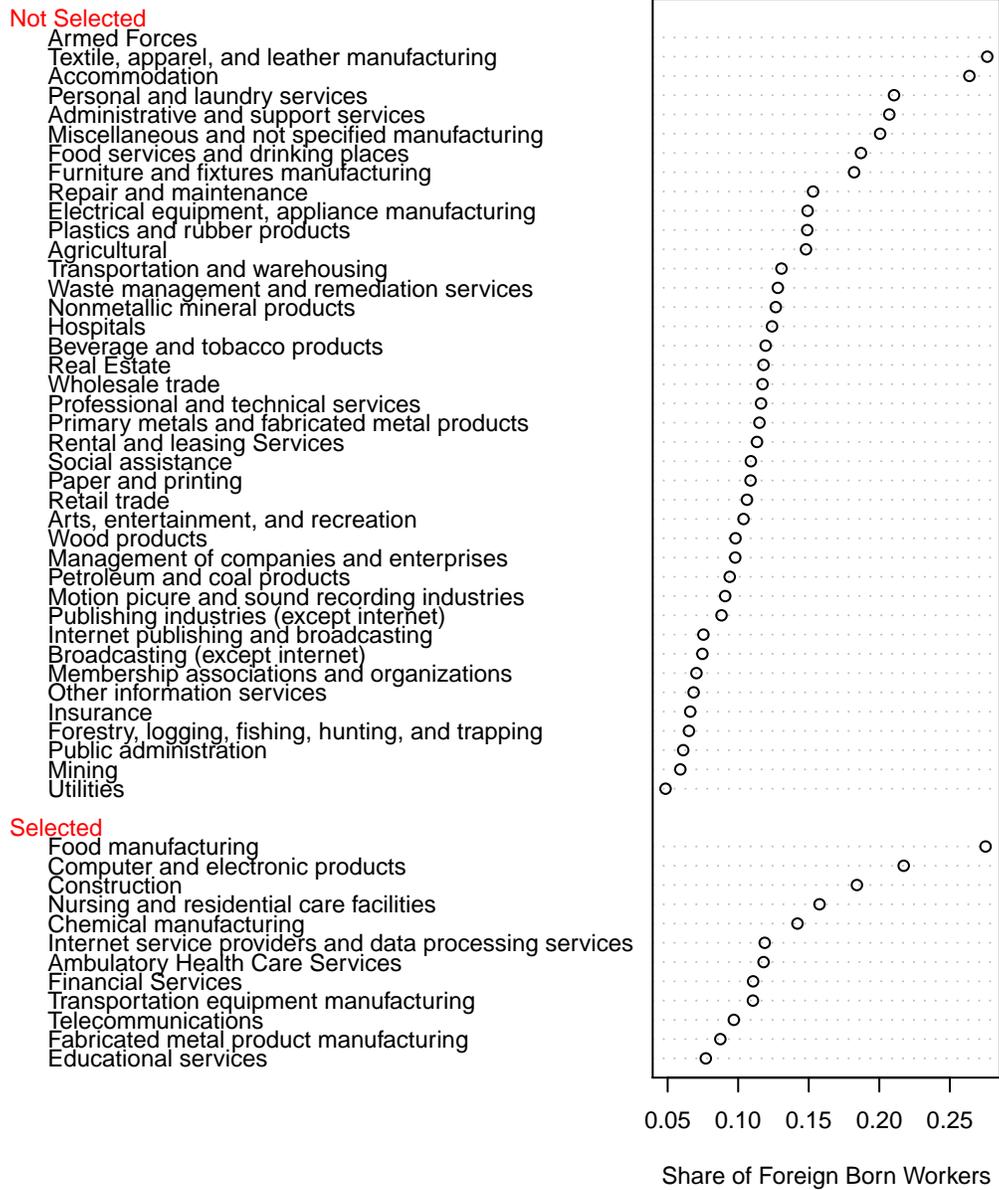
Table 3: Attitudes towards Highly Skilled and Low Skilled Immigration by Industry

Model	(1)	(2)	(3)	(4)	(5)	(6)
Worker Sample:	All Workers		Highly Skilled		Low Skilled	
Attitudes Towards Type of Immigration:	Highly Skilled	Low Skilled	Highly Skilled	Low Skilled	Highly Skilled	Low Skilled
Construction	0.124 (0.159)	-0.152 (0.143)	0.105 (0.242)	-0.198 (0.203)	0.122 (0.194)	-0.192 (0.175)
Food Manufacturing	0.086 (0.160)	0.0131 (0.147)	0.403 (0.258)	0.342 (0.208)	-0.0604 (0.205)	-0.117 (0.188)
Chemical Manufacturing	0.164 (0.170)	-0.0363 (0.156)	0.403 (0.242)	0.298 (0.208)	-0.118 (0.239)	-0.308 (0.230)
Fabricated Metals	0.155 (0.157)	-0.035 (0.138)	0.24 (0.230)	0.118 (0.193)	0.135 (0.194)	-0.091 (0.169)
Computer Electronics	0.295 (0.152)	0.125 (0.137)	0.464 (0.212)	0.205 (0.181)	0.118 (0.222)	0.168 (0.187)
Transportation Equipment	-0.18 (0.185)	-0.151 (0.146)	-0.072 (0.247)	0.3 (0.197)	-0.248 (0.247)	-0.354 (0.197)
Telecommunications	0.265 (0.151)	-0.024 (0.135)	0.239 (0.221)	0.130 (0.189)	0.273 (0.197)	-0.096 (0.172)
Internet data processing	0.698 (0.156)	0.408 (0.146)	0.481 (0.206)	0.305 (0.177)	0.904 (0.213)	0.583 (0.197)
Financial Sector	0.394 (0.146)	0.319 (0.130)	0.409 (0.194)	0.444 (0.164)	0.476 (0.231)	0.373 (0.198)
Educational Services	0.361 (0.134)	0.127 (0.116)	0.401 (0.184)	0.317 (0.153)	0.278 (0.198)	-0.056 (0.173)
Ambulatory Healthcare	0.288 (0.147)	0.02 (0.130)	0.307 (0.200)	0.156 (0.167)	0.318 (0.207)	-0.033 (0.183)
Observations	8,142	8,142	4,092	4,092	4,050	4050

