

## **Support for Free Trade: Self-Interest, Sociotropic Politics, and Out-group Anxiety**

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The authors would like to thank Rumi Morishima, Matthew Tubin, and Carmela Aquino for their assistance with this study.

## Abstract

Although it is widely acknowledged that an understanding of mass attitudes about trade is crucial to the political economy of foreign commerce, only a handful of studies have addressed this topic. These studies have focused largely on testing two models, both of which emphasize that trade preferences are shaped by how trade affects an individual's income. The factor endowments or Heckscher-Ohlin model posits that these preferences are affected primarily by a person's skills. The specific factors or Ricardo-Viner model posits that trade preferences depend on the industry in which a person works. Using two representative national surveys of Americans, we test these models and find little support for them. Instead, individuals' perceptions of how the US economy as a whole is affected by trade drive these preferences. This result accounts for previous findings that are suggestive of self-interested trade preferences in the aggregate, but points to an entirely different theoretical interpretation. Perceptions of how trade affects the country as a whole play a substantial role in shaping attitudes about foreign commerce, as do individuals' anxieties about involvement with out-groups in their own country and beyond.

The politics of international trade has been a longstanding puzzle for social scientists. Among economists, there is widespread agreement that free trade is beneficial (Alston, Kearn, and Vaughan 1992). Open trade and cross-national market integration help to allocate factors of production efficiently and to promote the welfare of countries and the world as a whole. Nonetheless, open trade is the exception rather than the rule.

Studies of the political economy of trade often attribute variations in trade policy to the distributional implications of overseas commerce. Despite the economic benefits that a given country would accrue from open trade, some individuals will suffer economic harm as a result. If these individuals form a politically potent constituency, they may be able to pressure policy makers to increase trade barriers even if doing so is economically counterproductive for the country. If, on the other hand, the individuals who derive welfare gains from trade are particularly influential, then an open trade regime is likely to take hold. In fact, recent research indicates that constituency opinion on trade plays a central role in influencing the policy positions of public officials (Fordham and McKeown 2003).

There are two principle ways of assessing the distributional consequences of trade. First, the factor endowments approach emphasizes that, in a given country, trade benefits those individuals who own factors of production that are in abundant supply relative to the remainder of the world, and harms owners of factors that are in scarce supply. As such, free trade benefits highly skilled workers in countries like the US that have a skilled labor force and harms less skilled workers. Second, the specific factors approach predicts that an individual's attitudes toward trade will reflect characteristics of the industry in which he or she works. People employed in industries that depend on

overseas commerce should be more supportive of open trade than people working in industries that face considerable competition from imports.

Recently, a small but growing number of studies have evaluated the strength of these explanations for trade policy preferences. In this study, we extend this body of research. Using two representative national surveys of Americans, and more thorough measures of industries and occupations than most previous studies, we test the factor endowments and the specific factors models. Because research on other policy domains has demonstrated that people typically form opinions based on how they believe a policy will impact the country collectively rather than on narrowly defined self-interest, we also analyze how individuals' perceptions of how the US economy as a whole is affected by trade influence their trade preferences. No study that we are aware of has simultaneously examined how personal economic self-interest and perceptions of how others are affected by trade influence trade preferences.

Our findings indicate that accounting for perceptions is important. Consistent with previous research on the impact of self-interest on the formation of policy attitudes, there is little support for either the factor endowments or the specific factors model. By contrast, perceptions of how trade affects the country as a whole – or what are often referred to as “sociotropic” perceptions – play a substantial role in shaping attitudes about foreign commerce, a role that is largely independent of self-interest. Indeed, these perceptions are among the most important influences on opinions about trade. Finally, we further improve our understanding of mass trade preferences by incorporating into our model indicators of ethnocentrism and foreign policy attitudes more generally. There is little support for free trade among people who believe the US should take an isolationist

stance on international affairs and who feel that members of groups unlike themselves are less trustworthy, less efficient, and less hardworking than Americans.

### **The Origins of Trade Preferences**

Explanations for trade preferences have been guided by two models. The **factor endowments** or **Heckscher-Ohlin model** assumes that all factors of production within a country are mobile across sectors, markets are perfectly competitive, and there are constant returns to scale in production. Based on these assumptions, Stolper and Samuelson (1941) showed that, in a given country, open trade benefits owners of factors of production that are abundant, relative to the remainder of the world, and harms owners of scarce factors. Consequently, in the US – a country endowed with an abundance of highly skilled and well-educated labor relative to the rest of the world – free trade benefits highly skilled workers and damages less skilled individuals (Leamer 1984). Open trade increases the demand for skilled workers, since the US has a comparative advantage in the production of goods that use this input intensively. As the demand for such workers rises, so do their wages. Conversely, heightened trade decreases the demand for low-skilled labor in the US and depresses its wage rate since goods produced using such labor intensively can be produced more efficiently abroad.<sup>1</sup> The factor endowments approach therefore predicts that highly skilled workers in the US should be pro-trade, whereas other workers should hold more protectionist views.

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<sup>1</sup> The human capital model makes similar predictions about the attitudes of highly skilled workers in countries with a highly skill labor force (Kocher and Minushkin 2006). In this model, however, the reason highly skilled workers should support open trade is that they can more easily shift occupations and industries, and thus adapt successfully to economic change (Gabel 1998; Baker 2003, 2005).

Empirical studies of trade policy attitudes have generated a fair amount of support for this theory. In a set of cross-national analyses, Mayda and Rodrik (2005) and O'Rourke and Sinnott (2002) find that mass opinion about trade corresponds closely to what the factor endowments approach predicts. Scheve and Slaughter (2001) provide additional support for this approach, based on an analysis of public attitudes in the US; and Balistreri (1997) concludes that this model helps to explain Canadian attitudes toward the Canadian-US Free Trade Agreement. Nonetheless, a number of recent studies have raised questions about the fit between trade preferences and the factor endowments model (Baker 2003; Hainmueller and Hiscox 2006). A key assumption in the Heckscher-Ohlin model is that factors of production can move quickly and easily from one sector to another. In the long run, this assumption is not difficult to justify. In the short run, however, it can be difficult for people (not to mention other factors of production) to change the sector in which they are employed.<sup>2</sup>

The **specific factors** or **Ricardo-Viner model** is an alternative framework that assumes that, at least in the short run, certain factors of production cannot be shifted across sectors. If workers cannot easily move from one sector to another, then they will base their trade preferences on how changes in trade policy are expected to affect the industry in which they are currently employed. This model suggests that individuals who work in export-oriented sectors of the economy will support open trade because they personally benefit from it, while those in import-competing sectors will be more protectionist. Equally, an individual employed in a non-traded sector of the economy

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<sup>2</sup> The model may still prove useful if citizens use a relatively long time frame to evaluate the impact of trade policies (Mayda and Rodrik 2005).

should be more pro-trade than someone employed in an industry that faces substantial competition from foreign imports.

Very few studies have tried to evaluate whether trade preferences correspond to the specific factors model, due primarily to a lack of data on individuals' industry of employment in most extant surveys. Mayda and Rodrik (2005) try to infer respondents' industry from occupational data; but this is an imperfect solution, with many individuals assigned to multiple overlapping sectors because of inadequate information.

