

The Mysterious Case of Female Protectionism: Gender Bias in Attitudes Toward International Trade

Abstract

We examine new survey data on attitudes toward international trade showing that women are significantly less likely than men to support increasing trade with foreign nations. This gender gap remains large even when controlling for a broad range of socio-economic characteristics among survey respondents, including occupational, skill, and industry-of-employment differences that feature in standard political-economy models of individuals' trade policy preferences. Measures of the particular labor-market risks and costs associated with maternity do not appear to be related at all to the gender gap in trade preferences. We also do not find any strong evidence that gender differences in non-material values or along ideological dimensions have any affect on attitudes toward trade. The data do clearly reveal that the gender gap exists only among college-educated respondents and is larger among older cohorts. We argue that differences in educational experience – specifically, exposure to economic ideas at the college level – appear to be most plausible explanation for gender differences in attitudes toward trade. The findings suggest the possibilities of a renewed theoretical and empirical focus on the political roles played by ideas, not just among policymakers but also among the broader electorate. In practical terms, there are also implications for trade policy outcomes in different contexts and for how debates over globalization contribute to broader gender divisions in politics.

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I. Introduction

The dramatic growth in international trade and investment over the past decades has intensified the political debate over the costs and benefits of globalization. The recent controversy about “outsourcing” of jobs to foreign locales, arguments about NAFTA and other trade agreements, and protests and demonstrations that have disrupted meetings of the World Trade Organization, have all revealed substantial political opposition to trade liberalization. Scholarly research examining public opinion on the trade issue 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), and the political scene appears to be set for a major battle over trade policy in the near future. One curious aspect of the nascent backlash against globalization that has so far received almost no scholarly attention is that it appears to have a very strong gender bias. The available survey evidence indicates that women in the United States, and in advanced economies more generally, are significantly more likely than men to support new restrictions on trade. This puzzling finding has often been noted in passing in research in attitudes toward trade and globalization (e.g., Holsti 1996, 173; O’Rourke and Sinnott 2002, 180; Mayda and Rodrik 2004, 11;), but no concerted attempt has been made to investigate and explain this marked gender gap.

In this paper we examine several potential types of explanations for the gender bias in attitudes toward international trade using a new set of survey data from a sample of over 1,600 American adults interviewed in 2003. The data reveal a large and statistically significant gender difference in attitudes toward trade, confirming the basic results reported in other survey research. This gender gap remains large even when controlling for a broad range of socio-economic characteristics among survey respondents, including occupational, skill, and industry-of-employment differences that feature in standard political-economy models of individuals’ trade policy preferences. Measures of the particular labor-market risks and costs associated with maternity do not appear to be related at all to the gender gap in trade preferences. We also do not find any strong evidence that gender differences in non-material values or along ideological dimensions have any affect on attitudes toward trade. The data do clearly reveal that the gender gap exists only among

college-educated respondents and is larger among older cohorts. We argue that differences in educational experience – specifically, exposure to economic ideas at the college level – appear to be most plausible explanation for gender differences in attitudes toward trade. The findings suggest the possibilities of a renewed theoretical and empirical focus on the role played by ideas, not just among policymakers but also among the broader electorate. In practical terms, there are also implications here for trade policy outcomes in different contexts and for how debates over globalization contribute to broader gender divisions in politics.

II. Explaining Individual Attitudes Towards Trade

To date, the analysis of survey data aimed at revealing the determinants of individual attitudes toward trade has focused predominantly on occupational differences among respondents. A principal aim has been to test standard economic models that describe the income effects of trade for different individuals as a function of the types of productive inputs they own and the types of industries in which they are employed. Examining data from recent NES surveys in the United States, Scheve and Slaughter (2001) emphasized the importance of respondents’ “human capital” or skills (measured principally by years of education), finding that individuals with lower skills were more likely to support restrictions on imports than those with higher skills. Mayda and Rodrik (2004) and O’Rourke and Sinnott (2002) came to similar conclusions after examining the 1995 survey data from the United States and 22 other western nations gathered by the ISSP: again skill levels, measured either by year of education (Mayda and Rodrik) or occupational categories (O’Rourke and Sinnott), were found to have large effects on attitudes, with lower skilled individuals most protectionist in outlook. In terms of economic theory, these findings have been interpreted as providing strong support for the Stolper-Samuelson theorem (1941), which predicts that trade raises real incomes for those who own factors with which the economy is relatively well endowed (i.e., skills for the US and other developed economies), while disadvantaging owners of other factors (unskilled or low skilled labor).¹ Mayda and Rodrik also found evidence that people in import-competing industries are significantly more likely than others to favor trade protection (see Jones 1971; Mussa 1974) – a finding that better fits the

¹ This theorem has been used extensively in the analysis of trade politics: see Rogowski 1989; Hiscox 2002.

“specific factors” model of the distributional effects of trade which, unlike the Stolper-Samuelson theorem, allows that factors of production are not perfectly mobile between different sectors in the economy, and so the incomes of individuals are tied more closely to the fortunes of the industries in which they are employed or invested.² Studies using alternative sources of data on trade-related attitudes in Canada and across Europe have matched both types of findings.³

What is especially interesting, we think, is something that goes largely unexamined in the results in almost all these studies: gender shows up as a strong, consistent predictor of trade policy preferences. Women are much more protectionist than men. And this is not simply a function of gender differences in the standard political-economy variables. One might guess, for instance, that on average women tend to have less education than men, and lower levels of skills, or that they tend to be over-represented in terms of their employment in import-competing industries (e.g., the textiles and apparel industries). But even controlling for individual differences in education and other measures of skills, and allowing for the effects of industry-of-employment, the gender gap in attitudes is substantial. By one prominent estimate, for instance, men are on average 7.4 percent more likely than women to support trade openness (Mayda and Rodrik 2004, 11). To date this unexplained gender gap has been largely ignored. The two studies that do comment on it explicitly pause just long enough to note that it not simply a function of differences in labor force participation rates (Mayda and Rodrik, 2004, 11; O’Rourke and Sinnott 2002, 180 fn. 42).⁴ We are thus left with a real mystery. Why are women markedly more protectionist than men?

² The specific factors approach underpins much of the most recent analysis of the political economy of trade in contemporary advanced economies: see Magee 1980; Grossman and Helpman 1994; Hiscox 2002.

³ Balistreri (1997) and Beaulieu (2002) have examined data from a 1988 survey by the Canadian National Election Study, which asked respondents their position on the pending Canadian-US Free Trade Agreement, showing that individuals in more “scarce” local occupations and those with lower skill levels were more likely to oppose the agreement; Beaulieu (2002) also finds that respondents employed in industries that were expected to suffer from the agreement were significantly more protectionist than other individuals. Using *Eurobarometer* data from years between 1975 and 1992, Gabel (1998) has reported significant occupational differences in support for European integration, with greater opposition coming from less-skilled individuals.

⁴ Holsti (1996, 173) has also pointed out that a broad range of surveys of the American public do suggest that women are consistently more suspicious of free trade than men, though he does not speculate about the reasons for this. A recent study of attitudes toward trade in 44 countries by the Pew Global Attitudes Project also reports marked gender difference in support for growing trade ties (see Pew 2003).

