Why does the Mass Public Not Believe in Free Trade?

by

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Acknowledgements: Earlier drafts of this manuscript were presented at APSA 2017, IPES 2017, and ISA 2018. We thank Andy Baker, Carew Boulding, Brendan Connell, Lindsay Dolan, Andrew Kerner, Katja Kleinberg, Bora Park, Tim Passmore, Ryan Powers, Luis Schiumerini, Adrian Shin, David Steinberg, and Jaroslav Tir for helpful comments and suggestions.

Abstract: This paper explores why so many citizens favor protection despite the case for free trade. It argues that due to a lack of training and in a macroeconomic environment of stable prices, many citizens may not be aware of the consumption benefits from an open market. Furthermore, even when they are aware, citizens may tend to discount these benefits due to press coverage focusing more on the employment costs and to sociotropic loss aversion. It then presents survey evidence from a representative American sample, showing that a belief in lost jobs is significantly more strongly associated with trade policy preferences than a belief in lower prices. Given that the former pushes citizens toward less favorable free trade attitudes, it also presents evidence from a priming experiment, testing if attitudes can be pushed in a more favorable direction with positive trade information. Factual information about the consumer benefits has no effect, but information about the employment effects shifts attitudes in a more positive direction, even among less skilled Americans. Thus, it currently appears to be easier to prime pro-trade attitudes by appealing to jobs than to prices.

The argument that free trade has net welfare benefits for the national economy builds upon three related propositions.[1] First, it acknowledges that opening the national market hurts *some* domestic producers, namely those who are unable to compete with lower cost foreign producers (e.g., Autor, Dorn, and Hanson 2016). But second, it proposes that free trade is good for *all* consumers because it lowers the price that they must pay for a variety of goods and services (e.g., Auer and Fischer 2010; Romer 1993). Indeed, the expected surplus gain from an open market for consumers is so large that it more than offsets the surplus loss for producers, meaning that the winners from free trade could be taxed to compensate the losers and they would remain as winners. And third, there would also be winners from free trade among domestic producers if other governments reciprocate by opening their markets, thus allowing exporting firms to reach more foreign consumers (e.g., Jensen, Quinn, and Weymouth 2017; Jensen 2011).

From this logic, political economists have tended to treat citizens as generally favorable to free trade. Stated differently, while certain individuals may prefer trade protection based on their producer interests, models of policy formation in this issue-area typically assume that the median voter favors open trade *due to their consumer interests* (i.e., lower prices). Thus, trade politics, at least within democracies, could be reduced to a battle between consumers as voters who want free trade and producers as special interests demanding trade protection (Grossman and Helpman 1994). Indeed, this political logic has been offered as the explanation for why more democratic governments tend to have more open trade policies than autocracies (e.g., Mansfield, Milner, and Rosendorff 2000; Milner and Kubota 2005). As Kono (2006, 369) summarized on this point: "Voters as-consumers prefer liberal trade policies that lower prices and raise real incomes.

[1] Of course, free trade may have other effects, including those related to equity and the environment. But these effects work through trade's impact on production and consumption, which we highlight here. Indeed, these three propositions form the structure for our survey and experiment.

Democratic politicians need votes to stay in power. Competition for votes should thus drive democratic leaders toward liberal policy positions."

But do citizens really want a more liberal trade policy? Cross-national survey data seem to suggest otherwise. Recognizing, of course, that expressed attitudes are sensitive to question wording, a variety of surveys indicate that a majority of citizens in most countries are opposed to further opening their domestic market to foreign producers. As evidence on this point, the National Identity module of the International Social Survey Programme (ISSP)[2] asked the following question to citizens across 23 countries in 1995, 34 countries in 2003, and 32 countries in 2013: "[COUNTRY] should limit the import of foreign products in order to protect its national economy."[3] In Appendix 1, Table S1, we report the percentage of respondents in each country/year survey that *disagreed* with this statement, thus indicating their support for free trade.

While Table S1 contains a lot of specific information, the general fact motivating this paper is the apparent lack of citizen support for open markets, which appears inconsistent with the consumer logic underlying the case for free trade. For example, the cross-national average expressing a preference for more open markets by disagreeing with this statement was only 22.4% in 1995, 24.5% in 2003, and 23.8% in 2013. Indeed, there is no country/year in this table (n=89) for which a majority of respondents express a preference consistent with further trade openness (the maximum value comes for Denmark in 2003 at 48.1%).

This disconnect between the theoretical assumption that most citizens prefer free trade and the empirical evidence showing what appears to be a stronger preference for trade protection leads

[2] http://www.gesis.org/issp/modules/issp-modules-by-topic/national-identity/.

[3] We make reference to these ISSP data because of their extensive coverage. But Hiscox (2006, 759) argues that this question is poorly worded both for its frame ("to protect its national economy") and because it forces pro-trade respondents to disagree with the statement. We acknowledge that this wording likely creates a protectionist bias, but even if the cross-national average in each wave disagreeing with this statement were twice as large, then a majority of citizens would still be expressing a preference contrary to free trade.

to the research puzzle investigated in this paper: why do so many citizens favor restricting imports? Have they heard and do they believe in the supposed consumption advantage associated with an open domestic market? If not, then would greater information about the consumer and other benefits associated with free trade make their expressed attitudes more supportive of policy change in this direction?

To better understand why potential voters tend to favor import restrictions, this paper argues that individual preferences about international trade are not strongly built on consumption considerations. Most citizens have little training in economics and there has been no recent macroeconomic shock to help illustrate the consumer benefits of free trade. Furthermore, even when they know that open markets help to keep prices low, many citizens base their trade policy attitudes more on negative producer considerations due to popular press coverage of the employment costs related to international trade and to general loss aversion (i.e. weighing costs more than benefits). Inasmuch as lower prices can be understood as the primary benefit from open markets, and if it only weakly determines individual trade preferences, then the micro-foundations for why so many citizens oppose further opening their markets to foreign producers become clearer.

To test this proposition and then consider if trade preferences can be made more favorable towards open markets, we present survey and experimental results from a representative sample of voting-age Americans. While our argument potentially applies more broadly than the United States, we justify our focus on the American mass public based on three considerations. First, at least from the ISSP survey evidence referenced earlier (and presented in the appendix), the United States is not atypical in terms of its popular opposition to open markets, so one should be able to make some careful inferences about the mass public in other advanced industrial democracies based on the results presented here. Second, the United States has played an important (even primary) leadership role in opening markets and expanding international trade since the end of World War II, thus

making it an important case since popular opposition to free trade in this country could have effects beyond American bilateral trading relationships. Third, at least for our priming experiment, the United States has also be described as a hard case for changing public attitudes about trade (Naoi and Kume 2015, 1309; Kono 2008, 4-5) since international commerce has arguably weaker effects on the American national economy given both its large size and geographical isolation compared to the smaller and more clustered democracies in Europe, for example.

Our survey departs from the previous research seeking to ascertain whether trade policy preferences are more sociotropic (e.g., Mansfield and Mutz 2009) or egocentric based on factoral endowments (e.g., Scheve and Slaughter 2001), sectoral employment (e.g., Mayda and Rodrik 2005), and occupational tasks (Owen and Johnston 2017). Instead, it seeks to ascertain what individuals understand about the economic case for open markets. We thus asked respondents not only for their policy preference, but also what they believe about the effects of free trade, namely if it 1) leads to job loss, 2) lowers consumer prices, but 3) also creates jobs in exporting industries. While all three beliefs correlate in the expected direction with a preference for trade openness (negatively for the first and positively for the second and third), the belief about lost jobs shows the strongest association with one's trade policy preference, pushing individuals in an unfavorable direction. Indeed, even the third belief about job creation in exporting industries has a stronger association with one's trade policy preference than the second belief about lower prices. Thus, trade policy preferences appear to be dominated by producer considerations (especially negative beliefs about job loss) and only weakly supported by consumer considerations,[4] which should push trade openness attitudes in a positive direction.

