International Studies Quarterly

International Studies Quarterly (2014) 1–13

Men, Women, Trade, and Free Markets*

Edward D. Mansfield, Diana C. Mutz, and Laura R. Silver
University of Pennsylvania

In this paper, we provide one of the first systematic analyses of gender's effect on trade attitudes. We draw on a unique representative national survey of American workers that allows us to evaluate a variety of potential explanations for gender differences in attitudes toward free trade and open markets more generally. We find that existing explanations for the gender gap, most notably differences between men and women in economic knowledge and differing material self-interests, do not explain the gap. Rather, the gender difference in trade preferences and attitudes about open markets is due to less favorable attitudes toward competition among women, less willingness to relocate for jobs among women, and more isolationist non-economic foreign policy attitudes among women.

Over the past decade, scholars and policymakers have become increasingly interested in mass attitudes about international trade and economic globalization. Whereas economists agree that free trade generates widespread economic benefits—helping to efficiently allocate resources and promote growth—the mass public expresses greater skepticism. Most Americans resist the reduction of trade barriers (Scheve and Slaughter 2001a), but much of the US population supports trade, and only a small portion of the population steadfastly opposes it (Bouton 2002). Little consensus exists concerning the factors that shape trade attitudes (Rodrik 1995; Scheve and Slaughter 2001b). However, in the United States and elsewhere, women consistently tend to oppose trade more than men (O'Rourke and Sinnott 2001; Beaulieu, Benarroch, and Gaisford 2004; Burgoon and Hiscox 2004; Baker 2005; Hays, Ehrlich, and Peinhardt 2005; Mayda and Rodrik 2005; Mansfield and Mutz 2009; Blonigen 2011).

Despite the recent proliferation of studies on mass trade attitudes, these widely observed gender differences remain largely unexplained. We aim to fill this gap in the literature. Drawing on a unique representative national survey of American workers, we evaluate a variety of potential explanations for gender differences in attitudes toward foreign commerce. We begin by summarizing evidence of a robust gender divide in trade preferences. Next, we describe and evaluate the leading arguments that account for this difference. Finally, we present and test a set of additional theories.

We find that previous explanations for the gender gap in trade attitudes—most notably a difference between men and women in economic knowledge and differing material self-interests—fail to account for this gap. Instead, the gap stems from a tendency for women to be less competitive than men, less willing to relocate for jobs, and less interested in having the United States actively involved in world affairs—even if that involvement is not economic in nature. Importantly, two of these three explanations constitute basic assumptions underlying support for free markets: the assumption that labor is mobile and the assumption that people are willing to compete. To the extent that women are less likely than men to behave in a manner consistent with these assumptions, there may be more general gender differences toward economic systems, and not just toward foreign trade.

To examine this additional possibility, we analyze attitudes toward free markets. Free-market principles underlie arguments for free trade. Consequently, some of the opposition to trade that women express may stem from their skepticism about the value of free markets. In fact, we find that women are less supportive of open markets than men. As with trade, moreover, women's dislike of competition and aversion to relocation explain much of the gender gap in opinions about competitive markets. In contrast to trade, however, attitudes toward active involvement in foreign affairs have no general bearing on opinions about free markets. Whereas some opposition to international trade stems from an aversion to *international* engagement, free markets guide domestic economic activity as well. Therefore, two of the same bases for opposition occur in our analyses of support for free markets (relocation and competition), but opposition to international engagement is not relevant to belief in free markets more generally.

The Gender Divide in Studies of Trade Preferences

Recent scholarship finds a link between gender and trade preferences in the United States and elsewhere. One

Edward D. Mansfield is Hum Rosen Professor of Political Science, chair of the Political Science Department, and director of the Christopher H. Browne Center for International Politics at the University of Pennsylvania. He is the author of *Power, Trade, and War* (1994), and the coauthor of *Electing to Fight: Why Emerging Democracies Go to War* (with Jack Snyder, 2005) and of *Votes, Vetoes, and the Political Economy of International Trade Agreements* (with Helen V. Milner, 2012). He can be reached at emansfie@sas.upenn.edu.

Diana C. Mutz holds the Samuel A. Stouffer Chair in Political Science and Communication and serves as director of the Institute for the Study of Citizens and Politics at the University of Pennsylvania. She is the author of *Impersonal Influence: How Perceptions of Mass Collectives Affect Political Attitudes* (1998), *Hearing the Other Side: Deliberative versus Participatory Democracy* (2006), and *Population-Based Survey Experiments* (2011). She can be reached at mutz@sas.upenn.edu.

Laura R. Silver is a PhD candidate in the Annenberg School for Communication and in the Department of Political Science at the University of Pennsylvania. She can be reached at lsilver@asc.upenn.edu.

**Authors' notes*: An earlier version of this article was presented at the 2010 annual meeting of the International Studies Association in San Diego. We are grateful to the anonymous reviewers for helpful comments, to Rumi Morishima for research assistance, and to the Christopher H. Browne Center for International Politics and the Institute for the Study of Citizens and Politics for financial assistance.

Mansfield Edward D., Diana C. Mutz, and Laura R. Silver. (2014) Men, women, trade, and free markets. *International Studies Quarterly*, doi: 10.1111/isqu.12170

study covering 24 countries reported that men are about 8% more likely to support trade than women (Mayda and Rodrik 2005). Two other cross-national studies—covering 24 (Beaulieu et al. 2004) and 40 countries (Baker 2005), respectively—found a gender gap of similar magnitude. To be sure, there is some cross-national variation in the size of this effect; most notably, it tends to be larger in richer than poorer countries (Beaulieu et al. 2004). Nonetheless, in virtually every country that has been analyzed, women are significantly more hostile to trade than men (O'Rourke and Sinnott 2001; Mayda and Rodrik 2005).

Scholars also observe a gender divide in American attitudes toward trade. Based on a representative survey of Americans, Burgoon and Hiscox (2008) found that women were more than 8% more likely to oppose open trade than men, after accounting for age, education, income, political party, and religion. Because theirs was an experimental study including eight different frames designed to influence trade attitudes in both positive and negative directions, it is difficult to know whether these findings accurately describe the gender difference in purely descriptive terms.[1] Nonetheless, separate studies of Americans find a similarly sized gender divide (Mansfield and Mutz 2009; Blonigen 2011).

Our study focuses on explaining this difference in the United States. However, because many of the theories we examine are not country specific, we expect that these same factors may well account for this difference in other countries as well. We begin by evaluating two explanations that previous work has offered for the gender gap in trade attitudes and then advance three additional explanations that have not been addressed to date. Then, we analyze a representative national sample including numerous questions about support for trade, as well as indicators allowing us to test each of these explanations.

Economic Self-interest

The most common explanation for gender differences in trade preferences involves economic self-interest. One possibility is that American women exhibit less support for trade than men because they tend to be less skilled. Drawing on the Stolper-Samuelson theorem, one would expect that in countries such as the United States—with an abundance of highly skilled workers relative to the rest of the world—trade would disproportionately benefit high-skill labor and harm low-skill labor (Stolper and Samuelson 1941; Leamer 1984). Various studies conclude that these distributional consequences of trade shape Americans' attitudes about overseas commerce, with lower skilled individuals holding less favorable opinions than higher skilled people (O'Rourke and Sinnott 2001; Scheve and Slaughter 2001a; Mayda and Rodrik 2005). Thus, females should be more opposed to trade than men because women tend to be less skilled.