The clear female bias towards protectionism actually contradicts the only theoretical analysis of the effects of gender on tariff preferences that we have been able to locate in the scholarly literature. In an article addressing the effects of female enfranchisement in the United States, Hall, Kao, and Nelson (1998) argue that women are actually *more* supportive of free trade than men because their views are more affected than men's by direct observation of the way import barriers raise the prices of consumption goods. In each household, they claim, women are more likely to specialize in consumption activities while their male counterparts specialize in production activities – a pattern that was more pronounced, of course, in earlier historical periods when female participation in formal labor markets was more limited than it is today. Having more direct familiarity with the effects of tariffs on prices, they argue, women are more likely to oppose them.⁵ Unfortunately, Kao, Hall, and Nelson did not consult the survey evidence on individual attitudes towards trade to test this claim;⁶ the evidence suggests the exact opposite of the “gender gap” they posit, back as the 1930s, when polling organizations first began examining public attitudes toward policy issues.⁷

So what might explain female protectionism? One possible clue is that studies of individual preferences over a range of social, welfare, and tax policies have consistently found that women are more supportive than men of various kinds of social welfare assistance, provision of public goods, and other forms of income redistribution, even controlling for differences in income, age, wealth, education, and employment across individuals (Gilligan 1982; Kornhauser 1987; Welch and Hibbing 1992; Alvarez and

⁵ The key assumption here is that there is no exchange of relevant economic information within the household: Hall, Kao, and Nelson (1998, 324 fn 10). Extending their argument, Hall, Kao, and Nelson maintain that female enfranchisement in 1920 thus had the effect of incorporating into the electorate a large group of voters with preferences skewed towards free trade, thereby lowering the preferred tariff of median voter and forcing the two major political parties to radically alter their policy platforms and reduce tariffs in later years.

⁶ They rely principally on a statement by W. Warren Barbour, president of the American Tariff League, printed in an 1928 issue of the League's journal, the *Tariff Review*: “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. Her attitude, regardless of logic, is a natural one. She doesn't stop to consider the part the tariff may have played in making her husband's earnings what they are, or in fact in making them possible at all, nor does she stop to consider the relatively minor part the tariff plays in then retail prices of the things she buys.” (Quoted in Hall, Kao, and Nelson 1998, 320).

McCaffery 2001; Iversen and Soskice 2001). The gender bias in support for social welfare, in particular, has been confirmed for a broad cross-section of OECD countries and across multiple types of welfare provisions – that is, not only those tied to the specific needs of women, such as maternity leave or child-care, but many other forms of social security, health and unemployment insurance, and employment protections (Estevez-Abe, Iversen, and Soskice 2001; Iversen and Soskice 2001). Analysts have interpreted these findings in different ways. Since women tend to sacrifice more in terms of their professional lives to have and raise children, one argument is that this leads women (more than men) to prefer generous welfare measures that can indemnify them against the risks and costs associated with leaving active employment to take on family duties (see Estevez-Abe et.al. 2001; Iversen and Soskice 2001). A 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 and treatment of less fortunate members of society, and are conversely less driven by immediate and personal “pocketbook” calculations about the impact of such policies (see Gilligan 1982; Shapiro and Mahajan 1986; Chaney et al 1998; Welch and Hibbing 1992). A female bias in favor of more generous provisions and protections for those experiencing economic hardship is thus expected.

It seems natural to link the theoretical arguments advanced in the research on gender differences in attitudes toward social and fiscal policies to the gender gap in attitudes towards trade. In particular, one might speculate that the lop-sided income risks associated with maternity may bias women to be more supportive of trade protection in addition to social welfare and employment protections. Trade barriers can mitigate the risk of local economic dislocations due to exposure to world markets, just as employment regulations and unemployment insurance mitigate the risks due to fluctuations in the business cycle. Indeed, Rodrik (1997, 1998) has made the case that greater trade openness drives citizens to demand that governments increase spending in order to offset the added volatility in incomes that would otherwise befall them due to greater exposure to the vicissitudes of world markets. From this perspective, trade protection and government spending (on social welfare programs in particular) are regarded as substitutes. Driven

⁷ The earliest survey we could find that asked a question about trade policy, a 1939 Roper/Fortune survey, shows that women were over 7% more likely to favor a “high tariff” than men. Even women who described their occupation as

either by self-interest or by compassion, women may see trade protection in a more favorable light than men. But whether either or both of these logics are sufficient to account for the observed gender differences in attitudes toward trade is an open question.

Gender differences in other types of political values and ideologies (beyond compassion for the less fortunate) may be playing a role. In their analysis of the ISSP data, both O'Rourke and Sinnott (2002) and Mayda and Rodrik (2004) point out that a range of self-expressed values, identities, and attachments (including feelings of attachment to the local community and to the national) are critical determinants of attitudes towards trade – though the gender gap remains unchanged when controlling for all these types of individual attributes. Perhaps women are more concerned than men about the environmental degradation, or abuses of human rights, dangers frequently linked to trade issues by critics of globalization – including some prominent women's political groups. In recent years both the *National Organization for Women* and *Feminist Majority* have denounced trade legislation before Congress, and trade agreements in general, focusing on the dangers to the environment and to working conditions for women in developing nations, and to community attachments in the United States.⁸ Similar themes are emphasized in the work of feminist scholars that specifically discusses the effects of globalization on women (see Bayes, Hawkesworth, and Kelly 2001).⁹ Whether such gender-related concerns are reflected in the attitudes toward trade among a broader set of female voters is entirely unclear.

In sum, 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 toward globalization. The evidence of a large gender difference in those attitudes represents a significant challenge

"keeping house" were 7.7% more likely to favor a higher tariff than men.

⁸ *NOW* cites concerns that trade disproportionately benefits "powerful corporations searching the globe for cheap labor, lowering standards for workers' rights, public health and education, consumer rights, and environmental laws worldwide." See <http://www.now.org/issues/economic/>. *Feminist Majority* statements also express concerns about the connection between privatization and free trade agreements around the world, and about the commercialization of agriculture and the destabilization of small and family farms. See <http://www.feminist.org/>.

⁹ Much of the discussion has focused on the effects of trade liberalization in developing nations and gender biases in ownership of economic resources, the concentration of female workers in particular sectors of these economies, and fears about reduced in social services due to declining tariff revenues. See Grown, et al. 2000; Palmer 1995; Kapur 1999.

for existing theoretical frameworks used in the study of trade politics specifically, but also for political economy more generally.

III. American Attitudes Toward International Trade: New Survey Results

A. Data

We examine data from a recent survey administered to over 1,600 American adults by telephone in July and August 2003 by the Center for Survey Research at Indiana University. The set of questions asking respondents about their attitudes toward international trade, and about their current employment status and prospects, were included as part of a set of surveys sponsored by the Time-Sharing Experiments for the Social Sciences (TESS) program.¹⁰ 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 job benefits (e.g. parental leave, child care) that are typically regarded as playing an especially important role in labor-market decisions made by women. We do also confirm all the core results derived using the TESS data by analyzing the more familiar survey data generated by recent NES and ISSP surveys and the World Values Survey (WVS).¹¹

All respondents in the TESS 2003 survey were asked the same core question about their attitudes toward international trade:

Do you favor or oppose increasing trade with other nations?

- Favor
- Oppose
- Don't know

¹⁰ *Time-Sharing Experiments for the Social Sciences*, NSF Grant 0094964, Diana C. Mutz and Arthur Lupia, Principal Investigators. The survey questions were part of an experiment to examine the effects of question framing on stated attitudes toward trade (see <<author>> 2004). Respondents were randomly allocated to different groups that received different introductions to the main question about trade, emphasizing either positive or negative effects of trade, both types of effects, or none (see the appendix for full question wordings). Since the gender difference was almost identical regardless of question framing, we do not separate out the experimental groups when presenting response frequencies below, though we do include dummy variables to control for the effects of the “frames” on responses in all the estimations that follow.