[4] This conclusion fits with Betz and Pond's (forthcoming) results showing that tariffs are higher on products with greater consumption shares and that the positive relationship between product tariff and consumption share gets stronger in more democratic regimes.

In our experiment, we randomly presented respondents with one of three pro-free trade vignettes (next to the control group that received no vignette) to see if more information (and of what type) might be associated with more positive attitudes about open markets. Each vignette provided factual information to address or inform regarding one of the three propositions above: 1) job loss is due more to automation than free trade, 2) free trade lowers consumer prices, and 3) free trade creates exporting jobs. Consistent with an issue salience hypothesis, we find that the employment vignettes can be associated with a stronger preference for trade openness. But contrary to an information gap hypothesis, the price vignette has no effect, suggesting that in an environment of stable domestic prices, it may be hard to generate support for free trade with consumer appeals alone. We acknowledge the growing experimental research on trade policy attitudes (e.g., Herrmann, Tetlock, and Diascro 2001; Rho and Tomz 2017; and Powers 2107), but our experimental results differ from those reported in this literature. Different from Hiscox (2006), we are able to prime pro-trade attitudes. Also different from Naoi and Kume (2015), our successful pro-trade primes come on the producer, and not on the consumer, side.

1. The Argument

We argue that citizens in the advanced industrial democracies have come to favor import restrictions because their trade policy preferences do not build strongly on the consumer logic underlying free trade. This stems from the fact that they often do not know about the price benefits associated with open markets and, even when are familiar with this argument, they tend to discount it relative to other arguments about the effect of free trade, namely that it costs jobs in the national economy. Thus, while international trade affects citizens both as consumers and as producers, individual attitudes on this issue are dominated by considerations related to the latter (i.e., income and job security), at least in the current macroeconomic environment.

Arguments about consumer preferences in terms of trade policy formation typically begin by noting that the price benefits associated with open markets are diffuse, or spread widely. At first glance, this might appear politically advantageous because all citizens are effectively consumers, and all consumers should favor free trade, although the strength of this preference might differ based on individual consumption patterns that vary by income (Baker 2003). But such diffuse preferences are typically understood as a political disadvantage because citizens as consumers face a large collective action problem in organizing for more open markets (Olson 1971), unlike producers who want concentrated trade protection and cannot rely on others to lobby on behalf of a product-specific tariff, for example. Thus, while consumers may have some voting power to achieve more open markets (Mansfield, Milner, and Rosendorff 2002), even democratic governments respond to special interest pressure (Grossman and Helpman 1994), resulting in trade protection that hurts consumers.

While this argument offers one explanation for why consumer interests might be under-represented in trade policy, we develop a very different logic here. It begins with the understanding that most citizens know little about trade policy and few understand the case for free trade. Indeed, this stylized fact stands as one explanation for why individuals with more schooling tend to have more positive attitudes about international economic exchange: only well-educated citizens have the necessary economic training. As described by Hainmueller and Hiscox (2006, 472), while "there is a firm consensus among economists on the virtues of trade openness, the counterintuitive loveliness of the law of comparative advantage makes it much more difficult to convey the case for trade outside the college classroom. Studies of economic 'literacy' among the public have shown that general measures of economic knowledge are strongly associated with education levels among individuals, and college education in particular."

But even without such training, citizens might still come to understand the net benefits associated with an open market based on their own personal experiences. This is, in fact, Baker's

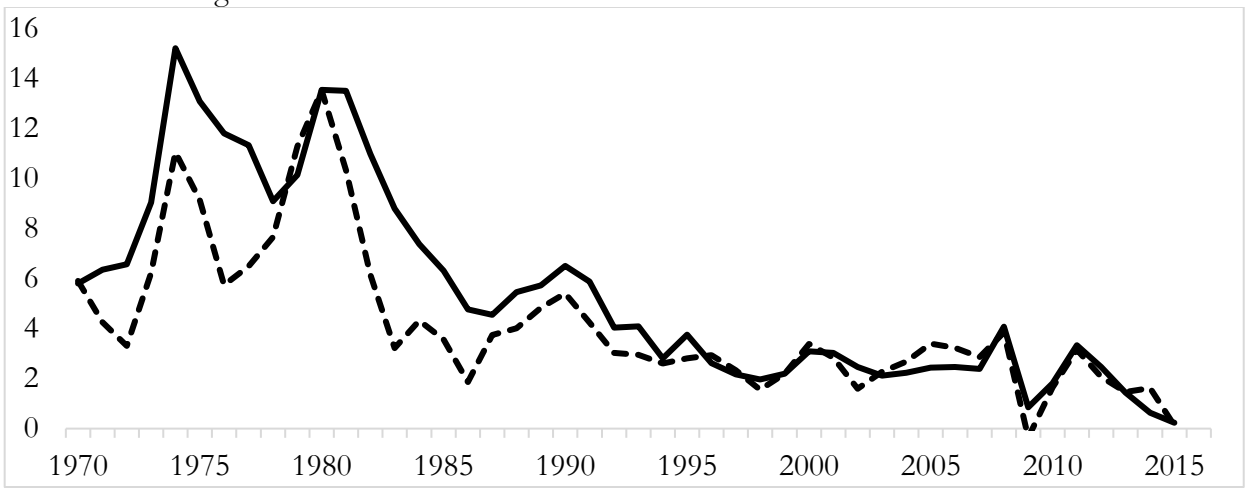
(2009) argument for why so many individuals in Latin American came to accept open trade, even embracing it, beginning in the 1990s. In prior decades, citizens in these countries experienced both closed markets and the high inflation associated with import substitution industrialization (ISI) and the resulting debt crisis. But structural adjustment opened their domestic markets to foreign producers with higher quality imported goods arriving at affordable prices. Thus, even less educated individuals in Latin America came to recognize the consumer benefits associated with free trade based on comparing starkly different macroeconomic environments before and during the Washington consensus era.

But Baker's (2009, 268-9) final statement in his book recognized the uniqueness of this situation for Latin America as the "major economic changes occurring between the 1980s and the early 2000s may have induced a 'perfect storm' of developments that delivered an overwhelming amount of consumption-oriented information to Latin America's mass publics." He continued: "These sensitivities, however, may eventually fade as the novelty and static impact of these changes become a thing of the distant past. In short, the implementation of market-friendly policies may have created an acute but ephemeral 'consumptive moment' in Latin American history."

Not only was it temporary for individuals in Latin America, macroeconomic shocks that might help illustrate the consumer benefits of free trade have arguably not even occurred in recent memory for citizens living in the advanced industrial democracies. Using data from the World Bank (2017), Figure 1 graphs the average annual inflation rate, measured in terms of consumer prices, for the countries in the Organization of Economic Cooperation and Development (OECD) and for the United States in particular from 1970 to 2015. In this graph, one can clearly observe the sharp rise in consumer prices associated with the oil shocks in the 1970s. But most OECD governments maintained comparatively open markets during this period (Katzenstein 1985, Gourevitch 1986,

Milner 1988), thus making it hard for their citizens to associate *ceteris paribus* higher (lower) prices with closed (open) markets.[5]

Figure 1: Annual Inflation Rate Based on Consumer Prices 1970-2015.



This graph also shows that after this inflation shock receded during the 1980s, consumer prices have been very stable in the developed national economies. Indeed, prices have risen scarcely more than 2 percent on an average annual basis since 1995 within the OECD, and the United States is no exception. Thus, citizens in these national economies have experienced a generation-long period of stable prices, which potentially makes it harder to identify what might cause domestic prices to rise (e.g., tariffs and other forms of trade protection). Stated differently, in a era of historically low inflation, it may difficult for individuals in the advanced industrial democracies to associate this domestic price stability with their relatively open markets from personal experience and without formal economics training. How much would prices increase in the local Target store if

[5] Indeed, individuals blaming oil, obtained through international trade, for the high inflation during the 1970s, might have even associated more open markets *with higher prices*, although it is important to note the fallacy of this logic since the domestic energy supply was limited in most OECD countries during this period (thus, given the same demand, energy prices would have been even higher without oil imports).

the U.S. government were to hit China with a 45 percent retaliatory tariff? It would be hard for most Americans to predict such a price shock even when they expect it to occur.

