

## **The Gender Divide over International Trade:**

### **Why Do Men and Women Have Different Views about Openness to the World Economy?**

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Abstract: We examine survey data on attitudes toward international trade showing that women are substantially less likely than men to support increasing trade with foreign nations. This gender gap remains large even when controlling for occupational and employment-related differences that feature in standard political-economy models of trade policy preferences. Maternity does not explain the gender gap, nor do gender differences in political values. We do find evidence, however, suggesting that differences among men and women in exposure to economic ideas and information may be generating the gender gap in attitudes toward trade.

## **I. Introduction**

The dramatic growth in international trade over the past decades has intensified the political debate over the costs and benefits of globalization. Scholarly research examining public opinion on the trade issue in recent years has concluded that a substantial proportion of voters in the United States and in other western economies may favor new trade restrictions (e.g., Scheve and Slaughter 2001; Mayda and Rodrik 2004). One curious aspect of the nascent protectionist backlash is that it appears to have a very strong gender orientation. The available survey evidence indicates that women in the United States and in advanced economies more generally are far more likely than men to support new restrictions on trade. This gender divide has been noted in passing in several studies (e.g., Holsti 1996, 173; O'Rourke and Sinnott 2002, 180; Mayda and Rodrik 2004, 11), but there has been no concerted attempt to examine and explain it.

In this paper we look closely at the evidence on male and female attitudes towards trade and investigate potential explanations for the gender divide. We use detailed data on individuals gathered via a survey of 1,610 American adults in 2003. This gender gap on trade is substantial, even accounting for gender differences in the occupational and employment-related characteristics of individuals that feature in standard political-economy models of trade policy preferences. Maternity does not explain the gender gap, nor do gender differences in political values. We do find evidence suggesting that differences among men and women in terms of their attitudes towards trade may be traceable, in some large part, to differences in exposure to economic ideas and information. The findings argue for renewed attention to the role of gender in political economy, and to the impact of ideas in trade politics and in other areas of economic policy, not just among policymakers but also among the broader electorate.

## **II. Explaining Individual Attitudes Towards Trade**

To date, the analysis of survey data on attitudes towards trade has focused predominantly on occupational and employment-related characteristics of respondents. A principal aim has been to test economic theories that describe the income effects of trade for individuals as a function of their skill levels and the industries in which they are employed. Examining data from the 1992 National Election Studies (NES) surveys in the United States, Scheve and Slaughter (2001) emphasized the importance of respondent skill levels (measured by years of education), finding that individuals with lower skills were more likely to support restrictions on trade than those with higher skills. O'Rourke and Sinnott (2002) and Mayda and Rodrik (2004) came to similar conclusions after examining data on 23 western nations gathered by the International Social Survey Program (ISSP) in 1995: skill levels, measured either by occupational categories (O'Rourke and Sinnott) or years of education (Mayda and Rodrik), were found to have large effects on attitudes, with lower skilled individuals being far more protectionist than higher skilled counterparts.

In terms of economic theory, these findings appear to fit with the Stolper-Samuelson theorem (1941), which predicts that trade will raise real incomes for individuals owning productive factors with which their economy is well endowed relative to other economies (skilled workers in the advanced nations), while disadvantaging other individuals (unskilled or low skilled workers). Mayda and Rodrik also found that people employed in import-competing industries are significantly more likely than others to favor trade protection. This finding actually fits better with economic models which, unlike the Stolper-Samuelson theorem, allow that individuals can invest heavily in skills that are very specific to particular industries.<sup>1</sup> In these various ways, a standard political economy approach to the analysis of trade policy preferences seems to do reasonably well.

But the surveys also reveal one very interesting pattern that tends to be mentioned only in passing in these previous studies: gender is a strong, consistent predictor of trade policy

preferences. Women are much more protectionist than men. This is not simply a function of gender-related differences in the standard political-economy variables: even allowing for gendered differences in skill levels and employment patterns across industries, the gender gap in attitudes is substantial. Men appear to be about 7-10 percent more likely than women to support trade openness. To date, there has been no concerted attempt to examine and explain this gender divide.<sup>2</sup>

In the broader literature on the politics of trade, we could find only one attempt to theorize about the effects of gender on trade policy preferences. In an article addressing the political effects of female enfranchisement in the United States, Hall, Kao, and Nelson (1998) hypothesize that women may be *more* supportive of trade openness than men, because women are (or have been) more likely to specialize in consumption activities while their male counterparts specialize in production activities. Having more direct familiarity with the effects of tariffs on prices, they argue, women are more likely to oppose them, with the implication that female enfranchisement in 1920 lowered the preferred tariff of the median American voter and led political parties to reduce tariffs in later years. The authors provide no direct evidence to support their claim that women were more favorably disposed towards trade than men in the interwar era.<sup>3</sup> The earliest survey we could find that asked about trade policy, a 1939 Roper/Fortune survey, actually showed that women were over 7% more likely to favor a “high tariff” than men, and even women describing their occupation as “keeping house” were 7.7% more likely to favor higher tariffs than men. In other words, the gender divide over trade was roughly the same in 1939 as it was in the 1990s.

So why might women view trade less favorably than men? Something is missing from the standard political economy approach that focuses on productive factors and the way individuals earn their income, but what precisely? The most obvious potential answers include income risks associated with maternity, differences between men and women in terms of political values, and gender differences in consumption tastes.