Nonetheless, they find some evidence that is broadly consistent with the specific factors model. In a similarly motivated analysis, Scheve and Slaughter (2001) compare the factor endowments and specific factors models, using educational attainment and the average yearly earnings for the respondent's occupation as indicators of skill, and information on the comparative advantage or disadvantage of the respondent's industry of employment as specific factors indicators. Their study provides evidence for the factor endowments model, but none supportive of the specific factors model.

Notably, the underlying premise in both models described above is that attitudes toward trade are largely a function of who is personally helped or hurt by trade policies. As Mayda and Rodrik (2005: 1394) note, "To the extent that individuals are motivated by material self-interest, these models provide important hints about an individual's likely attitudes toward trade depending upon his/her factor type or sector of employment." Unfortunately, the explanatory value of these models has been quite limited to date, and even simple demographics often explain more about trade preferences than variables linked to either model.

Beyond these two dominant theoretical frameworks, existing studies have also produced a set of empirical findings that remain in need of a theoretical framework. For example, Mayda and Rodrik (2005) find that social status, relative incomes, and values play a more important role than variables highlighted by either economic model. Upper class people are more likely to be pro-trade as are those with higher relative incomes. In addition, older people appear to be more protectionist than younger generations.

In the same vein, although educational attainment tends to be highly correlated with support for trade (Scheve and Slaughter 2001; Mayda and Rodrik 2005; O'Rourke and Sinnott 2002; but see Balistreri 1997), the appropriate interpretation of this relationship remains unclear. If education is simply serving as a proxy for skill level, then this relationship can be interpreted as support for the factor endowments model. This, in fact, is how these results are typically viewed.

But there are many other plausible explanations for why education might relate to trade preferences. Well-educated people are different from their less educated counterparts in numerous ways, including levels of tolerance for out-groups (such as foreigners), risk preferences, levels of dogmatism, and preferences for immediate versus delayed gratification. To the extent that trade preferences are driven by characteristics such as ethnocentrism, out-group hostility, or isolationist foreign policy tendencies, education's influence may have little to do with economic self-interest.

Hainmueller and Hiscox (2006) argue that education represents something other than skill level. They find that the effect of education on trade preferences is much the same for Americans who are not currently employed and for those who are working. Equally, there is no distinguishable difference in the effects of education between

working individuals and retirees, a subset of non-working individuals who are unlikely to re-enter the labor force. In their view, the fact that education's impact is not contingent upon whether an individual is receiving wages for using his or her skills casts doubt on the factor endowments model. Rather than serving as a proxy for skill, they argue that education represents the effects of exposure to economic ideas among the college-educated. Because mainstream economists generally favor open trade, college-educated individuals will have more exposure to arguments about the economic benefits of foreign commerce than those with less formal education.

This claim is consistent with Hainmueller and Hiscox's findings that college-educated individuals have especially pro-trade attitudes, but these individuals are distinctive from their less educated counterparts in many other ways as well. As Nie, Junn, and Stehlik-Barry (1996) point out, education is a powerful predictor of many civic virtues. Unfortunately, it is very poorly understood *why* education is linked to these outcomes. Empirical research suggests that education affects political preferences in at least two ways: (1) through occupational prominence and position in social networks, and (2) through cognitive proficiency and analytical ability (Nie, Junn, and Stehlik-Barry 1996). If education serves as a proxy for skill level, then it falls into the first of these categories. Under these circumstances, education influences trade preferences because of where schooling locates people in socioeconomic strata. But since education also contributes to tolerance of different cultures and countries, as well as a belief on the part of Americans that the US should be more actively engaged in foreign affairs (Erikson and Tedin 2005; Fordham 2008), it remains to be seen if exposure to arguments about the virtues of international trade is driving Hainmueller and Hiscox's results.

In the same vein, the expected trade attitudes of retirees are far from clear. That education's impact on such attitudes is indistinguishable between workers and retirees could reflect a tendency for trade preferences to persist over the course of a lifetime, rather than changing suddenly at retirement. Thus, based on this analysis alone, it is difficult to determine whether skill level influences the formation of trade preferences.

The finding of many studies that women are more protectionist than men even after controlling for educational differences also has been attributed to a college education, although this result is attributed to differences in the kinds of courses taken by men and women. Burgoon and Hiscox (2004), for example, maintain that college-educated men are more likely than college-educated women to be exposed to mainstream economic arguments about the gains from trade. They argue that the gender gap in trade policy attitudes stems from the fact that pro-trade ideas reach more men than women through their college coursework.

More generally, Hainmueller and Hiscox (2006) and Burgoon and Hiscox (2004) make the important point that the kind of information to which citizens are exposed is likely to play an important role in shaping trade preferences. To extend their argument beyond the college environment, it is easy to see how if a person is a union member, they will be exposed to a different kind of information about the impact of free trade policies than a non-union worker. As new concerns about globalization arise, organizations regularly communicate with their members to encourage certain policy preferences and to inform them about how they think people will be affected by particular policies. Likewise, members of AARP may receive regular information about the perils of financial insecurity in today's global economy, thus cultivating the impression of risk and

volatility that could drive perceptions of the need for protectionist policies. Particularly in today's highly specialized media environment, different people receive different information.

Whether this information difference is an outgrowth of the college courses they took, of newsletters, or of the daily newspaper, it provides a basis for perceptions that may or may not have a basis in the individual's own personal economic reality. We refer to this collection of models emphasizing information differences as a source of variance in trade preferences as **information-based models**.

Intuitively, information of the kind one might be exposed to in college or in a daily newspaper would seem to pale in comparison to the hard reality of economic risk faced by a worker in a given occupation or industry. Surely threats to one's livelihood would seem to be a more potent influence on policy preferences. Surprisingly, the larger literature on economic policy preferences suggests that self-interest is very unlikely to play an influential role in shaping attitudes toward free trade.<sup>3</sup> An extensive body of research demonstrates that self-interest enters into the formation of policy opinions only under very special and very rare circumstances (Sears and Funk 1990).

Because of the counterintuitive nature of this claim, social scientists have searched extensively for instances in which self-interest played a significant role in the formation of policy preferences. But the available evidence suggests that the perceived impact of policies on individuals or their families has little, if any, influence on preferences (Sears and Funk 1990). This occurs not necessarily out of a mass tendency toward altruism, but rather because citizens have a difficult time linking their own personal economic situations to public policies. Further, this pattern is not restricted to

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<sup>3</sup> See Kiewiet (1983) for a review of this literature.

the economic realm. The list of failed attempts to observe the influence of self-interest in the formation of policy preferences is by now quite lengthy.<sup>4</sup> Exceptions to this general rule have received a great deal of attention, if only because of their rarity.<sup>5</sup>

Instead, people tend to formulate policy preferences on the basis of collective-level information, that is, perceptions of how a given policy has affected the nation as a whole. Even something as personally jarring as losing a job has far less impact on political preferences than the perception that unemployment is worsening as a collective, national problem. Thus, to the extent that trade preferences are like attitudes toward other aspects of economic policy, they will be based on people's perceptions of the collective impact that trade policy has on the nation. This pattern has been dubbed sociotropic influence because of the tendency it suggests for relying on collective-level information rather than personal experience (Kinder and Kiewiet 1981).

