

Why Don't Trade Preferences Reflect Economic Self-Interest?

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Abstract: The dominant approach to the study of international political economy assumes that the policy preferences of individuals and groups reflect economic self-interest. Recent research has called this assumption into question, however, by suggesting that voters do not have economically self-interested preferences about trade policy. This article investigates one potential explanation for this puzzling finding: economic ignorance. We show that most voters do not understand the economic consequences of protectionism. We then use experiments to study how voters would respond if they had more information about how trade barriers affect the distribution of income and the economy as a whole. We find that distributional cues generate two opposing effects: they make people more likely to express self-serving policy preferences, but they also make people more sensitive to the interests of others. In our study both reactions were evident, but selfish responses outweighed altruistic ones. Thus, if people knew more about the distributional effects of trade, the correlation between personal interests and policy preferences would tighten. Citizens in our experiments also responded strongly to information about efficiency. When we presented the classical case for free trade, support for protectionism fell sharply, and the correlation between personal interests and policy preferences weakened. By showing how the explanatory power of economic self-interest depends on beliefs about causality, this research provides a foundation for more realistic, behaviorally informed theories of international political economy.

1. Introduction

Over the past two decades, open-economy politics (OEP) has emerged as the dominant paradigm in the field of international political economy. Scholars working in this tradition have sought to explain outcomes by reasoning “from the most micro- to the most macro-level in a linear and orderly fashion.”¹ They begin by using economic theory to derive the policy preferences of individuals and groups within a country, and then investigate how political institutions and international bargaining translate preferences into actual policies. Initially developed in the context of trade policy, OEP has been extended to many other policy realms, including international monetary policy, capital controls, foreign investment, foreign aid, and immigration, among others.² OEP is now recognized as the principal approach to international political economy in the United States, and it has transformed scholarship in other parts of the world, as well.³

OEP rests on the assumption that the policy preferences of individuals and groups reflect economic self-interest. Each individual or group presumably wants the policy that would maximize their real income. To determine which policy would serve this goal, analysts consult economic theory; they use economic models to infer how policies would affect an actor’s income, given the actor’s endowments and role in the global economy. Deducing interests from economic theory is not only “the keystone” and “fundamental building block” of OEP; it is the

¹ Lake 2009a, 225.

² For numerous examples from these and other domains, see Lake 2009a.

³ Chwieroth and Sinclair 2013; Drezner and McNamara 2013; Katzenstein and Nelson 2013; Lake 2009b; McNamara 2009; Oatley 2011.

“fundamental innovation” that distinguishes OEP from other approaches to international political economy.⁴

As OEP rose to prominence, scholars started assessing the key premise that individuals have economically selfish preferences. The vast majority of micro-level studies focused on international trade. Using public opinion polls, scholars tested whether attitudes about trade follow predictably from a respondent’s economic endowments and exposure to international competition. Early studies suggested that trade preferences did indeed reflect economic self-interest.⁵ More recent work, however, has questioned this connection, by arguing that opinions about trade depend primarily on symbolic and social considerations, rather than material self-interest.⁶

This new wave of research not only contradicts prior work about international trade but also challenges the foundations of OEP itself. The postulate that “interests are determined largely by a unit’s production profile or position in the international division of labor” is, according to David Lake, “the hard core” of the OEP paradigm. “This assumption cannot be altered significantly without altering or, indeed, vitiating the paradigm itself.”⁷ Before concluding that OEP should be modified or jettisoned, however, it is important to understand the puzzling disconnection between material interests and policy preferences. Why doesn’t self-interest play a

⁴ Cohen 2009, 140; Lake 2009a, 226, 227.

⁵ O’Rourke and Sinnott 2001; Scheve and Slaughter 2001b; Beaulieu 2002; Mayda and Rodrik 2005.

⁶ Hainmueller and Hiscox 2006; Mansfield and Mutz 2009; Sabet 2014; Authors 2015.

⁷ Lake 2009a, 231–32.

bigger role in policy preferences, and could the relationship be stronger in some contexts than in others?

In this article, we maintain that the connection between economic interests and policy preferences depends on causal beliefs—specifically, perceptions about how government policies would affect the material well-being of individuals and the country as a whole.⁸ We begin by showing that most voters do not understand the economic consequences of protectionism. We then use experiments to study how voters would respond if they had more information about the winners and losers from trade policy. We find that distributional cues generate two opposing effects. By revealing how policies would affect the respondent personally, distributional cues give egoists the information they need to identify and advocate self-serving policies. At the same time, distributional cues clarify how policies would affect other people, enabling altruists to promote policies that would advance the welfare of others. Hence, information about winners and losers facilitates both egoism and altruism. In our study both types of reactions were evident, but selfish responses outweighed altruistic ones. Thus, if people knew more about the distributional effects of trade, the correlation between personal interests and policy preferences would tighten.

We also studied the effects of educating people about the classical case for free trade. Nearly all economists agree that free trade increases aggregate welfare and is, therefore, superior to limiting imports. Although this idea has been around since the eighteenth and nineteenth centuries—tracing its roots to Adam Smith, David Ricardo, and other giants in the history of economic thought—it is not familiar to ordinary citizens. When we exposed Americans to the

⁸ On the importance of causal beliefs in foreign policy, see Goldstein and Keohane 1993.

classical argument for free trade, support for protectionism fell sharply and the correlation between personal interests and policy preferences weakened.

Our findings have significant implications for the study of international relations. In particular, the selfishness of policy preferences should be treated as a variable that fluctuates in response to causal beliefs. Countless studies have documented that people have both egoistic and altruistic impulses. Translating those impulses into policy preferences depends not only on how much individuals value themselves relative to others, but also on expectations about the consequences of policies. As our experiments clearly demonstrate, the hypothesis that individuals have economically selfish preferences about trade is neither wholly right nor wholly wrong. Rather, the accuracy of this proposition varies across individuals and over time, depending on beliefs about how government policies would affect the distribution of income and the economy as a whole.

Our argument connects two themes—preferences and beliefs—that are central to the behavioral revolution in international relations. As other contributors to this volume argue, the preferences and beliefs of key actors often deviate from rationality on matters of international security.⁹ Our data show that such anomalies also arise in international political economy. When it comes to international trade, most people do not exhibit the sophisticated beliefs and egoistic preferences we would expect, if each were maximizing material interests in accordance with economic theory. At the same time, our study illustrates the potential gains from studying

⁹ See, for example, the papers by Herrmann; Kertzer; Rathbun, Kertzer, and Paradis; Renshon, Tingley, and Lee; and Tingley.

preferences and beliefs in tandem, instead of relegating them to separate silos.¹⁰ By designing experiments to infer how beliefs affect preferences, we not only shed light on the sources of preferences, but also build a bridge to constructivists who have emphasized the power of ideas and ideological contestation.¹¹

Our findings also have practical implications by showing how economic education could change public attitudes. On the one hand, making citizens more aware about the identities of winners and losers could polarize public opinion by strengthening the association between personal interests and policy preferences. On the other hand, teaching people about the aggregate benefits of trade could make trade less divisive and convert a fairly protectionist electorate into one that supports free trade. Of course, these same findings suggest the potential for manipulation. If citizens are largely ignorant about the effects of trade, politicians could selectively use causal rhetoric to advance their own political ends.

In the remainder of this article we briefly review existing evidence for and against the self-interest hypothesis. We then explain how economic ignorance could undermine the connection between self-interest and policy preferences, and we develop predictions about how citizens would respond to economic information. After documenting that Americans know little about the effects of protectionism, we present experiments that isolate the effects of information on public opinion. Our experiments show how opinion would change if citizens were more knowledgeable about the impact of trade on the distribution of income and the economy as a

¹⁰ In this volume, Herrmann takes a similarly integrative approach, by arguing that beliefs are related to, rather than independent of, policy preferences.

¹¹ See, for example, Chwioroth and Sinclair 2013, and Drezner and McNamara 2013.

whole. Ultimately, they underscore how the correlation between material interests and policy preferences depends on beliefs about what government policy will achieve.

2. Existing Evidence For and Against the Self-Interest Hypothesis

Studies that emphasize the effects of economic self-interest on trade preferences have relied on two major economic theories. The Stolper-Samuelson theorem hypothesizes that, in each country, free trade helps owners of the relatively abundant factor of production while hurting owners of the relatively scarce factor. Scholars have used this theorem to generate predictions about the policy preferences of ordinary citizens. In advanced economies (where educated labor is relatively abundant), highly educated workers should favor free trade whereas less educated workers should oppose it. In developing countries (where educated labor is relatively scarce) the opposite pattern should emerge: highly educated workers should oppose free trade, but less educated workers should favor it.

In the early 2000s scholars used public opinion polls to test these predictions.¹² They found a strong positive correlation between education and support for free trade in advanced countries, and a weaker correlation in developing countries. Based on this research, Anna Mayda and Dani Rodrik concluded that “pro-trade preferences are significantly and robustly correlated with an individual’s level of human capital, in a manner predicted by the factor endowments model” proposed by Stolper and Samuelson.¹³

¹² Three seminal studies were O’Rourke and Sinnott 2001; Scheve and Slaughter 2001b; and Mayda and Rodrik 2005.

¹³ Mayda and Rodrik 2005, 1393.