*Maternity and income risk:* Since women tend to sacrifice more in terms of their professional lives to have and raise children, some scholars have argued that women (more than men) thus tend to favor social welfare policies that insure parents against losses from leaving active employment to take on family duties (Estevez-Abe et.al. 2001). There is evidence that women are more supportive than men of most kinds of social welfare assistance, including maternity leave and child-care, but also social security, health and unemployment insurance, and employment protection policies (Estevez-Abe et al. 2001; Iversen and Soskice 2001). Since trade barriers can function as employment protection, mitigating risks of job losses caused by exposure to world markets (see Rodrik 1997), perhaps this is why women favor trade barriers more than men: maternity makes employment protection more critical.

*Political values:* A very different type of argument is that women, for reasons having to do with nature and/or nurture, tend to be more compassionate than men in their attitudes toward less fortunate members of society and more supportive of welfare assistance as a result (e.g., Gilligan 1982; Shapiro and Mahajan 1986; Welch and Hibbing 1992). Since trade openness can generate job losses, and can lower real incomes of unskilled and low-skilled workers in advanced economies (per Stolper-Samuelson), one might then anticipate a female preference for trade barriers as a function of greater compassion for those facing hardships. One might posit similar types of gender differences in non-material values – in concerns about inequality, for instance, or concerns about the environment – that could lead women to be less supportive of trade than men.<sup>4</sup>

*Consumption tastes:* People are consumers, not just producers. Trade lowers prices for imported goods relative to other goods. In general, in the economic models, consumption preferences between imported and other goods cannot determine the direction of the real income effects of trade openness for individuals owning different types of productive factors<sup>5</sup> but they may still have important effects at the margin. Baker (2003, 2005) has found some evidence that those

individuals more likely to consume imported goods than counterparts are also more likely to favor trade. Perhaps gender differences in consumption tastes can explain the gender divide over trade: If men have tastes skewed more towards imported goods than women this could account for why they prefer lower trade barriers.

Whether any of these logics are sufficient to account for the observed gender differences in attitudes toward trade is an open question. We provide tests of these various arguments in the next section. Then we examine a very different type of explanation, focusing on the impact of economic ideas and information.

### **III. American Attitudes Toward International Trade: New Survey Results**

#### **A. Data**

We examine data gathered from a survey administered to 1,610 American adults in 2003. The survey was conducted by telephone by the Center for Survey Research at Indiana University, as part of a set of surveys sponsored by the Time-Sharing Experiments for the Social Sciences (TESS) program.<sup>6</sup> This set of data is particularly appropriate for our purposes here because, in addition to asking respondents several questions about their attitudes toward international trade and the effects of trade on their own job security, and gathering a wide range of demographic and socio-economic data, the TESS survey also asked respondents about the types of benefits (e.g., parental leave, child care) that are particularly important for examining gender issues.<sup>7</sup>

All respondents in the TESS survey were asked the same core question about trade:

*Do you favor or oppose increasing trade with other nations?*

Answers were recorded as either favor, oppose, don't know. Depending on the answer, the interviewer then asked respondents a follow-up question:

*Is that strongly favor (oppose) or somewhat favor (oppose)?*

As a basic gauge of the male-female division over trade, Tables 1 and 2 report the simple frequencies of each type of response broken down by gender.

[Tables 1 and 2]

The differences are stark. For a group of randomly selected adults, females are 10% less likely than men to favor increasing international trade. Women are 16% less likely than men to strongly favor increasing trade, although they are only 1% more likely than men to strongly oppose it. In general, women tend to be much less definite than men about their views on trade: women are 12% more likely than men to report either somewhat favoring or somewhat opposing trade, rather than holding any view strongly, and women are more likely than men to answer “don’t know” when asked about their views.

### **B. Benchmark Models**

We used respondents’ answers to the basic question about whether they favored or opposed increasing trade as our main dependent variable (1=favor and 0=oppose) and estimated a series of probit models. Table 3 reports the results from estimations of a series of benchmark models which include the standard socio-economic controls and variables relevant to standard political-economy accounts of individuals’ trade policy preferences (see appendix for descriptive statistics for all the variables). We find a strong gender effect on trade preferences. In the most basic model (1), with controls for age and education (the most common measure of skills), being female decreases the probability that an individual favors trade by 9% (s.e. 2%).

[Table 3]

Among the other variables, age is also associated with opposition to trade, though the effect is not significant in all models. Highly educated or skilled respondents (defined here as those with at least some exposure to college-level education) are far more likely to favor trade than those with less education (no college-level education at all): exposure to college education raises the

probability that an individual supports trade by 18% (s.e. 2%) in the simplest model.<sup>8</sup> Personal income (whether an individual reports having an annual income greater than \$35,000) has a robust positive effect on support for trade: a higher-income individual is about 9% (s.e. 4%) more likely to support increasing trade than is someone earning less than \$35,000 annually.

We have included in the final three models (3-5) variables aimed at capturing industry-specific effects of trade on the job security of (employed) survey respondents. The TESS survey asked respondents a very direct question about the likely impact of trade on the security of their job, and we have used the responses to identify whether individuals stated that increasing trade with other nations makes their own job more secure.<sup>9</sup> Not surprisingly, this measure is strongly, positively related to support for trade. Compared to others, those who felt their own job was more secure as a consequence of trade were roughly 17% (s.e. 4%) more likely to favor increasing trade. In the final two models, we also included controls to account for regional and sectoral differences in attitudes toward trade.<sup>10</sup>

Despite the array of occupational and employment-related variables introduced in these models the gap between male and female preferences is stark. This gender divide is not simply a function of gender differences in terms of standard political-economy variables, such as skill levels or employment in import-competing industries. Women are not more *sensitive* to these material concerns: additional tests for interaction effects between gender and education, income, and the effects of trade on respondents' own job security reveal no significant differences between genders.<sup>11</sup>