While inflation has been historically low in the 21st century, economic growth has concurrently slowed with rising unemployment and under-employment in many OECD countries (e.g., Gordon 2017). Thus, while citizens presently lack a macroeconomic context that facilitates understanding the price benefits associated with free trade, the current climate appears to more easily communicate the primary cost related to open markets: job loss in industries subject to import competition. For example, economists estimate that Chinese imports have been associated with the loss of about a million manufacturing jobs in the United States since the turn of the century (Autor, Dorn, and Hanson 2016), and the economic rise of China has become a politically salient issue to many American voters (Scotto and Reifler 2016).

Even among those who may be familiar with the argument that free trade lowers consumer prices (either from academic training or from personal experience), individuals may tend to discount this benefit relative to the argument that free trade hurts jobs and income in the national economy. Indeed, the popular press coverage of international trade focuses more on the employment costs (Popper 2016, 20) than on the consumer benefits (Naoi and Kume 2015, 1295). Likewise, simple "loss aversion" (Tversky and Kahneman 1992) may lead individuals to weigh the costs of an open market (e.g., lost jobs) more heavily than the benefits (e.g., lower prices), despite the fact that economists argue that the surplus loss for producers from free trade is smaller than the corresponding surplus gain for consumers. This loss aversion could be driven by egocentrism (i.e., the individual is a producer whose income is threatened by foreign competition), but the effect would be even stronger if driven by sociotropism (i.e., the individual is concerned about job loss in the national economy even when his/her income is not directly threatened).

Thus, for a variety of reasons (e.g., the lack of economic training, the current macroeconomic environment, and loss aversion), we expect that individual-level preferences about trade openness are not strongly determined by consumption considerations and are more based on concerns related to production (i.e., jobs and income). We thus advance our first hypothesis (H1) that *trade policy attitudes can be explained more strongly by employment considerations than by those related to consumer prices.*

2. The Survey

To test this first hypothesis, we conducted a survey of voting-age Americans using Qualtrics facilities in January 2018. This survey was embedded within a larger experiment and thus administered to only our control group (who received none of our informational vignettes to be described later). This untreated survey sample consists of 901 respondents who are nationally representative across five dimensions: 1) age, 2) gender, 3) race, 4) education, and 5) income. Qualtrics recruited this sample using an opt-in methodology, making it nationally representative on these dimensions through quotas. Information about the size of the quota buckets in each of these five dimensions is available in Appendix 1, Table S2.

Survey Variables

To measure trade policy attitudes, we take the individual's answer to the two different, but related, questions. The first query asks: "The government can increase or decrease its restrictions (such as tariffs or quotas) on the ability of foreign producers to sell their goods in the American market. Which of the following would you most like to see the US government do in terms of American import restrictions?" We code the dependent variable *Decrease Restrictions* based on their

response about what the government should do:[6] increase its restrictions on imported goods a lot=0/ increase its restrictions on imported goods a little=1/ maintain its current level of restrictions on imported goods=2/ decrease its restrictions on imported goods a little=3/ decrease its restrictions on imported goods a lot=4.[7]

Since expressed preferences are sensitive to question wording, we also include a second query: "The term 'free trade' refers to unrestricted economic exchange across national borders between consumers in one country and producers in another country. How much do you favor or oppose free trade?" Based on their response, the second dependent variable *Favor Free Trade* is coded as follows: I strongly oppose free trade=0/ I weakly oppose free trade=1/ I have no opinion about free trade=2/ I weakly favor free trade=3/ I strongly favor free trade=4.[8]

In the analysis below, these two queries will be considered individually and then combined to create a third attitudinal dependent variable: *Prefer Openness*. Since *Decrease Restrictions* and *Favor Free Trade* use similar scales and are ordered in the same direction, *Prefer Openness* is the respondent's average across these two queries, following the construction of the dependent variables used by Mansfield and Mutz (2009, 435-6).

The reader should note that these questions are not subject to the same problems as the similar ISSP query mentioned in the introduction. First, while all language has the potential for priming effects, the queries above do not include any statements about why import restrictions or

[6] The ordered responses to this question (and all others in our survey) were presented in a random direction.

[7] The modal response to this question is 2 (maintain the current level of import restrictions), but there are more individuals who express a preference for increasing restrictions with only 22 percent favoring decreased restrictions (either a little or a lot), consistent with the stylized fact motivating this paper (that more citizens favor restricting imports).

[8] The modal response to this query is also 2 (no opinion), but individuals express more positive attitudes about open markets in this second query, possibly because of the term "free" trade. But even if preferences appear more pro-trade, only a minority (45%) actually favors free trade (either weakly or strongly).

free trade might be good or bad either for the individual or for the country. Second, they do not force the respondent to agree or disagree with an already stated policy preference, thus making it less subject to bias based on individuals not wanting to appear as disagreeable.

In addition to their trade policy preference, we also asked respondents three questions concerning what they believe about the effects of open markets. These three belief questions are listed below and, for each question, the respondents have the same four options (with this sequence presented in a random direction): I disbelieve it strongly=0/ I disbelieve it weakly=1/ I believe it weakly=2/ I believe it strongly=3. Since these three belief questions (*Believe Lost Jobs*, *Believe Lower Prices*, and *Believe Export Jobs*) have both a similar structure and the same set of response options, we can directly compare their association with the trade policy preference variables to ascertain which beliefs are more strongly correlated with the attitudinal dependent variable. The reader should note that we have one belief question for each of the three primary propositions about the effect of free trade, as introduced in the first paragraph.

1. *Believe Lost Jobs*: "Some argue that free trade, or reduced restrictions on imported goods, leads to lost jobs as lower cost imported goods put American firms, producing similar goods often at higher cost, out of business."

2. *Believe Lower Prices*: "Some argue that free trade, or reduced restrictions on imported goods, leads to lower prices not only on imported goods but also on domestic goods that must compete with imports, thus reducing inflation in the American economy."

3. *Believe Export Jobs*: "Some argue that free trade, or reduced restrictions on imported goods, may lead other countries to open their markets to US exports, which could create new jobs in American exporting industries."

The descriptive statistics for these primary variables, along with a set of demographic controls and interactions variables (to be described below), are presented in Table 1. As one can observe from the mean values for the three *Believe*… variables, more respondents believe that free trade costs jobs than they believe it has benefits, either through lower prices or through job creation in exporting industries. But testing our first hypothesis requires comparing how strongly each of

these *Believe*… variables correlates with the respondent's expressed trade policy preference. We expect that *Believe Lost Jobs* should be negatively associated with all three attitudinal variables (*Decrease Restrictions*, *Favor Free Trade*, and *Prefer Openness*) while both *Believe Lower Prices* and *Believe Export Jobs* should exhibit positive associations, so we will compare the absolute value of their estimated correlations.

Table 1: Descriptive Statistics.

	Mean	Std. Dev.	Min.	Max.
Dependent Variables:				
Decrease Restrictions	1.73	1.02	0	4
Favor Free Trade	2.35	1.17	0	4
Prefer Openness	2.04	0.90	0	4
Independent Variables:				
Believe Lost Jobs	1.88	0.89	0	3
Believe Lower Prices	1.78	0.84	0	3
Believe Export Jobs	1.78	0.87	0	3
Demographic Controls:				
Age Group	2.48	1.72	0	5
Male	0.50	0.50	0	1
White Race	0.63	0.48	0	1
Education	2.38	1.67	0	5
Income Category	2.15	1.78	0	6
Working Full Time	0.41	0.49	0	1
Republican	2.77	2.01	0	6
Liberal	2.86	1.65	0	6
Interaction Variables:				
Familiar Lost Jobs	0.71	0.45	0	1
Familiar Lower Prices	0.57	0.49	0	1
Familiar Export Jobs	0.56	0.50	0	1
Import Competing	0.23	0.42	0	1
College Degree	0.34	0.47	0	1

Survey Results

Table 2 presents the bivariate correlations among these six variables, showing that that while *Believe Lower Prices* is significantly and positively associated with all three measures of trade policy preferences, its correlation is only 25 percent as large (in absolute value) with *Decrease Restrictions*, 55 percent as large with *Favor Free Trade*, and 40 percent as large with *Prefer Openness* when compared to

the same correlation involving *Believe Lost Jobs*. We read these results as supportive of our hypothesis that trade policy attitudes are currently explained more by concerns about job loss than by support for lower prices. It is also interesting to note that the correlation between *Believe Export Jobs* and the three measures of trade policy preferences is also consistently stronger than the corresponding correlation for *Believe Lower Prices*, suggesting that employment considerations strongly dominate those related to consumption at least in the present macroeconomic environment.