A second economic theory, the Ricardo-Viner or specific factors model, generates a different set of predictions. Ricardo-Viner posits that free trade benefits both capitalists and workers in comparative-advantage industries by enabling them to tap new markets and raise their real income. At the same time, free trade hurts members of comparative-disadvantage industries by subjecting them to foreign competition. Consistent with these predictions, scholars found that people in comparative-disadvantage industries were more protectionist than people in comparative-advantage industries.¹⁴

In summary, several studies from the early 2000s concluded that public attitudes toward international trade were consistent with material self-interest as predicted by Stolper-Samuelson and/or Ricardo-Viner. These studies provided empirical microfoundations for OEP models in which trade policies emerged from aggregating the preferences of economically selfish actors.¹⁵

These findings, once regarded as conventional wisdom, have recently come under fire. A growing body of research now argues that the connection between material self-interest and trade policy preferences is far weaker than previously thought. Some authors find that material self-interest has little explanatory power after controlling for other predictors of public opinion.¹⁶ Others acknowledge that variables like education are robustly correlated with attitudes toward trade but maintain that the correlations do not reflect material self-interest. Jens Hainmueller and Michael Hiscox, for example, show that the effect of education on trade attitudes is just as strong among people outside the labor force as among people in the labor force. They conclude that

¹⁴ Beaulieu 2002; Hays, Ehrlich, and Peinhardt 2005; Mayda and Rodrik 2005.

¹⁵ Mayer 1984; Grossman and Helpman 1994; Hiscox 2002; Milner and Kubota 2005.

¹⁶ Wolfe and Mendelsohn 2005; Mansfield and Mutz 2009. For a review of these and other studies, see Kuo and Naoi 2015.

“the effects of education on individual trade preferences are not primarily a product of distributional concerns linked to job skills.”¹⁷

[The authors of this article] advance the debate by analyzing public attitudes toward protectionism for specific industries, instead of looking at sentiment toward free trade in general.¹⁸ They find surprisingly little evidence that the preferences of citizens fit the predictions of standard economic models, including not only Stolper-Samuelson and Ricardo-Viner, but also “new-new” models of trade with heterogeneous firms.¹⁹ The introductory essay in this volume concurs: having surveyed the burgeoning literature about public attitudes toward trade, Emilie Hafner-Burton and coauthors see “little evidence that voters actually define their interests in ... rational, materialist ways.”²⁰

3. Economic Ignorance as a Potential Explanation

These studies, if correct, raise an important puzzle: *why* does material self-interest have so little predictive power? One possibility is that individual preferences are determined by non-material considerations. Shahrzad Sabet, for example, finds that attitudes toward foreign cultures trump economic self-interest as predictors of attitudes toward international trade.²¹ Other studies

¹⁷ Hainmueller and Hiscox 2006, 469.

¹⁸ Authors 2015.

¹⁹ Melitz 2003.

²⁰ Hafner-Burton et al., 2.

²¹ Sabet 2014.

concur that cultural and ideological predispositions such as nationalism, ethnocentrism, racism, ideology, and social trust play important roles in shaping opinions about trade.²²

A second possibility is that people weigh material considerations but focus on society as a whole, without putting much if any weight on their own individual circumstances. Edward Mansfield and Diana Mutz argue, for example, that “trade attitudes are guided less by material self-interest than by perceptions of how the U.S. economy as a whole is affected by trade.”²³ Xiaobo Lü, Kenneth Scheve and Matthew Slaughter add that people exhibit “inequity aversion,” and therefore prefer trade policies that minimize inequality or combat poverty.²⁴

In this article we pursue a third, complementary explanation for the weak correlation between self-interest and trade opinion. Perhaps ordinary citizens do not understand how trade affects their material welfare, and therefore find it hard to choose the policy that would maximize their economic interests. In an early discussion of this theme, David Rankin asserted that ordinary citizens do not pay close attention to trade policies and lack the knowledge to weigh the personal costs and benefits of trade. They instead rely on information shortcuts, including symbolic predispositions such as national identity. Rankin did not measure public understanding

²² Herrmann, Tetlock, and Diascro 2001; O’Rourke and Sinnott 2001; Rankin 2001;

Kaltenthaler, Gelleny, and Ceccoli 2004; Mayda and Rodrik 2005; Edwards 2006; Mansfield and Mutz 2009; Kaltenthaler and Miller 2013; Guisinger 2014; Lindsey and Lake 2014; Rathbun forthcoming.

²³ Mansfield and Mutz 2009, 425. But see Fordham and Kleinberg 2012, who argue that group-based social interests are difficult to distinguish from individual economic self-interest.

²⁴ Lü, Scheve and Slaughter 2012.

about the consequences of international trade, however, nor did he test whether attitudes would change if citizens were more thoroughly informed.²⁵

More recently, scholars have studied how citizens respond to arguments for and against free trade.²⁶ These researchers have exposed citizens to various pro and con arguments and estimated how the arguments moved public opinion. Researchers have also used visual stimuli that encourage people to identify with either producer or consumer interests.²⁷ Although innovative, these experiments do not explicitly identify winners and losers. As a consequence, the studies do not reveal how citizens would respond to information about the effects of trade on specific groups, or how they would react if distributional information were combined with classical arguments about efficiency.

To our knowledge only one previous study experimentally manipulated the identity of domestic winners and losers from trade. The study, by Richard Herrmann, Philip Tetlock, and Matthew Diascro, described a trading relationship with a foreign country. Some respondents were told that in the United States, “the benefits from this trade go largely to the wealthy.” Others learned that “the benefits from this trade help the poor at least as much as the wealthy.” After supplying additional details the investigators asked whether the United States should restrict trade with the country. The authors found that support for the trading relationship was substantially higher when some benefits accrued to the poor in the United States.²⁸

²⁵ Rankin 2001.

²⁶ Hiscox 2006; Ardanaz, Murillo and Pinto 2013.

²⁷ Naoi and Kume 2011; Naoi and Kume 2015.

²⁸ Herrmann, Tetlock, and Diascro 2001.

Building on this work, we hypothesize that economic knowledge has a profound effect on whether citizens express self-serving preferences. As a baseline, consider how public opinion might look if citizens lacked information about the distribution and efficiency. In that case, we might expect a fairly low correlation between material interests and trade policy preferences. Citizens simply would not know enough to judge which policies are best for themselves. Moreover, if citizens were unaware that free trade increases aggregate welfare, public support for free trade could be quite low. As we show later in the paper, many if not most Americans fit this description: ignorant about both distribution and efficiency, they express policy preferences that do not fit standard OEP models.

How would public opinion change if citizens learned about the distributional consequences of trade? We hypothesize that exposure to this type of information could generate two opposing effects. On the one hand, such information could increase the correlation between a person's material interests and policy preferences. Prior research has argued that policy preferences are most likely to reflect economic self-interest when the costs and benefits to individuals are clear and certain.²⁹ Armed with clear cues about how trade would affect them personally, citizens could more accurately identify and advocate policies that serve themselves.

On the other hand, teaching people about winners and losers could facilitate altruism—the tendency that “one’s utility increases with well-being of others.”³⁰ A growing body of research has documented altruistic tendencies in human behavior, including political behavior.³¹ On the topic of trade policy, Lü, Scheve and Slaughter identified altruism as a potential reason

²⁹ Citrin and Green 1990; Sears and Funk 1991, 59; Chong, Citrin, and Conley 2001.

³⁰ Fehr and Schmidt 2003, 219.

³¹ Fehr and Fischbacher 2003; Fehr and Schmidt 2006; Fowler and Kam 2007.

why low-skilled sectors typically receive more protection than high-skilled ones.³² Displaying altruism on the topic of trade requires understanding how trade affects the welfare of others. Given that most citizens have only a limited understanding of the distributional effects of trade, raising awareness could help people act on their altruistic tendencies.

The net effect of these two changes—one selfish, the other altruistic—is ambiguous. If people use their knowledge primarily for selfish purposes, distributional cues will cause citizens to sort into pro-trade and anti-trade camps that reflect material self-interest. If, on the other hand, people use information primarily to serve others, distributional cues will weaken the correlation between self-interest and policy preferences. Instead of advocating policies that help themselves, people will increasingly choose policies that help (or avoid hurting) others. In the empirical portions of this article, we test for both selfish and altruistic responses to information, and we assess whether distributional information makes public opinion more self-serving, on average.

We also expect that people will respond strongly to information about efficiency. Non-experimental studies have shown that protectionism is more prevalent among people who do not understand the principle of comparative advantage.³³ Scholars have also suggested that higher education—especially college—contributes to free trade by exposing people to the idea that free trade increases consumer welfare.³⁴ By providing the same kind of information in an experiment, our cues about efficiency should make free trade more popular. At the same time, information about efficiency should weaken the connection between personal interests and policy preferences. Knowing the classical case for free trade should make policy preferences less

³² Lü, Scheve and Slaughter 2012.

³³ Baron and Kemp 2004.

³⁴ Hainmuller and Hiscox 2006.

selfish, we suggest, by exposing a potential tension between the citizen's own interests and national welfare.³⁵

Although these predictions seem plausible, they may not hold. There are at least two reasons why economic cues might not trigger the patterns we described. On the one hand, economically ignorant citizens may not need information to behave rationally. They could instead acquire self-serving or other-regarding policy preferences indirectly, by following the advice of more knowledgeable actors. Recommendations from trusted political parties, interest groups, the media, colleagues, and friends could allow “badly informed voters to emulate the behavior of relatively well informed voters.”³⁶

On the other hand, even economically informed citizens may not form policy preferences based on the material consequences for themselves, other groups, or society as a whole. Nonmaterial concerns including nationalism, ethnocentrism, racism, and ideology could overshadow if not override economic costs and benefits.³⁷ In short, our predictions could fail either because citizens do not need economic information or because they tend not to use it. In the remainder of this article we investigate how much citizens actually know about trade, and how they would respond if they were better informed.