### **C. Gender, Maternity, and Income Risk**

Perhaps women are more wary than men in general of the added risk of local economic dislocations that might be produced by greater trade openness, regardless of how secure they feel in their current job. Women may feel especially vulnerable to such dislocations because they, more

frequently than men, anticipate having to leave their jobs to take on family duties and then to search for new jobs subsequently. The TESS survey provides us with several possibilities for testing this argument. The survey asked respondents specifically how difficult they felt it would be to find a new job that would be acceptable to them if they lost their current job.<sup>12</sup> Table 4 reports the results when we include this measure in estimating individual trade preferences using the most extensive set of benchmark covariates (model 1). The expected difficulty of finding a new job does predict opposition to trade: an individual reporting that it would be very difficult to find a new job was 13% (s.e. 5 %) less likely to favor increasing trade than someone saying it would be very easy to find a new position (all other variables set to their means). But controlling for such concerns does not erase the large gender divide in attitudes toward trade.

[Table 4]

The TESS survey also asked respondents whether their employers' offered family-related job benefits (including flexible working hours, parental leave, and daycare facilities). Access to such benefits might help lower anxiety about the career risks of maternity. That is, employees – and women more than men – who have access to such benefits will be less likely to anticipate having to leave their current job for family reasons (and compete for new jobs in the future) than counterparts lacking such benefits.<sup>13</sup> We included dummy variables indicating access to such benefits when estimating trade preferences (model 2), but this did not diminish the gender gap on trade.

We then tried a different tack. The TESS survey also asks respondents whether they favor or oppose giving financial assistance to workers who lose their jobs due to increased trade. If there are important gender differences in concerns about trade-related income risks we can expect these would surface in views about such assistance. We used answers to this question about assistance as the dependent variable (1=favor and 0=oppose),<sup>14</sup> and estimated two probit models with limited (3) and extensive (4) sets of benchmark control variables. We found no significant difference in the

way men and women view adjustment assistance. Since there is not much variation in the dependent variable here (86% favored such assistance) we also estimated whether or not respondents “strongly” support adjustment assistance (55% of the sample). Models 5 and 6 mirror models 3 and 4, using the new dependent variable (=1 if strongly favor assistance, =0 otherwise). Again, women appear no more likely than men to support assistance aimed at mitigating trade-related income risk.

#### **D. Gender and Political Values**

The results above, indicating that women do not appear to place any greater importance than men on assistance for those losing their jobs due to increasing trade, certainly do not fit with the idea that women are more sensitive than men to trade-related income risk. They also throw cold water on the idea that a gender difference in compassion for the less fortunate is generating the gender divide over trade. But perhaps gender differences in commitments to other types of values play a more important role here. Concerns about inequality and environmental degradation are often raised in debates about trade. The TESS survey provides several indicators of commitments to different political values or identities. Table 5 reports the results when we include these in estimations of support for trade.

[Table 5]

Models 1-4 include the new variables in a simple benchmark model with a limited range controls; model 5 includes an extensive set of controls. Party affiliation (measured by whether respondents identify themselves as Republicans or not) is not a significant predictor of individual attitudes toward trade.<sup>15</sup> One might have expected that Democrats, typically identified as caring more about the effects of trade on labor standards and the environment, would be less supportive of trade than Republicans. We also accounted for whether respondents identified themselves as “liberal” or “conservative” rather than as “moderate” or having not thought about the issue. Interestingly, self-declared liberals were generally more supportive of trade than moderates (or

conservatives), even though they are most strongly identified with concerns about equality and the environment. But accounting for these types of political identities does not affect the gender gap on trade, nor does accounting for whether or not respondents identified themselves as religious. There is no indication at all that gender differences in political values are related to the gap between male and female attitudes toward trade.<sup>16</sup>

### **E. Gender and Consumption Tastes**

Perhaps women and men consume very different types of goods, and this creates a divide in the way they assess the benefits of international trade? If women consume fewer imported goods than men, it is conceivable that this leads them to view trade less favorably. The TESS survey includes no direct questions about consumption tastes or shopping behavior. Some tastes are presumably associated with covariates such as age, education, and income, already included in the benchmark models. Indeed, Baker (2003, 2005) has argued that income serves as a good proxy for the extent to which consumption tastes are biased toward high-end or skill-intensive goods. Engel's law (1857) noted how spending on food declines as a share of total spending as income rises, and it is clear that richer individuals spend more on skill-intensive goods (e.g., automobiles, electronics, financial services) as a proportion of their budget than do poorer individuals. Baker examines cross-national survey data and finds that, while income is always positively associated with individual support for trade, the association is stronger in poor countries (where imports tend to be skill-intensive) than in rich countries (which export skill-intensive goods), suggesting that consumption tastes may affect attitudes toward trade at the margin.

In the US context, this logic suggests that individuals with higher incomes spend more than poorer individuals on (exported) skill-intensive goods and less on imported goods, and thus are *less* inclined to support trade, all else equal. We have already controlled for income in the benchmark models, however, and the gender gap in trade preferences remains large (and the estimate effect for

income is positive, not negative). One further idea is that women and men may not be equally sensitive to Engel's law: perhaps women's consumption tastes are more income elastic, and so consumption is more biased against imported goods among high-income women than among high-income men?

[Table 6]

Table 6 reports results from estimations aimed at gauging the plausibility of this type of consumption-based explanation for the gender divide on trade. In models 1 and 2 we estimate a benchmark model separately for low-income (1) and high-income respondents (2). The gender gap is not significantly different among poorer versus richer respondents, suggesting that gender differences in consumption related to income are not critical here.