Table 2: Bivariate Correlations.

	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*	*Believe Lost Jobs*	*Believe Lower Prices*	*Believe Export Jobs*
Decrease Restrictions	1.00					
Favor Free Trade	0.31***	1.00				
Prefer Openness	0.78***	0.84***	1.00			
Believe Lost Jobs	-0.32***	-0.29***	-0.37***	1.00		
Believe Lower Prices	0.08**	0.16***	0.15***	0.12***	1.00	
Believe Export Jobs	0.19***	0.29***	0.30***	-0.07**	0.27***	1.00

Statistical significance: *** $p<0.01$, ** $p<0.05$, and * $p<0.10$ (two-tailed).

But these correlations do not control for any potential confounding factors that may explain both trade policy attitudes and beliefs about free trade. So we next estimate a multivariate regression for each of the three attitudinal dependent variables: *Decrease Restrictions*, *Favor Free Trade*, and *Prefer Openness*. In these models, we add a set of demographic control variables beginning with *Age Group* coding the respondent's age in years based on the following groups: 18-24=0/ 25-34=1/ 35-44=2/ 45-54=3/ 55-64=4/ 65+=5. *Male* is a dichotomous variable coded as 1 if the respondent reported this as the preferred gender. *White Race* is a dichotomous variable coded as I if the respondent identified as non-Hispanic white, our modal category for race.

Education measures the respondent's attainment based on the following categories: less than high school diploma=0/ high school diploma or GED=1/ some college but no degree=2/ Associate's degree=3/ Bachelor's degree=4/ graduate degree=5. *Income Category* measures the respondent's family income based on the following categories: $0-$25,000=0/ $25,000-$50,000=1/ $50,000-$75,000=2/ $75,000-$100,000=3/ $100,000-$150,000=4/ $150,000-$200,000=5/ $200,000+=6. *Working Full Time* is a dichotomous variable coded as 1 if the respondent reported as such.

Republican controls for the reported partisan affiliation: strongly Democrat=0/ weakly Democrat=1/ Independent leaning Democrat=2/ Independent=3/ Independent leaning Republican=4/ weakly Republican=5/ strongly Republican=6. Finally, we also control for a *Liberal* ideology: extremely conservative=0/ conservative=1/ slightly conservative=2/ moderate or middle of the road=3/ slightly liberal=4/ liberal=5/ extremely liberal=6.

Table 3: Models of Trade Attitudes.

	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*
Believe Lost Jobs	-0.32***	-0.35***	-0.34***
	(0.03)	(0.03)	(0.03)
Believe Lower Prices	0.09*	0.17***	0.13***
	(0.05)	(0.05)	(0.04)
Believe Export Jobs	0.15***	0.31***	0.23***
	(0.04)	(0.04)	(0.03)
Age Group	-0.058**	-0.010	-0.034**
	(0.022)	(0.024)	(0.016)
Male	-0.02	0.15**	0.06
	(0.06)	(0.07)	(0.05)
White Race	0.06	0.05	0.05
	(0.05)	(0.10)	(0.05)
Education	0.041*	0.040	0.040**
	(0.024)	(0.025)	(0.019)
Income Category	-0.018	0.024	0.003
	(0.021)	(0.026)	(0.019)
Working Full Time	-0.05	-0.09	-0.07
	(0.07)	(0.08)	(0.06)

Republican	-0.06*** (0.02)	-0.03 (0.02)	-0.04** (0.02)
Liberal	0.05** (0.02)	0.05** (0.02)	0.05*** (0.02)
Constant	2.00*** (0.21)	1.88*** (0.15)	1.94*** (0.14)
R^2	0.18	0.20	0.26

N=901. OLS coefficients with robust standard errors clustered on the state.
Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

Table 3 presents OLS estimates for our three measures of trade policy preferences with the standard errors clustered on the respondent's state of residence. We obtain very similar results using ordered logit or probit, but OLS coefficients are more straightforward to interpret with interaction terms (Ai and Norton 2003), which will later be added to the specification. These models show that for each of the three measures of trade policy preferences, all three *Believe*… variables are statistically significant with the expected sign (similar to the results in Table 2). Since these *Believe*… variables are measured using a common scale, we now compare the absolute value of their coefficients to further test H1.

For the *Decrease Restrictions* model, the marginal effect of *Believe Lost Jobs* is more than three times greater than the same for *Believe Lower Prices*, and the difference between the absolute value of these two coefficients is statistically significant with greater than 99 percent confidence. The difference is somewhat smaller in the *Favor Free Trade* model where the marginal effect of *Believe Lost Jobs* is only twice as large as *Believe Lower Prices*, but the difference in the absolute value of these two coefficients remains statistically significant with greater than 99 percent confidence. Predictably given the construct of *Prefer Openness*, the same result obtains in this model where the marginal effect of *Believe Lost Jobs* is almost three times as large as *Believe Lower Prices*.

The results in Table 3 also show that the belief that free trade creates new jobs in exporting industries (*Believe Exports Jobs*) has a larger marginal effect on one's expressed trade policy preference

(in all three models) than the belief that free trade lowers consumer prices, although the difference between these positive coefficients does not quite achieve statistical significance in the *Decrease Restrictions* model. The difference between the positive coefficients for these two *Believe*… coefficients is, however, statistically significant in the *Favor Free Trade* and *Prefer Openness* models. Thus, as observed earlier (without the demographic and partisan controls in Table 2), employment considerations strongly dominate those related to consumption in determining one's trade policy preference.

One possible concern about the results presented above is that some respondents may have selected their beliefs about the effects of free trade simply to fit their trade policy preference, thus stating that they believe a proposition that they have not actually heard before, or only learned in our survey. Previewing this possibility, we also asked respondents before each of three *Believe*… queries: "How familiar are you with this argument?" If they responded as being familiar with the proposition, we coded them as 1 for *Familiar*…. Thus, there are three familiarity variables, one that corresponds to each *Believe*… variable: *Familiar Lost Jobs*, *Familiar Lower Prices*, and *Familiar Export Jobs*. Descriptive statistics for these variables were provided earlier in Table 1. It is interesting to note that fewer respondents report as being familiar with the proposition that free trade lowers prices (57%) than with the same about lost jobs (71%). And even fewer report as familiar with the other proposition about the benefits of free trade: that it creates jobs in exporting industries (56%).

In Table 4, each of these *Familiar*… variables is interacted with its corresponding *Believe*… variable in an effort to separate those who were already familiar with the particular trade argument from those who were not. Since the *Familiar*… variables are dichotomous, the marginal effect of each *Believe*… variable for those who reported as being familiar in advance with the argument comes from the sum of the *Believe*… constitutive and interaction coefficients. And the marginal effect of those who report as not being familiar comes simply from the *Believe*… constitutive term. The

reader should note that although Table 4 does not report the coefficients for the control variables based on space reasons, they were all nonetheless included as part of our specification in all three models, and their coefficients are very similar to the results already shown in Table 3.

Table 4: Models of Trade Attitudes with *Believe…* * *Familiar…* Interactions.