³⁵ Along these lines, Chong, Citrin, and Conley (2001) show that when people are primed about sociotropic concerns, they become less willing to choose policy preferences based on their self-interests.

³⁶ Lupia 1994; 63; Popkin 1994; Scheve and Slaughter 2001a, 43; Fordham and Kleinberg 2012, 321–22.

³⁷ Guisinger 2014; Sabet 2014; Rathbun forthcoming.

4. Knowledge about the Effects of Trade Policy

How much do voters know about the economic effects of trade policy? As a first step toward answering this question, we analyzed a 2004 Pew Research Center survey that measured reactions to arguments for and against free trade. Interviewers asked whether respondents had heard each argument and, if so, whether they agreed, disagreed, or had not thought much about it. Table 1 summarizes the percentage of people who offered each answer.

TABLE 1. *Knowledge about the consequences of free trade*

	Never heard	Heard but not thought	Heard and disagree	Heard and agree	Don't know or refused
Free trade results in better products and better prices for American consumers.	26 %	14 %	20 %	37 %	3 %
Free trade creates demand for U.S. products abroad, which stimulates economic growth and creates jobs here at home.	28	15	23	30	4
Free trade creates a strong global economy, which benefits everyone.	25	15	21	35	4
Because of free trade, corporations have laid off American workers and sent their jobs overseas.	9	8	17	63	3
Free trade widens the gap between rich and poor in the United States and in the world as a whole.	41	9	17	30	4

Note: Authors' calculations from the Pew Research Center, Pew Internet & American Life Survey, June 14–July 3, 2004. Sample size was 512.

The table shows that large swaths of the American public have not thought carefully about trade. Consider the first row, which summarizes public views about the classical economic

case for free trade. Around 26% of respondents had never heard the claim that “free trade results in better products and better prices for American consumers.” An additional 14% had heard the argument but not thought much about it, and another 20% knew the argument but disagreed. Overall, only 37% of respondents were familiar with and sympathetic to the classical case for free trade.

Americans were equally unsure about the effects of trade on economic growth. As the second and third rows of Table 1 show, more than 40% had not heard or seriously considered whether trade stimulates the economy, and an additional 20% knew but rejected the claim. In total, only one-third knew and agreed with the proposition that trade stimulates growth.

Respondents had reflected more extensively on the connection between trade and jobs. The vast majority recognized the assertion that trade had caused corporations to lay off American workers, and 63% agreed with it. Nonetheless, Americans remained unclear about the effect of trade on economic inequality; fully 50% had not heard or thought about whether “free trade widens the gap between the rich and poor.” In summary, the Pew data suggest that average Americans know little about the consequences of trade.

Such high levels of economic ignorance are not unique to the United States. Public knowledge of trade is low in Spain, as well. Juan Díez Medrano and Michael Braun asked Spanish citizens, “would you say that you know a lot, some, little, or nothing about the consequences of raising or lifting barriers to the import of foreign products?” Approximately 34% confessed that they knew nothing about the issue, and an additional 48% said they had little knowledge about it. Moreover, more than 60% had never heard family, friends, or coworkers comment about foreign imports. Finally, when asked to mention up to three consequences of

lifting restrictions on imports, 27% failed to name any.³⁸ Clearly, knowledge about international trade is low not only in the United States but also in other countries.

To deepen the analysis we conducted an original survey that measured whether Americans could anticipate the predictions of Stolper-Samuelson. The Stolper-Samuelson theorem posits that an increase in the relative price of a product will increase the real returns to the factor used most intensively to make that product while decreasing the real earnings of other factors of production. Suppose, for example, that the U.S. government limited imports of items made with unskilled labor, such as clothing or fruits and vegetables. The domestic price of those products would rise, helping low-educated Americans at the expense of highly educated ones. Limiting imports that were made by educated foreign workers would have the opposite effect: helping Americans with college degrees while hurting Americans without college degrees.

Our survey tested whether ordinary Americans anticipated these economic effects. We noted, “Some people think the U.S. government should limit imports from foreign businesses that employ a *low* percentage of workers with college degrees.” We then asked how such a policy would affect Americans with and without college degrees. In a similar way, we asked what would happen if the U.S. government limited imports from foreign businesses that employed a *high* percentage of workers with college degrees.³⁹

³⁸ Medrano and Braun 2011.

³⁹ Our surveys emphasized the education of respondents and foreign producers. We made this choice for four reasons. First, it ensured comparability with previous research. Existing studies about self-interest and trade almost universally uses education as the key explanatory variable. Second, it Moreover, as Blonigen (2011) notes, “with the exception of education . Second, it ensured comparability with economic models, many of which treat the education of workers as a

Our surveys emphasized education for three reasons. First, we sought to maximize comparability with previous research. Existing studies about self-interest and trade almost universally rely on education as the key explanatory variable. Moreover, the few authors who tried alternative measures achieved poor results. As Bruce Blonigen notes, “with the exception of education, the relationships between labor market attributes and trade policy preferences are not robust in U.S. survey data.”⁴⁰ Second, the focus on education helped make our survey accessible for respondents. Ordinary citizens understand the idea of a college degree, and can easily imagine products made by people with and without college credentials. Finally, education is easier to describe and measure than alternative concepts, such as skill. Nevertheless, in the future, it would be instructive to run additional surveys that measure beliefs and preferences about imports made by foreign workers with high/low skills, or workers who earn high/low wages.⁴¹

We administered the questionnaire to a sample of 1,495 U.S. adults: 500 in December 2013 and an additional 995 in April 2015. The two waves yielded very similar responses, which we pooled to increase the precision of our estimates. All participants were recruited via Amazon

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⁴⁰ Blonigen 2011.

⁴¹ We thank an anonymous reviewer for this suggestion.

Mechanical Turk, an online service that is widely used for academic research. Validation studies show that, for many topics, surveys fielded through MTurk yield approximately the same findings as surveys on nationally representative samples.⁴² Of special relevance for research about trade, Connor Huff and Dustin Tingley found that “the percentage of MTurk respondents employed in specific industries is strikingly similar” to data from the Cooperative Congressional Election Study, a nationally representative survey supported by the National Science Foundation.⁴³

The beliefs of participants in our study did not fit the Stolper-Samuelson model. Table 2a summarizes respondents’ expectations about the effects of limiting low-education imports, i.e., products made by foreign businesses that employ a low percentage of workers with college degrees. Only 28% of respondents thought, per Stolper-Samuelson, that such a policy would help Americans without college degrees, and only 16% felt the policy would hurt Americans with college degrees. The remaining respondents did not know, said the policy would have no effect, or predicted the opposite of Stolper-Samuelson. Overall, only 4% anticipated that limits on low-education imports would help less educated Americans *and* hurt highly educated Americans.

⁴² Buhrmester, Kwang, and Gosling 2011; Berinsky, Huber, and Lenz 2012; authors 2015.

⁴³ Huff and Tingley 2015, 5. MTurk subscribers do differ from the national population on some dimensions, including gender, race, education, age, and political party identification. As a robustness check we weighted the data to match population benchmarks on those variables, but our conclusions did not change (see the online appendix).

TABLE 2. *Perceptions about the effects of limiting two types of imports*

(a) Perceived effects of limiting low-education imports

	Effect on Americans <i>without</i> college degrees	Effect on Americans <i>with</i> college degrees?
Would help	28 %	17 %
Would hurt	23	16
No effect	34	51
Don't know	15	16

(b) Perceived effects of limiting high-education imports

	Effect on Americans <i>without</i> college degrees	Effect on Americans <i>with</i> college degrees?
Would help	16 %	28 %
Would hurt	20	24
No effect	46	34
Don't know	18	15

Note: Percentage of respondents, out of 1,495 in total, who made each prediction.

Table 2b shows the perceived effects of limiting high-education imports, i.e., products made by foreign businesses that employ a high percentage of workers with college degrees. Here, too, the beliefs of respondents diverged sharply from Stolper-Samuelson. Only 28% said that such a protectionist policy would help Americans with college degrees; only 20% thought it would hurt Americans without college degrees; and less than 6% anticipated both effects. In summary, our data revealed an enormous gap between the beliefs of ordinary Americans and the predictions of Stolper-Samuelson.

To this point we have summarized the beliefs of citizens as a whole. However, some types of citizens may be more knowledgeable than others about the consequences of trade. Indeed, Jens Hainmueller and Michael Hiscox have suggested that people with college degrees

may enjoy an informational advantage, due to greater exposure to economic ideas.⁴⁴ We found mixed evidence for this proposition. On the one hand, data from the 2004 Pew survey confirmed that Americans with college degrees were more aware of the classical idea that free trade increases efficiency. As Table 3 shows, nearly 50% of Pew respondents without college degrees had never heard or thought about the claim that “free trade results in better products and better prices for American consumers.” The analogous rate among college graduates was only 29%. Table 3 also shows that college graduates were not only more familiar with the claim, but also more likely to agree with it. These differences were not only substantively large but also statistically significant at $p < .001$.

TABLE 3. *Beliefs about the classical case for free trade, by education*

	Does respondent have a college degree?		Difference	
	Yes	No	Estimate	C.I.
Never heard or thought	29.1 %	49.8 %	-20.7 %	(-30 to -12)
Heard and agree	48.3	31.8	16.5	(7 to 26)
Heard and disagree	22.6	18.5	4.1	(-3 to 12)

Note: Responses to the idea that “free trade results in better products and better prices for American consumers.” Calculated from Pew Research Center, Pew Internet & American Life Survey, June 14–July 3, 2004. Sample size was 510.

⁴⁴ Hainmueller and Hiscox 2006.