Another way to explore the potential impact of consumption tastes is by distinguishing between single and married respondents. If there are any trade-relevant differences in consumption spending between men and women one would expect them to be greater among unmarried respondents than among married respondents, since married couples typically make joint consumption decisions within a combined budget constraint. But instead we find that the gender divide over trade is actually far smaller among unmarried respondents (model 3) than among married respondents (4). This is true even when we look only at older respondents – those above the sample mean of 48 years – among whom marriage is presumably even more likely to involve joint spending decisions. It seems implausible that gender differences in consumption tastes are playing an important role here.<sup>17</sup>

#### **IV. Gender and Economic Ideas and Information**

What can account for the gender divide over trade? So far we have not considered the potential impact of economic ideas and beliefs on the formation of individual policy preferences. Individuals are likely to think about international trade in very different ways, using different sets of

ideas about cause-and-effect relationships and different information about the effects of trade. In an important recent study, Walstad and Rebeck (2002) have argued that scholarly analysis of public opinion on economic issues makes the erroneous implicit assumption that survey respondents are undifferentiated in terms of their economic knowledge. In fact, as they point out, individuals differ dramatically in their levels of economic knowledge, as measured by scores on tests covering basic economic concepts and facts, and these knowledge scores are significant predictors of views about a variety of economic policies (see also Walstad 1997). It does seem right to expect that respondents' views about trade will depend to some degree on whether they have been exposed to the orthodox economic case for free trade, based upon the theory of comparative advantage, and the associated information about the aggregate welfare-enhancing effects of trade. Perhaps there are significant differences between women and men in terms of their exposure to these types of economic ideas and information?

Although the TESS survey did not include any questions aimed specifically at gauging exposure to economic ideas and information, it did include a question asking respondents to name the three countries that are signatories to the North American Free Trade Agreement (NAFTA): the United States, Canada, and Mexico. The question obviously does not test familiarity with economic concepts and cause-and-effect relationships, but it serves as a useful proxy measure for knowledge of economic facts – it is similar to test questions used by Walstad and Rebeck (2002), asking respondents about the current rates of inflation and unemployment. One concern here is that economic knowledge is being conflated with “attentiveness” to political issues, a topic that is itself the subject of much work in studies of public opinion and communication (e.g., Zaller 1992). However, attentiveness to economic policy issues like NAFTA is likely to be strongly associated with general economic literacy. The TESS survey also asks respondents whether they can name the

then-Secretary of State (Colin Powell), a knowledge question unrelated to economic affairs that gives us some leverage to distinguish the effects of attentiveness from those of economic literacy.

[Table 7]

Table 7 summarizes the results from the analysis of answers to the NAFTA question. First we considered the extent to which gender is related to this type of knowledge among respondents to the TESS survey. The gender gap is very large: women were roughly 27-30% (s.e. 3%) less likely than men to correctly name all 3 of the NAFTA signatories (models 1 and 2). We then estimated a basic benchmark model of support for trade (model 3), showing the familiar gender effect, despite controls for age, income, and education. In this model, men are more than 7.8% (s.e. 2.5%) more likely to support trade liberalization than women. Model 4 takes account of whether respondents can name the Secretary of State; this measure of attentiveness or general knowledge is significantly positively related to support for trade but does not significantly reduce the gender gap. Model 5 includes as a measure of information about economic issues the number of NAFTA signatories respondents can name. Respondents who can name 3 signatories were some 12% (s.e. 2.7%) more likely to favor increasing trade than those who could only name 2 or fewer. The gender effect is in this case cut by over 43% and is no longer significant at conventional levels. Model 6, then, considers the two information-oriented measures together: both significant effects (suggesting that they are capturing distinct types of information), and the gender gap is again insignificant. Finally, in models with more extensive controls (models 7-8) the effects of NAFTA knowledge (8) also significantly reduces the gender gap (by 48%), enough that it is statistically insignificant.

In short, there appear to be large differences between men and women in knowledge about NAFTA, and presumably about economic issues more broadly, that in turn help create the large gender divide that we observe over trade. What might explain why women and men differ so much in their exposure to economic ideas and information? This is a second-order question which we

cannot address in great depth here. Studies of economic literacy have shown that exposure to economics courses at the high school and college level plays a key role (e.g., Gleason and van Scyoc 1995). We do not have any data from the TESS survey on the specific types of courses respondents completed in school or college, so we cannot address this directly. There is plenty of independent evidence, however, that women generally study less economics in college than do men, a skew that has been declining steadily but slowly over the past 4 decades.<sup>18</sup> Several studies have shown that women tend to find mainstream economics unappealing (Ferber 1995), that economics teachers tend to adopt pedagogies favoring male learning styles (Jensen and Owen 2000), and that women frequently perceive economics classroom environments as unfriendly to women (Hall and Sandler 1982; Becker 2000).