	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*
Believe Lost Jobs	-0.16	-0.20**	-0.18**
	(0.10)	(0.08)	(0.07)
Believe Lower Prices	0.13*	0.16*	0.14**
	(0.07)	(0.09)	(0.07)
Believe Export Jobs	0.16**	0.30***	0.23***
	(0.06)	(0.05)	(0.04)
Familiar Lost Jobs	0.37*	0.61**	0.49***
	(0.22)	(0.25)	(0.18)
Familiar Lower Prices	0.10	0.04	0.07
	(0.21)	(0.18)	(0.16)
Familiar Export Jobs	0.05	0.13	0.09
	(0.11)	(0.17)	(0.16)
*Believe Lost Jobs**	-0.22*	-0.22*	-0.22**
Familiar Lost Jobs	(0.12)	(0.12)	(0.09)
Marginal effect of *Believe Lost Jobs*	-0.37***	-0.43***	-0.40***
when *Familiar Lost Jobs*=1	(0.04)	(0.05)	(0.04)
*Believe Lower Prices**	-0.08	-0.01	-0.05
Familiar Lower Prices	(0.11)	(0.11)	(0.09)
Marginal effect of *Believe Lower Prices*	0.05	0.14**	0.10*
when *Familiar Lower Prices*=1	(0.07)	(0.06)	(0.05)
*Believe Export Jobs**	-0.02	-0.01	-0.02
Familiar Export Jobs	(0.07)	(0.08)	(0.05)
Marginal effect of *Believe Export Jobs*	0.14***	0.29***	0.21***
when *Familiar Export Jobs*=1	(0.05)	(0.06)	(0.04)
R^2	0.19	0.21	0.27

N=901. *Age Group*, *Male*, *White Race*, *Education*, *Income Category*, *Working Full Time*, *Republican*, and *Liberal* included, but not reported, for space considerations. OLS coefficients with robust standard errors clustered on the state. Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

We are most interested in comparing the strength of beliefs *given that the respondent had them in advance of our survey prompts*, so we report these marginal effects as bolded rows in Table 4. Here we find differences among the *Believe…* variables that are even stronger than those observed in Table 3. For the *Decrease Restrictions* model, the marginal effect of *Believe Lower Prices* when *Familiar Lower*

Prices=1 is not even statistically significant, suggesting that it currently plays no role in determining American trade policy preferences. And even if we were to treat this marginal effect as significant (0.05), the marginal effect of *Believe Lost Jobs* when *Familiar Lost Jobs*=1 is more than seven times greater in absolute value (-0.37). The statistical significance of *Believe Lower Prices* when *Familiar Lower Prices*=1 returns in the *Favor Free Trade* model, but the marginal effect of *Believe Lost Jobs* when *Familiar Lost Jobs*=1 is more than three times greater in this model. And the latter is four times greater than the former in the *Prefer Openness* model.

Given our evidence that the belief about an open market costing jobs has the strongest effect on Americans' expressed trade policy preferences, it is useful to consider whether this belief is driven more by sociotropic or egocentric concerns. To this end, we also asked respondents if the "job and/or the income that provides for your economic well-being" is associated "with a business that competes against foreign goods or services in the U.S. market?" *Import Competing* is coded as 1 for all those with responded with a "yes" (23 percent of our sample), and it will be interacted with *Believe Lost Jobs* in Table 5.

Evidence for sociotropism would come from a negative sign on the *Believe Lost Jobs* constitutive term, which now measures the effect of this belief for those who report that their job/income does not face foreign competition (i.e., when *Import Competing*=0). Evidence for egocentrism would come from a negative sign on the *Believe Lost Jobs x Import Competing* interaction term, which captures the additional effect of this belief for those who report as facing import competition. It is thus possible to observe evidence consistent with both sociotropism and egocentrism; the two are not directly competing explanations for economic policy preferences (Bearce and Tuxhorn 2017, 179).

But the results in Table 5 are strongly consistent with sociotropism and not with egocentrism. In all three models, the *Believe Lost Jobs* constitutive term is negatively signed and

statistically significant. Conversely, the *Believe Lost Jobs* interaction term is insignificant in all three models, which means that the marginal effect of this belief is effectively the same for those who do not face direct import competition and for those who do (these are the two bolded rows in Table 5). This understanding further explains why *Believe Lost Jobs* emerges as the strongest belief underlying trade policy preferences at the individual level: not only do citizens facing import competition believe that free trade threatens jobs, but so do the majority of citizens that do not directly face this economic threat.

Table 5: Models of Trade Attitudes with *Believe Lost Jobs* * *Import Competing* Interaction.

	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*
Believe Lost Jobs	-0.30***	-0.39***	-0.34***
	(0.04)	(0.05)	(0.04)
Believe Lower Prices	0.09*	0.17***	0.13***
	(0.05)	(0.05)	(0.04)
Believe Export Jobs	0.16***	0.31***	0.23***
	(0.04)	(0.04)	(0.03)
Import Competing	0.07	-0.24	-0.09
	(0.16)	(0.24)	(0.18)
*Believe Lost Jobs** *Import Competing*	-0.09	0.14	0.02
	(0.07)	(0.12)	(0.09)
Marginal effect of *Believe Lost Jobs* when *Import Competing*=1	-0.39***	-0.25***	-0.32***
	(0.06)	(0.09)	(0.07)
R^2	0.18	0.20	0.26

N=901. *Age Group*, *Male*, *White Race*, *Education*, *Income Category*, *Working Full Time*, *Republican*, and *Liberal* included, but not reported, for space considerations. OLS coefficients with robust standard errors clustered on the state. Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

To the extent that this belief is the dominant predictor of trade policy attitudes within the mass public, we have a firmer micro-foundation for understanding why so many citizens express opposition to further opening their domestic market to foreign producers: contrary to economic case for free trade, they believe more strongly that it hurts jobs than they believe it has beneficial effects, including lower prices and job creation in exporting industries. To the extent that public opinion matters for the formation of trade policy in more democratic regimes (Kono 2008), it now

becomes important to consider if these weakly informed trade policy attitudes are stable. Can such attitudes be shifted and how? Could more information about the benefits of open markets make Americans more supportive of free trade?

3. The Experiment

To help answer these questions, we now present the results of a priming experiment where a sample of voting-age Americans were randomly presented with different pro-trade vignettes with specific factual information to see what type of information (if any) has a greater effect in promoting positive attitudes about free trade. In the experimental literature on trade policy attitudes, our priming experiment resembles those conducted by Hiscox (2006) and Naio and Kume (2015), but it differs both in terms of objective and in design.

Arguing that individual preferences are actually more favorable towards open markets than the survey data appear to indicate, Hiscox (2006) shows that a generic anti-trade prime has a strong negative effect on American trade attitudes, while a generic pro-trade prime has no corresponding positive impact. From this evidence, one might conclude that priming pro-trade attitudes would be difficult, especially in an American sample. Thus, is it possible to shift American trade attitudes in a more positive direction using specific (instead of generic) information about the benefits of an open market?

Using images instead of textual information, Naoi and Kume (2015) show that photos of consumer activity led Japanese respondents to report more favorable trade attitudes, while producer images pushed them in a less favorable direction. But could specific information not only about the consumer benefits of open markets, but also about the producer effects, shift citizen preferences in a positive direction, especially in a hard case like the United States where these scholars (ibid, 1309) predict no strong effect for consumer priming and even a potential backlash for producer priming?

Experimental Treatments

We conducted our priming experiment through Qualtrics in January 2018, randomly presenting a population-based sample (i.e., nationally representative in terms of age, gender, race, education, and income) of almost 1800 voting-age American respondents with different informational vignettes, including a control group that received no information.[9] As reported earlier, the control group served as our survey sample for the results in the previous section; we thus needed a larger randomized assignment to this untreated sub-sample. Accordingly, approximately 50 percent of our respondents were assigned to the control group with the remaining 50 percent randomly assigned across the three informational treatments. As evidence of successful randomization, we present some descriptive statistics in Appendix 1, Table S3 to demonstrate balance across the four sub-samples. And in Table S4, we also present the results of a multinomial logit with the treatment group as the dependent variable to show that our demographic variables do not significantly explain assignment to the sub-samples.