¹¹ These results are available in a supplement to this paper that can be downloaded from: <<http:// >>. In a separate paper we also present a more extensive discussion and analysis of the cross-national variations in the data available from the ISSP poll and the World Values Survey; see <<authors>> 2004.

- Refused

Depending on their answer, the interviewer then asked:

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

- Strongly
- Somewhat
- Don't know
- Refused

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. The differences are stark. For a group of randomly selected adults, some 10% more women than men are opposed to increasing international trade. Among those who favor increasing trade (a majority of respondents) men are evenly split between favoring trade strongly and only somewhat, but women are far less likely to be strongly in favor of expanding trade with foreign nations.

[Tables 1 and 2]

B. Benchmark Models

Next 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 a range of variables relevant to standard political-economy accounts of individuals' trade policy preferences (see appendix for descriptive statistics for all the variables used in the analysis).¹² We find strong gender effects on trade preferences that are robust to the inclusion of all these various controls. In the most basic model (1), being female decreases the probability that an individual favors trade by 9% (s.e. 2%).

[Table 3]

¹² All estimations also included dummy variables to account the effects of different framing treatments used in the experiment. These controls make no difference to the estimated effects of gender on trade preferences, indicating that women were no more or less susceptible to framing effects, although the magnitudes of other parameter estimates – including those for age and education – do vary with question framing. See <<author>> 2004 for a full discussion.

Among the other variables, age is associated with protectionism, though the effects not significant in all models. In the most basic model (1), comparing a 30-year old respondent to a 50-year old (with other variables set at mean values), the probability of support for trade drops by around 4% (s.e. 1%). In line with results from previous studies, highly educated respondents (defined here as those with at least some exposure to college-level education), are far more likely to favor increasing 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.¹³ Employment status has no significant effect on trade preferences, as shown in model 2, but personal income (whether an individual reports having an annual income greater than \$35,000) has a robust positive effect on support for trade across all estimations: a higher income individual is approximately 9% (s.e. 4%) more likely to support increasing trade than is someone earning less than \$35,000 annually.¹⁴

As noted in section II above, education is typically treated as a proxy measure for the skill levels of respondents in tests of whether economic models of the distributional effects of trade accurately predict variation in trade preferences among individuals. Other more direct measures of worker skills can be used in the place of (or in addition to) education and may be preferred.¹⁵ Some researchers, for instance, have used occupational classifications rather than education to distinguish between the skill levels of respondents (e.g., O'Rourke and Sinnott 2002). The TESS survey included a specific question asking respondents about the training needed for their current job, and we can use it here to separate high skilled from low skilled

¹³ The TESS survey asks respondents to report the highest level of education they have attained, coding these by type of institution. For 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 alternative measures such as years of education (or a categorical indicator of educational levels) in place of the binary variable makes no difference to the analysis here. Estimations using finer distinctions between types of education (e.g., high school, vocational and technical schools, community college, etc), indicates that exposure to college level education has by far the largest impact on attitudes toward trade: see <<author>> 2004.

¹⁴ The TESS survey also asked respondents to indicate their annual income in more precise terms, but over half the respondents did not provide an answer to this question (nor to the related question that asked about total household income).

¹⁵ The relationship between education and attitudes toward trade (and globalization more generally) might also reflect the fact that more educated respondents tend to be more informed about the overall efficiency gains for the national economy that are associated with expanded trade, are less prone to nationalist and anti-foreigner sentiments that are often linked with protectionism, and have a broader concept of self-interest that allows for a wider range of beneficial

individuals.¹⁶ High skilled individuals do appear more likely to favor trade than less skilled respondents, although the effect is only sizeable (and significant) when the skills measure is used in place of the education measure – as in model 3.

Lastly, we have included in the final two models (5 and 6), additional variables aimed at capturing some more immediate, industry-specific effects of trade on the job security of survey respondents. Previous studies have measured the industry-specific effects of trade in a very indirect way, locating respondents by industry using answers to a standard question about the type of business in which they are employed, then controlling for the aggregate trade positions of those industries (e.g., their degrees of import penetration) when estimating individual trade preferences. There are at least two problems with this approach: first, accurately coding respondents by industry of employment using standard industrial classifications is extremely difficult, as respondents typically give very vague answers to questions about the type of business in which they work;¹⁷ second, aggregate industry measures of import penetration and export dependence may offer more information about policy outcomes than policy preferences and they obscure the obvious variation in positions taken by firms in the sub-categories within each broad industry grouping.¹⁸ The TESS survey asked respondents a very direct question about the likely impact of trade on the security of their particular job, and we have used the responses here to identify those individuals who stated that increasing trade with other nations makes their own job more secure.¹⁹ Not surprisingly, this measure is strongly,

political, cultural, and social effects from trade both at home and abroad (see Schneider 1985, 932). On these points also, see also Bauer, Poole, and Dexter 1972, 103; Holsti 1996, 87-88.

¹⁶ The question asked of all currently employed respondents was: “For your current job, did you have to be trained for specialized skills, either before you were hired or while you were on the job?” Those who answered yes, were then asked: “Do you feel it took a great deal of training, some training, or a little training to learn the specialized skills for your current job?” For the analysis here we have just grouped those reporting at least some training as “high skilled” in contrast with those reporting little training or none at all.

¹⁷ When the staff at the Panel Study of Income Dynamics checked a random sample of surveys, for instance, they found that industry codes differed across coders in 14% of cases (see PSID 1999).

¹⁸ The standard concern about using import penetration as a measure of an industry’s trade policy preference is that low levels of penetration may reflect the effectiveness of a very protectionist lobby (not the absence of concerns about import competition).

¹⁹ The precise question (posed several questions *after* respondents had already stated whether they favored or opposed increasing trade) 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?” Answers to this question were originally coded as: 1=trade makes respondent’s own job less secure, 2=no clear effect, and 3=more secure. Some 17 percent of respondents felt that increased trade made their own job more secure, while only 10 percent felt that trade made their job less secure. For ease of

positively related to support for trade liberalization. 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.²⁰ In the final model here (6), we also included controls to account for regional and sectoral differences in attitudes toward trade.

Despite the broad array of variables employed in these models the gap between male and female preferences remains quite stark. The gender gap over trade is not simply a function of gender differences in the standard political-economy variables such as education and skill levels or employment in import-competing industries. Nor is it true that women are more *sensitive* than men to the distributional concerns captured by these various measures: tests for interaction effects between gender and education, skill levels, personal income, and the effects of trade on respondents' own job security revealed no significant differences between genders at all.²¹

C. Gender and Labor Market Risks

Perhaps it is just that women are more wary, in general, about the added risk of local economic dislocations as a consequence of increased trade. Women may feel especially vulnerable to such dislocations because they, more frequently than men, anticipate leaving their jobs to take on family duties, and searching for new jobs again 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 for them to find a new job that would be acceptable to them if they lost their current job.²² Responses to this question provide an alternative, more general measure of the employment risks faced by individuals than the indicators of respondents' skill levels and the specific effects of trade upon their own job security. Table 4 reports the

interpretation here we have simply used a dummy variable indicating whether an individual stated that trade made his or her own job more secure (all the substantive results are identical using the categorical variable).