The basic story for trade attitudes, we think, is something like this: More exposure to economic ideas and information tends to increase support for trade; in general, women are less likely than men to have been exposed to economic ideas and information during their time in school and college, although this is less likely among younger cohorts than among older cohorts.<sup>19</sup>

We should note here that, while we emphasize how exposure to economic ideas and information in school and college might predict support for trade by simply conveying knowledge about the benefits of trade, one might tell more sinister version of this story. An alternative interpretation is that such courses impart or reinforce a materialist, pro-market ideology that is manifest, in part, by support for trade liberalization. That is, the connection between exposure to economics and support for trade may have less to do with the provision of ideas and information than with the inculcation of certain values. There is some evidence, for instance, that exposure to economics courses breeds non-cooperative, egoistic, and even unethical behavior among individuals (see Frank et.al., 1993). Many introductory micro- and macro-economics courses do tend to give very little attention to market failures, inequality, and environmental degradation, for

instance, analysis of which may counter-balance the unambiguous pro-trade message typically drawn from study of the law of comparative advantage (see Cohn 2000; Goodwin and Harris, 2001). While we cannot rule out such an account here, controlling for measures of political values does not reduce the gender gap over trade (as reported above), making this interpretation of the link between exposure to economics and trade preferences less plausible.

## **V. Conclusions**

Even though gender is a fundamental dimension of political and economic life, the existing literature tells us surprisingly little about the role it plays in shaping individual attitudes towards globalization. The evidence of a large gender difference in those attitudes represents a significant challenge for existing theoretical frameworks used in the study of trade politics specifically, but also for political economy more generally.

Here we have attempted to test all the most plausible explanations for the gender gap in attitudes toward trade. We have shown that, using the best available data and measures, the gender gap cannot be explained by standard political-economy models focusing on the distributional effects of trade and gender differences in skills and job characteristics. Nor can it be accounted for by gender differences in sensitivity to income risks associated with maternity, or gender differences in a wide range of political values. Women are less favorably inclined towards trade than men, even controlling for these factors.

We suggest that a large part of the gender division over trade may be explained by differences among men and women in their exposure to economic ideas and information that leads them to think about and evaluate trade in different ways. Analysis of available data on knowledge of a recent economic policy issue (NAFTA) reveals large gender differences that appear to account for a substantial portion of the gender gap on trade. We think this adds up to an important ideational story, one that supports calls for renewed research in political economy on the roles played by ideas

and information. Several prominent scholars have argued that trade policies have been shaped by the development of new economic ideas, and the prevalence of these ideas among policymakers (e.g., Kindleberger 1975; Bhagwati 1988; Goldstein 1993). While research on the impact of economic ideas has focused, to date, on the introduction or growing popularity of new ideas among government officials, the evidence presented above suggests extending the scope of this type of analysis to examine different types of ideas and information among the broader electorate.

More generally, we think the gender divide over trade is an intriguing focal point for future theoretical work on the role of gender in political economy and, in practical terms, there are also implications for trade policy outcomes. Mayda and Rodrik (2004) have shown that attitudes expressed towards trade in surveys are related to actual trade policies in clear ways: the average support for trade openness in different countries is correlated negatively with average tariff levels. If the gender gap on trade is as large as it appears, it may register in the form of higher equilibrium trade barriers in political systems in which women have greater voice. In general, and *ceteris paribus*, higher levels of female participation or influence in politics can be expected to raise equilibrium trade barriers.

Several important studies have focused on the role that gender politics has played in shaping other important aspects of policy in the United States (e.g., Orloff 1991; Skocpol et al. 1993; Mink 1995), and the impact it has had on partisan and electoral competition (e.g., Fox 1997; Chaney et al. 1998; Mattei and Mattei 1998). Box-Steffensmeier, De Boef, and Lin (2004) have argued that gender differences in voting, party identification, and opinions about critical policy issues are crucial features of the American political landscape, shaping elite political behavior and election and policy outcomes. The gender gap over attitudes toward globalization appears to be a critical and hitherto overlooked aspect of this more general political divide between men and women.

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**TABLE 1: The Gender Divide in Attitudes towards Trade**

Question: Do you favor or oppose increasing trade with other nations?

	All Respondents	Men	Women	Difference
Favor	64% N=1033	70% N=475	60% N=558	-10% ***
Oppose	34% N=545	28% N=190	38% N=355	
Don't know	2% N=32	1% N=9	2% N=23	+1% *

Differences assessed using two-sample *t* tests (two tailed) with unequal variances. \*  $p < 0.10$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$ .  
 Note: Not all columns sum to 100% due to rounding.

**TABLE 2: Gender Differences in Intensity of Attitudes towards Trade**

Question: Is that strongly favor or somewhat favor? (Is that strongly oppose or somewhat oppose?)

	All Respondents	Men	Women	Difference
Strongly Favor	29% N=464	38% N=255	22% N=209	-12% ***
Somewhat Favor	36% N=569	33% N=220	37% N=349	+4%
Somewhat Oppose	20% N=312	15% N=99	23% N=213	+8% ***
Strongly Oppose	15% N=233	14% N=91	15% N=142	+1%

Differences assessed using two-sample *t* tests (two tailed) with unequal variances. \*  $p < 0.10$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$ .

**TABLE 3: Individual Support for International Trade – Benchmark Models**

Dependent variable =1 if respondent favors increasing trade with other nations (=0 if opposes)

	1	2	3	4	5
Female	-0.092*** [0.024]	-0.078*** [0.025]	-0.057* [0.032]	-0.057* [0.033]	-0.077** [0.033]
Age	-0.002*** [0.001]	-0.002*** [0.001]	-0.002 [0.001]	-0.002 [0.001]	-0.002 [0.001]
Highly Educated	0.180*** [0.024]	0.151*** [0.026]	0.169*** [0.033]	0.169*** [0.034]	0.166*** [0.034]
Income >\$35,000		0.086*** [0.027]	0.094*** [0.035]	0.090** [0.035]	0.091** [0.035]
Trade Improves Own Job Security			0.166*** [0.036]	0.168*** [0.036]	0.178*** [0.036]
Regional dummies	no	no	no	Yes	yes
Industry dummies	no	no	no	No	yes
Observations	1566	1500	907	907	890
Log likelihood	-940.72	-897.71	-520.59	-518.37	-505.97
Pseudo R-squared	0.07	0.07	0.09	0.1	0.1

Probit estimations: marginal effects ( $\partial F/\partial x$ ) are shown with robust standard errors in parentheses. \* p<0.10 \*\* p<0.05 \*\*\* p<0.01 Each model also includes dummy variables for question framing (see Appendix); effects not shown here. Model 6 includes dummies for Census regions (West, South, and Midwest, with East set as the excluded region) and 2-digit SIC sector classifications (Agriculture, Mining, Manufacturing, with Services set as the excluded sector); effects not shown here.