Educational disparities were also evident in other Pew questions about the aggregate effects of trade. For instance, only 38% of college graduates who were interviewed by Pew had not heard or formed an opinion about the claim that “Free trade creates demand for U.S. products abroad, which stimulates economic growth and creates jobs here and at home.” An additional 39% knew and agreed with the claim, and the remaining 24% disagreed with it. The figures for people without college degrees were 52%, 26%, and 22%. Overall, then, college graduates showed higher awareness of—and a stronger tendency to agree with—the claim that trade increases the size of the pie.

Although college graduates are more familiar with the aggregate benefits of trade, they do not have superior knowledge about the distributional effects of imports. As noted earlier, we administered an original survey that measured beliefs about the identity of winners and losers from trade. Table 4 splits our sample into respondents with and without a college degree. Within each educational category, the table gives the percentage of respondents who predicted that limiting low-education imports “would help Americans without college degrees” but “hurt Americans with college degrees.” It also gives the percentage who believed that limiting high-education imports would “help Americans with college degrees” but “hurt Americans without college degrees.” Although college graduates were slightly more likely to make each of these predictions, the differences were substantively small—on the order of 2 or 3 percentage points—and could have arisen by chance alone. Moreover, the percentage of respondents who concurred with all four statements was only 1%, regardless of whether the respondents had graduated from college.

TABLE 4. *Beliefs about the distributional effects of protection, by education*

	Does respondent have a college degree?		Difference	
	Yes	No	Estimate	C.I.
Limiting low-education imports would:				
Help Americans without college degrees	29 %	26 %	3 %	(-2 to 7)
Hurt Americans with college degrees	17	14	3	(-1 to 7)
Agree with both statements	4	4	0	(-2 to 2)
Limiting high-education imports would:				
Help Americans with college degrees	30	26	4	(-1 to 8)
Hurt Americans without college degrees	22	19	3	(-1 to 7)
Agree with both statements	7	5	2	(0 to 4)
Agree with all four statements	1	1	0	(-1 to 1)

Note: Percentage of respondents who made each prediction. The sample contained 748 people with college degrees and 747 people without college degrees.

We have documented that ordinary Americans know little about the economic consequences of trade. Most are not familiar with the classical case for free trade, and even fewer anticipate the kinds of distributional arguments (such as Stolper-Samuelson) that have animated the academic literature about individual attitudes toward trade.

Our research also provides an important qualification to previous claims about the relationship between education and economic knowledge. We found that citizens with college degrees were more knowledgeable about the overall benefits of trade. This fact could explain the positive correlation between educational attainment and support for free trade that others have observed in the literature.⁴⁵ Nevertheless, in our original survey, educational attainment did not

⁴⁵ See also Hainmueller and Hiscox 2006.

lead to more accurate perceptions about the distributional effects of trade, at least as predicted by Stolper-Samuelson. Regardless of their level of education, respondents generally failed to anticipate that protectionism would create winners and losers as a function of factor endowments.

These findings could help explain the puzzling mismatch between the material interests of citizens and their trade policy preferences. Without a solid understanding of the distributional effects of trade, citizens may not be in a position to choose policies that would fill their own pocketbook. At the same time, our findings suggest the potential efficacy of economic cues. Given low levels of knowledge in society as a whole, opinions could shift significantly if we informed citizens about the winners and losers from trade.

5. Experimental Design

How might citizens respond if they were more knowledgeable about trade? To find out, we designed a survey experiment in which some participants received cues about the distributional consequences of protectionism, whereas other participants did not. All participants read an introductory script: “U.S. businesses and consumers buy many products that are made in foreign countries. The products from foreign countries are called imports. There is much debate about whether the U.S. government should use laws to limit imports by U.S. businesses and consumers.” Each respondent was then assigned to one of four groups.

The first group received cues about *both winners and losers*. Our cues taught respondents about Stolper-Samuelson, which seemed appropriate given the theorem’s centrality in the existing literature. Technically, the theorem posits that an increase in the relative price of a product (caused by protectionism or some other policy) will increase the returns to the factor that

is most intensively used to make that product, while decreasing the real earnings of other factors of production. Educated labor is widely viewed as an important factor of production. Thus, workers without much formal education would gain if policies increased the price of items that were made with unskilled labor, but lose if policies raised the price of products that were made with skilled labor. Highly educated workers would experience the opposite: they would win if policies raised the price of high-education products but lose if policies made low-education products more expensive.

We presented information about winners and losers in simplified form. Respondents were told, “Some people think the U.S. government should limit imports from foreign businesses that employ a low percentage of workers with college degrees. This policy would help Americans without college degrees by protecting their jobs from foreign competition and increasing the income they earn from their jobs. This policy would hurt Americans with college degrees by raising the prices they would have to pay for products, without protecting their jobs or increasing their income.” After presenting the information, we asked whether the government should limit imports from foreign businesses that employ a low percentage of workers with college degrees.

The first group also learned who would win and lose if the government restricted imports with high educational content. “Some people think the U.S. government should limit imports from foreign businesses that employ a high percentage of workers with college degrees,” we noted. “This policy would help Americans with college degrees by protecting their jobs from foreign competition and increasing the income they earn from their jobs. This policy would hurt Americans without college degrees by raising the prices they would have to pay for products, without protecting their jobs or increasing their income.” After supplying these cues we asked

whether the government should limit imports from foreign businesses that employ a high percentage of workers with college degrees.

The second group received cues about *winners only*. We explained, for example, that limits on low-education imports would help Americans without college degrees by protecting their jobs and raising their income, but did not mention that the same policy would hurt Americans with college degrees by raising the prices they would have to pay for products. Similarly, we noted that limits on high-education imports would help Americans with college degrees by safeguarding their jobs and increasing their wages, but did not say that the policy would hurt Americans without college degrees by making products more expensive. After presenting these partial cues, we asked whether the government should limit each type of import.

The third group received cues about *losers only*. We mentioned that restrictions on low-education imports would hurt Americans with college degrees, without mentioning how the same policy might benefit Americans without college degrees. Likewise, we said that restrictions on high-education imports would hurt Americans without college credentials, without adding that the same restrictions would help Americans who had graduated college.

The fourth group did not receive any cues about winners and losers. We simply asked whether the government should limit imports from foreign businesses that employ a low percentage of workers with college degrees, and whether the government should limit imports from foreign businesses that employ a high percentage of workers with college degrees. This *no cues* group provided an important baseline by revealing how citizens would respond given their preexisting knowledge.

We recruited a sample of 5,027 U.S. adults via Amazon Mechanical Turk. As noted earlier, numerous studies have validated MTurk for research on a wide range of topics, including

public opinion about trade. Nevertheless, we confirmed that our central conclusions held even after reweighting the MTurk sample to approximate the demographic profile of the national population.⁴⁶ The interviews were spread over a four-year period from August 2011 to April 2015.⁴⁷

6. Effects of Distributional Cues on People with College Degrees

We begin by examining the responses of college graduates, who comprised 48% of the sample. The top half of Figure 1 shows, by experimental condition, the percentage of college graduates who thought the U.S. government should limit imports from foreign companies that employ a high proportion of workers with college degrees. The bottom portion of Figure 1 summarizes how the same people felt about limiting imports from companies that employ low proportions of college-educated workers. The dots in Figure 1 are point estimates, and the vertical bars are 95% confidence intervals.

⁴⁶ For analyses using weighted data, see the online appendix.

⁴⁷ The *winners and losers* condition was administered in December 2013 (N=973); the *winners only* condition was fielded in December 2013 (N=961) and April 2015 (N=991); the *losers only* condition was run in April 2015 (N=957); and the *no cues* condition was presented in August 2011 (N=496) and November 2012 (N=659). We did not find significant time trends over the years covered by these studies.