Sociotropic models are, at root, information-based explanations. They are based on people's perceptions (or misperceptions) derived from any number of sources of information, outside of personal experience. Studies of sociotropic perceptions in other areas of economic policy provide some suggestions as to what sources of information are likely to contribute to national-level economic perceptions. Most interestingly, such perceptions are not mere generalizations from personal experience. The two kinds of information that have been found to influence national-level collective perceptions are: (1) local information, such as information about the local economy, and (2) mass media

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<sup>4</sup> See Sears and Funk (1990) for a full review.

<sup>5</sup> Green and Gerken (1989), for example, found that smoking-related policy preferences were significantly influenced by whether a person was a smoker. The very few exceptions are simple policies with straightforward effects on individuals, such as the effects of non-smoking policies on smokers. As complex, difficult to understand agreements, trade policies would not naturally fall into this category of policies in which one would expect self-interest to affect political preferences.

coverage of economic issues. Citizens tend to process personal-level experiences and concerns in a fashion that compartmentalizes them from the political world (e.g., Brody and Sniderman 1977; Mutz 1994). Collective-level information, on the other hand, is more easily attributed to government policy. An unemployed person is unlikely to blame government for his or her personal situation, but people who are aware of rising joblessness in their communities are likely to hold the government accountable for this development, regardless of their own employment status. In the case of trade preferences, if available information convinces a person that many in the US are being adversely affected by free trade, even if they personally or not, it will be the former, “sociotropic” perception that is tied to his trade policy preference rather than how trade has influenced his own economic well-being.

To summarize, research on the role of economic well-being on political preferences would warn against the assumption of self-interest as the driving force behind attitudes toward trade. Studies of mass opinion have repeatedly shown that individuals rarely form political preferences on the basis of self-interest. Although early studies of American voting behavior attributed the surge enjoyed by incumbent parties in good economic times, and the anti-incumbent preferences in bad economic times, to so-called “pocketbook” voting, once these studies moved beyond aggregates to the individual level of analysis, it became clear that self-interest was not the mechanism driving economic accountability. The people helped or hurt by the economy were not those rewarding and punishing accordingly; instead, accountability rested on citizens’ *perceptions* of how the nation as a whole was faring – perceptions that might or might not be accurate ones. In some ways, this is quite consistent with the relatively poor performance of the leading

political economy models in explaining individual trade policy attitudes. However, because many studies have utilized aggregate-level measures of preferences and impact, and none have asked about sociotropic perceptions, previous research has not been able to distinguish these various sources of trade preferences.

In this study, we use individual-level data that include multiple measures of attitudes toward trade. To date, few analyses of trade preferences have utilized data gathered at the individual level.<sup>6</sup> In all but a handful of studies, trade attitudes have been inferred from aggregate vote results, patterns of campaign contributions, or the outcomes of the policy debates themselves. Importantly, aggregate-level data can produce evidence of self-interested attitudes toward trade policies that is impossible to distinguish from preferences formed on a sociotropic basis, that is, on the basis of how people think the collective as a whole is influenced.

In addition, previous individual-level studies have generally relied on single item indicators. Because of the ambivalent nature of public attitudes toward trade, individual questions tend to be unreliable and extremely sensitive to question wording and to the framing of options (Worldview 2002; Hiscox 2006), a problem that is avoided by creating a more reliable index. We also use these data to expand the potential ways in which self-interest might enter into these policy preferences, beyond skill levels and industry impact.

Interestingly, most research on this topic has not viewed trade as a *political* issue. Instead, the emphasis in explaining trade attitudes has been on how it positively or negatively impacts individuals economically. With these data, we examine not only the

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<sup>6</sup> The handful of such studies includes Balistreri (1997), Scheve and Slaughter (2001), Baker (2003, 2005), Burgoon and Hiscox (2004), Mayda and Rodrik (2005), Hays, Ehrlich, and Peinhardt (2005), Hainmueller and Hiscox (2006), Hiscox (2006), and Kocher and Minushkin. (2006).

dominant political economy models, but also the sociotropic hypothesis, which is the preference formation model most widely documented in public opinion research on economic policy preferences. In so doing, we not only improve our overall understanding of the origins of attitudes toward trade, we also reveal the importance of partisanship and the political information that reaches citizens in explaining American preferences in this policy domain.

### **Study Design**

Using two representative national surveys, we attempt to move beyond the ecological inferences of previous studies and the limitations of previous individual-level surveys by asking working and temporarily unemployed Americans about their attitudes toward trade and related matters. The first was a telephone survey conducted as part of the National Annenberg Election Study (NAES) during the summer of 2004.<sup>7</sup> The second was an internet survey conducted by Knowledge Networks (KN) in the summer of 2007.

### **The Dependent Variables**

Two survey questions served to construct the dependent variables in the analyses based on the NAES survey:

*1. As you may know, international trade has increased substantially in recent years. This increase is due to the lowering of trade barriers between countries, that is, tariffs or taxes that make it more difficult or more expensive to buy and sell things across international borders. Do you think government should try to encourage international trade or to discourage international trade? Do you think the government should [encourage/discourage] this a lot or only a little?*

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<sup>7</sup> The conservative AAPOR Response Rate I calculation was 23 percent, which represents a minimum possible response rate.

2. *I'm going to read you some actions the federal government in Washington can take on a variety of issues. For each one please tell me whether you favor or oppose the federal government doing it. ... How about the federal government negotiating more free trade agreements like NAFTA? Do you favor or oppose the federal government doing this? Is that strongly [favor/oppose] or only somewhat [favor/oppose]?*

Each item was scored on a five-point scale.<sup>8</sup> The highest (lowest) score was assigned to respondents who believed that the government should encourage (discourage) international trade a lot and who strongly favored (opposed) the government negotiating free trade agreements, respectively. For the first item, individuals who expressed no opinion or refused to answer were assigned to a middle category; for the second item, such individuals were grouped with respondents who neither favored nor opposed free trade agreements.

Our first dependent variable is the mean score for these two items. The second dependent variable is an ordered trichotomous measure that equals 1 if a respondent opposes free trade agreements *and* believes that international trade should be discouraged, and 3 if he or she favors free trade agreements *and* believes that international trade should be encouraged. All other respondents were scored as 2. This variable therefore groups individuals based on whether they have a consistent preference for open trade or protectionism, or whether their preferences are inconsistent.<sup>9</sup>

Five survey questions were used to generate the dependent variable for the analysis based on the KN survey. The first two questions were identical to those described earlier, but three additional items were asked as well:

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<sup>8</sup> These two items are especially useful because one segment of the literature on trade policy preferences focuses on free trade agreements (e.g., Balistreri 1997; Baker 2003) and another segment addresses more general attitudes toward trade.

<sup>9</sup> Combining these two items has various advantages, chiefly that the dependent variable is a more reliable measure and less prone to problems associated with idiosyncratic wording or measurement error than if we analyzed each item separately. On this issue, see Baker (2003, 444, fn. 35).