**TABLE 4: Individual Support for International Trade – Gender, Maternity, and Income Risks**

	Dependent variable=1 if favors increasing trade (=0 if opposes)			Dependent variable=1 if favors adjustment assistance (=0 if opposes)		Dependent variable=1 if <i>strongly</i> favors adjustment assistance (=0 if not)	
	1	2	3	4	5	6	7
Female	-0.074** [0.034]	-0.076** [0.035]	-0.073** [0.035]	0.000 [0.017]	0.001 [0.023]	-0.007 [0.026]	0.048 [0.035]
Age	-0.001 [0.001]	-0.001 [0.001]	-0.001 [0.001]	0.001 [0.000]	0.000 [0.001]	-0.001 [0.001]	0.001 [0.001]
Highly Educated	0.161*** [0.034]	0.177*** [0.035]	0.171*** [0.035]	0.047*** [0.018]	0.051** [0.024]	0.014 [0.027]	-0.016 [0.036]
Income >\$35,000	0.075** [0.037]	0.103*** [0.038]	0.084** [0.039]	0.002 [0.018]	-0.015 [0.024]	0.005 [0.028]	0.006 [0.037]
Trade Improves Own Job Security	0.181*** [0.036]	0.173*** [0.038]	0.179*** [0.038]		-0.011 [0.030]		0.047 [0.043]
Difficulty Finding New Job	-0.046** [0.018]		-0.052*** [0.019]				
Flexible Hours		0.004 [0.035]	-0.008 [0.035]				
Parental Leave		-0.023 [0.035]	-0.026 [0.035]				
Daycare		-0.02 [0.052]	-0.024 [0.053]				
Observations	887	832	830	1523	900	1523	900
Log likelihood	-501.04	-474.05	-468.75	-579.72	-344.83	-1040.54	-604.71
Pseudo R-squared	0.11	0.10	0.11	0.01	0.01	0.00	0.02

Probit estimations: marginal effects ( $\partial F/\partial x$ ) are shown with robust standard errors in parentheses. \* p<0.10 \*\* p<0.05 \*\*\* p<0.01 Each model also includes dummy variables for question framing (see Appendix); effects not shown here. Models 1-3, 5, and 7 include dummies for Census regions (West, South, and Midwest, with East set as the excluded region) and sectors of employment (Agriculture, Mining, Manufacturing, with Services set as the excluded sector); effects not shown here.

**TABLE 5: Individual Support for International Trade – Gender and Political Values**

Dependent variable =1 if respondent favors increasing trade with other nations (=0 if opposes)

	1	2	3	4	5
Female	-0.081*** [0.026]	-0.083*** [0.026]	-0.078*** [0.025]	-0.084*** [0.026]	-0.080** [0.034]
Age	-0.002*** [0.001]	-0.002*** [0.001]	-0.002*** [0.001]	-0.002*** [0.001]	-0.002 [0.001]
Highly Educated	0.152*** [0.026]	0.144*** [0.026]	0.151*** [0.026]	0.144*** [0.026]	0.161*** [0.035]
Income >\$35,000	0.088*** [0.027]	0.086*** [0.027]	0.087*** [0.027]	0.086*** [0.027]	0.088** [0.036]
Republican	-0.021 [0.028]			-0.008 [0.031]	-0.023 [0.041]
Liberal		0.088*** [0.033]		0.088** [0.034]	0.104** [0.041]
Conservative		0.003 [0.030]		0.005 [0.033]	0.072* [0.040]
Not Religious			0.01 [0.038]	-0.01 [0.040]	-0.028 [0.051]
Trade Improves Own Job Security					0.175*** [0.036]
Observations	1500	1500	1500	1500	890
Log likelihood	-897.42	-894.45	-897.68	-894.38	-501.93
Pseudo R-squared	0.07	0.08	0.07	0.08	0.11

Probit estimations: marginal effects ( $\partial F/\partial x$ ) are shown with robust standard errors in parentheses. \* p<0.10 \*\* p<0.05 \*\*\* p<0.01 Each model also includes dummy variables for question framing (see Appendix); effects not shown here. Model 5 includes dummies for Census regions (West, South, and Midwest, with East set as the excluded region) and sectors of employment (Agriculture, Mining, Manufacturing, with Services set as the excluded sector); effects not shown here.