Evidence supporting this potential explanation is confounded by the fact that one widely used measure of skill is the average wage paid to someone working in a given occupation, where higher (lower) wages correspond to greater (less) skill. As we will see, the men in our sample do tend to work in higher paying occupations than women. This is hardly surprising. Existing research indicates that women are less likely to have managerial positions or subordinate jobs with desirable benefits than men. Instead, women tend to hold jobs with fewer opportunities for advancement and have substantially less workplace authority over organizational resources and colleagues (Waddoups and Assane 1993; Huffman and Cohen 2004).

Economic Knowledge

A second explanation for the gender gap in trade preferences centers on economic knowledge. Hainmueller and Hiscox (2006) argue that individuals who have been exposed to economic principles and information are more likely to support trade than other individuals. Economists widely support the idea that free trade is beneficial (Alston, Kearl, and Vaughan 1992). Individuals who have taken economics classes should be more likely to understand the arguments in favor of open overseas commerce. If women are less likely to take economics classes than men, perhaps the gap in trade preferences can be explained by a lack of formal exposure to pro-trade arguments (Burgoon and Hiscox 2004).[2]

This explanation has not yet been directly tested. The available evidence, however, suggests that economic knowledge does not account for the gender gap in trade attitudes. Mansfield and Mutz (2009) found that simply taking an economics class did not predict support for trade, nor did it eliminate the gender gap. But they also found that individuals who understand that economists consider free trade to be good for the economy exhibit greater support for trade than other people, and men were more likely than women to realize that economists favor open trade. Yet even after accounting for economic knowledge, Mansfield and Mutz's results yielded considerable evidence of a gender gap in trade attitudes.

In an experimental study, Burgoon and Hiscox (2008) found that women were almost 30% less likely than men to correctly identify the three signatories of the North American Free Trade Agreement (NAFTA). Including this measure of economic literacy in a regression model substantially attenuated—but did not eliminate—the effects of gender.

A recent survey of professional economists also sheds doubt on the view that economic knowledge accounts for the gender gap in trade attitudes (May, McGarvey, and Whaples 2014). Among members of the American Economic Association, women are much more likely than men to believe that the United States should make openness to imports contingent on the labor standards of its trade partners. Even among individuals with equally extensive economic knowledge, men seem to have a more pronounced preference for unfettered trade than women.

Labor Mobility

In the context of most models of international trade, open trade improves the welfare of countries because it promotes the efficient allocation of resources, including

[1] Although Burgoon and Hiscox indicate that they control for experimental conditions, the marginals may still be affected by the frames, and the frames mays interact with individual characteristics in ways that cannot be observed from the results that are reported. Moreover, it is not clear why one would estimate the size of the difference with this particular set of control variables.

[2] Women in older cohorts were less likely to take economics than contemporary female college students, which is consistent with the finding that the gender gap in trade preferences increases with age and is strongest among the college-educated (Burgoon and Hiscox 2004).

labor. These models typically assume that labor is mobile.[3] Thus, achieving such efficiency requires labor to move from one location to another, depending on economic conditions. Assumptions about the mobility of workers, however, may not fit women's lives as well as men's. Within married, dual-worker families, women tend to be more constrained with respect to potential job relocation. Although some male spouses undoubtedly "trail" their wives to a new job, the reverse is the more common pattern due to lingering attitudes about gender roles. The upshot is that the location of their husband or partner's employment often constrains females (Cooke 2003; Mckinnish 2008).

Furthermore, the earnings of married women typically decrease after relocation, whereas the income of married men typically increases, even when the wife has the greater earning potential (Cooke and Bailey 1996; Mckinnish 2008). Women are also significantly more likely than men to experience psychological distress as a result of relocation (Moyle and Parkes 1999). This may be due in part to women's greater concern for relocating children (Shauman and Xie 1996; Kulis and Sicotte 2002) or because women disproportionately bear the burden of caring for elderly relatives (Doty, Jackson, and Crown 1998; Navaie-Waliser, Spriggs, and Feldman 2002; Wakabayashi and Donato 2005). To the extent that women cannot relocate as easily as men due to familial constraints, women may perceive job dislocation due to trade as less tolerable and therefore express more protectionist attitudes than men.

Extent of Competitiveness

In addition, women may be more protectionist than men because they hold a less favorable view of competition more generally. Free trade is predicated on market competition, and women's relative aversion to competition might lead them to express less support for trade. The available evidence indicates that women display less affinity for competition than men in tournaments, bargaining situations, and auctions (Croson and Gneezy 2009). They are less likely to choose workplace settings where compensation is based on competition (Flory, Leibbrandt, and List 2010). Women are also less likely to agree to run in competitive elections, even though men and women are equally likely to volunteer to serve as unelected representatives (Kanthak and Woon 2013). Likewise, college-aged men and women who have less experience participating in competitive activities have fewer political ambitions (Fox and Lawless 2014). This aversion to competition is consistent with a meta-analysis of more than 150 studies indicating that women are more risk averse than men, even when taking risks would advantage them (Byrnes, Miller, and Schafer 1999).[4]

Women may also attach less value to competition than men because they either innately prefer or are socialized to prefer cooperation (Gilligan 1982; Welch and Hibbing 1992; Gidengil 1995). In laboratory-simulated prisoner's dilemmas, for instance, women are significantly more likely to select cooperative strategies than men (Ortmann and Tichy 1999). In ultimatum games, women are more likely to accept lower offers than men (Eckel and Grossman 2008). Even among professional economists, who collectively have a very favorable view of market competition, women are less supportive of such competition than men (May et al. 2014). Female economists tend to prefer government intervention to address economic problems more than their male counterparts, who tend to favor market solutions.

To the extent that women favor cooperation over competition, they may view competition as harmful to society because it generates losers as well as winners (Burgoon and Hiscox 2004). Whether women personally prefer avoiding competition or dislike the more general idea of activities that produce winners and losers, the implications from our standpoint are the same. Trade necessarily involves market competition. To the extent that women are more averse to competitive environments (Gneezy, Niederle, and Rustichini 2003; Gneezy and Rustichini 2004), differing attitudes toward competition may help to explain the gender difference in trade attitudes. Consistent with this hypothesis, there is evidence that attitudes toward competition affected women's support for NAFTA during the 1988 Canadian federal election, even after controlling for their material conditions (Gidengil 1995).

Active Involvement in International Affairs

Finally, the gender gap in trade preferences could stem from an aversion on the part of females to active involvement in international affairs more generally. Women are more likely than men to oppose US involvement in world affairs, including both humanitarian intervention and intervention to resolve international conflicts (Modigliani 1972; Conover and Sapiro 1993).[5] They are also more likely to perceive national threats emanating from abroad (Huddy, Feldman, Capelos, and Provost 2002). To the extent that women are less favorable toward all kinds of non-economic involvement in international affairs, including humanitarian aid, their trade preferences may reflect this general reluctance to be involved in world affairs.