3. *Do you believe that globalization, especially the increasing connections of our economy with others around the world, is good or bad for the United States?*

4. *Should foreign companies be encouraged or discouraged from investing in the United States, for example, by building their factories in this country?*

5. *Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of the WTO, the World Trade Organization?*

Each of these items was scored on a four-point scale.<sup>10</sup> The highest (lowest) score was assigned to respondents who believed that the government should strongly encourage (discourage) international trade, who strongly favored (opposed) the government negotiating free trade agreements, who felt that globalization is very good (bad) for the US, who strongly encouraged (discouraged) foreign investment in the US, and who had a strong favorable (unfavorable) opinion of the WTO. The mean of the responses to these five items is our third dependent variable. Although these items were clearly not addressing exactly the same issues, it is noteworthy just how consistent people's preferences were across the questions. Experts on these issues might anticipate that people would have different attitudes on NAFTA than on free trade more generally, or toward direct foreign investment, than toward the WTO. Nonetheless, these five questions indicate a very high degree of internal consistency, with a Cronbach's alpha of over .80 and a Cramer's V that averages around .80 for pairs of the items. In short, people's attitudes are very consistent across these facets of international economic relations, so much so that it would be inaccurate to describe them as anything other than a single underlying pro- or anti-trade preference.

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<sup>10</sup> These two items are especially useful because one segment of the literature on trade policy preferences focuses on free trade agreements (e.g., Balistreri 1997; Baker 2003) and another segment addresses more general attitudes toward trade.

## The Independent Variables

Our key independent variables fall into three broad categories: (1) those that measure influences emphasized by the factor endowments and specific factors models, (2) those that measure respondents' perceptions about how trade influences their personal circumstances as well as the country as a whole, and (3) drawing on a set of items on the KN survey, those that measure ethnocentrism, the perceived cultural superiority of the US, and attitudes toward intervention in the affairs of other countries.

To tap self-interest within the first category of models, we include a respondent's skill level and features of his or her industry of employment. Economic studies typically use the average annual wage for an individual's occupation and the extent of an individual's formal education to measure skill, a tack that has been followed in much of the research on trade attitudes (Attewell 1990, 425; Spenner 1990, 407; Balistreri 1997; Scheve and Slaughter 2001; Hays, Ehrlich, and Peinhardt 2005; Mayda and Rodrik 2005). In both surveys, we therefore asked individuals, "In your current (or most recent) job, what kind of work do you do?" Each respondent's occupation was then coded using the US Department of Labor's Standard Occupational Classification (SOC) system. We used data compiled by the Department of Labor's Bureau of Labor Statistics to calculate the average wage in 2003 (for the 2004 survey) and in 2006 (for the 2007 survey) for each occupation in our sample.<sup>11</sup> We also asked each respondent about his or her formal education and created a variable that equals 1 if the person attended high school; 2 if the person graduated from a technical school or a two-year college, or if she attended but did

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<sup>11</sup> The data on occupation and wages are taken from <http://www.bls.gov/soc/> and [http://www.bls.gov/oes/oes\\_dl.htm](http://www.bls.gov/oes/oes_dl.htm), respectively.

not graduate from a four-college; 3 if the person graduated from a four-year college; and 4 if the person attended graduate school.

To test the specific factors model using the NAES survey, we asked open-ended questions of each respondent about the industry in which they work, as well as details about their occupations. Respondents were probed at length for details, and based on audio recordings of their responses, they were assigned to one of the US Census Bureau's three-digit North American Industry Codes (NAIC).<sup>12</sup> To test this model using the KN survey, we asked each respondent to pick from a list of the three-digit NAIC categories which one best described the industry in which they work or most recently worked. For each industry represented in our sample,  $i$ , we estimated the revealed comparative advantage or disadvantage by computing  $C_i = X_i - M_i$ , where  $X_i$  and  $M_i$  are the sector's total exports and imports, respectively, in 2003 (for the NAES survey) and in 2006 (for the KN survey).<sup>13</sup> Following Mayda and Rodrik (2005), we coded all industries where  $C_i > 0$  as export-oriented, industries where  $C_i < 0$  as import-competing, and industries where  $C_i = 0$  as non-tradable. We created two dummy variables, the first of which equals 1 if the industry is export-oriented; the second equals 1 if the industry is non-tradable. The reference category in this analysis is an import-competing industry.<sup>14</sup> The specific

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<sup>12</sup> For a list of the three-digit industry classifications, see <http://www.census.gov/epcd/www/naics.html>. Note that our sample is representative of the distribution of workers across industries in the US population as a whole. We compared the distribution of respondents across industries in our sample to the distribution in the US population, using data provided by the US Census Bureau at [http://factfinder.census.gov/servlet/QTable?\\_bm=y&-geo\\_id=01000US&-qr\\_name=DEC\\_2000\\_SF3\\_U\\_DP3&-ds\\_name=DEC\\_2000\\_SF3\\_U&-lang=en&-caller=geoselect&-state=qt&-format=](http://factfinder.census.gov/servlet/QTable?_bm=y&-geo_id=01000US&-qr_name=DEC_2000_SF3_U_DP3&-ds_name=DEC_2000_SF3_U&-lang=en&-caller=geoselect&-state=qt&-format=). For each industry, the percentage of respondents in our sample is much the same as the percentage of the US workforce.

<sup>13</sup> Data on exports and imports are taken from the US International Trade Commission ([http://dataweb.usitc.gov/scripts/user\\_set.asp](http://dataweb.usitc.gov/scripts/user_set.asp)). We used version 2.7.4 of the data.

<sup>14</sup> We also replaced these two dummy variables with  $C_i$  and found that it had no effect on either measure of trade preferences.

factors model predicts that individuals employed in this type of industry should be especially hostile to open trade.

To distinguish evidence of self-interested policy preferences from the sociotropic hypothesis, one survey item in both surveys asked how respondents thought the nation as a whole had been influenced by trade. Respondents answered using a five-point scale ranging from “helped a lot” (5) to “hurt a lot” (1).<sup>15</sup> A parallel item asked about the *perceived* effect of trade on the person’s own family financial situation. Although the latter variable might simply appear to be an indicator of subjectively assessed self-interest, it is included to take into account however much slippage may occur between actual self-interest and what people perceive to be in their own economic interests. The latter perceptions are inevitably a function of personal experience, but they also reflect information that causes people to attribute a particular economic situation to international trade.

As shown in Figure 1, both surveys demonstrate a slight skew toward perceptions that trade has adversely affected the economy. The NAES survey results produce a roughly uniform distribution across the five response categories from “helped a lot” to “hurt a lot,” whereas the KN results are more bimodal, with most respondents feeling that trade has either helped or hurt the economy “a little.” Nonetheless, both distributions deviate starkly from the distribution on this same scale for the American public’s perceived effects of trade on their own family financial well being. Based on both surveys, there is a striking tendency for respondents to claim that trade had no effect on their family financial situation.

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<sup>15</sup> Note that people who refused to answer this question or who said they did not know the answer were grouped together with people who answered that trade neither hurts nor helps the economy.

In the KN survey, we also included three indexes designed to help clarify the role of education in shaping trade preferences. Toward this end, we added items addressing several well-studied orientations that are known to be a function of education and that also are potentially linked to trade preferences. For example, regardless of context, well-educated people tend to favor a more activist role for the US in foreign policy matters. Such individuals hold more favorable views of the United Nations, are more willing to normalize relations with Cuba, are more likely to favor signing international treaties, and generally endorse a more active role for the US in foreign affairs than less-educated individuals (Erikson and Tedin 2005; Fordham 2008). Thus pro-trade preferences among the well-educated may be a function of the same underlying tendency to involve one's self in affairs beyond national borders. In addition, the poorly educated tend to have a stronger sense of cultural superiority, which might also account for their hostility to open overseas commerce. In addition, ethnocentrism – that is, the tendency to think less of those who are racially or ethnically different from one's own group – is tied to education and may also drive anti-trade preferences. To the extent that the observed effects of education stem from any of these factors, it puts a very different cast on what drives trade preferences.