**TABLE 6: Individual Support for International Trade – Gender and Consumption**

Dependent variable =1 if respondent favors increasing trade with other nations (=0 if opposes)

	Low income (≤\$35,000) <b>1</b>	High income (>\$35,000) <b>2</b>	All respondents: Unmarried    Married <b>3</b> <b>4</b>		Those >48yrs of age: Unmarried    Married <b>5</b> <b>6</b>	
Female	-0.081** [0.037]	-0.071** [0.034]	-0.014 [0.039]	-0.121*** [0.036]	-0.079 [0.066]	-0.151*** [0.054]
Age	-0.004*** [0.001]	0.002 [0.001]	-0.004*** [0.001]	-0.001 [0.001]	-0.005* [0.003]	-0.003 [0.003]
Highly Educated	0.148*** [0.036]	0.145*** [0.039]	0.174*** [0.039]	0.139*** [0.036]	0.172*** [0.065]	0.157*** [0.054]
Income >\$35,000			0.04 [0.041]	0.124*** [0.037]	0.129* [0.067]	0.115** [0.056]
Observations	805	695	704	796	288	351
Log likelihood	-503.79	-383.87	-424.3	-465.3	-170.59	-199.42
Pseudo R- squared	0.08	0.06	0.08	0.09	0.12	0.12

Probit estimations: marginal effects ( $\partial F/\partial x$ ) are shown with robust standard errors in parentheses. \* p<0.10 \*\* p<0.05 \*\*\* p<0.01 Each model also includes dummy variables for question framing (see Appendix); effects not shown here.

**TABLE 7: Gender, Knowledge about NAFTA, and Support for International Trade**

	Dependent variable=1 if could name all 3 NAFTA nations (=0 if not)		Dependent variable=1 if favors increasing trade with other nations (=0 if opposes)					
	1	2	3	4	5	6	7	8
Female	-0.275*** [0.026]	-0.301*** [0.035]	-0.078*** [0.025]	-0.066** [0.026]	-0.044 [0.027]	-0.039 [0.027]	-0.077** [0.033]	-0.04 [0.036]
Age	-0.001 [0.001]	0.004** [0.002]	-0.002*** [0.001]	-0.003 [0.001]	-0.002*** [0.001]	-0.003 [0.001]	-0.002 [0.001]	-0.002* [0.001]
Highly Educated	0.228*** [0.027]	0.216*** [0.036]	0.151*** [0.026]	0.137*** [0.027]	0.123*** [0.027]	0.12*** [0.027]	0.166*** [0.034]	0.141*** [0.035]
Income >\$35,000	0.179*** [0.028]	0.146*** [0.038]	0.086*** [0.027]	0.08*** [0.027]	0.065** [0.027]	0.062** [0.027]	0.091** [0.035]	0.074** [0.036]
Trade Improves Own Job Security		0.088* [0.047]					0.178*** [0.036]	0.17*** [0.037]
Knowledge of Sec.of State				0.076*** [0.026]		0.053* [0.027]		
NAFTA Knowledge					0.048*** [0.011]	0.043*** [0.011]		0.05*** [0.014]
Observations	1532	904	1500	1500	1500	1500	890	890
Log likelihood	-895.34	-533.62	-897.71	-893.66	-887.91	-886.03	-505.97	-499.72
Pseudo R-squared	0.14	0.15	0.07	0.08	0.08	0.09	0.1	0.11

Probit estimations: marginal effects ( $\partial F/\partial x$ ) are shown, except NAFTA parameter, which is categorical and hence with standard probit effects. All coefficients are shown with robust standard errors in parentheses. \*  $p < 0.10$  \*\*  $p < 0.05$  \*\*\*  $p < 0.01$  Each model also includes dummy variables for question framing (see Appendix); effects not shown here. Models 2, 7, and 8 include dummies for Census regions (West, South, and Midwest, with East set as the excluded region) and sectors of employment (Agriculture, Mining, Manufacturing, with Services set as the excluded sector); effects not shown here.

## Appendix

**TABLE A.1: Descriptive Statistics – TESS Survey Data**

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Min</b>	<b>Max</b>
Favor Trade	1578	0.6546261	0.4756408	0	1
Favor Adjustment Assistance	1600	0.864375	0.342497	0	1
Strongly Favor Adjustment Assistance	1600	0.550625	0.497586	0	1
Female	1610	0.5813665	0.4934884	0	1
Age	1598	48.18586	17.11371	18	94
Highly Educated	1610	0.542236	0.4983677	0	1
Employed	1610	0.6043478	0.4891422	0	1
Income >\$35,000	1541	0.4639844	0.4988631	0	1
Trade Improves Own Job Security	946	0.1828753	0.3867687	0	1
Difficulty Finding New Job	945	2.474074	0.9772924	1	4
Flexible Hours	948	0.5981013	0.4905405	0	1
Parental Leave	893	0.549832	0.4977894	0	1
Daycare	935	0.1272727	0.3334566	0	1
Republican	1610	0.3167702	0.4653615	0	1
Liberal	1610	0.1614907	0.3680973	0	1
Conservative	1610	0.2664596	0.4422447	0	1
Not Religious	1610	0.1304348	0.3368858	0	1
West	1610	0.178882	0.3833725	0	1
South	1610	0.3478261	0.4764285	0	1
Midwest	1610	0.2913043	0.4545046	0	1
Agriculture	930	0.0129032	0.1129179	0	1
Mining	930	0.011828	0.1081695	0	1
Manufacturing	930	0.1258065	0.3318095	0	1
Knowledge of Secretary of State	1610	0.4695652	0.4992279	0	1
NAFTA Knowledge binary	1610	0.4204969	0.4937922	0	1
NAFTA Knowledge categorical	1610	1.636646	1.306017	0	3

The data examined here are from a survey designed as an experiment to test for framing effects in attitudes toward trade. Respondents were randomly assigned to 8 groups which received differently-worded introductions to the question about trade: for the full description see <<----->> 2006

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### Notes

<sup>1</sup> For discussions of these competing models, see Rogowski 1989 and Hiscox 2002.