Our three informational vignettes are specifically designed to address one of the three key propositions concerning free trade as outlined in the first paragraph of this paper. The *Automation Not Trade* vignette responds to the argument that free trade costs jobs with some information about how this job loss stems more from automation than from an open domestic market. The *Lower Prices* vignette informs the respondent with some specific evidence concerning the price benefits of free trade in the American national economy. Finally, the *Export Jobs* vignette does the same concerning the employment benefits.

> 1. *Automation Not Trade*: Economists estimate that international trade accounts for only 13 percent of the job loss in American manufacturing, while automation explains the other 87 percent of these lost jobs. Even with its trade surplus, Germany has experienced job loss in manufacturing due to labor-saving technology. It thus appears that free trade is not to blame

[9] This experimental project received approval from the Institutional Review Board at the University of Colorado at Boulder was obtained on December 22, 2017. Our pre-registration can be accessed at: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/DMWZGC .

for most lost jobs in America with few manufacturing jobs expected to return even if import restrictions like tariffs were increased.

2. *Lower Prices*: Economists estimate that a 45 percent tariff on imports from China would increase the prices on those goods for American consumers by about 10 percent. It has also been estimated that the lower prices associated with products from other countries increase the purchasing power of the average American family by about $10,000 annually. The greater purchasing power from free trade may help poorer American families who would otherwise not be able to afford many goods and services.

3. *Export Jobs*: Economists estimate that American exports supported about 11.3 million jobs in 2013. Research has also shown that exports to countries that have signed a free trade agreement with the United States grew by 18% (versus only 6% export growth to other countries). New jobs are thus being created through free trade, and these jobs may be put in jeopardy if the American market is closed to foreign producers and their governments retaliate in response.

To facilitate comparison across our informational treatments, the reader should note that they are written with a parallel structure: two factual statements and then a pro-trade conclusion drawn from these facts. Each vignette includes three sentences and has approximately 75 words. As shown in Appendix 2, our informational treatments also include a photographic image to help anchor the textual content and a follow-up question to help ensure that the respondent actually reads the text. In Appendix 2, we provide a citation for each of the factual statements, but these sources were not shown to the respondents because we do not want the effects (if any) to be based on individual-level perceptions about source credibility (e.g., some individuals may believe government reports are more/less credible than private sector or academic sources). This exercise is intended to be an information, and not an endorsement, experiment.

Since all three vignettes are constructed in favor of free trade, these treatments should be expected to promote a more positive trade policy attitude to the extent that they have any effect at all. But it remains unclear about their relative effectiveness towards this end. Indeed, this is precisely what we are trying to ascertain with this experiment: what information would be more effective in boosting citizen support for a more open market? Having just demonstrated that a belief about lower prices only weakly supports citizen preferences, an information gap hypothesis

posits that the second treatment (*Lower Prices*) should have a larger effect since many citizens do not already know or believe this information. We thus posit our second hypothesis (H2): *individuals who receive more information about prices and an open market will have more positive attitudes about free trade.*

Conversely, an issue salience hypothesis posits that the treatments about jobs (*Automation Not Trade* and *Export Jobs*) should have a larger effect than the *Lower Prices* treatment. Since employment appears to be a more salient consideration for citizens than inflation at least in the current macroeconomic environment,[10] positive information about the effects (and non-effects) of trade on jobs may have a greater impact on their attitudes in this issue-area. On this basis, we also posit a third hypothesis (H3): *individuals who receive more information about employment and an open market will have more positive attitudes about free trade.* The reader should note that while it is possible for all three treatments to have an effect, H2 and H3 are intended as competitive hypotheses. H2 implies that consumer information should have a greater impact than producer information, while H3 predicts the reverse.

Experimental Results

Given successful randomization (see Appendix 1, Tables S3 and S4), the demographic controls variables have no effect on our treatment coefficients, so they are not included in our specification. We use the same three dependent variables from the previous section (*Decrease Restrictions*, *Favor Free Trade*, and *Prefer Openness*), each regressed on *Automation Not Trade*, *Lower Prices*, and *Export Jobs* with the control group as the omitted category. We present all models first using the full sample (N=1773) following Barabas and Jerit's (2010) argument that survey experiments tend to overstate real-world treatment effects because many citizens fail to receive the treatment equivalent. We then present our results using only the respondents who passed our treatment check (N=1097)

[10] As evidence on this point, our survey also included two separate questions that asked "how much should the government prioritize" unemployment and inflation? With four possible responses (low priority=0/ moderate priority=1/ high priority=2/ top priority=3), the mean value for the unemployment query was 2.1 versus only 1.7 for the corresponding inflation query.

to address the concern that in our larger sample, the effects are based on a potentially misleading "intention to treat."[11]

Table 6: Models of Trade Attitudes with Informational Treatments.

	Full Sample (N=1773)		
	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*
Automation Not Trade	0.15**	0.03	0.09
	(0.07)	(0.09)	(0.07)
Lower Prices	-0.03	0.01	-0.01
	(0.08)	(0.06)	(0.06)
Export Jobs	0.26***	0.16	0.21***
	(0.07)	(0.10)	(0.06)
Constant	1.73***	2.35***	2.04***
	(0.04)	(0.04)	(0.04)
R^2	0.010	0.002	0.008
	Passed Treatment Check (N=1097)		
	Decrease Restrictions	*Favor Free Trade*	*Reduce Restrictions*
Automation Not Trade	0.21***	0.08	0.15**
	(0.07)	(0.10)	(0.07)
Lower Prices	-0.004	0.05	0.02
	(0.093)	(0.08)	(0.06)
Export Jobs	0.28***	0.28***	0.28***
	(0.10)	(0.11)	(0.09)
Constant	1.68***	2.28***	1.98***
	(0.04)	(0.06)	(0.04)
R^2	0.015	0.007	0.014

OLS coefficients with robust standard errors clustered on the state.
Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

The results in Table 6 are not at all supportive of the information gap hypothesis (H2). In both samples, the *Lower Prices* treatment has no significant effect on trade policy attitudes, regardless of the specific dependent variable. It thus appears that in an environment of already stable prices,

[11] Our treatment check asked the following: "Before these [dependent variable] questions, you may have been asked to read a paragraph containing some information about international trade. Which of the following was true about that information?" If they selected the response consistent with their randomized treatment, they are coded as passing the treatment check. 62 percent of our respondents passed on this basis.

simply informing citizens of the consumer benefits associated with an open market has no discernable impact on their trade preferences.[12]

But there is support for the issue salience hypothesis (H3), which predicted that in the present American context where citizens are more concerned about employment than inflation, positive information about jobs could move their trade policy attitudes. For both samples, the strongest treatment effect comes from *Export Jobs*, although its positive effect is not quite statistically significant for *Favor Free Trade* in the full sample. Even information about how the job loss in manufacturing is more due to automation than to free trade has a significant positive effect for *Decrease Restrictions* in both samples and for *Prefer Openness* among those who passed the treatment check. Thus, evidence related to the more salient economic issue for American citizens (i.e., employment) shifts open trade attitudes in a more favorable direction, unlike information about the less salient issue (i.e., inflation).

One concern about these results is that they do not identify what type of respondent became more supportive of free trade with greater information about its benefits. Perhaps this information only had an effect on more skilled citizens who were already fairly supportive of an open market and thus did not require much additional convincing about the benefits of free trade? Did positive information also influence the attitudes of less skilled citizens who are more vulnerable to the negative effects associated with an open market and who are generally less supportive of free trade?

To consider these possibilities, we use a dichotomous variable labeled *College Degree* to separate those who have attained at least a bachelor's degree from those who have not. On this basis, we are treating those with a bachelor's degree as the more skilled category and those without as the less skilled, consistent with the evidence of a large wage premium associated with a four-year

[12] We also pre-registered a conditional version of the information gap hypothesis, positing that individuals who receive information about the price benefits *and are price sensitive* will have more positive attitudes about trade openness. We similarly found no support for this related proposition.

tertiary degree in the US economy (Pew Research Center 2014). In Table 7, each of our informational treatments is interacted with *College Degree* for all three measures of trade policy attitudes, first using the full sample and then for only those who passed our treatment check (parallel to the structure in Table 6). With this dichotomous interaction, the marginal effect for the less skilled group is given simply by the coefficient for the treatment's constitutive term. And the marginal effect of the treatment for the more skilled group comes from the sum of the treatment's constitutive and interaction coefficients.