Note: Probit coefficients show with standard errors (clustered by respondent) in parenthesis. Each column presents a separate regression of attitudes towards either highly skilled or low skilled immigration on a set of industry dummies (the reference category is nursing) and the full set of baseline covariates (estimates not shown). Columns 1 and 2 refer to the sample of all native workers. Columns 2 & 3 only include highly skilled native workers (defined as those with at least some college education). Columns 5 & 6 only include low skilled native workers (defined as those without any college education).

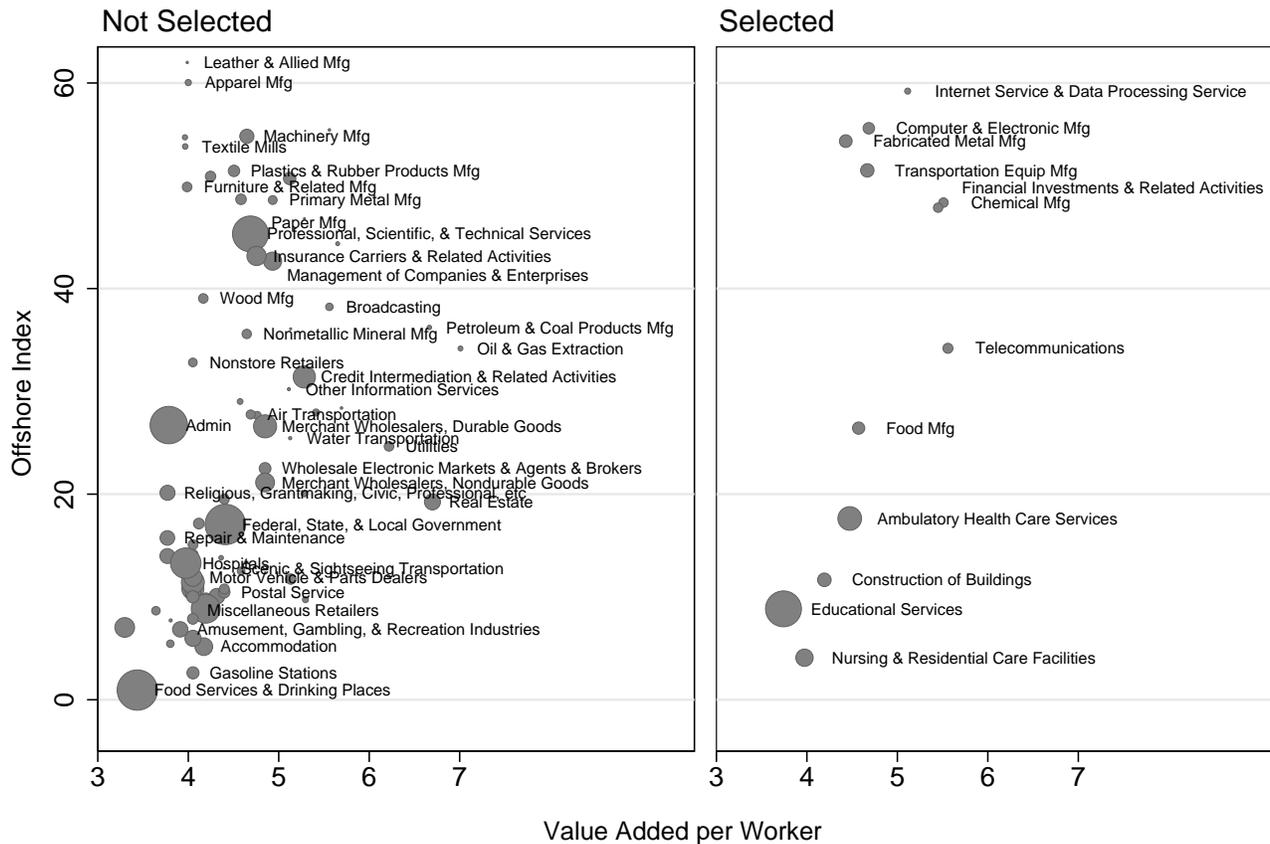
FIGURES

Figure 1: Selection of Target Industries Based on Exposure to Immigration



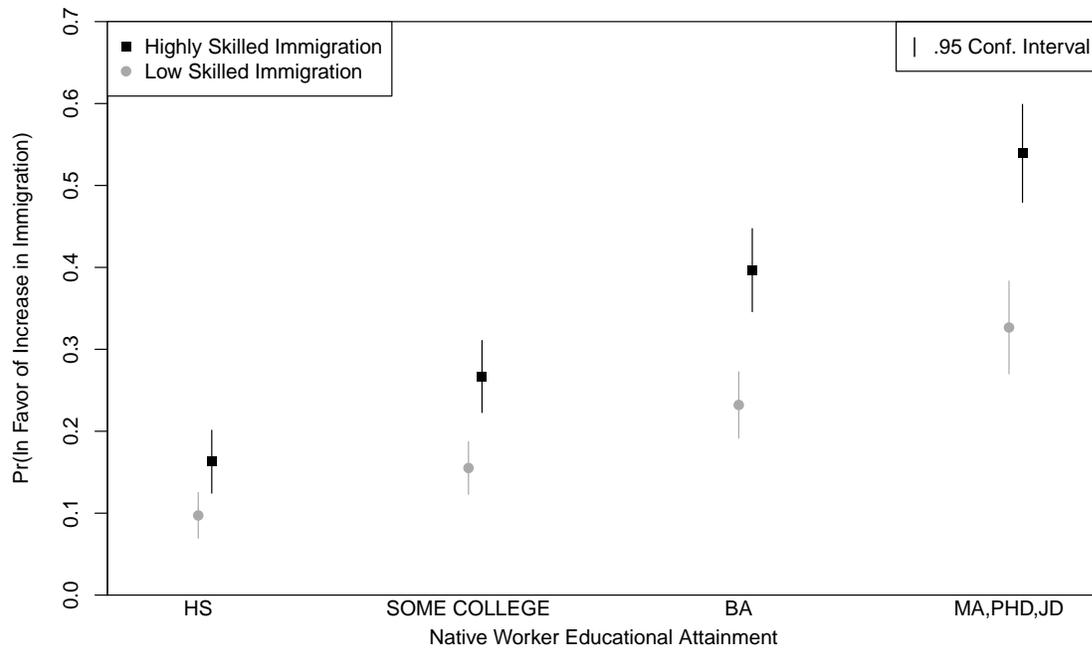
Note: Share of Foreign Born Workers is measured in 2009 (Source: March Supplement of the Current Population Survey).

Figure 2: Selection of Target Industries Based on Exposure to Immigration



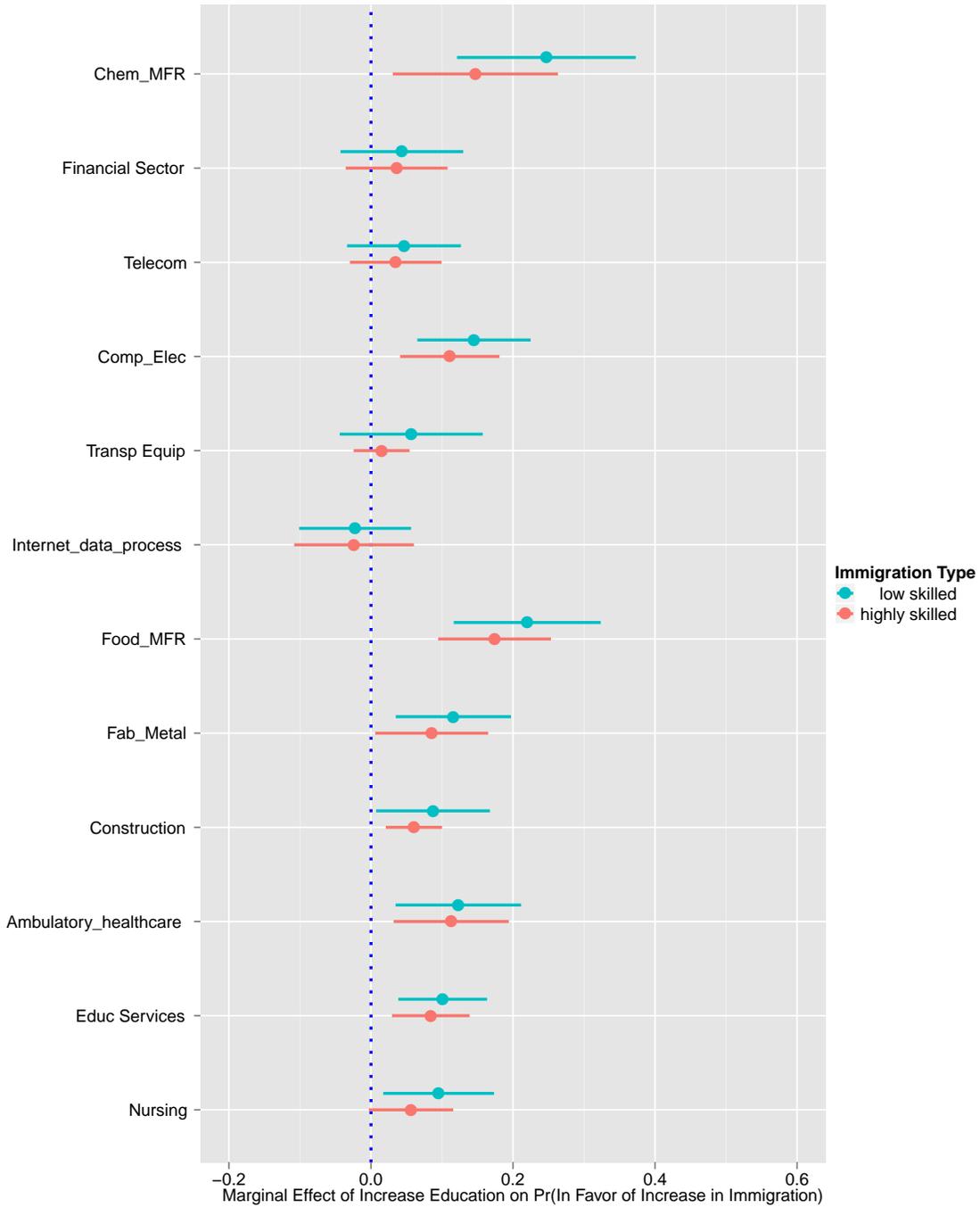
Note: Share of Foreign Born Workers is measured in 2009 (Source: March Supplement of the Current Population Survey).