<sup>2</sup> Passing references to the gender divisions have been made by Holsti (1996, 173), O'Rourke and Sinnott (2002, 180 fn. 42, and Mayda and Rodrik, (2004, 11).

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<sup>3</sup> They rely on a 1928 statement by W. Warren Barbour, president of the American Tariff League: “I am convinced that at least two out of every three women have a grudge against the tariff ... It is the women of the household who spend the husband’s earnings – she [sic] has to make them go around, and anything which she is told adds to the prices of the things she buys naturally finds little excuse in her mind.” (Quoted in Hall, Kao, and Nelson 1998, 320).

<sup>4</sup> When voicing opposition to trade agreements before Congress, both the National Organization for Women and Feminist Majority have cited concerns about the environment, working conditions in developing nations, and community attachments in the United States as key issues. See <http://www.now.org/issues/economic/> and <http://www.feminist.org/>. Studies of globalization by feminist scholars have raised similar issues (see Bayes, Hawkesworth, and Kelly 2001).

<sup>5</sup> Variation in tastes cannot affect the sign of the real income effects of trade for owners of factors in the Stolper-Samuelson model. In alternative “specific factors” models, tastes can alter real income effects for owners of any non-specific factor (e.g. unskilled labor) under certain conditions.

<sup>6</sup> Time-Sharing Experiments for the Social Sciences, NSF Grant 0094964, Diana C. Mutz and Arthur Lupia, Principal Investigators. The survey was part of an experiment to examine the effects of question framing. Respondents were allocated to groups that received different introductions to the main question about trade (see appendix). Due to randomization in the allocation of frames, the measured gender gap in attitudes toward trade is virtually identical across experimental groups, and so we do not separate the groups when reporting response frequencies, though we do include dummy variables to control for how frames affect responses in all the estimations.

<sup>7</sup> We also confirm all the core results reported here by analyzing data generated by recent NES and ISSP surveys. These tests are available in a supplement to this paper: <<[http:// -----](http://-----)>>.

<sup>8</sup> The TESS survey asks respondents to report the highest level of education they have attained. For

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the analysis here we have simply grouped those reporting “some college” or a bachelor’s or higher degree as “highly educated,” in contrast to all other respondents. Using an alternative categorical indicator of education in place of the binary variable makes no substantive difference to the analysis.

<sup>9</sup> The question was: “Do you think that increased trade with other nations makes your own job more secure, less secure, or does it have no clear effect?” Some 17% of respondents felt that trade made their job more secure (10% felt that trade made their job less secure). For ease of interpretation we have simply used a dummy variable indicating whether an individual stated that trade made his/her own job more secure (substantive results are identical using an alternative categorical variable).

<sup>10</sup> Region (East, West, South, and Midwest) and sector (Agriculture, Mining, Manufacturing, and Services) categories match Census definitions. We obtained substantively similar results from estimations with dummies for specific industries of employment, defined using 3- and 4-digit standard industry classifications; these results (not shown here) are available from the authors.

<sup>11</sup> Full results from all these additional tests, not shown here, are available from the authors.

<sup>12</sup> The question was: “If you lost your current job, do you think it would be very easy, somewhat easy, somewhat difficult, or very difficult for you to find a new job that you would be happy with?” Answers were coded: 1= very easy; 2=somewhat easy; 3=somewhat difficult; 4=very difficult.

<sup>13</sup> For evidence that women with maternity leave coverage, child care benefits, and flexible hours are substantially more likely to return to work for their prior employer after childbirth: see Waldfogel (1998); Waldfogel, Higuchi, and Abe (1997).

<sup>14</sup> The question was: “The government can provide financial assistance to workers who lose their jobs because of increased trade with other nations so that workers can get new training and find new jobs. Do you favor or oppose this type of assistance?” A follow-up question asked respondents

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whether that was “strongly” or “somewhat” favor/oppose.

<sup>15</sup> Substituting alternative types of measures of respondents’ partisan affiliations (e.g., to the Democrats or Independents) makes no difference here.

<sup>16</sup> As an additional check, we have used the NES, ISSP, and World Values Survey data to account for alternative types of political values, including measures of individuals’ specific concerns about the environment and poverty and inequality at home and abroad, attachments to community and nation, racism, and nationalism; *none* of these additional controls diminishes the gender gap on trade. These results are available in a supplement to this paper: <<[http:// -----](#)>>.

<sup>17</sup> We also examined data on consumption preferences from the *Survey of Consumer Attitudes and Behavior*. That data indicate that women in general are slightly less likely than men to be planning major purchases of traded (rather than non-traded) items, but the difference is not statistically significant, and tends to diminish with age (primarily reflecting the ardent desire for automobiles among young males). The results are available in a supplement to this paper: <<[http:// -----](#)>>.

<sup>18</sup> We have separately examined U.S. Department of Education data on bachelor’s degrees earned by men and women in different fields of study, published in the *Digest of Education Statistics*. The percentage of economics majors that were women rose from 9.6% in 1964-65 to 34.1% by 2000-01; among business majors, the percentage of women rose from 8.4% to 49.6% in the same period. The full analysis of the data is available in a supplement to this paper: <<[http:// -----](#)>>.

<sup>19</sup> In line with this, we do also find that the gender gap over trade is deeper among college-educated respondents than those who did not attend college, and widens among older college-educated respondents. We have also examined the Walstad data, which indicates a gender gap in exposure to economics courses in college, especially among older respondents, corresponding with the gap in economic literacy. This analysis is available in a supplement to this paper: <<[http:// -----](#)>>.