Our first index, Isolationist versus Interventionism, is comprised of five widely-used items tapping the extent to which respondents believe the US should adopt an isolationist or an activist stance on international affairs (Wittkopf and Maggiotto 1981, Maggiotto and Wittkopf 1983; Holsti, 1996; Herrmann, Tetlock, and Diascro 2001).<sup>16</sup>

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<sup>16</sup> “Please tell us whether you agree or disagree with each of the following statements: [RANDOMIZED ORDER] (1) The US needs to play an active role in solving conflicts around the world; (2) The US government should just try to take care of the well-being of Americans and not get involved with other nations; (3) It is essential for the United States to work with other nations to solve problems, such as

The second index, Cultural Superiority, draws on three previously used questions to assesses whether respondents believe that the US is culturally superior to other countries (Rankin 2001).<sup>17</sup> The third index, Ethnocentrism, taps “prejudice, broadly conceived” (see Levinson 1949: 19). Ethnocentrism scales are designed to measure the “commonplace inclination to divide the world into ingroups and outgroups, the former characterized by virtuosity and talent, the latter by corruption and mediocrity” (Kam and Kinder 2007).<sup>18</sup> By asking individuals about some positive and some negative human characteristics with reference to the in-group as well as what are out-groups for that given person, we obtain an indicator of the extent to which a given person employs an in-group-out-group mode of thinking (Levinson 1949). To construct our measures, we use the same racial and ethnic in-groups and out-groups as previous studies, without reference to whether people reside in the US or abroad. Each of these three variables is standardized, with a mean of zero. Larger positive (negative) values of these variables reflect views that are more (less) isolationist, culturally nationalist, and ethnocentrist, respectively.

In addition, our models include measures of party identification (one variable indicating whether respondents describe themselves as a Democrat and another indicating

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overpopulation, hunger, and pollution; (4) It will be best for the future of the country if we stay out of world affairs; (5) The United States has the responsibility to play the role of “world policeman,” that is, to fight violations of international law and aggression wherever they occur.”

<sup>17</sup> “To what extent do you agree or disagree with each of these statements? [RANDOMIZED ORDER]: (1) In the United States, our people are not perfect, but our culture is superior to others; (2) I would rather be a citizen of America than of any other country in the world; (3) The world would be a better place if people from other countries were more like Americans.”

<sup>18</sup> All respondents are asked about their own racial ethnic group as well as two out-groups. Ethnocentrism is the difference between the mean for positive-negative characteristics attributed to the in-group and the same characteristics attributed to the out-group. “Next are some questions about various groups in our society. Below are 7 point scales on which you can rate characteristics of people in different groups. Where would you rate physicians in general on this scale? Where would you rate [BLACKS/WHITES/HISPANIC-AMERICANS] in general on these scales? “ The scales range from 1 to 7, anchored by Hard Working-Lazy, Efficient-Wasteful, Trustworthy-Untrustworthy.

whether they describe themselves as Republican, with the reference category being someone without a partisan affiliation), whether anyone in the home belonged to a union, whether the respondent was currently unemployed or laid off, age, gender, and family income.

In the following tests, we use ordinary least squares (OLS) to analyze our nine-point measure of trade policy preferences based on the NAES survey and our measure based on the KN survey, since both of them have a roughly normal distribution. To analyze the ordered trichotomous measure of the consistency of trade policy preferences across the two items, we use an ordered logit specification.<sup>19</sup> All tests of statistical significance are based on robust standard errors, which account for any heteroskedasticity in the data and which are clustered by the state in which respondents reside.

## **Results**

Table 1 shows the results based on the NAES nine-point index of trade opinions, Table 2 reports the results based on the NAES trichotomous index, and Table 3 presents the results based on the mean of the five items on trade opinions from the KN survey. In each table, we start by estimating a model to test the factor endowments and specific factors hypotheses. This model includes occupational wages, education, the industry of employment's exposure to trade, and the control variables. Then we supplement this baseline model with additional variables to evaluate the impact of perceptions of trade's influence on the national economy and to assess the robustness of our results.

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<sup>19</sup> Note that there is no evidence of multicollinearity in our data. Only when we analyze the variable indicating whether a respondent works in a non-tradable sector does the variance inflation factor exceed 2, and even then only barely.

Our findings offer some apparent support for the factor endowments hypothesis. Each coefficient estimate of Education is positive and statistically significant, indicating that highly educated individuals are more likely to support free trade than less educated individuals. However, there is no evidence that occupational wages affect attitudes about trade. The coefficient estimate of Average Annual Wage is positive, which is consistent with the factor endowments approach, but it is small and far from statistically significant. Furthermore, the results offer no support for the specific factors hypothesis since neither employment in an export oriented sector nor in a non-tradable sector has a statistically significant impact on trade preferences.

There is little evidence that individuals form attitudes about trade based on how trade affects their income. But as shown in the second columns of Tables 1, 2, and 3, there is very strong evidence that these attitudes are formed in response to perceptions of how trade affects the US economy. Respondents who feel that trade benefits the economy as a whole are significantly more likely to support open trade than those who believe that trade is economically harmful, providing considerable support for sociotropic arguments about overseas commerce. Including this variable substantially increases the model's explanatory power, increasing the adjusted coefficient of variation ( $R^2$ ) by about four-fold in Table 1 and by roughly seven-fold in Table 3. In addition, doing so weakens the effects of gender, partisanship, and age.

Our initial results – in the first column of Tables 1, 2, and 3 – provide clear evidence of a gender gap. Consistent with a number of recent studies, these initial findings indicate that women are more protectionist than men (O'Rourke and Sinnott 2002; Burgoon and Hiscox 2004; Baker 2005; Hays, Ehrlich, and Peinhardt 2005; Mayda

and Rodrik 2005). There is also evidence of a partisan split based on the result in Tables 1 and 2, with Democrats more protectionist than Republicans. Equally, the results in Table 3 indicate that people become more protectionist as they grow older. All of these relationships, however, become substantially attenuated once we add the sociotropic variable to the model.<sup>20</sup>

Also consistent with existing research, Tables 1 and 2 indicate that that union membership affects an individual's attitude toward trade (Balistreri 1997; Mayda and Rodrik 2005). Respondents who either were a union member or had a union member in their family were much less likely to be pro-trade than those without a union affiliation. Finally, income seems to have no bearing on trade preferences; and what little evidence there is that unemployment influences these preferences (see the third column of Table 3) becomes much weaker once we account for respondents' perceptions of how trade has influenced their family financial situation (see the fourth column of Table 3).