Figure 3: Educational attainment of natives and support for immigration of high and low skilled workers



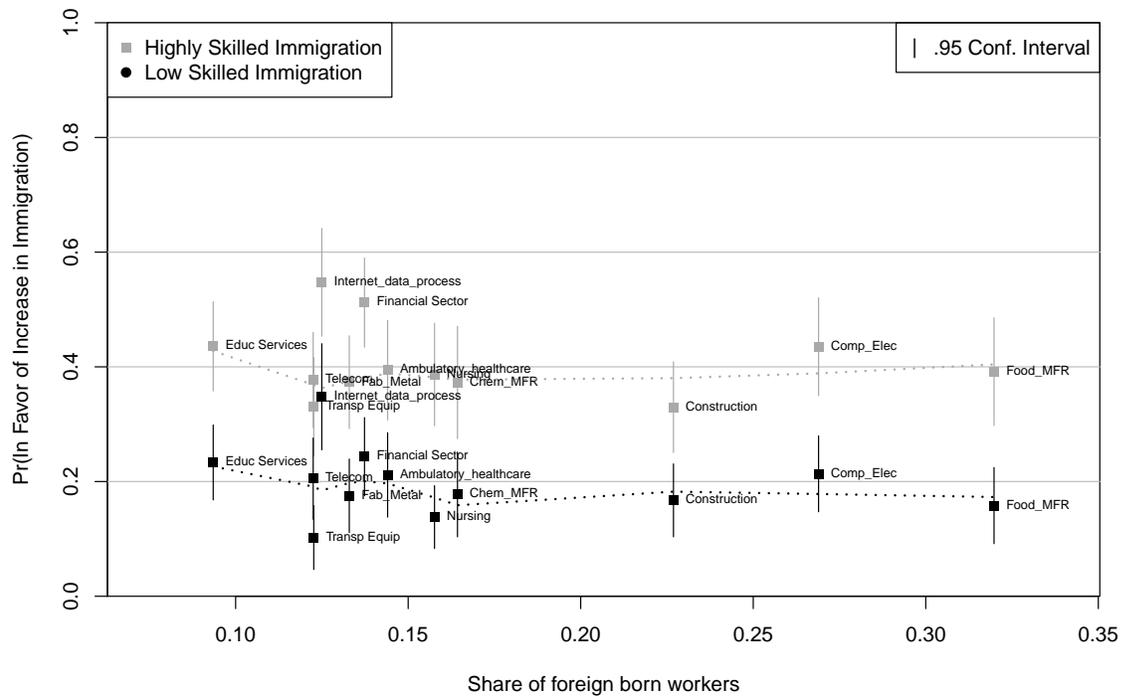
Note: Results are based on the coefficients reported in regression Table 2. The estimates hold all variables but education at the respective medians.

Figure 4: Marginal effect of college degree, by industry



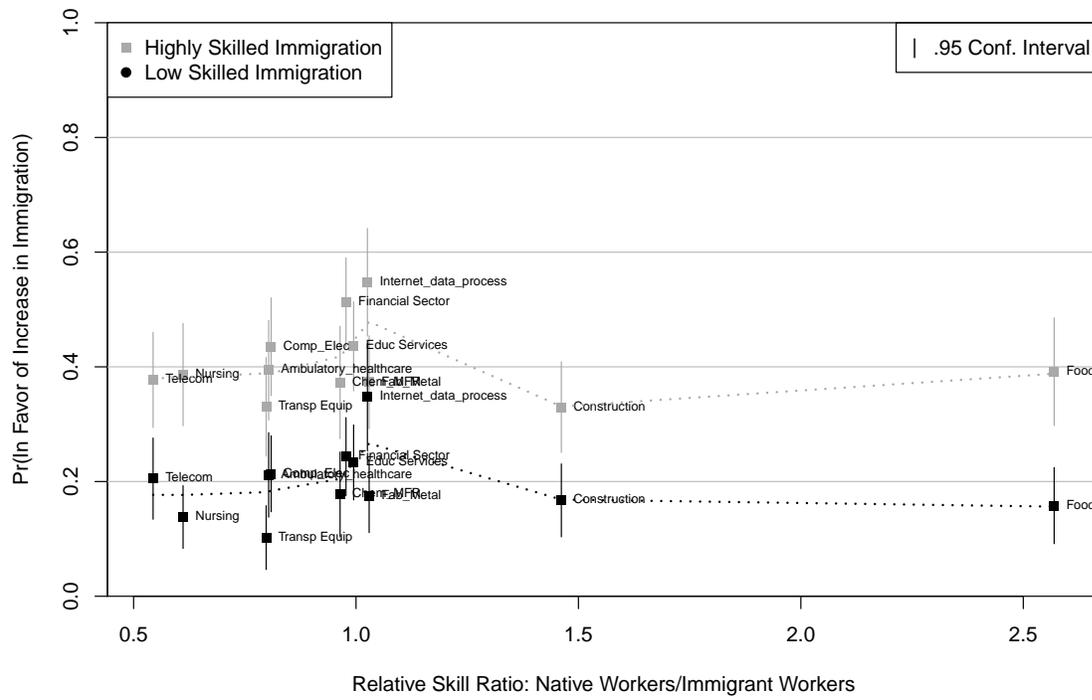
Note: See Table 3 for a description of the regressions used to generate these estimates. Industries along the vertical axis are sorted by the skill intensity of the industry (as measured by the value added per worker).