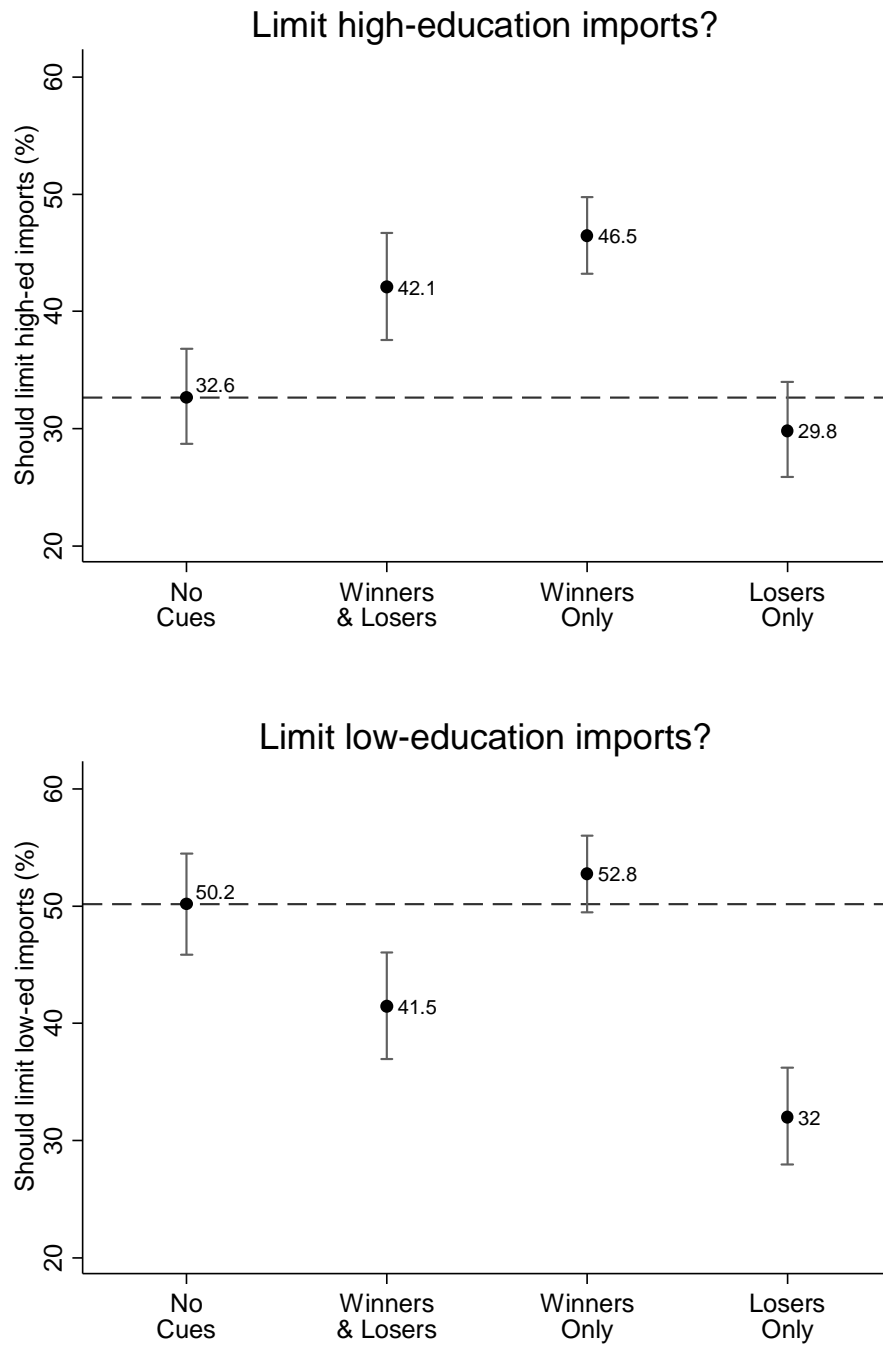


FIGURE 1. *Preferences of Respondents with College Degrees*

If college graduates were following their own economic interests as defined by Stolper-Samuelson, they would block high-education imports but allow low-education imports to enter freely. In the absence of cues, this prediction clearly failed. Only one-third (32.6%) wanted to limit high-education imports, whereas half (50.2%) preferred to limit low-education imports. This pattern is the reverse of what one would expect if respondents were maximizing their pocketbook per Stolper-Samuelson.

When we informed respondents about both winners and losers, the policy preferences of college-educated respondents became markedly more self-serving. Their desire to block high-education imports rose by 9.5 percentage points, from 32.6% to 42.1%, and their willingness to inhibit low-education imports fell by 8.7 percentage points, from 50.2% to 41.5%. Both effects were not only substantively large but also statistically significant. This pattern suggests that economic ignorance explains part of the disconnection between economic interests and policy preferences. After receiving information about the distributional consequences of trade, college graduates became much more likely to advocate self-serving policies.

This pattern was not preordained. As emphasized earlier in this article, cues about *winners and losers* could have produced two distinct reactions. On the one hand, the cues could have made policy preferences more self-serving by helping citizens understand how trade policies would help or hurt *themselves*. On the other hand, informing people about winners and losers could have facilitated altruism by helping people see more clearly how the policies would affect others. In our experiment with college graduates, the egoistic effect dominated the altruistic one.

For additional insight we investigated how college graduates responded to *winner only* and *loser only* cues. These one-sided treatments helped us isolate and compare the magnitudes of egoistic versus altruistic reactions.

Consider the top half of Figure 1. Without cues, only 32.6% of college graduates wanted to limit high-education imports. When we explained that restrictions would serve their own interests without mentioning the potential harm to others (the winners- only condition), support climbed to 46.5%, a 13.9 percentage point swing in opinion. When, on the other hand, we explained that restrictions would hurt less-educated Americans without mentioning the potential benefits for the respondents themselves (the losers-only condition), support fell by only 2.8 percentage points, from 32.6% to 29.8%. This difference was substantively small and could have arisen by chance alone.

The bottom half of Figure 1 shows a similar pattern. Sans cues, 50.2% of college graduates indicated that the U.S. government should limit imports made by unskilled foreign workers. When we explained that such a policy would hurt college-educated respondents without mentioning the salutary impact on other Americans (the losers-only condition), support fell by more than 18 percentage points. In contrast, the desire for trade barriers rose by only 2.6 percentage points when we explained how the policy would help less-educated Americans, without adding that the respondents themselves would suffer.

Thus, in both halves of Figure 1, the reaction to distributional cues was highly asymmetric. People with college degrees responded strongly to news about how policies would affect themselves, but barely budged after being told how policies would affect others. In both halves of the figure, the egoistic response outstripped the altruistic one. This helps explain why

the dual-cue condition, which included information about both winners and losers, made preferences much more self-serving, on balance.

Interestingly, we found no evidence that people reacted asymmetrically to cues about gains versus losses. Explaining how respondents could gain economically from protectionism (the winners-only condition in the top half of Figure 1) caused preferences to shift by 13.9 percentage points, a $13.9/32.6 = 43\%$ increase relative to the control condition. Telling those same people how they would lose economically from protectionism (the losers-only condition in the bottom half of Figure 1) triggered a similarly large reaction: preferences moved by 18.2 percentage points, a 36% decline relative to control levels.

People in our experiment also responded symmetrically to news about gains and losses for members of other groups: the losers-only cue in the top half of the figure moved preferences by approximately as much as the winners-only cue in the bottom half of the figure. These findings seem at odds with prospect theory, which predicts that individuals should react more strongly to losses than to equivalent gains.⁴⁸ Our experiment was not a perfect test of prospect theory, though, because gains and losses were expressed in different metrics (jobs versus prices).

In summary, our analysis of college graduates suggests that the mismatch between material interests and policy preferences is partly due to economic ignorance. When we explained the distributional effects of trade, policy preferences moved in a self-serving direction. Importantly, the effect of information was highly asymmetric: college graduates reacted to cues about themselves, but not to cues about the welfare of others. Our experiments suggest that, if college graduates were better informed about the distributional effects of trade, the correlation between their economic interests and protectionist attitudes would tighten.

⁴⁸ Kahneman and Tversky 1979.

Giving cues about winners and losers would not drive all college graduates to egoistic extremes, however. Even after learning about winners and losers, only 42.1% of respondents with bachelor's degrees endorsed policies that would serve their own interests by protecting their jobs and increasing their wages. Moreover, 41.5% remained willing to limit low-education imports, even though such policies would hurt them personally by making products more expensive. On balance, providing information about *winners and losers* increased the correlation between self-interest and policy preferences, but many college graduates still failed to choose policies that would maximize their material welfare. Thus, economic ignorance can explain part, but not all, of the mismatch between personal interests and policy preferences.

7. Effects of Distributional Cues on People without College Degrees

How did people without college degrees (53% of the sample) react to distributional cues? If these less-educated Americans were maximizing their economic returns as predicted by Stolper-Samuelson, they would limit the inflow of items made by unskilled foreign labor, while allowing the fruits of educated foreign labor to enter the domestic market freely. Figure 2 provides some support for this prediction. Unaided by cues, 60.4% wanted limits on low-education imports, whereas only 38.9% wanted limits on high-education imports. Thus, even without cues, people without college degrees tended to promote their own interests by disproportionately blocking imports from foreign firms that used their own factor of production.

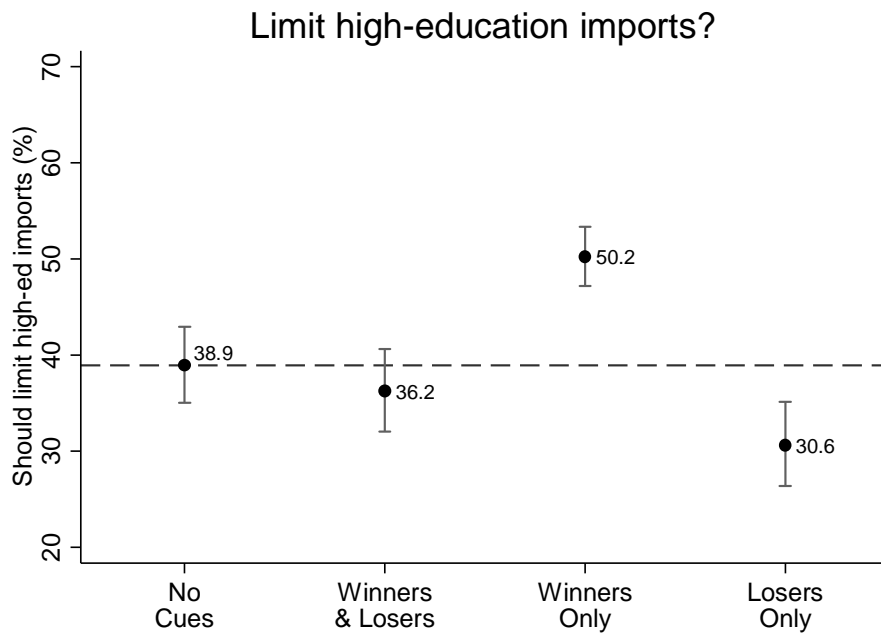
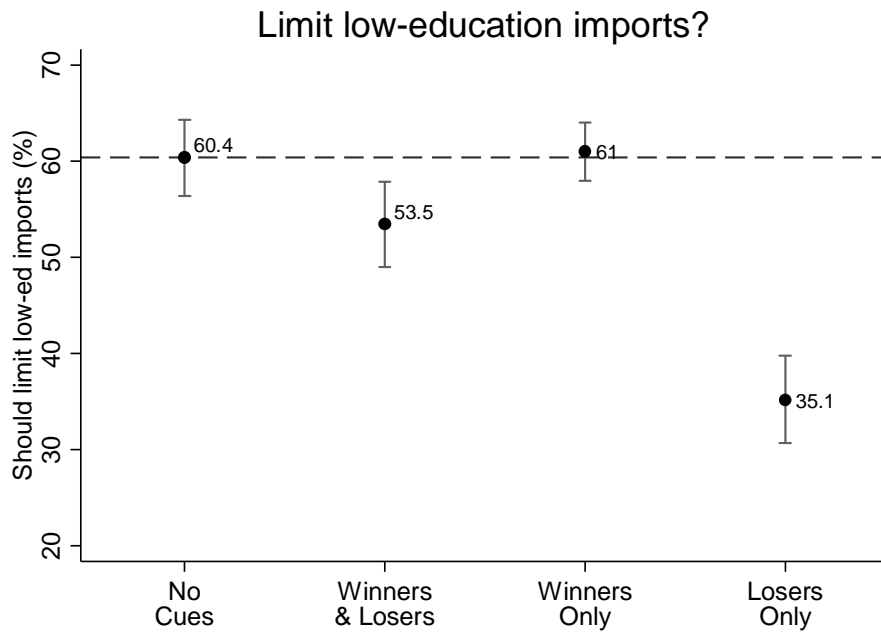