Taken together, our results indicate that education, perceptions of how trade affects the US economy, and union membership strongly affect mass opinion about trade. To further analyze the impact of these factors, we rely on a procedure developed by King, Tomz, and Wittenberg (2000) to simulate the effects of a change in each factor on the predicted probability that our trichotomous dependent variable equals 1 (consistent opposition to trade) and 3 (consistent support for trade), respectively. These predicted probabilities are generated using the CLARIFY program, based on 10,000 simulations of the model in the second column of Table 2, and setting the remaining continuous

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<sup>20</sup> Note, however, that evidence of a partisan split emerges in Table 3 once we add the sociotropic variable, with Republicans being more hostile to trade than either Democrats or unaffiliated individuals.

variables to their sample means and the remaining discrete variables to their modal categories.<sup>21</sup>

The results indicate that the perception of trade's effects on the US economy has a very sizable impact on trade preferences. A change from not being sure whether trade benefits the US economy (a score of 3) to the view that trade has helped the economy "a little" (a score of 4) yields about a 50 percent increase in the probability that a respondent consistently supports free trade; a change to the belief that trade helps the economy "a lot" (a score of 5) yields roughly a 100 percent increase in this probability. Union membership also has a considerable influence on the probability of supporting trade. People with a union member in their household are about 45 percent more likely to oppose trade than other individuals. At first blush, it is tempting to interpret the effect of union membership as an indicator of self-interested preferences. This might be the case if union members work in industries that are adversely affected by trade or are relatively low-skilled workers. However, we have already accounted for the industry of employment and skill level, suggesting that union membership is not simply a feature of self-interest. Instead, unions probably influence attitudes on trade by disseminating information: most major unions oppose trade liberalization and free trade arrangements, and promote such views among their rank and file. Interestingly, most union members in our surveys work in non-tradable sectors, such as primary, secondary, and higher education. There is no reason why trade would harm these individuals. Education also has a marked effect on trade preferences, although smaller than the impact of sociotropic factors and union membership. People with some college education are about 15 percent

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<sup>21</sup> Partisanship, however, is set to the category for people who have no partisan position. Note that these results are virtually identical if we rely on the estimates in the third or fourth columns of Table 2.

more likely to consistently support trade than people with a high school education, a figure that rises to 30 percent for people who completed a four-year college education. All of these effects are statistically significant.

### The Robustness of the Results

Having generated some initial estimates of our models, we now assess the robustness of our results. First, in coding the data on occupation based on the NAES survey, it was not possible to assign every respondent an SOC code. Consequently, the size of our sample in Tables 1 and 2 is reduced when including Average Annual Wage in the model. Since this variable has next to no impact on trade preferences and to ensure that the effects of the remaining variables remain stable when we analyze the largest possible sample, we estimate the models using the NAES data after dropping Average Annual Wage. As shown in the third column of Tables 1 and 2, this change in the model's specification has no bearing on any variable except Male, which no longer has a statistically significant effect in Table 2.

Second, our initial findings do not support the specific factors hypothesis. One reason might be the measures we used to test this hypothesis. In addition to measuring whether a respondent is employed in a non-tradable sector, one with a revealed comparative advantage, or one with a revealed comparative disadvantage, a few studies have analyzed whether the tariff rate of the industry in which the respondent is employed affects his or her trade preferences (e.g., Scheve and Slaughter 2001). Hence, we replace the variables indicating whether an individual is employed in an export-oriented or non-tradable sector with a measure of his or her industry's 2003 (for the NAES survey) or

2006 (for the KN survey) tariff rate.<sup>22</sup> Like Scheve and Slaughter (2001), we estimate the effective tariff rate by taking the natural logarithm of the ratio of customs revenue to total imports in each sector, using data compiled by the US International Trade Commission.<sup>23</sup> Non-tradable sectors are assigned a tariff rate of zero. Since the natural logarithm of zero is undefined, we arbitrarily add .01 to each (unlogged) tariff rate, thereby retaining all of our original observations.

Scheve and Slaughter (2001) argue that industries marked by extensive protection are likely to be at a comparative disadvantage. As such, the specific-factors model predicts individuals in such industries should be hostile to open trade and should press for protectionism. Our tests, however, continue to provide no support for this approach. As shown in the fourth columns of Tables 1 and 2 and the third column of Table 3, the coefficient estimate of this variable is always small and far from statistically significant.

Third, to bolster assessment of self-interest beyond the factor endowments and specific factors measures, respondents also were asked direct questions about the extent to which their place of work is involved in importing and exporting. They were asked whether their workplace: (1) exports products, (2) imports products, (3) supplies products or services to companies that import or export, and/or (4) outsources some of its work to other countries. None of these measures of how trade affects their place of employment had a significant bearing on trade preferences. Nor did including these variables have any impact on the remaining results.

To further address whether the effects of trade on an individual's personal life influences or his or her trade preferences, we included in the model respondents'

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<sup>22</sup> We do not include both the tariff rate and these dummy variables in the same model because they are fairly highly correlated.

<sup>23</sup> The data are available at [http://dataweb.usitc.gov/scripts/user\\_set.asp](http://dataweb.usitc.gov/scripts/user_set.asp). We used version 2.7.4 of the data.

perceptions of how they and their family had been influenced by open trade, as illustrated in Figure 1. Including this variable in our models of trade preferences is particularly important because we want to ensure that the observed effect of people's attitudes about how trade affects the nation is not simply an outgrowth of their attitudes about how trade has influenced them on a personal level. The results in the final column of Tables 1 and 2 and the fourth column of Table 3 show that people who feel that trade has helped them and their family support trade.<sup>24</sup> In all three tables, the coefficient estimate of this variable is positive and statistically significant. These estimates are also fairly large. For example, a change from not being sure whether trade benefits a respondent (a score of 3) to holding the opinion that trade helps him or her a little (a score of 4) yields about a 30 percent increase in the probability that a respondent consistently supports free trade; a change to the belief that trade helps the person a lot (a score of 5) yields roughly a 60 percent increase in this probability. Nonetheless, the effect of this variable is consistently less than that of the sociotropic variable, whose coefficient is only marginally smaller than in our earlier analysis, and this difference is statistically significant based on the results in Table 3. Even after accounting for subjective perceptions of how trade affects a respondent, perceptions of how trade influences the nation have a strong and sizable impact on whether people support open trade.

Finally, a number of previous studies have included the effects of marital status, race, urban-rural residence, and religiosity in models of trade preferences. To assess the robustness of our results, we included these variables one at a time and in combination.

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<sup>24</sup> We present the results without Average Annual Wage in order to maximize the sample size, but the results do not change when this variable is included.

There is no case in which any of these factors strongly influences trade preferences and including them had no bearing on the remaining results.

### **Interpreting the Effects of Education**

Our results indicate that more highly educated Americans are more likely to support free trade than Americans with less formal education. Most studies have viewed education as a proxy for skill and therefore interpret findings like these as supportive of the factor endowments approach. As noted earlier, Hainmueller and Hiscox (2006) have challenged this interpretation, maintaining that a college education affects trade opinions, above and beyond increasing human capital and skill, by exposing people to theories about the benefits of trade. This exposure, rather than the occupational skills acquired in the classroom, is why education is positively associated with preferences for open trade in the United States. To test their argument, Hainmueller and Hiscox compared the effects of education (especially a college education) on trade attitudes for people in the workforce and for retirees. If education is a proxy for skill, they reasoned, the factor endowments approach predicts that it should have a much greater influence on the trade policy attitudes of people in the workforce than on retirees. Their results provided no evidence of this sort; nor do ours.

First, we added retirees who were included in the NAES survey to our sample of respondents and then added two variables to our model: (1) an indicator variable for whether the respondent was retired or in the workforce, and (2) the interaction between this variable and Education. (We dropped Average Annual Wage and the dummy variables associated with whether the respondent's industry of employment is export-

oriented or non-tradable, since these do not apply to retirees.) The estimated coefficient of the interaction term is positive but it is not statistically significant. As such, the effects of education do not vary between people in and out of the workforce.