People who oppose active US involvement in non-economic aspects of foreign policy tend to oppose trade as well (Bauer, Pool, and Dexter 1963; Mansfield and Mutz 2009), probably because they have a general aversion to involvement with other countries, whether economic or otherwise. Recent evidence suggests that this effect is sizable. For example, one study found that a change from the most globally interventionist attitudes registered by respondents to the most opposed to foreign involvement reduced support for trade by almost 20% (Mansfield and Mutz 2009). Thus, it is possible that the gender gap in support for active US involvement in world affairs contributes to the gender gap in trade attitudes as well.

[3] Of course, there are exceptions to this tendency, including Ricardo-Viner models in which labor can be assumed to be fixed, models of economic geography in which labor may agglomerate in particular locations (Krugman 1992), and models in which there are informational and other costs associated with finding a new job (Mortensen 1976).

[4] Still other theories asserting benefits for women in opposing trade have tried connecting this opposition to risk aversion due to maternity. However, it is not obvious whether trade decreases or increases the number of jobs with maternity benefits, or what women without such benefits would be risking due to job instability, so the logic of this theory is unclear. Moreover, from an empirical standpoint, including measures of maternity leave and child care benefits does not diminish the gap between male and female trade preferences (Burgoon and Hiscox 2008).

[5] Two recent surveys also corroborate these findings. According to both the Bouton (2010) and the Pew Research Center for the People & the Press (2009) surveys, over 50% of female respondents agree that "the United States should mind its own business internationally and let other countries get along the best they can on their own."

It is noteworthy that the divergence in attitudes toward the use of force is the most pronounced evidence to date of a gender gap in public opinion. Women are consistently less supportive of using armed force abroad (Shapiro and Mahajan 1986; Fite, Genest, and Wilcox 1990; Conover and Sapiro 1993; Gallagher 1993; Eichenberg 2003). Although this pattern is consistent with the evidence described above, it is important to recognize that women are less likely to support *humanitarian interventions* as well as the use of force internationally. Women are not simply more compassionate and reluctant to place people in harm's way. They are also less likely than men to want to assist people in foreign countries through international aid (Fite et al. 1990). Moreover, they exhibit less support for the use of force domestically as well as internationally (Wolbrecht 2005), thus making it unclear whether their opposition is due to an aversion to international involvement, the use of force, or both.

In this study, we test the five different theoretical explanations for the gender divide in trade attitudes described above.[6] From an economic perspective, we address to what extent economic self-interest and economic knowledge account for differences in trade attitudes between men and women. From a non-economic standpoint, we examine to what degree the gender gap stems from differing attitudes toward US involvement in the affairs of other countries more generally. Finally, we also analyze whether women are more hostile to trade because they are averse to competition in everyday life or because they feel constrained in their degree of labor mobility. By simultaneously analyzing all five of these explanations within a single model, we are able to assess their ability to explain the gender divide in trade preferences. To date, there has been scant evidence of any kind that directly addresses these theories with appropriate empirical evidence.

Study Design

We rely on a nationally representative survey of male and female workers conducted in the summer of 2007 (see Appendix 1 for details). As part of their ongoing KnowledgePanel, GfK Ltd. recruited a random probability sample of the US population via random digit dialing (RDD) and address-based sampling. To facilitate Internet-based interviews, homes without Internet access were given notebook computers as well as Internet access for their ongoing participation. To qualify for the survey, individuals had to be paid employees, self-employed, work in a family business, or be unemployed or laid off but looking for work. This restriction ensured that all five of the theories we examined were equally applicable to both males and females. A total of 2,303 individuals completed the survey. The results we present include poststratification weights using the current population surveys as a baseline.

There are several major advantages to the survey we use. First, it provides a large, high-quality, representative, national probability sample of Americans in the workforce, including information on each respondent's industry and occupation of employment. In addition, it operationalizes several possible explanations for the gender gap in trade attitudes, including extent of economic education, personal competitiveness, and willingness to relocate. Most importantly, this survey includes multiple indicators of trade attitudes. Estimates of support for trade can vary a great deal based on the question wording used in a survey (Hiscox 2006). This makes our highly reliable multi-item index especially advantageous for purposes of studying the underlying tendency to favor or oppose trade.

Because trade opinions have not been widely studied using survey data, most data sets have at best a single survey question addressing trade preferences. Unless a survey question has already been validated as both highly reliable and valid, it is inherently risky to rely on any single question (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, and Kaiser 2012). This is particularly problematic for studies of trade attitudes because survey questions on trade tend to ask about specific trade agreements or about government activities vis-á-vis trade. Because each survey question includes some content unique to that particular question, as well as latent content that is shared across all questions addressing the same concept, single items and their correlates may be dominated by idiosyncratic characteristics (Hoyle, Harris, and Judd 2001; Liu 2004). Single items are also inherently more volatile than multi-item indices.

Fortunately, classic measurement theory offers a straightforward solution for obtaining a measure of the general underlying tendency to favor or oppose trade. Any individual question offers an imperfect indicator of this construct. However, by combining multiple imperfect measures, their extraneous content is cancelled out, thus producing an ideal measure of the underlying construct of interest.

The only limitation to this approach is that one must be able to determine that the items all address the same latent construct. With indices comprised of three or more items, it is possible to calculate a reliability that indicates the degree of inter-item consistency across different questions. So long as that reliability is relatively high (that is, above 0.70), researchers can be assured that they are measuring a single underlying attitude rather than a multidimensional construct (Hoyle et al. 2001; Liu 2004).

Dependent Variable

Five survey questions were used to create the first dependent variable, TRADE SUPPORT:

1. As you may know, international trade has increased substantially in recent years. This increase is due to the lowering of trade barriers between countries, that is, tariffs or taxes that make it more difficult or more expensive to buy and sell things across international borders. Do you think government should try to encourage international trade or to discourage international trade? Do you think the government should [encourage/discourage] this a lot or only a little?
2. I'm going to read you some actions the federal government in Washington can take on a variety of issues. For each one please tell me whether you favor or oppose the federal government doing it. . . . How about the federal government negotiating more free trade agreements like NAFTA? Do you favor or oppose the federal government doing this?

[6] We are unable to test risk aversion using the data available. However, in so far as predictions about risk aversion are typically predicated on the idea that women will be more sensitive to the "risks" of trade—for example, job loss, relocation, etc.—we believe our measure of relocation will capture such differences.

Is that strongly [favor/oppose] or only somewhat [favor/oppose]?
3. Do you believe that globalization, especially the increasing connections of our economy with others around the world, is good or bad for the United States?
4. Should foreign companies be encouraged or discouraged from investing in the United States, for example, by building their factories in this country?
5. Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of the WTO, the World Trade Organization?

Each of these items was scored on a four-point scale. The highest (lowest) score was assigned to respondents who believed that the government should strongly encourage (discourage) international trade, who strongly favored (opposed) the government negotiating free trade agreements, who felt that globalization is very good (bad) for the United States, who strongly encouraged (discouraged) foreign investment in the United States, and who had a strong favorable (unfavorable) opinion of the WTO. Our dependent variable is the standardized index of the responses to these five items.

Despite the seemingly disparate topics addressed in these five items, they exhibit a very high degree of internal consistency. This indicates that despite asking about various facets of international economic relations, the index reflects a single underlying pro-trade or antitrade preference. Indeed, even though an economist might differentiate between foreign investment, the WTO, and support for government-negotiated trade agreements, the very high Cronbach's alpha for this index (0.83) assures us that they are all tapping the same underlying construct in the eyes of the mass public. The distribution of this variable is shown in Figure 1.