Figure 5: Support for immigration, by industry share of foreign born workers



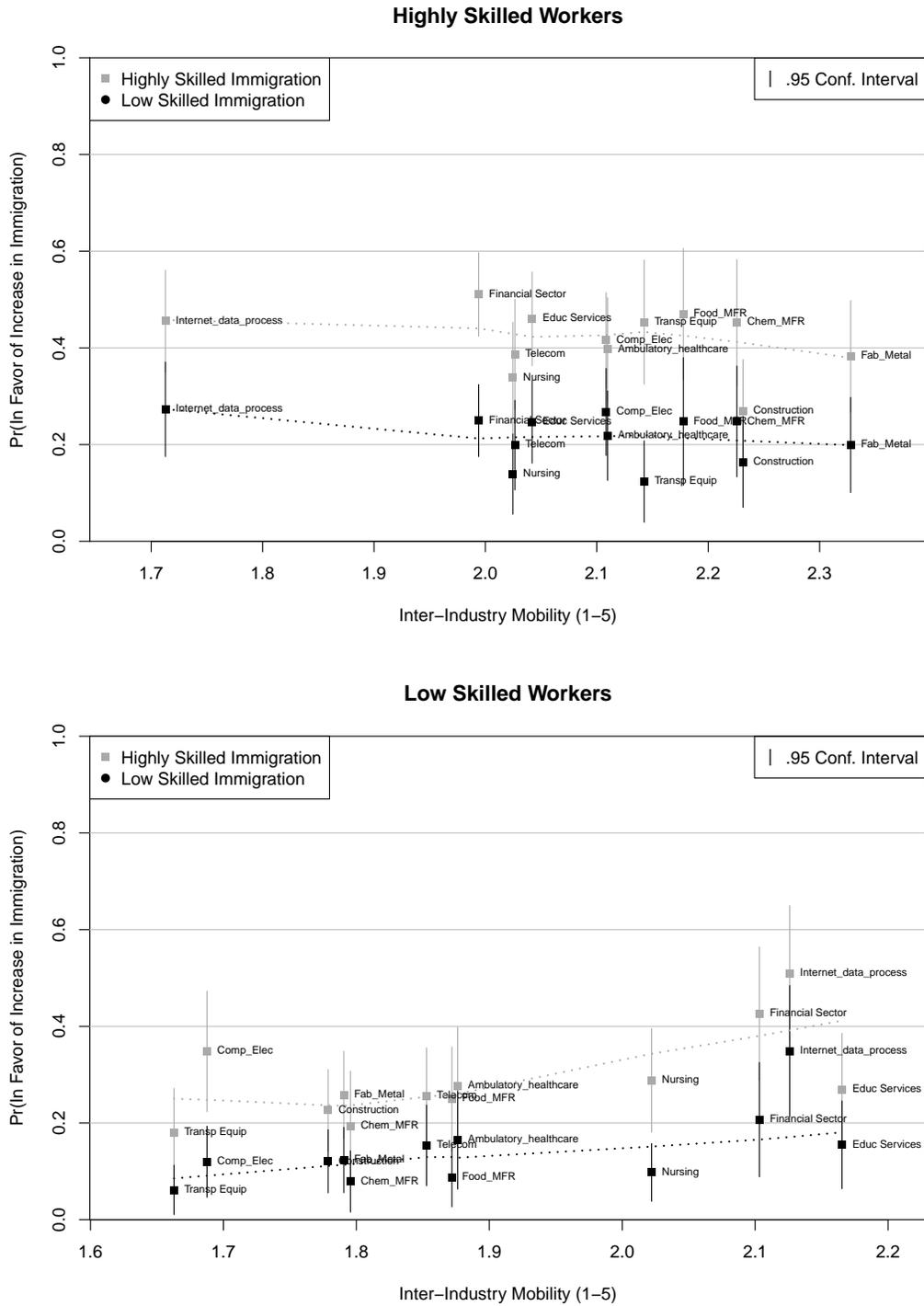
Note: See Table 4 for a description of the regressions used to generate these estimates.