FIGURE 2. *Preferences of Respondents without College Degrees*

In this context, providing cues about low-education imports triggered an altruistic reaction. When we informed participants about winners and losers, support for limiting low-education imports *fell* by 6.9 points, from 60.4% to 53.5% (top half of Figure 2). Why? The partial cues in Figure 2 provide some insight. Respondents did not become more protectionist after learning how trade barriers would advance their own interests (the winners-only condition), but they did become significantly less protectionist after hearing how trade barriers would hurt educated Americans (the losers-only condition).

The bottom half of Figure 2 shows how people without college degrees responded to cues about high-education imports. Our winners-and-losers intervention moved opinion by only 2.7 percentage points, a small change that could have occurred by chance alone. The effect was nil because our winners-and-losers treatment pulled people in both altruistic and egoistic directions, to roughly equal degrees. When we disclosed how limits on high-education imports would help Americans with college degrees, without stating that the same policy would penalize more educated respondents (the winners-only cue), support rose from 38.9% to 50.2%, an altruistic shift of around 11 percentage points. When, on the other hand, we said the barriers would hurt citizens without college degrees without alluding to benefits for more educated citizens (the losers-only cue), support fell from 38.9% to 30.6%, an 8.3 point shift in the egoistic direction. Presenting both cues caused these opposing effects to cancel out.

Unlike their high-education counterparts, participants without college degrees not only reacted altruistically to cues about how protectionism would affect other groups, but they also proved more sensitive to losses than to gains. Attitudes shifted by 8.3 points upon learning that a policy would hurt them personally (losers only in bottom panel of Figure 2), versus only 0.6 points after reading that a policy would help them personally (winners only in top panel of

Figure 2). Likewise, the desire for protectionism changed by 25.3 points when the policy was said to hurt others (losers only in the top panel of Figure 2), compared with 11.3 points when the policy was tagged as helping others (winners only in bottom panel of Figure 2). These findings are consistent with prospect theory.

In summary, our experiment confirmed that information facilitated both egoism and altruism, but the overall effect varied with the audience. People with college degrees used our cues to more accurately select policies that served their own economic interests. People without college degrees, on the other hand, used the information for both altruistic and egoistic purposes. Among this less educated group, some cues sparked altruism alone, while others triggered both altruism and egoism. Respondents also differed in their approaches to gains versus losses. People without college degrees proved especially sensitive to losses, not only for themselves but also for others, whereas people with college degrees viewed gains and losses equally.

Why did these two groups respond differently? A complete answer lies beyond the scope of this paper. Nevertheless, we briefly consider three possibilities. The first possibility involves prior beliefs. If the two groups entered the experiment with different background knowledge about the distributional effects of protectionism, our cues could have caused one group to learn more than the other. Table 4 undermines this hypothesis, however, by showing no significant differences in the baseline beliefs of the two types of respondents.

A second possibility concerns variation in attentiveness. Perhaps people with college degrees were better trained to pick up on experimental cues. Our data contradict this conjecture, as well. As we have seen, both groups responded strongly to cues. Indeed, the largest effect in our study occurred among people without college degrees (the losers-only condition in the top portion of Figure 2). Moreover, the average magnitude of the treatment effects that we observed

among college graduates was 9.3 percentage points, not substantially larger than the average of 9.2 points among people without college degrees.

A third possibility concerns differences in values. Perhaps respondents with college degrees were fundamentally more egoistic—cared more about themselves—than the other half of our sample. If true, this could explain why people with college degrees used cues to select policies that would serve themselves, whereas people without college degrees used cues for both altruistic and egoistic purposes. Other scholars have found that egoism increases with education, income and other markers of social class.⁴⁹ Future research should investigate this topic more thoroughly.

8. Do Distributional Cues Make Preferences Consistent with Stolper-Samuelson?

Our cues elicited both self-serving and altruistic responses. On net, did the policy preferences of ordinary citizens become more consistent with Stolper-Samuelson? Under Stolper-Samuelson, there should be a *negative* relationship between a person's education and their desire to limit low-education imports. At the same time, there should be a *positive* relationship between a person's education and their desire to limit high-education imports.

When we did not provide cues about winners and losers, the first prediction held but the second one did not. As the top panel of Table 5 shows, people with college degrees were less protectionist across the board, regardless of whether imports came from companies that employed low or high proportions of workers with college degrees.

Our cues caused policy preferences to align more closely with the predictions of Stolper-Samuelson. When we identified winners and losers, we continued to observe a negative

⁴⁹ Piff et al. 2010.

relationship between education and willingness to block low-education imports, but we began seeing a *positive* relationship between education and the desire to circumscribe high-education imports. These results suggest that, if citizens were better informed about the distributional consequences of trade, their policy preferences would better approximate the assumptions in standard political economy models of trade.

TABLE 5. *Effect of distributional cues on the relationship between education and policy preferences*

(a) No cues

	Respondent has college degree?		Difference
	Yes	No	
Should limit low-ed imports	50.2 %	60.4 %	-10.2 (-16.0 to -4.5)
Should limit high-ed imports	32.6	38.9	-6.3 (-11.8 to -0.1)

(b) Cues about winners and losers

	Respondent has college degree?		Difference
	Yes	No	
Should limit low-ed imports	41.5 %	53.5 %	-12.0 (-18.3 to -6.8)
Should limit high-ed imports	42.1	36.2	5.9 (-12.0 to 0.0)

Note: Calculated from Figures 1 and 2; 95% confidence intervals in parentheses.

To check the robustness of these conclusions, we ran a series of logistic regressions in which the dependent variable was 1 if the respondent wanted to limit imports from the specified type of business and 0 otherwise. The main explanatory variable was college education, coded 1

if the respondent had completed a bachelor's degree and coded 0 otherwise. Our regression also included control variables that might be correlated with education: gender (female or not), age, household income, union membership, unemployment, party identification (ranging from 0 for strong Democrats to 1 for strong Republicans), isolationism, and nationalism.⁵⁰

Table 6 presents logistic regressions for the control condition in which we gave no cues, and for the treatment condition in which we informed people about winners and losers. The key explanatory variable, college, appears in bold. When respondents received no cues, Stolper-Samuelson received only partial support. People with college degrees were less willing to limit low-education imports, but they were also less willing to limit high-education imports. In other words, educated Americans preferred free entry for all types of products, contrary to Stolper-Samuelson.

When we offered cues about winners and losers, responses became more consistent with material self-interest. Cues strengthened the negative correlation between education and limits on low-education imports. At the same time, cues *reversed* the observed correlation between education and limits on high-educated imports. When participants received cues about winners and losers, the coefficient on college in the last column of Table 6 became positive and significant.

⁵⁰ Our measures of isolationism and nationalism were based on Mansfield and Mutz 2009. We also included ethnocentrism in some models, but this variable was observed only for white, black, and Hispanic respondents. Including ethnocentrism reduced the sample size without increasing our explanatory power or altering the other key estimates, so we omitted ethnocentrism from Table 6.

TABLE 6. *Multivariate analysis of support for trade barriers, with and without distributional cues*

Characteristics of U.S. respondents	No cues provided		Cues about winners & losers	
	Limit low-ed imports?	Limit high-ed imports?	Limit low-ed imports?	Limit high-ed imports?
College	-0.38 (0.13)	-0.27 (0.13)	-0.50 (0.14)	0.34 (0.14)
Female	0.31 (0.12)	0.39 (0.13)	0.45 (0.14)	0.50 (0.14)
Age	0.02 (0.05)	0.14 (0.06)	0.16 (0.06)	-0.03 (0.06)
Income	-0.23 (0.16)	-0.11 (0.17)	-0.25 (0.20)	-0.32 (0.20)
Union member	0.49 (0.26)	0.35 (0.25)	0.39 (0.28)	0.55 (0.29)
Unemployed	-0.12 (0.15)	-0.06 (0.16)	0.30 (0.22)	-0.22 (0.23)
Party ID	-0.38 (0.20)	0.17 (0.21)	-0.80 (0.24)	-0.35 (0.25)
Isolationism	0.14 (0.08)	0.27 (0.09)	0.30 (0.09)	0.39 (0.10)
Nationalism	0.06 (0.08)	0.06 (0.08)	0.09 (0.08)	0.25 (0.09)
Constant	0.42 (0.22)	-1.17 (0.23)	-0.26 (0.25)	-0.48 (0.26)

Note: The table presents parameter estimates and standard errors from logistic regressions. The sample sizes were 1145 when no cues were provided and 970 when cues were provided about both winners and losers.