After analyzing the index of TRADE SUPPORT, we examine differences in the extent to which men and women express a more general belief in the benefits of free markets. Although we expect our pattern of findings to be similar, it is noteworthy that most questions about trade preferences address government policies or actions. This inevitably confounds how men and women feel about free markets in the abstract with how they feel about the specific government in power at the time. It also conflates belief in free markets with attitudes toward *international* affairs and the international actors who are salient at the time.[7] Our second dependent variable avoids these issues by asking about free markets without any international references.

BELIEF IN FREE MARKETS is an index created from responses to the following item. "We hear a lot of talk these days about the idea of the 'marketplace,' where goods and services are bought and sold and businesses compete for customers. To what extent do you agree or disagree with each of these statements about the marketplace: (i) The marketplace is generally more efficient and less wasteful than government; (ii) the marketplace is democratic because it allows everyone to express their preferences by choosing what to buy; and (iii) institutions like government and public schools should follow the principles of the marketplace."

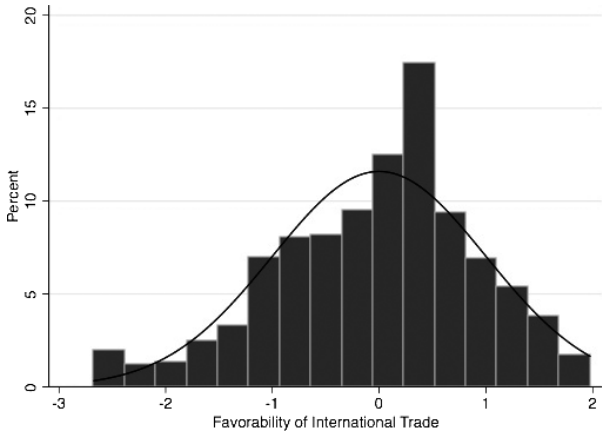

FIG 1. The Distribution of Trade Attitudes (*z*-score)

Independent Variables

We include our independent variables to test the five explanations for the gender gap in trade preferences described earlier. First, we tap economic self-interest using a set of measures operationalizing the material consequences of trade for respondents based on their skills and industry of employment. As noted, economic explanations of trade preferences suggest that individuals form attitudes based on trade's distributional consequences. Those who derive material benefits from open trade should support it, whereas those harmed by trade should oppose it. In the United States, there is an abundance of high-skilled labor and a scarcity of low-skilled labor relative to the rest of the world (Leamer 1984). Stolper and Samuelson (1941) demonstrated that open trade benefits owners of factors of production that are abundant relative to the rest of the world and harms owners of scarce factors. Consequently, in the United States, this "factor endowments" approach predicts that highly skilled workers should be pro-trade, whereas other workers should hold more protectionist views.

Previous studies have used the average annual wage for an individual's occupation and the extent of an individual's formal education to measure skill level (Attewell 1990; Spenner 1990; Balistreri 1997; Scheve and Slaughter 2001a; Hays et al. 2005; Mayda and Rodrik 2005). In our survey, we asked, "In your current (or most recent) job, what kind of work do you do?" Each respondent's occupation was then coded using the US Department of Labor's Standard Occupational Classification (SOC) system (US Department of Labor 2008a). We used data compiled by the Department of Labor's Bureau of Labor Statistics to calculate AVERAGE ANNUAL WAGE in 2006 for each occupation in our sample.[8]

[7] Kleinberg and Fordham (2012) have suggested that the treatment of "don't know" answers can affect the size of the trade gender gap. In the scale we use, only one man and three women had missing values on trade preferences. Although there were no significant differences in the number of "don't know/refused" answers overall or in responses to three of the five trade questions, the two questions that asked about specific government policies (NAFTA) or organizations (WTO) generated more don't knows for women than men (21 women compared to 11 men for NAFTA and 26 women compared to 13 men for the WTO question). However, because our dependent variable is an index based on mean responses across all questions, people were not dropped from the sample so long as they had valid responses to one or more trade questions. As our subsequent analyses suggest, although women's lower levels of political interest and knowledge put them at a disadvantage in answering policy-specific questions, women nonetheless have opinions on the general principle of free markets.

[8] The data on occupation and wages are taken from the US Department of Labor 2008b.

Although education constitutes a frequently used measure of skill, it has also been linked to tolerance of different cultures and countries, a belief on the part of Americans that the United States should be more actively engaged in foreign affairs, and economic knowledge, all of which also might affect attitudes toward trade (Erikson 2005; Hainmueller and Hiscox 2006; Fordham 2008). Consequently, we rely on AVERAGE ANNUAL WAGE as the most direct indicator of skill, while also including education in the model. To that end, we asked respondents about the highest degree or level of education they had obtained and created three dummy variables based on the information. The first, SOME COLLEGE, indicates whether the person graduated from a technical school or a two-year college, or whether the respondent attended but did not graduate from a four-year college. The second, COLLEGE GRADUATE, indicates whether he or she graduated from a four-year college. The third, GRADUATE SCHOOL, indicates whether the person attended graduate school. The reference category is someone who did not receive any formal education beyond high school.

The "specific factors," or Ricardo-Viner, model is an alternative political economy framework predicting that workers will base their trade preferences on the industry in which they are employed. Individuals who work in export-oriented sectors of the economy are expected to support open trade because they personally benefit from it. Those in import-competing sectors are expected to be more protectionist. Individuals employed in a nontraded sector of the economy are expected to support trade more than someone employed in an industry that faces substantial competition from imports, but less than someone working in an export-oriented industry. To test this model, we presented respondents with a list of industries based on the US Census Bureau's three-digit codes of North American Industry Classification System (NAICS).[9] We asked respondents to select the industry in which they currently work or most recently worked.

For each industry represented in our sample, we constructed one measure of EXPORT ORIENTATION and another measure of IMPORT COMPETITION. EXPORT ORIENTATION is defined as the natural logarithm of (X_i/Y_i), and IMPORT COMPETITION is defined as the natural logarithm of (M_i/Y_i), where X_i is sector i's total exports, M_i is the volume of imports in sector i, and Y_i is this sector's total output. These variables are derived using 2006 data.[10] Many industries in our sample are nontradable and therefore do not export or import goods. Since the natural logarithm of zero is undefined, we arbitrarily add 0.01 to both X_i and M_i. The specific factors model predicts that individuals employed in industries that export a substantial portion of output should support open trade, whereas those working in sectors that face extensive competition from imports should be especially hostile to overseas commerce.

To evaluate the possibility that varying levels of economic knowledge account for the gender gap in trade preferences, we first asked respondents whether they had ever taken an economics course. ECONOMICS COURSE equals one if a respondent had taken an economics class, zero otherwise. A second question asked respondents whether they thought economists believed that free trade was good or bad for the economy. Unlike the straightforward question about whether he or she had ever taken a course, the latter question more directly addresses the specific kind of knowledge that might influence trade preferences. Given that some have argued that the gender gap in trade attitudes stems from differences in economic knowledge between men and women, this variable is very useful. Nonetheless, it is also potentially endogenous because people often project their own opinions onto others, thus complicating the interpretation of any observed relationship between the perceived opinions of economists and respondents' own opinions on trade. ECONOMISTS' VIEW OF TRADE equals one if a respondent understood that economists believe that free trade is good for the economy, zero otherwise.