²⁰ If the categorical measure is included here rather than the binary variable, the estimated probability of support for increasing trade is some 45% higher among those for whom trade raises job security compared with only those reporting that trade makes their job *less* secure (with all other variables set to mean values).

²¹ Full results from all these additional tests are available from the authors. We also estimated preferences with dichotomous controls for 3- and 4-digit industries of employment (using both the TESS data and the alternative NES, ISSP, and WVS data sets), but these had no effect on the size or significance of the observed gender bias.

results when we include this measure when estimating individual trade preferences using the most extensive set of “benchmark” variables – see model 1. It is clear, that the expected difficulty of finding a new job does incline people to oppose increasing trade: an individual who reported that it would be very difficult to find a new job was 13% (s.e.5 %) less likely to favor increasing trade than someone who said it would be very easy to find a new position (with all other variables set to their means). But controlling for such concerns does not erase the large gender difference in attitudes toward trade.

[Table 4]

The TESS survey asked respondents whether their employers’ offered various family-related job benefits (including flexible working hours, parental leave, and daycare facilities). It is feasible that access to such benefits can lower anxiety about the particular career costs of maternity, thus leveling the playing field between male and female workers in terms of whether they expect to be searching for a new job (in a potentially more uncertain labor market) in the future. We included dummy variables indicating access to such benefits when estimating trade preferences – model 2 in Table 4. None of these variables had a significant effect on attitudes toward trade (including these variables one-at-a-time rather than in unison made no difference).

We tried a different tack. The TESS survey includes two questions about trade adjustment assistance. If concerns about labor market risks are critical to the gender gap, we might expect this to become clear in the way male and female respondents feel about assistance for workers laid off as a result of increased trade. Using respondents’ answers to the question about whether they favored or opposed giving financial assistance to workers who lose their jobs due to increased trade as the dependent variable (1=favor and 0=oppose)²³ and estimated two probit models: model 3 in Table 4, which just applies a limited range of the standard socio-economic controls used in the benchmark models of trade preferences; and model 4, which

²² The exact 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 to this question were simply coded: 1= very easy; 2=somewhat easy; 3=somewhat difficult; 4=very difficult.

²³ 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?”

includes the most extensive set of controls. We found no significance difference here at all in the way men and women view adjustment assistance aimed at minimizing the employment risks associated with increased international trade. This finding is very difficult to square with the idea that women are more protectionist simply because they are more concerned about employment risks (for themselves, or for others).

It actually gets worse. A follow-up question asked respondents if they would be more inclined to support increased trade if the government provided more adjustment assistance to workers who lost their jobs.²⁴ We used responses to this question as the next dependent variable (1=yes and 0=no) and estimated probit models again: models 5 and 6 in Table 4. Again, there appears to be no significant gender division here: women are no more likely than men to make their support for increasing trade conditional upon adjustment assistance for workers laid off as a consequence of import competition.

D. Gender, Values, and Ideology

The evidence reported above, indicating that women do not appear to place any greater importance on assistance for workers who lose their jobs due to increasing trade, does not fit at all with the notion that female protectionism is driven by gender-related fears about the job market. It also seems to throw cold water on the idea that a gender difference in compassion for the less fortunate is generating the division between men and women over trade. Still, other types of values or ideological differences may be playing an important role in shaping trade policy preferences. The TESS survey provides a range of relevant measures. Table 5 reports the results from tests that include these various measures in estimations of support for increasing trade.

[Table 5]

Models 1-3 simply add these new variables in piecemeal fashion to a benchmark model that includes just a limited range of the standard socio-economic controls; model 4 includes them all at once; and model 5 employs the new variables along with the most extensive set of controls. Party affiliation (measured by whether respondents identify themselves as Republicans or not) is not a significant predictor of individual

²⁴ The question was: “Would you be more inclined to support increasing trade with other nations if the government provided more of this type of financial assistance to laid-off workers?”

attitudes toward trade.²⁵ One might have expected that Democrats, typically associated with greater concerns about the effects of globalization on the environment and on labor standards, would actually be less supportive of trade than Republicans; then again, isolationist sentiments in American politics have been more closely associated with the Republicans than with Democrats, at least historically. We also controlled for whether respondents identified themselves as “liberal” or “conservative” (over half of the respondents chose “moderate” or “I haven’t thought about this”). Liberals were much more supportive of trade compared with moderates (and conservatives); conservatives were not strongly biased one way or the other on the trade issue compared with those who did not claim to have a clear ideological position. Most importantly, controlling for ideology does not affect the gender gap. Nor did accounting for whether or not respondents identified themselves as having a particular religious faith.²⁶

Overall, the results provide no indication at all that gender differences in political values or ideologies can help explain the difference between male and female attitudes toward trade. We have used the NES, ISSP, and WVS survey data to account for a range of alternative types of political values and beliefs, including concern for protecting the environment and for alleviating poverty abroad, attachments to community and nation, racism, and nationalism, but none of these additional controls mitigates the gender gap over trade.²⁷

IV. Gender, Age, and Education – The Impact of Economic Ideas?

What might account for the female bias towards protectionism? None of the prime theoretical suspects seem to be responsible. One very interesting pattern in the data did become apparent, however, and led us to think more about the impact of college education. The data do clearly reveal that the gender gap over trade is apparent only among college-educated respondents, and that it widens dramatically among older cohorts of

²⁵ Substituting alternative types of measures of respondents’ partisan affiliations (e.g., to the Democrats) makes no difference here.

²⁶ We also tested for whether there was a significant difference between Christians and non-Christians, and between members of distinct faiths, all to no avail. Interacting these indicators of religious faith with gender and the other explanatory variables, on the presumption that such non-material values may reduce the degree to which individuals’ attitudes respond to material incentives, we still found no significant effects, and no relationships that explained the gender division on trade. Results from all these tests are available from the authors.

college-educated respondents. Table 6 reports results from estimations of individual support for trade among separate groups of respondents. We used a minimal set of socio-economic controls here to preserve the largest possible number of observations in each separate sub-sample of respondents. First we estimated trade preferences for those never exposed to college education (models 1-3), then for those with some college experience or a bachelor's or advanced degree (models 4-6). We divided both of these sub-samples into age groups.²⁸ The differences are quite dramatic. The estimated gender effects are statistically insignificant among the less educated in each age bracket and (in all but the under-35 sub-sample) these effects are far lower than among the corresponding groups of college-educated respondents. The most dramatic differences between men and women in attitudes toward trade emerge among those in the over-34 age brackets: among those 55 and over, with a college education, women more 16% (s.e. 6%) less likely favor increasing trade than men. Alternate tests, using a "moving" age bracket for highly educated respondents reveal that the gender gap grows continuously with the average age of the sub-sample, even past the (average) age of 70 and 80. We have found very similar patterns in the NES opinion data, and in data from the ISSP and WVS surveys that examine individual attitudes toward trade across a broad range of countries (see <<authors>> 2004).

[Table 6]

Why would college education create larger gender differences in attitudes toward trade among older cohorts and not among younger ones? If education is regarded only as a proxy for the skill levels of respondents, the explanation is unclear. One might suggest that, due perhaps to discrimination in the workforce or (associated) generational differences in career choices made by women, a college education was less likely in the past to translate into high job-related skill levels for women than for men. But including a control for skill levels in the estimations shown in Table 6 makes no difference: we get exactly the same pattern across education and age sub-samples. Even more telling, the pattern holds regardless of

²⁷ These results are available in a supplement to this paper that can be downloaded from: <<http:// >>. For the analysis of cross-national differences in the gender gap, see <<authors>> 2004.