To quantify the importance of this reversal, we computed the average effect of a college degree on the probability that the respondent wanted to limit high-education imports, holding all other variables at their observed values. This was equivalent to estimating the following

counterfactual: how much more (or less) protectionist would members of our sample have been if all members had graduated from college, compared to a hypothetical in which none had graduated from college. Without cues, the effect of college on the desire to limit high-education imports was $-.06$; with cues, the effect switched signs and became $.08$. Thus, cues increased the estimated effect of a college degree by 14 percentage points.

9. The Effects of Cues about Efficiency

The previous experiment showed how preferences would change if citizens were more knowledgeable about the distributional consequences of trade. What if citizens knew about efficiency, as well? To find out, we conducted a survey that not only identified the winners and losers from protectionism, but also said that trade barriers would decrease aggregate welfare. The survey was administered to a sample of 997 U.S. adults, who were recruited via Amazon Mechanical Turk in May 2014.

This survey employed the same script as our other experiments but included an additional economic cue. After explaining that limits on low-education imports would help Americans with college degrees while hurting Americans without college degrees, we concluded that the limits would be economically inefficient. “Overall,” we explained, “this policy would hurt the U.S. economy and reduce the national standard of living. Although trade barriers would help some Americans, they would hurt other Americans even more.” We provided similar cues about the aggregate effects of limiting high-education imports, explaining that such policies would generate winners and losers but ultimately hamper the U.S. economy and lower the national standard of living.

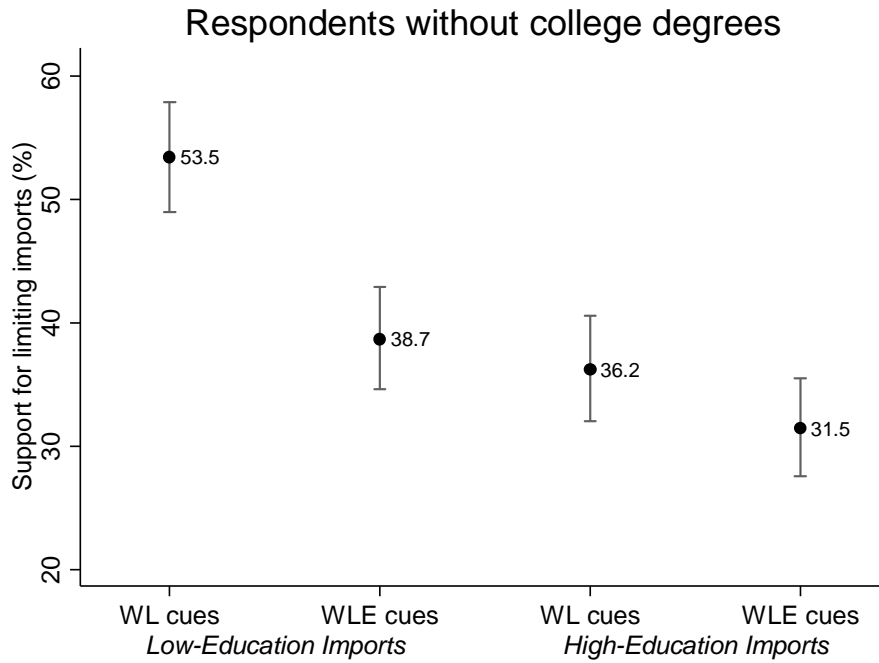
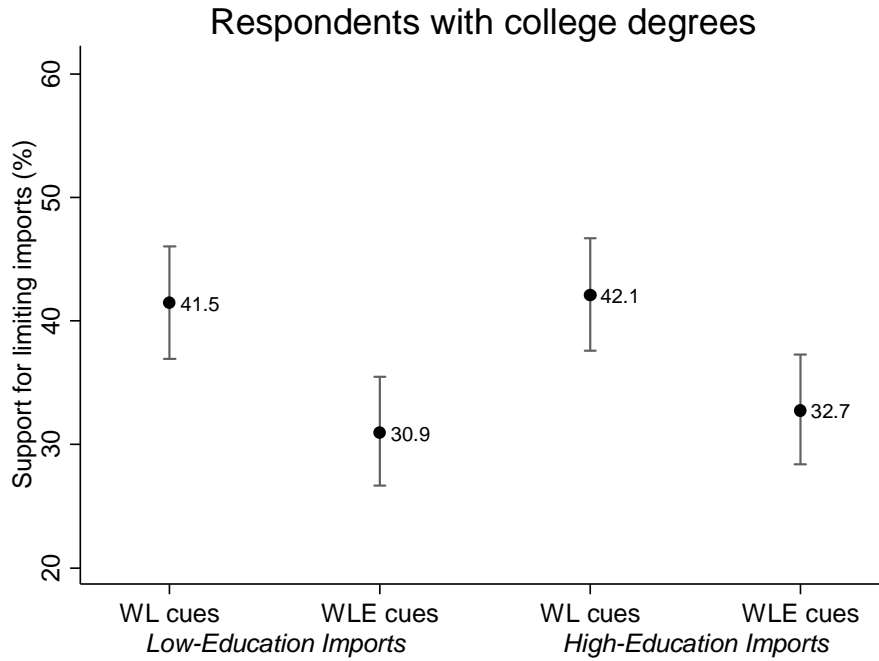


FIGURE 3. Support for trade barriers, by WL and WLE cues

Note: WL = winners and losers. WLE = winners, losers, and efficiency.

Efficiency cues substantially decreased public support for protectionism. The top half of Figure 3 summarizes the preferences of people with college degrees. When we inquired about limiting low-education imports, 41.5% said yes after hearing only about winners and losers (WL), but only 30.9% agreed when we added information about efficiency (WLE). Efficiency cues also changed attitudes toward high-education imports. 41.2% of college graduates were prepared to block those imports in the WL condition, compared with only 32.7% in the WLE condition. On average, efficiency cues dampened protectionist sentiment by around 10 percentage points, a 24% decline relative to the WL baseline.

The bottom half of Figure 3 presents analogous estimates for respondents without college degrees. Their desire to block low-education imports fell by 14.8 percentage points, from 53.5% to 38.7%, when we appended information about efficiency to the cues about winners and losers. The impact on high-education imports was smaller, but nonetheless noteworthy: protectionist sentiment fell from 36.2% in the WL condition to 31.5% in the WLE condition, a change of 4.7 percentage points. Averaging across both types of imports, the mean treatment effect was 9.8 percentage points, roughly the same as the mean effect among college graduates. Thus, efficiency cues were equally potent for both groups of respondents.

Efficiency cues not only generated enthusiasm for free trade but also weakened the association between self-interest and policy preferences. Table 7 shows the change. When respondents received cues about winners and losers only, the association between education and limits on low-education imports was negative, whereas the association between education and limits on high-education imports was positive. When we added cues about efficiency, the correlation between education and limits on low-education imports remained negative but

weakened, and the association between education and limits on high-education imports became statistically indistinguishable from zero.

TABLE 7. *Effect of distributional and efficiency cues on the relationship between education and policy preferences*

(a) Cues about winners and losers only

	Respondent has college degree?		Difference
	Yes	No	
Should limit low-ed imports	41.5 %	53.5 %	-12.0 (-18.3 to -6.8)
Should limit high-ed imports	42.1	36.2	5.9 (-12.0 to 0.0)

(b) Cues about winners, losers, and efficiency

	Respondent has college degree?		Difference
	Yes	No	
Should limit low-ed imports	30.9 %	38.7 %	-7.8 (-13.7 to -1.8)
Should limit high-ed imports	32.7	31.5	1.3 (-4.6 to 7.1)

Note: Calculated from Figures 1, 2, and 3; 95% confidence intervals in parentheses.

Multivariate analyses confirmed these conclusions. Using logistic regression, we estimated the relationship between education and protectionism among people who received cues about both distribution and efficiency. The first regression in Table 8 modeled the desire to limit low-education imports. The estimated coefficient on college was -0.33 , noticeably weaker than the -0.50 we observed when respondents were cued about winners and losers only (Table 6). The second regression in Table 8 modeled the desire to limit high-education imports. Although the

coefficient on college was positive, as expected under Stolper-Samuelson, it was smaller than in Table 6 and no longer statistically significant.

TABLE 8. *Multivariate analysis of support for trade barriers
when respondents received cues about both distribution and efficiency*

Characteristics of U.S. respondents	Limit low-ed imports?	Limit high-ed imports?
College	-0.33 (0.14)	0.20 (0.15)
Female	0.22 (0.14)	0.01 (0.14)
Age	0.13 (0.07)	0.00 (0.07)
Income	-0.31 (0.20)	-0.55 (0.21)
Union member	0.72 (0.28)	0.08 (0.30)
Unemployed	-0.45 (0.23)	-0.18 (0.23)
Party ID	-0.31 (0.24)	-0.39 (0.25)
Isolationism	0.19 (0.09)	0.22 (0.09)
Nationalism	0.09 (0.08)	0.30 (0.09)
Constant	-0.72 (0.26)	-0.45 (0.26)

Note: Parameter estimates and standard errors from two logistic regressions, each with a sample size of 997.