To test our hypothesis about the impact of gender differences in labor mobility, we assessed each individual's perception of the difficulty of RELOCATION by asking respondents, "If you lost your job and had a hard time finding as good a job near where you live, how likely would you be to move to another part of the country if there were a good job there?" Respondents indicated whether they were very likely, somewhat likely, somewhat unlikely, or very unlikely to relocate.

To evaluate to what extent gender differences in attitudes toward competition account for the gender gap in trade attitudes, we used a pre-existing index of interpersonal competitiveness or the desire to do better than someone else (Babladelis, Deaux, Helmreich, and Spence 1983; Adams, Priest, and Prince 1985; Griffin-Pierson 1990). For our index of COMPETITIVENESS, individuals were asked to what degree the following three statements described them:

1. I feel that winning is important in both work and games.
2. Because it is important that a winner is decided, I do not like to leave a game unfinished.
3. I like to win because that means that I did better than other people.

These three measures, each scored using a four-point scale, formed a highly reliable index (Cronbach's alpha = 0.79).

To test our fifth and final hypothesis, we utilized a previously validated index to measure individuals' opinions about ACTIVE INVOLVEMENT in international affairs outside the realm of economics. Respondents used a five-point scale to indicate the extent to which they agreed or disagreed with each of the following five statements:

1. The US needs to play an active role in solving conflicts around the world.
2. The US government should just try to take care of the well-being of Americans and not get involved with other nations.
3. It is essential for the US to work with other nations to solve problems, such as overpopulation, hunger, and pollution.
4. It will be best for the future of the country if we stay out of world affairs.
5. The US has the responsibility to play the role of "world policeman," that is, to fight violations of international law and aggression wherever they occur.

[9] For a list of the three-digit industry classifications, see the US Census Bureau 2008a. Note that our sample is representative of the distribution of workers across industries in the US population as a whole. We compared the distribution of respondents across industries in our sample to the distribution in the US population, using data provided by the US Census Bureau 2008b. For each industry, the percentage of respondents in our sample is much the same as the percentage of the US workforce.

[10] Data on exports and imports are taken from the US International Trade Commission 2008. We used version 2.8.4. Data on output are taken from the US Department of Commerce 2008 (Bureau of Economic Analysis).

It is worth noting that none of these questions are explicitly about aggression and the use of force against another country, and some are clearly about helping to prevent it. Responses to these five statements demonstrated a high level of internal consistency (Cronbach's alpha = 0.74). Furthermore, none address economic relations between countries, instead focusing on the United States' role in interventions and global conflicts more broadly.[11] Thus, there is little reason to worry that responses to these items are endogenous.

In addition to the variables designed to test our five theories about the source of the gender gap, we include standard demographic variables. Key among our demographic indicators, of course, is gender, which is coded as one for FEMALE and zero for male. Respondents also indicated whether anyone in the home belonged to a UNION, their AGE, their INCOME, and their race.[12] Respondents were asked about their employment status. UNEMPLOYED equals one if they were unemployed or laid off and zero otherwise.[13] Finally, we include measures of party identification—one variable indicating whether respondents describe themselves as a DEMOCRAT and another indicating whether they describe themselves as REPUBLICAN, with the reference category being someone without partisan affiliation. The goal of our analyses is to determine whether the effects of gender persist or attenuate in the presence of both controls and our variables of theoretical interest.

Results

We begin by examining whether men and women differ in the directions we have hypothesized with respect to economic self-interest, economic knowledge, willingness to relocate, competitiveness, and active involvement in world affairs. We then conduct a set of multivariate analyses in which all of these variables are included in a model of trade preferences. It is possible that we might observe no gender difference in simple mean levels of one of these variables, yet still find that it helps to explain the gender discrepancy in a multivariate context. Nonetheless, assessing whether there are gender differences in these key variables is an important first step in evaluating the likelihood of each explanation.

After assessing gender differences for each variable, we use ordinary least squares (OLS) regression to test our hypotheses, given that the distribution of trade preferences is roughly normal and continuous (see Figure 1). All tests of statistical significance are based on robust standard errors to account for any heteroscedasticity in the data. Importantly, our central focus is not on maximizing the total amount of variance we can explain in trade preferences so much as examining whether the addition of our key variables of theoretical interest reduces the effects of gender. In a final set of analyses, we substitute BELIEF IN FREE MARKETS for TRADE PREFERENCES and analyze the same multivariate models with this measure to gain a deeper understanding of how gender enters into attitudes toward free markets.

Gender Differences in Trade Preferences and the Key Independent Variables

Figures 2 and 3 show the breakdown by gender of attitudes toward trade and our key independent variables. Figure 2 illustrates these differences using tests of mean differences for the continuous variables; Figure 3 does so by comparing percentages for the dichotomous variables. To facilitate comparison, all variables are standardized with a mean of zero and a standard deviation of one.

As shown in Figure 2, women are indeed less favorably disposed toward international trade than men. In addition, the anticipated gender differences were also observed in the extent of competitiveness (with men preferring competition more than women), willingness to relocate (with women less willing to relocate than men), and in the desire for active involvement in world affairs (with women expressing more reluctance to get involved than men).

With respect to the economic variables, men are more likely than women to be employed in both export-oriented and import-competing industries. Furthermore, men tend to report higher family incomes than women. Finally, as shown in Figure 3, men are somewhat more likely to have taken an economics course than women and they are more likely to know that economists favor trade. Although these gender gaps are in the expected direction when they appear at the bivariate level, it remains to be seen whether they account for the impact of gender in multivariate analyses.

Multivariate Analyses

To further investigate this issue, we estimate a multivariate model that includes the demographic and other variables described above. The baseline model is shown in the first column of Table 1. Most important for our purposes, the estimated coefficient of FEMALE is negative and statistically significant. Furthermore, the size of this gender gap is consistent with the findings of previous studies; support for trade is about 10% lower among women than men.

As shown in the second column of Table 1, even after accounting for economic self-interest by including average annual wage and whether the respondent's industry of employment is export oriented, import competing, or nontradable, women are still more opposed to trade than men. Moreover, there is no evidence that economic self-interest accounts for the gender difference in mass attitudes about trade. Recall that one possible explanation for the gender gap is that women are less skilled than men and oppose trade on grounds that are consistent with a Stolper-Samuelson approach. However, AVERAGE ANNUAL WAGE, a widely used measure of skill, has no strong bearing on these attitudes. Education, which has also been used as such a measure, captures a wide variety of factors besides skill. Consequently, it is difficult to determine whether the observed effect of education reflects the influence of skill on trade attitudes. Regardless, we find evidence of a gender gap even after accounting for these measures of skill.

[11] The first three items in the index are taken from Herrmann, Tetlock, and Diascro (2001) and Holsti (1996); the fourth from Robinson, Shaver, and Wrightsman (1991: 542); and the fifth from the Chicago Council on Foreign Affairs Global Views 2006 survey. The high degree of internal consistency among these five measures suggests that they capture a single underlying tendency to eschew non-economic international involvements.