²⁸ One can replicate these tests using two- or three-way interaction terms between education, age, and gender, of course, but these split-sample tests are simpler and much easier to interpret.

whether we restrict the analysis to respondents who are employed or whether we perform it for only those not in the workforce.²⁹ It seems more helpful to allow that the relationship between education and views about trade also reflects other ways in which education affects individuals. Education may be important here primarily because it teaches students to think about trade and globalization in different ways and evaluate it by different standards. College-educated individuals may be more informed, in particular, about the aggregate economic welfare gains associated with expanded trade, and they may also be more informed about other nations and cultures and less receptive anti-foreigner and nationalist sentiments that are often linked with protectionism (see Schneider 1985, 932). Among scholars who have examined surveys of public attitudes toward trade, the topic is typically regarded as a complex issue about which survey respondents have very low levels of information in general (see Bauer, Pool, and Dexter 1972, 81-84; Destler 1995, 180; Schneider 1985; Pryor 2002).³⁰ While there is firm consensus among economists on the economic benefits of trade openness, the counterintuitive loveliness of the law of comparative advantage makes it much more difficult, ironically, to convey the case for trade to the general public outside the college classroom (see Krugman 1993).

It should not be too surprising, then, that the likelihood that an individual will understand the economic case for free trade, and take this into account when forming his or her preferences, appears to depend on whether that person has actually taken economics courses (or related courses) in college. Using survey evidence gathered in the 1990s, several studies have found that economic “literacy” among individuals, including their understanding of the logic of comparative advantage, is significantly increased by exposure to at least one college-level economics course – though interestingly, *not* by exposure to high-school economics courses (e.g., Walstad and Remeck 2002; Walstad 1997). These same studies show that higher levels of economic knowledge among surveyed individuals, in turn, have large positive effects on support for free trade. Although we know of no *direct* evidence that college-level education in economics

²⁹ The gender gap continues to widen dramatically among the college-educated, as noted, even in the very oldest age groups. For those over the age of 65, it makes little sense to imagine that job-related skills (and their connection to the distributional effects of trade) are having a critical impact on trade policy preferences.

increases individual support for free trade, the pattern in the relevant evidence suggests as much. And there *is* direct evidence to show that being a professional economist is a major positive predictor of whether an individual favors trade liberalization (Caplan 2002).

We should note here that, while we are emphasizing how exposure to college-level economics should predict free trade attitudes because economics courses provide more knowledge of, or information about, the beneficial economic effects of trade openness, one might tell a slightly different and perhaps more malign story too. 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 economics courses and support for free trade may have less to do with the provision of information than with the inculcation of a certain set of values and norms. There is some evidence, for instance, that exposure to economics courses breeds non-cooperative, egoistic, and even unethical behavior among individuals (see Rubinstein 2004; Frank et.al., 1993). And many critics of mainstream economics education lament that college courses emphasize the benefits of markets without giving due attention to more skeptical perspectives and non-market standards of fairness (e.g., Whaples, 1995; Rubinstein 2004). Many introductory micro- and macro-economics courses do tend to give very little attention to market failures, inequality, and environmental degradation, for instance, topics that if considered might counter-balance the unambiguous pro-trade message that is 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, in the absence of direct evidence on individuals' college experience and their attitudes toward trade, since controlling for various measures of ideology and values does not mitigate the gender gap over trade (as reported above), we think this interpretation is less plausible as an account of female protectionism than the alternative that focuses on economic literacy.

Whether providing new knowledge or information about how trade generates aggregate welfare gains, or inculcating a worldview that is blind to the costs of free markets, college-level economics courses can be

³⁰ Pryor (2002) has noted that some 45 percent of American survey respondents are unable to say what a tariff is, casting grave doubt over any surveys asking people's views on whether tariffs are good or bad.

expected to change causal and perhaps principled beliefs among individuals in such a way that they markedly raise the probability of support for trade liberalization. This suggests a possible explanation for the mysterious pattern of female protectionism. If older women are less likely to have been exposed to the study of economics during their college education, we might reasonably expect that such women (*ceteris paribus*) will evince substantially less support for free trade than college educated men of the same age.

Unfortunately, there are no direct questions in the TESS survey (or in the NES, ISSP, or WVS surveys) that ask about the *content* of a respondent's college education. The best we can do for now is turn to the general evidence available on gender differences in the college experiences of different age cohorts. We examined data on bachelor's degrees earned by men and women in different fields of study, published by the U.S. Department of Education on an annual basis since 1964-65 in the *Digest of Education Statistics*. The data, summarized in Table 7, suggest some dramatic changes over time in gender differences in the relevant undergraduate majors. We have focused on the proportion of females among students majoring in economics, but also include business management and related courses, and political science, on the assumption that some number of economics courses are commonly required or recommended for students in these related fields of study.

[Table 7]

The percentage of economics majors that were women rose from 9.6% in 1964-65 to 34.1% by 2000-01.³¹ Among political science majors, women accounted for 22.2% of students in 1964-65 but almost half, 48.4% percent, by 2000-01. The largest change appears to have been felt in the gender composition of business majors, where the percentage of women rose abruptly from 8.4% to 49.6% in this period. Looking at these changes from another perspective, the total percentage of female undergraduates majoring in the economics, business, or political science disciplines, rose from 4.3% to 21.3% during these years (the corresponding percentages for male students were 27.0% and 30.3%).

³¹ Kahn (1995, 199) noted that this trend in the female proportion of economics majors stalled, and even appears to have reversed direction for some period of time, in the late 1980s.

These figures tell a compelling story. They suggest something of a sea change in the gender distribution of economic literacy among college students in the United States. As an explanation for the observed gender gap in attitudes toward international trade, the fit seems very good. The gender gap over trade only appears among college-educated survey respondents, the only sub-sample, obviously, for whom distinctions in college majors matter; and among this group the gender gap is increasing in age, which fits with the evidence that successive cohorts of college students have grown more similar over time in terms of their exposure to economics and related disciplines.

Economists are fond of quoting the famous contention, made by John Maynard Keynes, that “the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood” (1936, 383). Several prominent scholars have argued that trade policies have been powerfully shaped by the development of new economic ideas, and the prevalence of these ideas among policymakers, at different moments in the past. The abandonment of mercantilist restrictions on trade by European governments beginning in the mid nineteenth century has been attributed, in some large measure, to the ideas of Adam Smith and David Ricardo and the development of classical trade theory (see Kindleberger 1975; Bhagwati 1988). The multilateral liberalization of trade and investment among western economies in the post-World War II era, while still allowing governments considerable scope for managing their domestic economies to avoid severe recessions, has similarly been traced to the refinement of classical and neoclassical economic theories and to Keynes himself (e.g., Ruggie 1983; Goldstein 1993).³² In 1993, Judith Goldstein and Robert Keohane made a persuasive case for examining the roles played by new ideas, seen principally in the form of new beliefs about cause-and-effect relationships between policies and outcomes, in the formulation and evolution of foreign policies more generally.