Figure 6: Support for immigration, by industry relative skill ratio



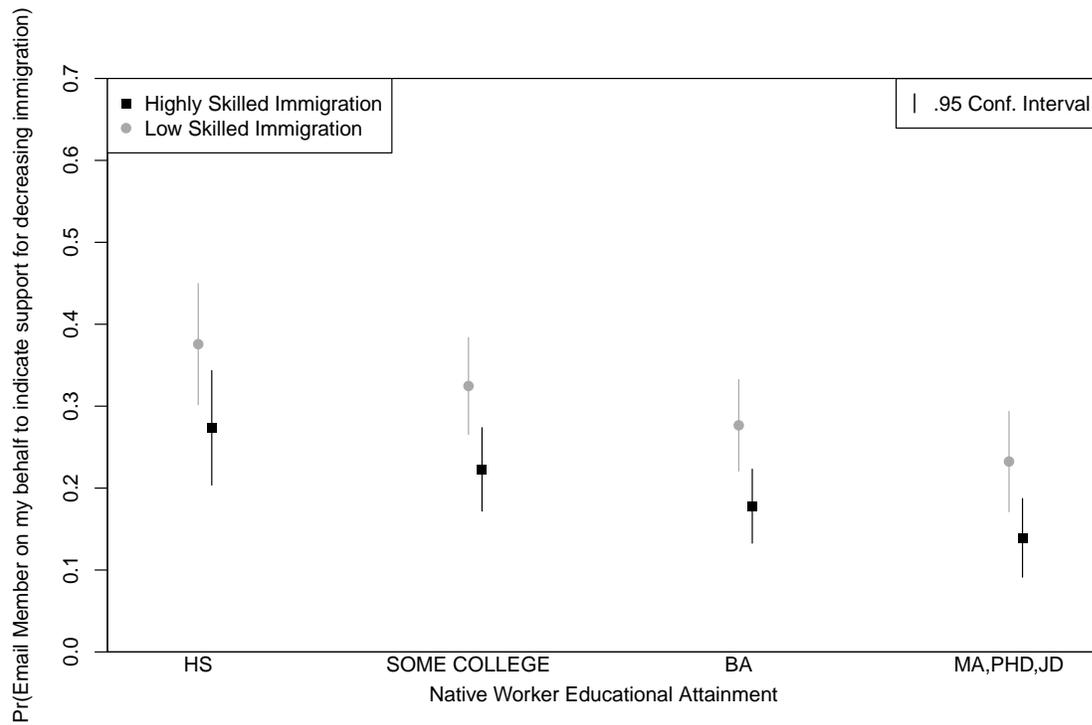
Note: See Table 4 for a description of the regressions used to generate these estimates.

Figure 7: Support for immigration, by industry relative skill ratio



Note: See Table 4 for a description of the regressions used to generate these estimates.

Figure 8: Skill level and request of action to express opposition to immigration



Note: The dependent variable in this analysis is coded as 1 if the respondent says s/he wants the email sent to indicate support for decreasing immigration and zero otherwise

APPENDIX

Table A.1: Interaction: Education and Immigration Attitudes

Sample	All Workers
Education	0.253 (0.030)
Education * Highly Skilled Immigration	0.0975 (0.020)
Highly Skilled Immigration	0.182 (0.066)
Observations	17,248

Note: Probit coefficients show with standard errors (clustered by respondent) in parenthesis. The dependent variable is a binary indicator that is coded as a 1 of workers that are in favor of an increasing immigration and zero otherwise. The independent variables include workers' education level (measured on a four point scale from less than high school to graduate education), an indicator for the skill frame of the immigration question (1 if highly skilled and 0 for low skilled immigration), the interaction between the education and the skill frame, and our full set of baseline covariates (gender, age, race, marital status, income, union membership, and region).

Figure A1. Replication of Figure 7a & 7b with intra industry mobility.