[12] Race equals one if the respondent is a MINORITY, with White and non-Hispanic as the reference category. We also asked whether respondents were currently married and whether their household was dual income or single income. However, neither of these factors is strongly linked to trade attitudes, and including them in the following analysis has no bearing on the results reported below.

[13] Individuals who are self-employed, small business owners, professional practitioners, and those who worked in family businesses for no pay were coded as employed.

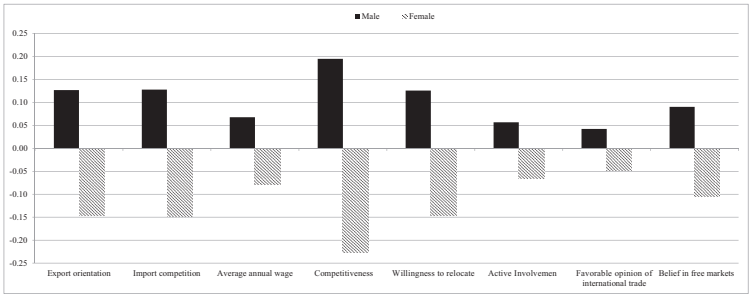

FIG 2. Gender Differences in Key Variables (*z*-scores)
(*Note*. A difference in means test by gender shows that all gender differences in this figure are statistically significant at the .05 level.)

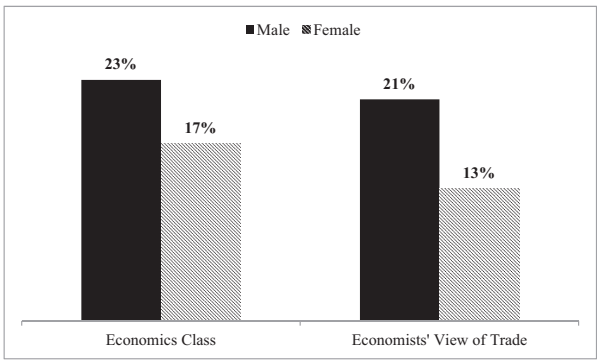

FIG 3. Gender Differences in Taking an Economics Class and Knowledge of Economists' View of Trade
(*Note*. A difference in mean test by gender shows that the gender differences in this figure are statistically significant at the .05 level.)

Next, we include measures of competitiveness, willingness to relocate, active involvement in foreign affairs, and economic knowledge. To begin, we include these factors one at a time. As reported in the third, fourth, and fifth columns of Table 1, support for trade rises significantly if individuals have a more favorable opinion of competition, are more willing to relocate, and are more supportive of active US involvement in foreign affairs. As reported in the final column of this table, taking an economics course has little effect on such support.

But as shown in the first column of Table 2, respondents who understand that economists view trade as beneficial hold a more favorable opinion of overseas commerce than other respondents. It is possible that this relationship stems from a projection effect, whereby pro-trade individuals project their own views onto economists rather than being influenced by them. Nonetheless, it is important to recognize that in all of these analyses, the estimated coefficient of FEMALE remains negative and statistically significant, although the size of this coefficient is consistently smaller than in our baseline model in the first column of Table 1.[14]

In combination, however, these factors explain much of the gender gap. In the second column of Table 2, we include all of the variables discussed earlier except ACTIVE INVOLVEMENT; in the third column, we include all of these variables except ECONOMISTS' VIEW OF TRADE; and in the fourth column, we present the fully saturated model. In each case, the estimated coefficient of FEMALE is negative. But it is less than half its original size (in the first column of Table 1) and far from statistically significant.

The gender gap in trade preferences therefore stems from differences between men and women in attitudes toward active involvement in international affairs, willingness to relocate for a job, competitiveness, and to a lesser extent, economic knowledge. As shown in Table 2, Model 3, knowing that economists favor trade is not essential for eliminating gender differences. Nor is it essential to account for attitudes toward active international involvement to attentuate gender differences in trade preferences (see Table 2, Model 2). Nonetheless, accounting for the combination of competitiveness, willingness to relocate, and support for active involvement in world affairs produces the coefficient of FEMALE that is closest to zero.

On the one hand, this explanation for the gap is not especially parsimonious; no one theory completely accounted for gender differences in trade attitudes. On the other hand, it would be surprising if any single factor or trait were able to explain the difference between men and women on attitudes about a phenomenon as multifaceted and complex as foreign trade. Our data confirm that neither men nor women are forming their trade preferences based on personal economic self-interest, either in terms of personal skills or their sector of employment (Mansfield and Mutz 2009). Moreover, the gender gap is not explained by differences in economic knowledge, whether measured in terms of coursework or knowing economists' opinions toward trade. Rather, the gender gap in trade preferences is primarily due to women being less willing to relocate for jobs, more averse to competition in general, and holding less positive attitudes toward active involvement in world affairs, although the latter may not be absolutely essential.

Much of the literature suggesting that women are less willing to relocate has been predicated on the idea that they bear higher costs from moving than men. For example, it has been argued that women are more apt to dislike relocation because they are more likely to be the trailing spouse in a dual-income household (Cooke 2003; Mckinnish 2008). However, additional analyses (not shown) indicate that even after controlling for a variety of factors that might affect an individual's willingness to relocate—including home ownership, family size, education, age, whether he or she has children, and whether the person is a member of a dual-income household—women are still about 25% less willing to relocate than men. This confirms that relocation preferences are more than an extension of material self-interest (Shauman and Xie 1996; Kulis and Sicotte 2002).

[14] Including both ECONOMISTS' VIEW OF TRADE and ECONOMICS COURSE in the same model also does not eliminate the gender gap.

Table 1. Explaining Gender Differences in Trade Attitudes: Testing Single Explanations

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Female	−.093**	−.098**	−.074*	−.087*	−.066*	−.094**
	(.034)	(.034)	(.034)	(.035)	(.033)	(.034)
Some College	.150***	.150***	.153***	.140**	.113**	.137**
	(.043)	(.043)	(.043)	(.043)	(.042)	(.045)
College Graduate	.306***	.304***	.306***	.286***	.215***	.280***
	(.047)	(.049)	(.048)	(.049)	(.048)	(.053)
Graduate School	.357***	.356***	.368***	.336***	.258***	.334***
	(.058)	(.058)	(.058)	(.058)	(.058)	(.062)
Income	.009	.011	.010	.010	.011	.010
	(.010)	(.010)	(.010)	(.010)	(.010)	(.010)
Union Membership	−.002	−.004	−.002	−.007	.019	−.003
	(.047)	(.048)	(.048)	(.047)	(.046)	(.048)
Age	−.004**	−.004**	−.004**	−.003*	−.005***	−.004**
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Republican	−.002	.001	−.008	−.004	−.060	.000
	(.041)	(.041)	(.041)	(.041)	(.039)	(.041)
Democrat	−.035	−.036	−.039	−.039	−.042	−.036
	(.040)	(.040)	(.040)	(.040)	(.039)	(.040)
Minority	.140***	.145***	.138***	.139***	.122**	.144***
	(.039)	(.039)	(.039)	(.039)	(.037)	(.039)
Unemployed	−.170*	−.169*	−.173*	−.163*	−.132#	−.167*
	(.081)	(.082)	(.082)	(.081)	(.076)	(.082)
Export Orientation		.037	.039	.028	.026	.038
		(.058)	(.059)	(.056)	(.050)	(.057)
Import Competition		−.036	−.039	−.029	−.027	−.037
		(.053)	(.054)	(.052)	(.046)	(.053)
Average Annual Wage		−.000	−.000	−.000	−.000	−.000
		(.000)	(.000)	(.000)	(.000)	(.000)
Competitiveness			.055**			
			(.018)			
Willingness to Relocate				.050**		
				(.017)		
Active Involvement					.189***	
					(.017)	
Economics Course						.045
						(.039)
Constant	2.731***	2.749***	2.731***	2.630***	2.849***	2.740***
	(.076)	(.087)	(.088)	(.097)	(.085)	(.087)
Observations	2,081	2,058	2,049	2,055	2,048	2,058
R^2	.081	.084	.091	.090	.160	.084
Adjusted R^2	.076	.077	.084	.083	.153	.078

(*Note.* Entries are ordinary least squares regression estimates with robust standard errors in parentheses. Two-tailed tests of statistical significance are conducted for all coefficient estimates. Statistical significance is indicated as follows: #$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.)