While the research on the political impact of economic ideas has focused, to date, on the exposure of key policymakers to new ideas or the growing popularity of particular ideas among government officials in general, the evidence presented above strongly suggests that we should extend the scope of this type of

³² See also Hall 1989, for essays on the particular impact of Keynesian macroeconomic theory among policymakers in Western nations in the 1930s and 1940s.

analysis. The findings here indicate that examining exposure to different types of ideas and information among the broader electorate can help explain substantial differences in policy preferences between large groups of voters – in this case, to help explain the substantial gap in support for trade openness between men and women. Tracing the effects of differences in college experience among individuals, examining other politically relevant differences in types of degree or in types of educational institution, may provide important insights into the formation of voters’ policy preferences on key economic and foreign policy issues.

VI. Conclusions

Sherlock Holmes once advised that if one can eliminate the impossible, all that is left is the truth. He made this seem very straightforward when solving fictional crimes. 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 easily 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 labor market volatility (linked, perhaps, to maternity). And gender differences in values or ideologies do not solve the puzzle. Women appear to be much less favorably inclined towards the international economy than men, but the reasons why are a mystery.

This poses a significant theoretical challenge for political-economy approaches to trade, and other dimensions of economic policy, that cannot account for such substantial gender differences in the policy preferences of individual voters. Female protectionism is an intriguing focal point for future theoretical work on the role of gender in political economy. In practical terms, there are also implications for expected 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 included in the ISSP survey in 1995, for instance, is correlated negatively with average tariff levels across these countries. 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.³³ 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; Skocpol 1995), and the impact it has had on partisan and electoral competition (e.g., Fox 1997; Cook and Wilcox 1995; Chaney et al. 1998; Mattei and Mattei 1998). Indeed, Box-Steffensmeier, De Boef, and Lin (2004) have recently argued that gender differences in voting, party identification, and opinions about critical policy issues are a continual and crucial feature 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 to date overlooked, aspect of this more general political divide between men and women.

Although the evidence remains circumstantial, we suggest that a large part of the gender division over international trade may be explained by differences among college-educated men and women in exposure to economic ideas and information that would lead them to think about and evaluate trade in different ways. In particular, individuals exposed to economics and related fields in college should be more informed about the overall efficiency gains from trade. Evidence on the college experiences of different age cohorts does suggest that gender differences in participation in economics and related fields have narrowed markedly over time (that is, among younger cohorts). And all the available survey data does indicate that the gender gap over trade exists only among college-educated respondents and is larger among older cohorts. We think all this leads to a strong case in favor of an ideational or informational solution to the gender mystery. And it supports calls for a renewed theoretical and empirical focus in political-economy research on the roles played by ideas, not just in terms of how they gain popularity among policymakers, but also in terms of their currency among the broader electorate.

³³ Again, we should point out that this prediction is the exact reverse of the claim made by Hall, Kao, and Nelson (1998) that female enfranchisement actually played a key role historically in shifting American policy towards trade liberalization in the interwar period.

References

- Alvarez, R. Michael, and Edward J. McCaffery. 2001. Is There a gender Gap in Fiscal Political Preferences? Social Science Working Paper. California Institute of Technology. Pasadena CA.
- Balistreri, Edward J. 1997. The Performance of the Heckscher-Ohlin-Vanek Model in Predicting Endogenous Policy Forces at the Individual Level. *Canadian Journal of Economics* 30 (1): 1-17.
- Bayes, Jane H., Mary Hawkesworth, and Rita Mae Kelly. 2001. Globalization, Democratization, and Gender Regimes. In *Gender, Globalization, and Democratization*, edited by R. Kelly, J. Bayes, M. Hawkesworth, and B. Young. Oxford: Rowman and Littlefield.
- Bauer, Raymond A., Ithiel de Sola Pool, and Lewis Anthony Dexter. 1972. *American Business and Public Policy: The Politics of Foreign Trade*. 2nd ed. Chicago: Aldine-Atherton.
- Beaulieu, Eugene. 2002. Factor or Industry Cleavages in Trade Policy? An Empirical Analysis of the Stolper-Samuelson Theorem. *Economics and Politics* 14 (2): 99-131.
- Bhagwati, Jagdish. 1988. *Protectionism*. Cambridge, MA: MIT Press.
- Box-Steffensmeier, Suzanna De Boef, and Tse-min Lin. 2004. The Dynamics of the Partisan Gender Gap. *American Political Science Review* 98 3:515-528.
- Caplan, Bryan. 2002. Systematically Biased Beliefs About Economics: Robust Evidence of Judgmental Anomalies from the Survey of Americans and Economists on the Economy. *The Economic Journal* 112: 433-458.
- Chaney, Carol Kennedy, R. Michael Alvarez, and Jonathan Nagler. 1998. Explaining the Gender Gap in U.S. Presidential Elections, 1980-1992. *Political Research Quarterly* 51 (2): 311-340.
- Cohn, Steven. 2000. Telling Other Stories: Heterodox Critiques of Neoclassical Micro Principles Texts. Global Development and Environment Institute Working Paper No.00-06.
- Cook, Elizabeth Adell, and Clyde Wilcox. 1995. Women Voters in the 'Year of the Woman'." In *Democracy's Feast: Elections in America*, ed. Herbert E. Weisberg. Chatham: Chatham House.
- Destler, I.M. 1995. *American Trade Politics* 3rd ed. Washington DC: Institute for International Economics.
- Estevez-Abe, Margarita, Torben Iversen, and David Soskice. 2001. Social Protection and the Formation of Skills. In *Varieties of Capitalism: The Challenges Facing Contemporary Political Economies*, ed. Peter Hall and David Soskice. Oxford: Oxford University Press.
- Fox, Richard Logan. 1997. *Gender Dynamics in Congressional Elections*. Thousand Oaks: Sage Publications.
- Frank, Robert H., Thomas Gilovich and Dennis T. Regan. 1993. Does Studying Economics Inhibit Cooperation? *The Journal of Economic Perspectives* 7 (2): 159-171.

- Gabel, Matthew J. 1998. *Interests and Integration: Market Liberalization, Public Opinion, and European Union*. Ann Arbor: university of Michigan Press.
- Gilligan, Carol. 1982. *Understanding the Gender Gap: An Economic History of American Women*. Cambridge: Harvard University Press.
- Goldstein, Judith. 1993. *Ideas, Interests, and American Trade Policy*. Ithaca, NY: Cornell University Press.
- Goldstein, Judith, and Robert O. Keohane, eds. 1993. *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change*. Ithaca, NY: Cornell University Press.
- Goodwin, Neva R. and Jonathan M. Harris. 2001. Better Principles: New Approaches to Teaching Introductory Economics. Global Development and Environment Institute Working Paper No. 01-05.
- Grossman, Gene, and Elhanan Helpman. 1994. Protection for Sale. *American Economic Review* 84: 833-850.
- Grown, Caren, Diane Elson, and Nilufer Catagay. 2000. Introduction. *World Development*, 28 (7), July.
- Hall, H. Keith, Chihwa Kao, and Douglas Nelson. 1998. Women and Tariff: Testing the Gender Gap Hypothesis in a Downs-Mayer Political-Economy Model. *Economic Inquiry*, 36 (2): 320-332.
- Hall, Peter A., ed. 1989. *The Political Power of Economic Ideas*. Princeton: Princeton University Press.
- Hiscox, Michael J. 2002. *International Trade and Political Conflict*. Princeton: Princeton University Press.
- Holsti, Ole. R. 1996. *Public Opinion and American Foreign Policy*. Ann Arbor: University of Michigan Press.
- Iversen, Torben, and David Soskice. 2001. An Asset Theory of Social Policy Preferences. *American Political Science Review* 95 (4): 875-893.
- Jones, Ronald. 1971. A Three-Factor Model in Theory, Trade, and History. In *Trade, Balance of Payments, and Growth*, ed. Jagdish Bhagwati, Ronald Jones, Robert A. Mundell, and Jaroslav Vanek. Amsterdam: North-Holland, 3-21.
- Kapur, Akash. 1999. Humane Development. *The Atlantic Monthly*, 15 December.
- Kahn, Shulamit. 1995. Women in the Economics Profession. *Journal of Economic Perspectives* 9 4: 193-205.
- Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan.
- Kindleberger, Charles. 1975. The Rise of Free Trade in Western Europe. *Journal of Economic History* 35 (1): 20-55.
- Kornhauser, Marjorie E. 1987. The Rhetoric of the Anti-Progressive Income Tax Movement: A Typical Male Reaction. *Michigan Law Review* 86: 465-523.