Second, in order to directly test Hainmueller and Hiscox's argument, we included two items on the KN survey. The first asked whether respondents had taken an economic course. The second asked whether economists believe that free trade is good or bad for the economy. We included the latter item to determine whether an understanding of the basic principles of international economics affects trade attitudes, regardless of whether someone has taken an economics course. We then created two indicator variables. The first equals 1 if a respondent has taken an economics class, 0 otherwise. The second equals 1 if a respondent understands that economists believe that free trade is good for the economy, 0 otherwise. If Hainmueller and Hiscox are correct, then the estimated coefficients of these variables should be positive and statistically significant. The coefficient of Education, however, should no longer be significant.

The results shown in the fifth column of Table 3 provide some support for Hainmueller and Hiscox's thesis. The estimated coefficients of the two variables tapping exposure to ideas about the benefits of trade are both positive. The variable associated with an understanding of economists' views about trade has a statistically significant effect, whereas the influence of taking an economics class is marginally significant ( $p = .102$ ). Nonetheless, economic knowledge has a small effect on trade attitudes: taking an economics class or understanding that economists argue that free trade is beneficial increases the predicted value of the KN dependent variable by only two to three percent, holding constant the remaining variables in the model. Equally, the estimated coefficient

of Education, although somewhat smaller than before, remains positive and statistically significant. The impact of education on trade attitudes stems from far more than a knowledge of basic economic principles.

What, then, underlies the influence of education? To gain a better understanding of this issue, we turn to an analysis of Ethnocentrism, perceived Cultural Superiority, and Isolationism, variables drawn from the KN survey that were described earlier and that are likely to be closely tied to educational attainment. The effects of these variables are reported in the final column of Table 3. Interestingly, the coefficient estimates of all three variables are negative, indicating that there is little support for free trade among people who believe the US is culturally superior to other countries; who hold isolationist views; and who feel that members of groups unlike themselves are less trustworthy, less efficient, and less hardworking than Americans. The effects of isolationist attitudes and ethnocentrism are statistically significant. These effects are also relatively large. A change from the most globally activist attitudes registered by respondents to the most isolationist attitudes reduces the predicted value of our measure of trade attitudes by almost 20 percent. A shift from the least ethnocentric views to the most ethnocentric views reduces this predicted value by about 12 percent. Both of these changes are statistically significant.

Not only do isolationism and ethnocentrism have a strong bearing on trade attitudes, they also account for the effects of education. After including these variables in the model, the size of Education's estimated coefficient drops by about two-thirds and is no longer statistically significant. Consequently, the effects of education reflect attitudes

about the extent to which the US should take an activist stance in international affairs and a general tendency to think less of out-groups relative to in-groups.

At one level, these results might seem curious. For example, why does a belief that the US should play the role of “world policeman” in preventing human rights abuses in other countries have anything to do with trade preferences? And why should how blacks feel about whites and Hispanics (or vice-versa) have anything to do with trade liberalization? Activist foreign policy attitudes, a positive attitude toward out-groups, and a preference for open trade, however, all reflect a sense of cosmopolitanism and inclusion. Isolationism, a negative attitude toward out-groups, and antipathy toward open trade all reflect a sense of insularity and separatism. In short, trade preferences are driven less by economic considerations and more by an individual’s psychological world view.

### **Conclusion: Beyond Self-Interest**

It is widely acknowledged that any complete model of the political economy of trade must account for the preferences of the mass public (Rodrik 1995; Scheve and Slaughter 2001; O’Rourke and Sinnott 2002). These preferences influence trade policy because government officials need to attend to constituent interests in order to retain office (Fordham and McKeown 2003). Despite the obvious importance of understanding the factors that influence attitudes about trade, however, there have been only a handful of studies on this topic.

Much of the research to date emphasizes that trade preferences are shaped by how overseas commerce affects an individual’s income. The factor endowments or Heckscher-Ohlin framework posits that these preferences are affected primarily by a

person's skills. In a country like the US, highly skilled individuals will benefit economically from open trade and therefore should prefer the expansion of foreign commerce, while less skilled individuals should oppose it. The specific factors or Ricardo-Viner framework posits that people who work in import-competing industries should oppose open trade because foreign competition is likely to degrade their incomes and threaten their jobs, whereas those who are employed in export-oriented industries should support it.

Like most existing studies of attitudes toward trade, we find very limited support for either approach. Occupational wages, which are one widely-used measure of skill, have no effect on attitudes about trade. On the other hand, highly educated Americans are much more likely to support open trade than are less educated individuals. Some previous studies have interpreted this result as support for the factor endowments approach. However, we have found that there is reason to be wary of this interpretation. In fact, the observed effects of education reflect attitudes toward in-groups and out-groups, as well as views about whether US foreign policy should be isolationist or interventionist. Isolationism and domestic ethnocentrism are strongly linked to hostility toward free trade. People who hold such views also tend to have less formal education. Although there are several theories as to how and why education increases tolerance and promotes cosmopolitanism, there is little doubt that these factors are closely linked. After accounting for the effects of isolationism and ethnocentrism, we find that education has no systematic effect on trade attitudes, thus suggesting that its effects represent out-group anxiety rather than economic self-interest.

In addition, we find no support for the specific factors approach. The revealed comparative (dis)advantage of the industry in which an individual is employed does not influence his or her opinions in the way that this approach predicts. Nor does the tariff level of the industry in which he or she works.

Because existing studies have emphasized that trade preferences are shaped by self-interest, they have largely ignored the influence of perceptions and the information that drives them. We have argued that this is an important shortcoming. Americans' attitudes about trade are guided in powerful ways by whether they believe that trade harms or benefits the national economy, and this perception is not a mere extension of their personal self-interest. Our findings suggest that a better understanding of trade preferences among the mass public requires that we supplement self-interest-based models with models that account for the perceptual environment in which policy attitudes are formed, as well as the psychological predispositions of individuals. Standard political economy models are limited in what they can explain about trade preferences. Self-interest accounts for at best only a small portion of the variance in attitudes about trade. Incorporating the effects of sociotropic perceptions, and out-group anxiety substantially increases the explanatory power of models of such attitudes. These results conform to what public opinion research has shown about how people form policy preferences more generally. Moreover, they point to the need for studies of trade policy to focus more attention on the development of psychologically informed models addressing how people process economic information, and whether political leaders are accurately held accountable for the effects of trade policies. The implications of out-group anxiety for the future of trade liberalization are particularly daunting, because anxiety toward out-groups

is such a widespread and commonplace reaction to what is unfamiliar. Future approaches to explaining trade preferences will inevitably need to integrate the impact of information about how trade is perceived to affect the economy as well as the symbolic, psychological threat posed by US involvement in foreign markets.