Table 7: Models of Trade Attitudes with Informational Treatments Interacted with *College Degree*.

	Full Sample (N=1773)		
	Decrease Restrictions	*Favor Free Trade*	*Prefer Openness*
Automation Not Trade	0.20***	-0.02	0.09
	(0.07)	(0.09)	(0.06)
Lower Prices	0.001	-0.07	-0.03
	(0.100)	(0.09)	(0.08)
Export Jobs	0.17*	0.12	0.14*
	(0.09)	(0.12)	(0.08)
College Degree	0.09	0.10	0.10*
	(0.08)	(0.06)	(0.06)
*Automation Not Trade** *College Degree*	-0.15	0.15	-0.002
	(0.17)	(0.16)	(0.138)
Marginal effect of *Automation Not Trade* when *College Degree*=1	0.05	0.13	0.09
	(0.15)	(0.15)	(0.13)
*Lower Prices** *College Degree*	-0.09	0.28	0.09
	(0.15)	(0.17)	(0.13)
Marginal effect of *Lower Prices* when *College Degree*=1	-0.09	0.21*	0.06
	(0.12)	(0.11)	(0.09)
*Export Jobs** *College Degree*	0.29*	0.14	0.22*
	(0.15)	(0.15)	(0.12)
Marginal effect of *Export Jobs* when *College Degree*=1	0.46***	0.26*	0.36***
	(0.11)	(0.13)	(0.10)
Constant	1.70***	2.31***	2.01***
	(0.05)	(0.05)	(0.04)
R^2	0.016	0.010	0.016
	Passed Treatment Check (N=1097)		
	Reduce Restrictions	*Favor Free Trade*	*Reduce Restrictions*
Automation Not Trade	0.25***	0.04	0.15**
	(0.07)	(0.11)	(0.07)
Lower Prices	0.007	-0.03	-0.01
	(0.123)	(0.11)	(0.09)

Export Jobs	0.23* (0.13)	0.22* (0.12)	0.23** (0.10)
College Degree	0.11 (0.08)	0.09 (0.10)	0.10 (0.07)
*Automation Not Trade** *College Degree*	-0.10 (0.18)	0.13 (0.23)	-0.01 (0.19)
Marginal effect of *Automation Not Trade* when *College Degree*=1	0.15 (0.16)	0.17 (0.22)	0.16 (0.17)
*Lower Prices** *College Degree*	-0.03 (0.21)	0.26 (0.19)	0.12 (0.14)
Marginal effect of *Lower Prices* when *College Degree*=1	-0.02 (0.16)	0.23 (0.15)	0.11 (0.10)
*Export Jobs** *College Degree*	0.17 (0.15)	0.20 (0.16)	0.18* (0.11)
Marginal effect of *Export Jobs* when *College Degree*=1	0.40*** (0.11)	0.42*** (0.15)	0.41*** (0.11)
Constant	1.65*** (0.05)	2.24*** (0.07)	1.95*** (0.05)
R^2	0.019	0.015	0.021

OLS coefficients with robust standard errors clustered on the state.
Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

Focusing first on those with more skill (i.e., *College Degree*=1), the *Export Jobs* treatment has a unsurprisingly strong positive effect on their trade attitudes given that citizens with more skill can more easily move towards industries and firms that are experiencing export growth. But *Automation Not Trade* has no significant effect on their attitudes, nor does *Lower Prices* (except for the isolated result in the *Favor Free Trade* model using the full sample).

But it is interesting to observe that even for those without a *College Degree* (i.e., the less skilled), the *Export Jobs* treatment is able to shift their trade attitudes in a positive direction, especially when looking at the sample of respondents who were actually treated. It is also important to note that *Automation Not Trade* successfully moves the attitudes of the less skilled, at least in the *Decrease Restrictions* and *Prefer Openness* models (unlike for those with more skill). Thus, it appears possible to influence the attitudes of citizens who are more vulnerable to the employment/income shocks

coming from an open domestic market with positive information related to employment (although not with positive information related to prices).

4. Conclusion

This paper has addressed the puzzle about why so many citizens favor trade protection despite the economic case for free trade. We have argued that due to a lack of training and a macroeconomic environment of stable prices, which has characterized most advanced industrial democracies over the past two decades, many citizens may not even be aware of the consumer price benefits associated with an open market. Furthermore, even when they are aware, individuals may tend to discount them due to the popular press coverage of international trade, focusing more on the employment costs than on the consumer benefits, and to "sociotropic" loss aversion.

Consistent with these expectations, our survey of voting-age American citizens showed that fewer members of the mass public believe that free trade results in lower prices than they believe that it leads to lost jobs. Correspondingly, a belief in lost jobs was significantly more associated with one's trade policy preference than a belief in lower prices. Indeed, a belief that free trade also creates some exporting jobs was even more strongly associated with trade policy preferences than a belief in lower prices, further demonstrating how employment considerations currently dominate those related to consumption.

Given that these employment considerations tend to leave citizens with less favorable attitudes about an open market, we then presented the results of a priming experiment to see if trade attitudes can be pushed in a more favorable direction with positive information about the effects and non-effects of free trade. In this experiment, we found that factual information about the benefits of free trade for American consumers had no effect on their trade policy attitudes. But information about the employment effects did shift attitudes in a more positive direction, even

among less skilled Americans. Thus, it appears to be easier - at least in the present macroeconomic environment - to prime pro-trade attitudes by appealing to jobs than to prices.

This understanding has important policy implications. International trade appears to have hit a peak concurrent with the rise in populist politics across many advanced industrial democracies.[13] Perhaps citizen attitudes against more open markets did not matter as long as international trade remained a low-salience political issue (Guisinger 2009). But populist elites in the United States (and elsewhere) have successfully mobilized voters on a platform of closing markets, and even more cosmopolitan elites have adjusted to accommodate these anti-globalization preferences within the mass public.[14] If policymakers want their citizens to become more favorable towards open markets, then greater efforts may be required to inform the mass public about the often beneficial effects of free trade. But information about how international exchange influences jobs may be more immediately effective than information about prices.

[13] On "peak trade", see "IMF and World Bank warn of 'peak trade'" *Financial Times*, November 18, 2014; and "International trade: A troubling trajectory." *Economist*, December 11, 2014.

[14] For example, both Donald Trump *and* Hillary Clinton campaigned against the Trans-Pacific Partnership (TPP) in their 2016 run for the U.S. Presidency.

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Appendix 1: Supplementary Tables

Table S1: From the Three Waves (1995, 2003, and 2013) of the International Social Survey Programme's National Identity module, the percentage of respondents in each country disagreeing with the statement: "[COUNTRY] should limit the import of foreign products in order to protect its national economy."

	1995	2003	2013
Cross-national average	22.4	24.5	23.8
Australia	11.3	14.5	-
Austria	17.0	23.5	-
Belgium	-	-	21.0
Bulgaria	8.6	11.5	-
Canada	29.3	26.3	-
Chile	-	21.9	-
Croatia			9.1
Czech Republic	27.7	27.1	23.8
Denmark	-	48.1	42.7
Estonia	-	-	33.5
Finland	-	38.4	39.7
France	-	27.8	12.2
Georgia			33.7
Germany	33.7	33.0	38.9
Hungary	9.8	13.3	11.2
Iceland			43.6
India			4.8
Ireland	22.6	27.6	33.5
Israel	-	22.4	24.0
Italy	23.2	-	-
Japan	36.0	28.4	29.4
Korea	-	24.7	33.7
Latvia	14.0	15.9	12.5
Lithuania	-	-	28.8
Mexico	-	-	20.2
Netherlands	39.5	40.1	-
New Zealand	25.9	21.3	-
Norway	29.9	36.4	38.8
Philippines	16.2	11.6	13.3
Poland	15.7	12.1	-
Portugal		21.6	17.7
Russia	23.3	20.2	18.1
Slovakia	25.7	9.6	18.9
Slovenia	26.2	28.3	20.6
South Africa		18.0	14.4
Spain	11.1	14.7	23.9
Sweden	25.5	35.3	33.9
Switzerland	-	43.4	26.6

Taiwan		32.2	
Turkey	-	-	10.2
United Kingdom	14.4	16.2	19.2
United States	14.2	17.2	19.8
Uruguay		13.0	
Venezuela		32.6	

Table S2: Nationally Representative Survey Dimensions.