- Krugman, Paul A. 1993. What Do Undergrads Need to Know About Trade? *American Economic Review* May: 23-26.
- Magee, Stephen. 1980. Three Simple Tests of the Stolper-Samuelson Theorem. In *Issues in International Economics*. ed. P. Oppenheimer. London: Oriel.
- Mattei, Laura Winsky and Franco Mattei. 1998. If Men Stayed Home ... The Gender Gap in Recent Congressional Elections. *Political Research Quarterly* 51: 411-436.
- Mayda, Anna Maria, and Dani Rodrik. 2004. Why are Some People (and Countries) more Protectionist than Others? *European Economic Review*. Forthcoming.
- Mink, Gwendolyn. 1995. *The Wages of Motherhood: Inequality in the Welfare State, 1917-1942*. Ithaca: Cornell University Press.
- Mussa, Michael. 1974. Tariffs and the Distribution of Income. *Journal of Political Economy*. 82:1191-1203.
- Orloff, Anne Shola. 1991. Gender in Early U.S. Social Policy. *Journal of Policy History* 3: 249-281.
- O'Rourke, Kevin, and Richard Sinnott. 2002. The Determinants of Individual Trade Policy Preferences. In *Brookings Trade Forum*, ed. Susan M. Collins and Dani Rodrik. Washington DC: Brookings Institution.
- Palmer, Ingrid. 1995. Public Finance from a Gender Perspective. *World Development*, 23 (11), December.
- Panel Study of Income Dynamics. 1999. 1968-1980 Retrospective Occupation-Industry Files Documentation. Survey Research Center. University of Michigan. Ann Arbor.
- Pew 2003. The Pew Global Attitudes Project: Support for Free Trade. Released November 20. <http://people-press.org/pgap/>
- Pryor, Frederic. 2002. General Discussion. In *Brookings Trade Forum*, edited by Susan M Collins and Dani Rodrik. Washington DC: Brookings Institution.
- Rodrik, Dani. 1997. *Has Globalization Gone Too Far?* Washington DC: Institute for International Economics.
- Rodrik, Dani. 1998. Why Do More Open Economies Have Bigger Governments? *Journal of Political Economy* 106 5.
- Rogowski, Ronald. 1989. *Commerce and Coalitions*. Princeton: Princeton University Press.
- Rubinstein, Ariel. 2000. A Skeptic's Comment on the Studies of Economics. Unpublished paper. Princeton University. <http://arielrubinstein.tau.ac.il>
- Ruggie, John G. 1983. International Regimes, Transactions, and Change. Embedded Liberalism in the Postwar Economic Order. In S. Krasner (ed.), *International Regimes*. Ithaca, NY: Cornell University Press.
- Scheve, Kenneth F., and Matthew J. Slaughter. 2001. *Globalization and the Perceptions of American Workers*. Washington, DC: Institute for International Economics.

- Schneider, William. 1985. Protectionist Push is Coming from the Top. *National Journal* 27 April.
- Shapiro, Robert Y., and Harpreet Mahajan. 1986. Gender Differences in Policy Preferences. *Public Opinion Quarterly* 50: 42-61
- Skocpol, Theda. 1995. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States*. Cambridge: Harvard University Press.
- Skocpol, Theda, Marjorie Abend-Wein, Christopher Howard, and Susan Goodrich Lehmann. 1993. Women's Associations and the Enactment of Mothers' Pensions in the United States. *American Political Science Review* 87: 686-701.
- Stolper, Wolfgang, and Paul Samuelson. 1941. Protection and Real Wages. *Review of Economic Studies* 9: 58-73.
- U.S. Department of Education. Selected years. *Digest of Education Statistics*. Washington DC: U.S. Government Printing Office.
- Walstad, William B. and Ken Rebeck. 2002. Assessing the Economic Knowledge and Economic Opinions of Adults. *The Quarterly Review of Economics and Finance* 42: 921-935.
- Walstad, William B. 1997. The Effect of Economic Knowledge on Public Opinion of Economic Issues. *Journal of Economic Education* 28 3: 195-205.
- Welch, Susan, and John Hibbing. 1992. Financial Conditions, Gender and Voting in American National Elections. *Journal of Politics* 54 (1): 197-213.
- Whaples, Robert. 1995. Changes in Attitudes among College Economics Students about the Fairness of the Market. *Journal of Economic Education* 26 4: 322-338.

Appendix I: The 2003 TESS Survey

The data examined here are from a survey designed explicitly as an experiment to test for framing effects in attitudes towards international trade (see <<author>> 2004). Though we do not analyze framing effects in this paper (we found no gender bias in the degree to which respondents reacted to issue framing), the effects themselves are significant and we include controls for frames in all the estimations we performed for the paper. For the survey experiment, respondents were randomly assigned to 8 groups. The interviewer read each of these groups a particular introduction before asking questions about their attitudes towards international trade. Percentages indicate the size of the group in relation to the entire sample.

Group 1 (15%): Pro-trade introduction.

“Many people believe that increasing trade with other nations creates jobs and allows Americans to buy more types of goods at lower prices.”

Group 2 (15%): Anti-trade introduction.

“Many people believe that increasing trade with other nations leads to job losses and exposes American producers to unfair competition.”

Group 3 (15%): Both introductions.

“Many people believe that increasing trade with other nations creates jobs and allows Americans to buy more types of goods at lower prices. Others believe that increasing trade with other nations leads to job losses and exposes American producers to unfair competition.”

Group 4 (15%): No introduction.

Groups 5-8 (each 10%): Expert endorsement plus introductions.

These groups received identical frames (in corresponding order) to the groups above, but were first read the following statement, containing information about the endorsement for trade openness from economists:

“According to the New York Times, almost 100 percent of American economists support increasing trade with other nations. In 1993 over a thousand economists, including all living winners of the Nobel Prize in economics, signed an

open letter to the New York Times urging people to support efforts to increase trade between the United States and neighboring countries.”

<<Author>> (2004) provides a full description of the survey and its results. Further details, along with the entire dataset, are available from the TESS website: <http://www.experimentcentral.org>

Table A.1 presents descriptive statistics for all variables used in the analysis reported in the text.