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Table 1. The Determinants of Trade Preferences, based on the NAES Nine-Point Index

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Education	0.121** (0.035)	0.102*** (0.027)	0.111*** (0.026)	0.101*** (0.027)	0.085** (0.024)
Average Annual Wage	0.000 (0.000)	0.000 (0.000)		0.000 (0.000)	
Export Oriented sector	-0.137 (0.285)	0.057 (0.210)	0.175 (0.165)		0.208 (0.161)
Non-tradable Sector	0.231 (0.152)	0.153 (0.112)	0.127 (0.096)		0.169+ (0.093)
Tariff Rate				-0.026 (0.021)	
Perceived Effect of Trade on US		0.359*** (0.024)	0.377*** (0.020)	0.360*** (0.024)	0.294*** (0.020)
Perceived Effect of Trade on Self					0.246*** (0.032)
Union Membership	-0.448*** (0.080)	-0.336*** (0.070)	-0.341*** (0.055)	-0.336*** (0.069)	-0.328*** (0.051)
Personally Unemployed	-0.169 (0.188)	0.030 (0.186)	0.023 (0.176)	0.031 (0.184)	0.078 (0.161)
Republican	0.014 (0.063)	-0.047 (0.069)	-0.020 (0.069)	-0.047 (0.068)	-0.075 (0.067)
Democrat	-0.170+ (0.096)	-0.079 (0.087)	-0.076 (0.069)	-0.077 (0.087)	-0.088 (0.069)
Male	0.209* (0.099)	0.131 (0.083)	0.084 (0.068)	0.127 (0.084)	0.072 (0.066)
Age	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.002)	-0.002 (0.003)	-0.003 (0.002)
Income	0.016 (0.026)	0.001 (0.025)	-0.013 (0.019)	0.000 (0.025)	-0.013 (0.017)
Constant	2.806*** (0.244)	1.979*** (0.235)	2.076*** (0.200)	2.010*** (0.218)	1.671*** (0.188)
R-square	0.075	0.250	0.259	0.249	0.289
Adjusted R-square	0.063	0.239	0.252	0.240	0.281
N	851	851	1084	851	1084

Note: Entries are ordinary least squares regression estimates with robust standard errors, clustered by the respondent's state of residence, in parentheses. Statistical significance is indicated as follows: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Two-tailed test of statistical significance are conducted for all coefficient estimates.

Table 2. The Determinants of Trade Preferences, based on the NAES Trichotomous Index.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Education	0.194** (0.067)	0.196** (0.061)	0.176** (0.054)	0.195** (0.061)	0.132* (0.053)
Average Annual Wage	0.000 (0.000)	0.000 (0.000)		0.000 (0.000)	
Export Oriented sector	-0.181 (0.528)	0.158 (0.451)	0.523 (0.356)		0.595 (0.375)
Non-tradable Sector	0.351 (0.281)	0.250 (0.248)	0.216 (0.191)		0.300 (0.191)
Tariff Rate				-0.041 (0.044)	
Perceived Effect of Trade on US		0.635*** (0.050)	0.667*** (0.041)	0.636*** (0.050)	0.534*** (0.041)
Perceived Effect of Trade on Self					0.430*** (0.070)
Union Membership	-0.629*** (0.120)	-0.497*** (0.129)	-0.487*** (0.096)	-0.499*** (0.130)	-0.471*** (0.093)
Personally Unemployed	-0.290 (0.342)	0.013 (0.403)	0.029 (0.379)	0.016 (0.403)	0.120 (0.370)
Republican	0.040 (0.135)	-0.084 (0.147)	-0.049 (0.137)	-0.084 (0.147)	-0.143 (0.136)
Democrat	-0.270 (0.184)	-0.152 (0.192)	-0.190 (0.159)	-0.149 (0.192)	-0.217 (0.159)
Male	0.390* (0.162)	0.295+ (0.155)	0.197 (0.137)	0.287+ (0.156)	0.180 (0.137)
Age	-0.003 (0.005)	-0.002 (0.005)	-0.005 (0.004)	-0.002 (0.005)	-0.006 (0.004)
Income	0.022 (0.041)	-0.008 (0.043)	-0.028 (0.031)	-0.009 (0.043)	-0.027 (0.029)
cut1					
Constant	-0.964* (0.423)	0.405 (0.469)	0.086 (0.332)	0.339 (0.426)	0.795* (0.345)
cut2					
Constant	1.405** (0.438)	3.105*** (0.478)	2.794*** (0.336)	3.038*** (0.437)	3.564*** (0.357)
Pseudo log likelihood	-830.262	-760.192	-969.400	-760.411	-954.248
Pseudo R-sq	0.029	0.111	0.114	0.111	0.128
N	851	851	1084	851	1084

Note: Entries are ordered logit estimates with robust standard errors, clustered by the respondent's state of residence, in parentheses. Statistical significance is indicated as follows: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Two-tailed test of statistical significance are conducted for all coefficient estimates.

Table 3. The Determinants of Trade Preferences, based on the KN index.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Education	0.125*** (0.021)	0.066*** (0.017)	0.066*** (0.016)	0.059** (0.017)	0.044* (0.018)	0.016 (0.016)
Average Annual Wage	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Export Oriented Sector	0.097 (0.140)	-0.002 (0.103)		-0.047 (0.101)	-0.036 (0.098)	-0.019 (0.090)
Non-tradable Sector	0.030 (0.061)	-0.000 (0.030)		-0.004 (0.030)	-0.002 (0.031)	-0.012 (0.032)
Tariff Rate			0.015 (0.013)			
Perceived Effect of Trade on US		0.300*** (0.010)	0.300*** (0.010)	0.258*** (0.011)	0.254*** (0.011)	0.249*** (0.012)
Perceived Effect of Trade on Self				0.100*** (0.015)	0.099*** (0.015)	0.074*** (0.018)
Union Membership	0.001 (0.053)	0.045 (0.043)	0.045 (0.043)	0.053 (0.042)	0.054 (0.042)	0.066 (0.047)
Personally Unemployed	-0.132 (0.089)	-0.129* (0.061)	-0.132* (0.061)	-0.091 (0.063)	-0.090 (0.062)	-0.075 (0.069)
Republican	-0.115* (0.054)	-0.093* (0.042)	-0.093* (0.042)	-0.111* (0.042)	-0.109* (0.043)	-0.121* (0.048)
Democrat	-0.082 (0.062)	-0.031 (0.039)	-0.031 (0.040)	-0.033 (0.039)	-0.031 (0.039)	-0.043 (0.049)
Male	0.098** (0.032)	0.035 (0.030)	0.034 (0.030)	0.034 (0.029)	0.024 (0.028)	0.010 (0.030)
Age	-0.004* (0.002)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.001 (0.001)	-0.002 (0.001)
Income	0.010 (0.012)	0.010 (0.010)	0.010 (0.010)	0.005 (0.010)	0.002 (0.010)	0.005 (0.009)
Economics Class					0.047 (0.028)	0.061+ (0.031)
Economists' View of Trade					0.063* (0.026)	0.055+ (0.028)
Isolationism						-0.099*** (0.011)
Ethnocentrism						-0.028** (0.010)
Superiority						-0.022 (0.019)
Constant	2.601*** (0.114)	1.849*** (0.092)	1.846*** (0.089)	1.726*** (0.085)	1.735*** (0.086)	1.890*** (0.089)
R-square	0.069	0.445	0.446	0.462	0.465	0.479
Adjusted R-square	0.064	0.442	0.442	0.458	0.461	0.474
N	1995	1995	1995	1995	1992	1822

Note: Entries are ordinary least squares regression estimates with robust standard errors, clustered by the respondent's state of residence, in parentheses. Statistical significance is indicated as follows: +  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Two-tailed test of statistical significance are conducted for all coefficient estimates.

Figure 1. The Perceived Impact of Trade on Respondents' Families and on the US Economy.