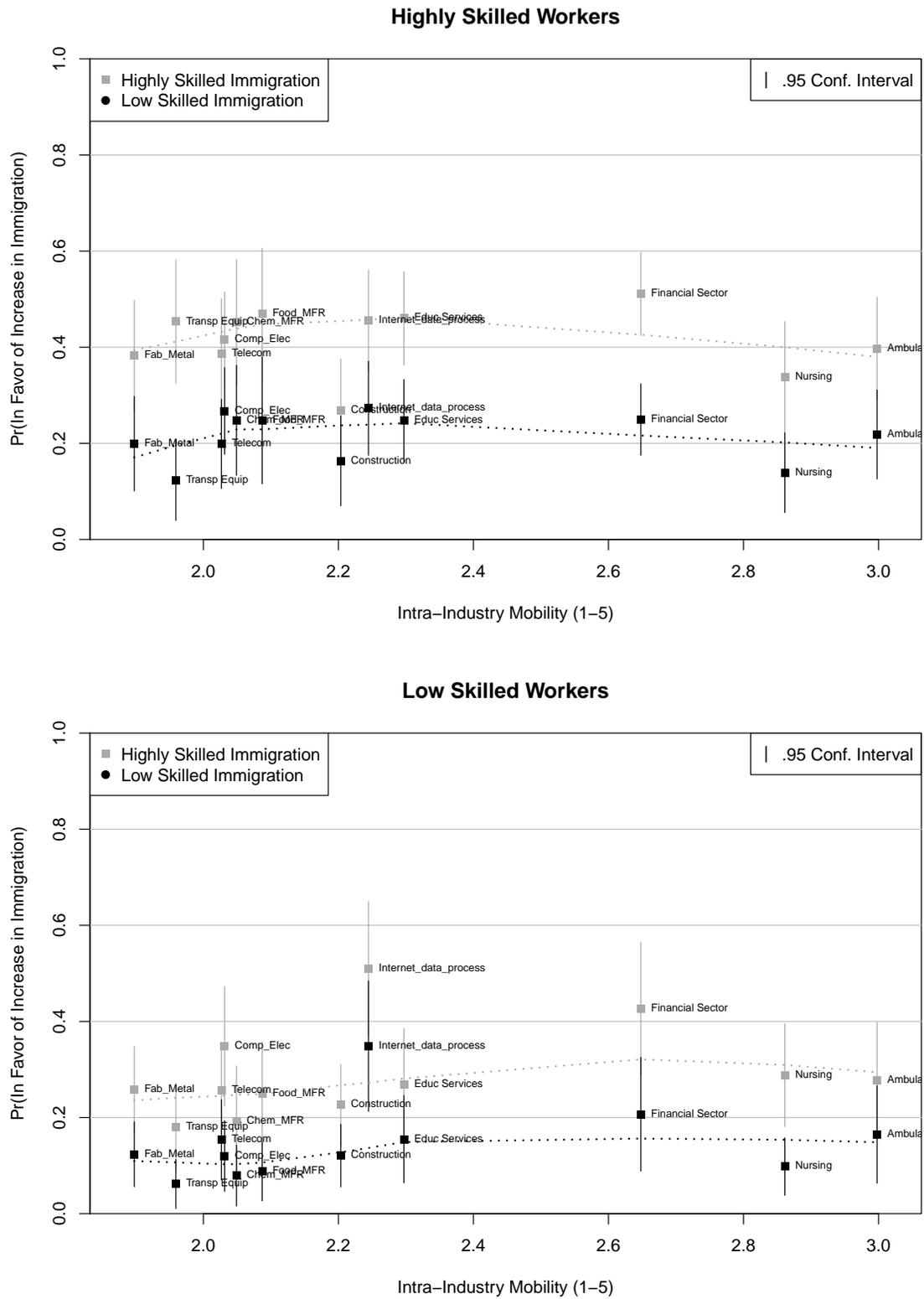


Figure A2. Replication of Figure 4 with Behavioral Measure (request of action to express opposition to immigration).

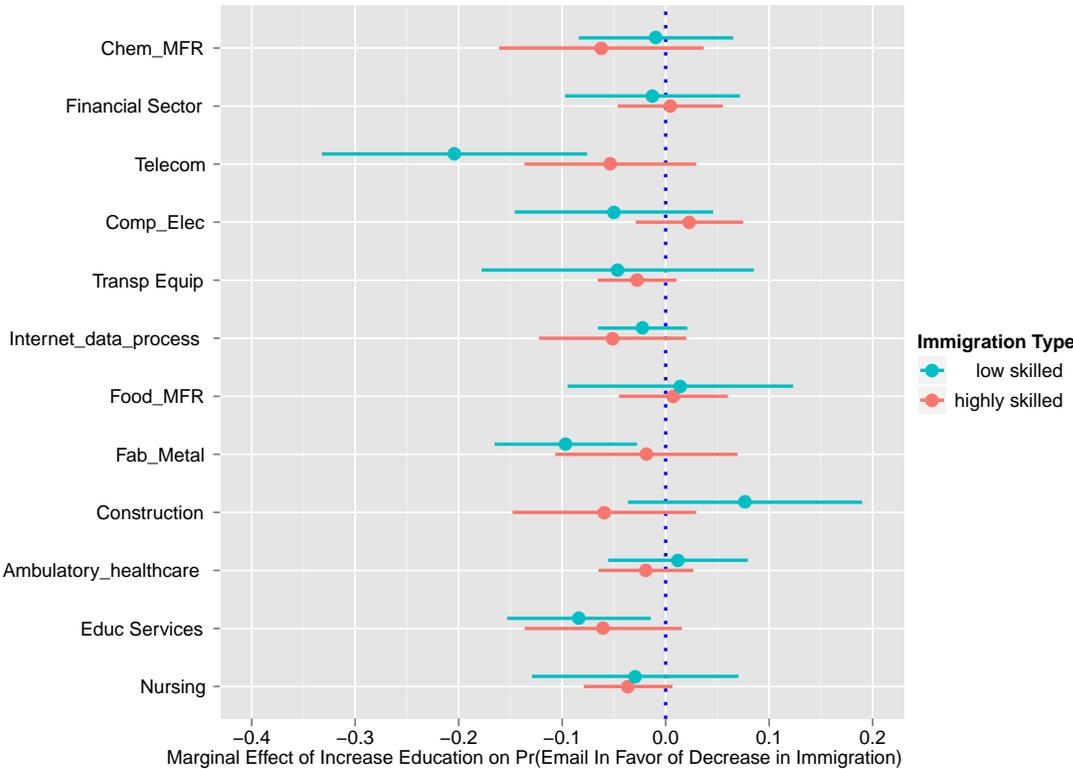


Figure A3. Replication of Figure 5 with Behavioral Measure (request of action to express opposition to immigration).