To interpret the parameters in Table 8, we computed the average effect of a college degree on the probability of supporting protectionism, holding other explanatory variables at their observed values. The effects, expressed as percentage points, were -7.3 for low-education imports and 4.2 for high-education imports. In comparison, the effects given cues about winners and losers only (based on Table 6) were -11.9 and 7.7 . Thus, efficiency cues attenuated the relationship between education and support for protectionism.⁵¹

Our experiments also suggest how aggregate opinion might shift if the citizens were more fully informed about trade. Without supplementary information, most participants in our study thought the government should limit low-education imports, and more than one-third felt the government should limit high-education imports, as well. When we supplied information about both distribution and efficiency, protectionist sentiment subsided greatly. Armed with both types of information, less than 40% of respondents wanted to limit low-education imports, and even fewer wanted to limit high-education imports (Figure 3). These findings imply that some of the protectionist streak in American public opinion is a product of economic ignorance. If Americans knew more about trade, the greatest consequence might not be making preferences more self-serving, but instead converting a nation of protectionists into a nation of free-traders.

⁵¹ The differences in effects were substantively large, but they were not statistically significant at the .05 level. The estimates, with 95% confidence intervals in parentheses, were -7.3 (-13.3 to -1.1) versus -11.9 (-18.3 to -5.4) for low-education imports, and 4.2 (-1.9 to 10.3) versus 7.7 (1.3 to 14.0) for high-education imports.

10. The Political Consequences of Public Opinion

We have shown that most Americans have little knowledge about the economics of trade, and that public opinion can shift significantly in response to cues about distribution and efficiency. These findings do not imply that voters are apathetic about trade, nor do they suggest that public opinion is politically inconsequential. On the contrary, voters in the United States and other countries have views about trade, even if their views do not always reflect material interests. Moreover, public attitudes about trade, like opinions about foreign policy more generally, can affect both elections and policy outcomes. In this section we briefly address what contributors to this volume call the “aggregation problem,” defined as the linkage between individual attitudes and collective choices.⁵²

A substantial body of research has demonstrated a strong relation between public opinion and foreign policy.⁵³ The opinion-policy link is evident not only on security issues such as defense spending and arms control,⁵⁴ but also on matters related to the international economy.⁵⁵ Cross-national studies show a significant correlation between public attitudes and trade liberalization, especially in democracies.⁵⁶ Qualitative evidence also confirms that leaders pay attention to public opinion about trade. Former Secretary of State Cordell Hull wrote in his memoir that his government pursued bilateral trade negotiations instead of multilateral ones,

⁵² Hafner-Burton et al.; Saunders.

⁵³ See, e.g., Page and Shapiro 1983; Baum and Potter 2015; Milner and Tingley 2015.

⁵⁴ Bartels 1991; Hartley and Russett 1992; Welzien 1996.

⁵⁵ Bailey 2001, 2003.

⁵⁶ Mayda and Rodrik 2005; Kono 2008.

because “it was manifest that public opinion in no country, especially our own, would at that time support a worth-while multilateral undertaking.”⁵⁷

In the United States, foreign trade often plays an important role in presidential elections. In June 2008, for example, CNN asked, “How important will foreign trade be to your vote for President?” Approximately 29% said extremely important, 36% said very important, and 27% said somewhat important. Only 8% didn't know, refused to answer, or claimed the issue was not important. Many other polls concur that Americans regard foreign trade as either extremely or very important when choosing the president.⁵⁸ Trade also matters at an earlier stage: presidential primaries. In September 2015, for instance, the Pew Research Center asked registered Democrats whether their party should nominate someone who wants to expand US trade agreements with other nations. Only a small minority, 34%, said that positions on trade not be a major factor in their vote.

Finally, trade can play an important role in Congressional elections. In 1993, for example, Congress was considering the North American Free Trade Agreement (NAFTA). At that time CBS News asked, “When your Representative in the U.S. House of Representatives runs for re-election next year, how much will your vote be influenced by his or her position on NAFTA?” Approximately 61% said it would be important, and an additional 5% cited it as the single most important issue. In contrast, only 28% claimed that it wouldn't matter, and the

⁵⁷ Hull 1948: 356.

⁵⁸ See, for example, polls by Fortune (January 2008), Gallup (August and September 2000), and CNN (July 2000). Details will be available in an online appendix.

remaining 6% didn't know or refused to answer.⁵⁹ Thus, Americans regard trade as important not only when voting for president, but also when voting for Congress.⁶⁰ Ordinary Americans may not understand economic models of trade, but this lack of economic training does not prevent them from forming opinions, nor does it prevent opinion from affecting elections and government policies.

11. Conclusion

In this article we investigated why the trade preferences of ordinary citizens do not reflect their material self-interests. Our study focused on one potential explanation: economic ignorance. We first documented that Americans have only a dim understanding of how trade affects economic outcomes. We then conducted experiments to investigate whether people would make more self-serving choices if they were better informed about the winners and losers from trade protection.

In our experiments, distributional information prompted two types of reactions. On the one hand, the information made people more likely to express self-interested policy preferences.

⁵⁹ Polls by the Washington Post, ABC, NBC, and CNN supported similar conclusions. See the online appendix.

⁶⁰ Alexandra Guisinger (2009) has argued that public opinion has little effect on Congressional elections, but her data suggest the opposite conclusion. According to Guisinger, citizens were *10 percentage points* less likely to vote for the incumbent when they knew that the incumbent's vote on the Central American Free Trade Agreement did not match their position, than when they knew it matched their own position (Guisinger 2009, 550).

After learning how trade policies would affect themselves, people became more likely to advocate policies that would advance their material interests. On the other hand, distributional information made people more sensitive to the interests of society. Information about the impact on other groups made people more likely to support policies that would help others, and less likely to support policies that would hurt them. On balance, selfish responses outweighed the altruistic ones. Thus, if people knew more about the distributional effects of trade, the correlation between personal interests and policy preferences would tighten.

We also studied how people respond to information about efficiency. Economists generally agree that protectionism decreases aggregate welfares. Transmitting this knowledge to respondents weakened the connection between material self-interest and trade preferences. At the same time, efficiency cues substantially raised support for free trade. In fact, our experiments showed that if the public were fully informed—knowing not only about winners and losers but also about efficiency—a majority of Americans would endorse free trade instead of supporting protection for low-skilled and/or high-skilled workers.

These findings have important implications for research about international relations. The OEP paradigm rests on the assumption that individuals have economically selfish policy preferences that can be derived from economic theory. In this article, we suggest that the selfishness of policy preferences should be viewed as a variable, rather than an axiom. In trade and other domains, policy preferences depend on causal beliefs about the likely consequences of action for oneself and others. By documenting the diversity of causal beliefs and studying their

effects on preferences, we can advance our understanding of many other topics in IPE, including sovereign debt, foreign aid, and monetary policy, just to name a few.⁶¹

In addition to revealing how beliefs affect preferences, our experiments uncovered significant heterogeneity across individuals. Cues had different effects on different groups. On average, Americans with college degrees used cues to advance their own ends. When we identified the winners and losers from protection, college graduates became less willing to block imports from foreign firms that rely on unskilled workers, and more willing to block imports from foreign firms with highly educated workers. In contrast, people without college degrees used cues altruistically as well as egoistically. Future research should examine why some groups are more sensitive to economic information than others, and why information provokes primarily selfish responses among some people while triggering altruistic reactions among others.

Scholars could also investigate how economic knowledge varies across countries and over time. We showed that Americans know fairly little about the effects of trade policy, and we cited similar evidence of economic ignorance in Spain. Knowledge may be higher in other countries, particularly in places where trade has a bigger effect on the national economy or is a major topic of political debate. Costa Rica, for example, held a national referendum on the Central America Free Trade Agreement (CAFTA) in 2007. In the run-up to the referendum, political parties informed citizens about the distributional consequences of the agreement.⁶²

⁶¹ For work on the connection between economic knowledge and preferences in these policy domains, see Tomz 2004; Prather 2015; and Bearce and Tuxhorn forthcoming; but cf. Curtis, Jupille, and Leblang 2014.

⁶² Hicks, Milner, and Tingley 2014.

Future research should also examine the two-way relationship between public and elite opinion. On the one hand, scholars know that public opinion constrains what leaders can do, not only in trade but also in other areas of domestic and foreign policy. On the other hand, politicians and the media can shape public opinion through the strategic use of rhetoric. Indeed, our experiments suggest that elites could move public opinion by (selectively) clarifying the distributional and aggregate effects of trade policy. Studying how elites not only follow but also lead public opinion, and how public preferences get aggregated into government policy, are important frontiers for future research.⁶³

As research about these topics proceeds, it is important to acknowledge the challenges of modeling and inference. The sheer complexity of the global economy makes it difficult for economic actors—and the scholars who study them—to predict how policies would affect material interests. The experiments in this paper focused on Stolper-Samulson because of its central role in research about the political economy of trade, and about public opinion in particular. There are, however, other theories about the distributional effects of trade. The existence of contending theories could, in itself, contribute to an apparent mismatch between self-interest and policy preferences. In light of this complexity, it is important to measure the

⁶³ For an important step in this direction, see the article by Saunders in this volume. Researchers could also extend our analysis to the elite level, by studying what elites know about trade policy and how they would respond to economic cues. The main obstacle to this kind of research is the difficulty of recruiting elite respondents. Scholars have shown that elite-level surveys are possible, however, and can yield fundamental insights about political behavior. See Herrmann, Tetlock, and Diascro 2001; Hafner-Burton, LeVeck, and Victor 2014; and the article by Bayram in this volume.

beliefs people actually hold, and study how variation in those beliefs affects both preferences and policy outcomes. Over time, this research agenda should produce a more realistic, behaviorally informed foundation for theories of international relations.

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