[Table A.1]

TABLE 1: Gender Bias in Basic Attitudes Towards Trade

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

	All Respondents	Men	Women
Favor	65% N=1033	71% N=475	61% N=558
Oppose	35% N=545	29% N=190	39% N=355

TABLE 2: Gender Bias 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
Strongly Favor	29% N=464	38% N=255	23% N=209
Somewhat Favor	36% N=569	33% N=220	38% N=349
Somewhat Oppose	20% N=312	15% N=99	23% N=213
Strongly Oppose	15% N=233	14% N=91	16% N=142

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

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

	1	2	3	4	5	6
Female	-0.092*** [0.024]	-0.081*** [0.025]	-0.063* [0.032]	-0.064** [0.032]	-0.055* [0.033]	-0.075** [0.034]
Age	-0.002*** [0.001]	-0.003*** [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]		0.161*** [0.034]	0.163*** [0.034]	0.160*** [0.034]
Employed		-0.036 [0.029]				
Income >\$35,000		0.096*** [0.028]	0.136*** [0.034]	0.096*** [0.036]	0.089** [0.036]	0.087** [0.036]
Highly Trained			0.060* [0.035]	0.040 [0.035]	0.038 [0.035]	0.035 [0.036]
Trade Improves Own Job Security					0.165*** [0.036]	0.177*** [0.036]
Observations	1566	1500	905	905	904	888
Log likelihood	-940.72	-896.95	-538.84	-527.46	-518.37	-504.05
Pseudo R-squared	0.07	0.08	0.06	0.08	0.09	0.10

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 I); 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 Increasing International Trade – Gender and Labor Market Risks

	DV =1 if favors increasing trade (=0 if opposes)		DV=1 if favors adjustment assistance (=0 if opposes)		DV=1 if more likely to favor increasing trade if more adjustment assistance (=0 if not)	
	1	2	3	4	5	6
Female	-0.074** [0.034]	-0.075** [0.035]	-0.001 [0.017]	-0.003 [0.023]	0.025 [0.026]	0.022 [0.034]
Age	-0.001 [0.001]	-0.001 [0.001]	0.000 [0.001]	0.000 [0.001]	-0.001 [0.001]	0.000 [0.001]
Employed			-0.015 [0.019]		0.027 [0.030]	
Income >\$35,000	0.070* [0.037]	0.100*** [0.038]	0.006 [0.019]	-0.022 [0.024]	-0.046 [0.028]	-0.085** [0.035]
Highly Educated	0.158*** [0.034]	0.171*** [0.036]	0.047** [0.018]	0.046* [0.024]	0.004 [0.026]	-0.003 [0.035]
Highly Trained	0.031 [0.036]	0.032 [0.037]		0.024 [0.025]		0.063* [0.037]
Trade Improves Own Job Security	0.181*** [0.036]	0.173*** [0.038]		-0.012 [0.030]		0.125*** [0.036]
Difficulty Finding New Job	-0.044*** [0.018]					
Flexible Hours		0.004 [0.035]				
Parental Leave		-0.024 [0.035]				
Daycare		-0.020 [0.052]				
Observations	886	830	1523	898	1305	772
Log likelihood	-500.46	-472.24	-579.42	-342.25	-756.19	-431.7
Pseudo R-squared	0.11	0.10	0.02	0.02	0.02	0.05

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 1); effects not shown here. Models 2, 4, and 6 include 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 5: Individual Support for Increasing International Trade – Gender, Values, and Ideology

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

	1	2	3	4	5
Female	-0.083*** [0.026]	-0.085*** [0.026]	-0.081*** [0.025]	-0.086*** [0.026]	-0.078** [0.034]
Age	-0.003*** [0.001]	-0.003*** [0.001]	-0.003*** [0.001]	-0.003*** [0.001]	-0.002 [0.001]
Employed	-0.036 [0.029]	-0.039 [0.029]	-0.036 [0.029]	-0.039 [0.029]	
Income >\$35,000	0.097*** [0.028]	0.097*** [0.028]	0.096*** [0.028]	0.097*** [0.028]	0.086** [0.037]
Highly Educated	0.152*** [0.026]	0.143*** [0.026]	0.151*** [0.026]	0.144*** [0.026]	0.154*** [0.035]
Republican	-0.021 [0.028]			-0.007 [0.030]	-0.019 [0.041]
Liberal		0.089*** [0.033]		0.090*** [0.034]	0.110*** [0.041]
Conservative		0.003 [0.030]		0.005 [0.033]	0.070* [0.040]
Not Religious			0.008 [0.038]	-0.013 [0.040]	-0.028 [0.051]
Highly Trained					0.028 [0.036]
Trade Improves Own Job Security					0.174*** [0.036]
Observations	1500	1500	1500	1500	888
Log likelihood	-896.65	-893.55	-896.92	-893.47	-499.85
Pseudo R-squared	0.08	0.08	0.08	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 I); effects not shown here. Model 5 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 6: Individual Support for Increasing International Trade – Gender, Age, and Education

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

	<u>Less Educated (No College):</u>			<u>Highly Educated (≥Some College):</u>		
	Age<35 1	35≤Age<55 2	Age≥55 3	Age<35 4	35≤Age<55 5	Age≥55 6
Female	-0.037 [0.077]	-0.059 [0.064]	-0.071 [0.072]	0.034 [0.060]	-0.096** [0.048]	-0.162*** [0.059]
Age	-0.004 [0.007]	0.001 [0.006]	-0.003 [0.004]	-0.011 [0.008]	0.004 [0.004]	-0.004 [0.004]
Employed	-0.140* [0.077]	-0.047 [0.076]	-0.03 [0.085]	0.095 [0.075]	0.018 [0.066]	-0.041 [0.075]
Income >\$35,000	-0.067 [0.100]	0.154** [0.066]	0.174** [0.080]	-0.122* [0.073]	0.203*** [0.061]	0.108 [0.064]
Observations	171	266	255	212	359	237
Log likelihood	-91.7	-176.19	-161.54	-112.16	-187.8	-127.84
Pseudo R-squared	0.16	0.04	0.09	0.06	0.10	0.10

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 I); effects not shown here.

TABLE 7: Gender Differences in Undergraduate Majors**A. Bachelor's Degrees 1964-65 by Gender and Field of Study**

	Economics	Business	Political Science	Total (3 groups)	Total (All majors)
Women	9.6 1,039	8.4 5,067	22.2 3,035	10.8 9,141	43.2 213,207
Men	90.4 9,836	91.6 54,925	77.8 10,654	89.2 75,415	56.8 279,777
Total	100 10,875	100 59,992	100 13,689	100 84,556	100 492,984
Percentage of all Female Students	0.5	2.4	1.4	4.3	
Percentage of all Male Students	3.5	19.6	3.8	27.0	

B. Bachelor's Degrees 2000-01 by Gender and Field of Study

	Economics	Business	Political Science	Total (3 groups)	Total (All majors)
Women	34.1 6,633	49.6 131,890	48.4 13,439	48.6 151,962	57.3 712,331
Men	65.9 12,804	50.4 133,856	51.6 14,353	51.4 161,013	42.7 531,840
Total	100 19,437	100 265,746	100 27,792	100 312,975	100 1,244,171
Percentage of all Female Students	0.9	18.5	1.9	21.3	
Percentage of all Male Students	2.4	25.2	2.7	30.3	

Source: *Digest of Education Statistics*, 1964-65 and 2000-01.

Table A.1: Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
Favor Trade	1578	0.6546261	0.4756408	0	1
Favor Adjustment Assistance	1600	0.864375	0.342497	0	1
More Likely to Favor Trade with AA	1361	0.7229978	0.4476821	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
Highly Trained	945	0.6761905	0.4681761	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