Dimension	Quota Bucket	N	%
Age	18-24	143	15.9
	25-34	178	19.8
	35-44	140	15.5
	45-54	145	16.1
	55-64	138	15.3
	65+	157	17.4
Gender	Female	450	49.9
	Male	451	50.1
Race	Non-Hispanic White	569	63.2
	Non-Hispanic Black	94	10.4
	Hispanic	152	16.9
	Asian	58	6.4
	Native American	6	0.7
	Other race	22	2.4
Education	Less than high school diploma	114	12.7
	High school diploma or GED	239	26.5
	Some college but no degree	177	19.6
	Associate's degree	65	7.2
	Bachelor's degree	175	19.4
	Graduate degree	131	14.5
Income	$0-$25,000	177	19.6
	$25,000-$50,000	237	26.3
	$50,000-$75,000	150	16.7
	$75,000-$100,000	107	11.9
	$100,000-$150,000	126	14.0
	$150,000-$200,000	51	5.7
	$200,000+	53	5.9

Table S3: Descriptive Statistics by Treatment Group.

	Control Group	*Automation Not Trade*	*Lower Prices*	*Export Jobs*
Age Group	2.48	2.50	2.54	2.54
	(1.72)	(1.65)	(1.71)	(1.64)
Male	0.50	0.49	0.50	0.46
	(0.50)	(0.50)	(0.50)	(0.50)
White Race	0.63	0.62	0.64	0.65
	(0.48)	(0.49)	(0.48)	(0.48)
Education	2.38	2.38	2.29	2.35
	(1.67)	(1.65)	(1.57)	(1.64)
Income Category	2.15	2.19	1.98	2.12
	(1.78)	(1.77)	(1.70)	(1.78)
Working Full Time	0.41	0.45	0.41	0.40
	(0.49)	(0.50)	(0.49)	(0.49)
Republican	2.77	2.44	2.86	2.65
	(2.01)	(2.03)	(2.08)	(2.02)
Liberal	2.86	2.99	2.93	3.06
	(1.65)	(1.58)	(1.60)	(1.63)
N	901	294	290	288

Mean value with standard deviation in parentheses.

Table S4: Multinomial Logit of Treatment Group.

	Automation Not Trade	*Lower Prices*	*Export Jobs*
Male	-0.02	0.004	-0.18
	(0.12)	(0.131)	(0.17)
Age Group	0.03	0.04	0.02
	(0.03)	(0.04)	(0.04)
Education	-0.04	-0.02	-0.0002
	(0.06)	(0.05)	(0.0414)
White Race	-0.02	-0.02	0.16
	(0.17)	(0.18)	(0.14)
Income Category	0.02	-0.06	-0.003
	(0.05)	(0.05)	(0.051)
Working Full Time	0.19	0.13	0.004
	(0.20)	(0.14)	(0.165)
Republican	-0.08**	0.05	0.0001
	(0.04)	(0.04)	(0.0421)
Liberal	0.004	0.06	0.08
	(0.055)	(0.05)	(0.06)
R^2	0.005		

N=1773. Control group is the omitted category.
MLE coefficients with robust standard errors clustered on the state.
Statistical significance: *** p<0.01, ** p<0.05, and * p<0.10 (two-tailed).

Appendix 2: Informational Treatments

Automation Not Trade[15]

Economists estimate that international trade accounts for only 13 percent of the job loss in American manufacturing, while automation explains the other 87 percent of these lost jobs.[16] Even with its trade surplus, Germany has experienced job loss in manufacturing due to labor-saving technology.[17] It thus appears that free trade is not to blame for most lost jobs in America with few manufacturing jobs expected to return even if import restrictions like tariffs were increased.

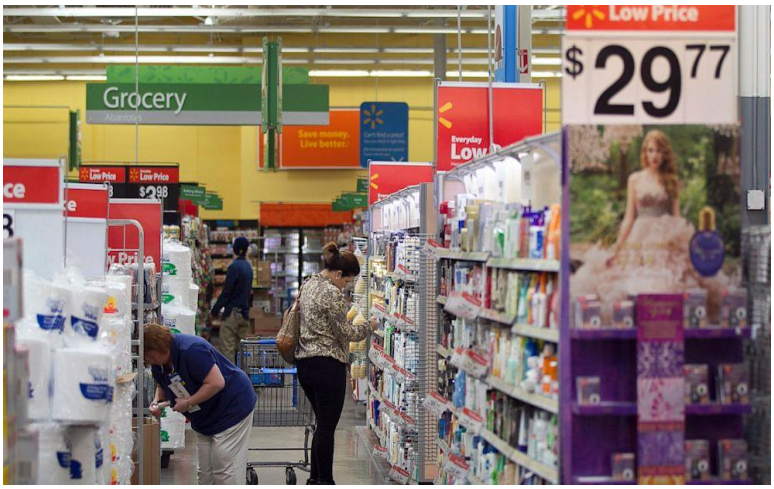
According to the information provided above, what percent of job loss in America is due to international trade?

[15] The *Automation Not Trade* image was obtained from: http://www.electricalmarketing.com/sites/electricalmarketing.com/files/styles/article_featured_standard/public/Factory_GettyImages-649427660_1024_0.jpg?itok=sCtTNXGT .

[16] Hicks, Michael J., and Srikant Devaraj. 2015. "The Myth and Reality of Manufacturing in America." Center for Business and Economic Research, Ball State University.

[17] Levinson, Marc. 2014. "Measuring the Loss of Manufacturing Jobs." *CRS Insights*. Congressional Research Service.

Lower Prices[18]



Economists estimate that a 45 percent tariff on imports from China would increase the prices on those goods for American consumers by about 10 percent.[19] It has also been estimated that the lower prices associated with products from other countries increase the purchasing power of the average American family by about $10,000 annually.[20] The greater purchasing power from free trade may help poorer American families who would otherwise not be able to afford many goods and services.

According to the information provided above, how much does an average American family save each year due to the lower prices associated with international trade?

[18] The *Lower Prices* image was obtained from: http://a.abcnews.com/images/Business/GTY_walmart_washington_dc_thg_130710_156385582_16x9_992.jpg .

[19] https://www.pbs.org/newshour/economy/americans-trumps-tariffs-imports-costly .

[20] U.S. Chamber of Commerce. 2015. "The Open Door of Trade: The Impressive Benefits of America's Free Trade Agreements." https://www.uschamber.com/sites/default/files/open_door_trade_report.pdf .

Export Jobs[21]

Economists estimate that American exports supported about 11.3 million jobs in 2013.[22] Research has also shown that exports to countries that have signed a free trade agreement with the United States grew by 18% (versus only 6% export growth to other countries).[23] New jobs are thus being created through free trade, and these jobs may be put in jeopardy if the American market is closed to foreign producers and their governments retaliate in response.

According to the information provided above, exports to countries that signed a free trade agreement with the United States grew by what percent?

[21] The *Export Jobs* image was obtained from: https://d2v9y0dukr6mq2.cloudfront.net/video/thumbnail/1809Tdj/videoblocks-in-modern-laboratory-senior-female-scientist-discusses-work-with-young-female-assistant-laboratory-has-computers-beakers-and-other-technology-for-high-tech-scientific-analysis-shot-on-red-epic-w-8k-helium-cinema-camera_hf48polxz_thumbnail-full01.png .

[22] https://ustr.gov/about-us/benefits-trade .

[23] U.S. Chamber of Commerce. 2015. "The Open Door of Trade: The Impressive Benefits of America's Free Trade Agreements." https://www.uschamber.com/sites/default/files/open_door_trade_report.pdf .