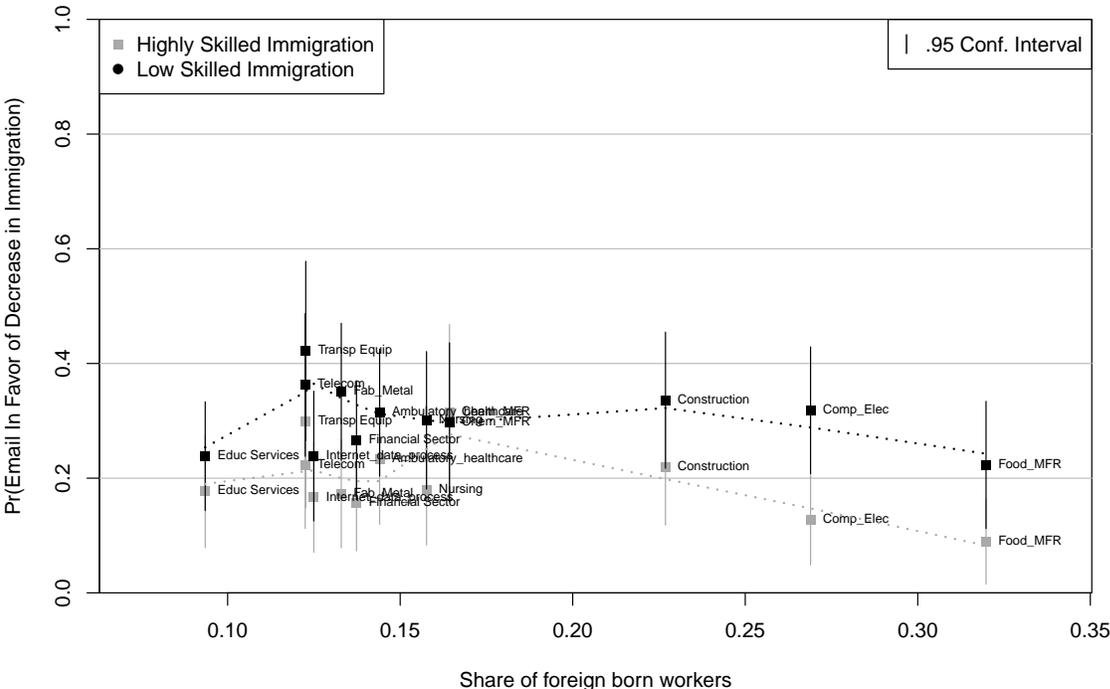


Figure A4. Replication of Figure 6 with Behavioral Measure (request of action to express opposition to immigration).

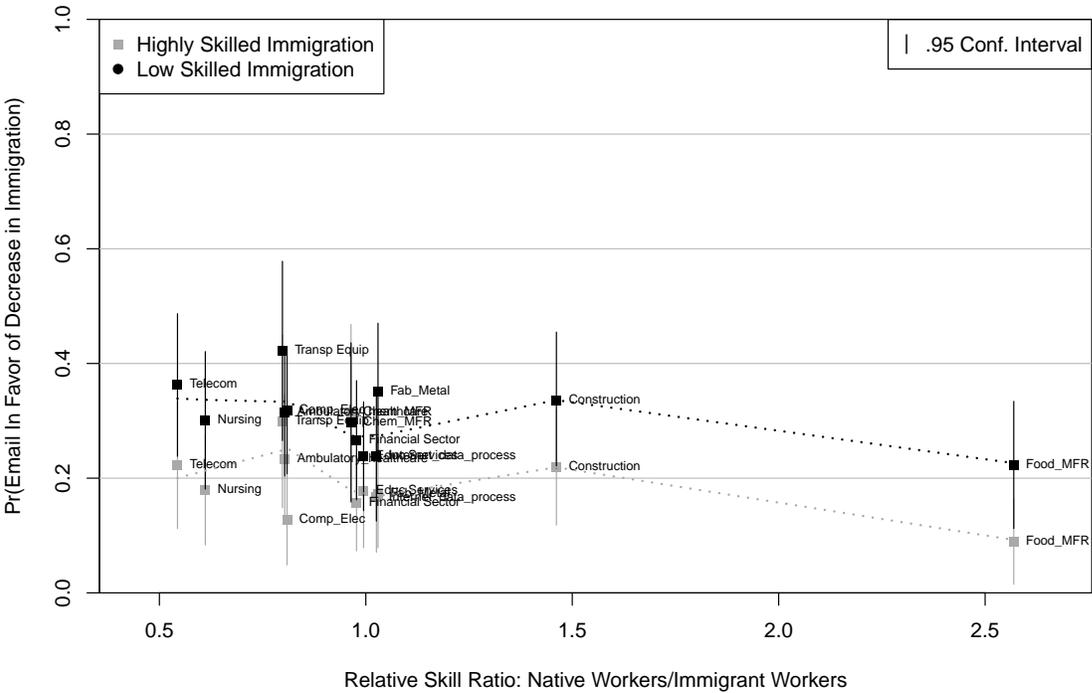


Figure A5. Replication of Figure 7a and 7b with Behavioral Measure (request of action to express opposition to immigration).