Belief in Free Markets

To explore the robustness of these explanations for the gender divide outside the context of international affairs, we executed a final set of analyses focusing on general BELIEF IN FREE MARKETS rather than support for international trade. Opposition to trade may stem from a general dislike of foreign entities or from the view that free markets simply do not benefit citizens. To add to our understanding of the findings described above, we analyzed an index very closely related to trade attitudes (and likely endogenously related to them), but designed to tap into respondents' more general beliefs in the value of a competitive marketplace, irrespective of whether it involves domestic or international actors.

Belief in the value of unfettered markets is central to support for free trade. To the extent that the interpretation we offer above is correct, we expect to find (i) a difference in male and female attitudes toward free markets; (ii) that this difference is markedly attenuated after accounting for attitudes toward competition and relocation; and (iii) that active involvement in foreign affairs has no bearing on belief in free markets or on the gender gap, because it strictly addresses the foreign component of opposition to international trade.

In Table 3, we examine these predictions. As shown in the first column, the estimated coefficient of gender is negative and statistically significant, indicating that women are less supportive of free market ideals more generally. In the second column, we include indicators of skill and industry of employment. These factors have no impact on the coefficient of FEMALE, largely because they are not significant predictors of BELIEF IN FREE MARKETS. In the third column of Table 3, we include all three of the variables central to our explanation of the gender gap in trade preferences. As predicted, attitudes toward competition and relocation significantly influence BELIEF IN FREE MARKETS, but ACTIVE INVOLVEMENT does not. Further, and most importantly, including these variables completely accounts for the gender gap in BELIEF IN FREE MARKETS.

TABLE 2. Explaining Gender Differences in Trade Attitudes: Testing Explanations Simultaneously

	Model 1	*Model 2*	*Model 3*	*Model 4*
Female	−.075*	−.048	−.038	−.026
	(.034)	(.035)	(.034)	(.034)
Some College	.130**	.122**	.096*	.091*
	(.043)	(.045)	(.044)	(.043)
College Graduate	.262***	.243***	.180***	.167**
	(.048)	(.052)	(.052)	(.051)
Graduate School	.304***	.291***	.228***	.200***
	(.057)	(.059)	(.060)	(.059)
Income	.005	.004	.009	.006
	(.010)	(.010)	(.010)	(.010)
Union Membership	.003	.002	.021	.024
	(.047)	(.047)	(.046)	(.046)
Age	−.004**	−.003*	−.004**	−.005**
	(.001)	(.001)	(.001)	(.001)
Republican	−.016	−.030	−.073#	−.084*
	(.041)	(.041)	(.039)	(.039)
Democrat	−.047	−.052	−.047	−.055
	(.040)	(.040)	(.039)	(.039)
Minority	.142***	.131***	.113**	.113**
	(.038)	(.038)	(.037)	(.037)
Unemployed	−.174*	−.171*	−.130#	−.136#
	(.083)	(.083)	(.076)	(.077)
Export Orientation	.046	.039	.023	.029
	(.062)	(.061)	(.050)	(.054)
Import Competition	−.044	−.040	−.025	−.031
	(.057)	(.056)	(.046)	(.049)
Average Annual Wage	−.000	−.000	−.000	−.000
	(.000)	(.000)	(.000)	(.000)
Competitiveness		.046*	.043*	.037*
		(.018)	(.018)	(.018)
Willingness to Relocate		.047**	.041*	.039*
		(.017)	(.016)	(.016)
Active Involvement			.184***	.179***
			(.016)	(.017)
Economics Course		.012	.043	.009
		(.039)	(.037)	(.037)
Economists' View of Trade	.185***	.168***		.150***
	(.038)	(.038)		(.037)
Constant	2.735***	2.604***	2.726***	2.720***
	(.085)	(.097)	(.094)	(.093)
Observations	2,055	2,046	2,043	2,042
R^2	.101	.112	.169	.179
Adjusted R^2	.094	.104	.162	.171

(*Note.* Entries are ordinary least squares regression estimates with robust standard errors in parentheses. Two-tailed tests of statistical significance are conducted for all coefficient estimates. Statistical significance is indicated as follows: # $p < 0$ .10; * $p < .05$; ** $p < .01$; *** $p < .001$.)

TABLE 3. Explaining Gender Differences in Belief in Free Markets

	Model 1	*Model 2*	*Model 3*
Female	−.153**	−.138**	−.022
	(.052)	(.052)	(.053)
Some College	−.125#	−.083	−.083
	(.064)	(.064)	(.062)
College Graduate	−.149*	−.108	−.123#
	(.075)	(.077)	(.074)
Graduate School	−.239*	−.186#	−.179*
	(.096)	(.097)	(.091)
Income	.036*	.038*	.034*
	(.015)	(.015)	(.015)
Union Membership	−.217**	−.217**	−.205**
	(.076)	(.076)	(.072)
Age	.007***	.006**	.009***
	(.002)	(.002)	(.002)
Republican	.405***	.394***	.337***
	(.065)	(.065)	(.063)
Democrat	−.043	−.049	−.069
	(.063)	(.062)	(.061)
Minority	−.031	−.012	−.046
	(.062)	(.061)	(.060)
Unemployed	.285*	.261*	.247#
	(.128)	(.127)	(.127)
Export Orientation		−.086	−.085
		(.098)	(.098)
Import Competition		.108	.102
		(.090)	(.090)
Average Annual Wage		−.000	−.000
		(.000)	(.000)
Competitiveness			.255***
			(.029)
Willingness to Relocate			.062*
			(.024)
Active Involvement			.002
			(.028)
Constant	−.386**	−.277#	−.526***
	(.119)	(.143)	(.146)
Observations	2,042	2,026	2,020
R^2	.069	.073	.140
Adjusted R^2	.064	.066	.133

(*Note.* Entries are ordinary least squares regression estimates with robust standard errors in parentheses. Two-tailed tests of statistical significance are conducted for all coefficient estimates. Statistical significance is indicated as follows: # $p < 0$ .10; * $p < .05$; ** $p < .01$; *** $p < .001$.)

This pattern of findings corroborates the story that emerges from Tables 1 and 2. Women are less likely to embrace competition than men, and this depresses their support for trade as well as their faith in free markets. Likewise, they feel less able to relocate than men, and this lowers their support for free markets as well as for international trade. In addition, women's preferences for avoiding international involvements further contribute to opposing international trade, a context in which open markets are tied to international actors.

Conclusion

Most citizens encounter markets during their lifetimes in two different roles: as workers in a labor market and as consumers in the marketplace.[15] Women spend more time in the consumer marketplace than men (Szalai 1972). Because international trade generally reduces the cost of consumer goods, one might assume that, *ceteris paribus*, women should be more in favor of free trade than men. Moreover, in their role as members of the labor market, women are no more or less likely than men to benefit from trade due to their occupations or industries of employment. Nonetheless, based on our analyses of random samples of men and women in the American workforce, women remain systematically less likely to favor trade. The size of this effect is relatively small but robust, and it persists within the United States and beyond. Our analyses of trade attitudes and beliefs about markets more generally suggest that this gender difference is rooted in attitudes toward competition, relocation, and involvement in world affairs.

[15] Lane (1991) elaborates these two forms of experience.

The finding that women tend to be more hostile to free markets than men is especially noteworthy because of its far-reaching implications. Much of life in democratic political systems derives from the notion that competition is a positive force in society. Competition remains endemic to both our economic and political systems. To the extent that these systems do not mirror women's values and preferences as well as men's, this suggests a fundamental disjuncture. If women are far less likely than men to behave in ways that correspond to the assumptions of our political and economic models, the predictions of these models will likely be incorrect for roughly half of the population.

We do not attempt to answer second-order questions about the origins of these gender differences that ultimately lead to differential support for trade. We leave fuller explorations of why women tend to be less supportive of active involvement in foreign affairs, less willing to relocate for jobs, and less competitive than men for future studies to address. Our chief contribution has been to explain which gender differences matter for purposes of understanding differences in attitudes toward trade policy.

These findings are important because Americans express considerable ambivalence about international trade, and efforts to open overseas commerce often encounter skepticism from the American public. Given the widespread economic benefits of trade, we need to gain a fuller understanding of why certain groups oppose trade. Taken as a whole, women's protectionist attitudes do not stem from the distributional consequences of trade that most political economy models emphasize, but rather stem from attitudes toward competition, relocation, and foreign involvement. Increasing support for trade in the United States and elsewhere may require a fuller understanding of—and a greater sensitivity to—these sources of opposition to foreign commerce.

Appendix 1

Data Collection

Knowledge networks (KN) collected this nationally representative probability sample in June and July of 2007. The KN Web panel is a probability-based panel that includes both Internet and non-Internet households. Respondents are initially contacted either by phone or via address-based sampling to include cell-phone-only homes. Those without Internet access are given free access as part of their participation. By definition, all members of the KN Web panel have a known probability of selection. In contrast, the probabilities of selection are unknown for opt-in Web panels. An extended description of advantages and potential disadvantages of various types of web panels can be found in *Public Opinion Quarterly* (2005).

Because we wanted our study to integrate traditional indicators of self-interest, such as the industry and occupation of each respondent, as well as other potential differences that could explain trade preferences, we limited our sample to those who were paid employees, self-employed, owners or partners, unemployed or laid off (but looking for work) as determined by filter questions in the survey. Respondents were asked, "Which statement best describes your current employment status?" I work as a paid employee/I am self-employed/I am an owner or partner in a small business, professional practice, or farm/I work at least 15 hours a week without pay in a family business or farm/I am unemployed, temporarily laid off, but looking for work/I am retired/I am disabled/I am a homemaker/other. Any of the first five categories qualified a respondent for the remainder of the survey. Participants completed the main survey in approximately 20 minutes and received an entry into a knowledge networks' sweepstakes for their participation.

Previous data used to examine the gender gap have come from a variety of data sources and modes of interview, although all have demonstrated similar findings with respect to basic gender differences. For example, Burgoon and Hiscox (2008) used a nationally representative probability sample interviewed by telephone in 2003 by the Indiana University Survey Research Center as part of the TESS project. Beaulieu and Napier (2008) and Mayda and Rodrik (2005) both used data from the International Social Survey Program (ISPP), where the mode of data collection and sampling can vary by country. Scheve and Slaughter (2001a,b) used the American National Election Surveys, a probability sample that is interviewed face to face. Guisinger (2011) used data from the Cooperative Congressional Election Survey (CCES), an opt-in, nonprobability sample interviewed via Web surveys.

References

Adams, Jerome, Robert F. Priest, and Howard T. Prince. (1985) Achievement Motive: Analyzing the Validity of the WOFO. *Psychology of Women Quarterly* 9 (3): 357–370.

Alston, Richard M., J. R. Kearl, and Michael B. Vaughan. (1992) Is There a Consensus Among Economists in the 1990s? *American Economic Review* 82 (2): 203–209.

Attewell, Paul. (1990) What Is Skill? *Work and Occupations* 17 (4): 422–448.

Babladelis, Georgia, Kay Deaux, Robert L. Helmreich, and Janet T. Spence. (1983) Sex-Related Attitudes and Personal Characteristics in the United States. *International Journal of Psychology* 18 (1–2): 111–123.

Baker, Andy. (2005) Who Wants to Globalize? Consumer Tastes and Labor Markets in a Theory of Trade Policy Beliefs. *American Journal of Political Science* 49 (4): 924–938.

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.

Bauer, Raymond Augustine, Ithiel de Sola Pool, and Lewis Anthony Dexter. (1963) *American Business and Public Policy: The Politics of Foreign Trade.* New York: Atherton.

Beaulieu, Eugene, Michael Benarroch, and James Donald Gaisford. (2004) Intra-Industry Trade Liberalization, Wage Inequality and Trade Policy Preferences. Unpublished manuscript. Department of Economics, University of Calgary.

Beaulieu, Eugene, and Michael Napier. (2008) Why Are Women More Protectionist Than Men? Unpublished manuscript. Department of Economics, University of Calgary.

Blonigen, Bruce A. (2011) Revisiting the Evidence on Trade Policy Preferences. *Journal of International Economics* 85 (1): 129–135.

Bouton, Marshall M. (2002) *Worldviews 2002: American Public Opinion & Foreign Policy.* Chicago Council on Foreign Relations. http://www.thechicagocouncil.org/Files/Studies_Publications/POS/POS2002/Public_Opinion_Survey__Worldviews_2002.aspx. (Accessed March 13, 2012.).

Bouton, Marshall M. (2006) *Global Views 2006. The United States and the Rise of China and India, Results of a 2006 Multination Survey of Public Opinion.* The Chicago Council on Global Affairs. http://www.thechicagocouncil.org/files/Studies_Publications/POS/POS2006/RiseofChinaandIndia.aspx. (Accessed March 13, 2012.)

Bouton, Marshall M. (2010) *Global Views 2010. Constrained Internationalism: Adapting to New Realities, Results of a 2010 National*

Survey of American Public Opinion. The Chicago Council on Global Affairs. http://www.thechicagocouncil.org/UserFiles/File/POS_Topline%20Reports/POS%202010/Global%20Views%202010.pdf. (Accessed March 13, 2012.)

Burgoon, Brian, and Michael J. Hiscox. (2004) The Mysterious Case of Female Protectionism: Gender Bias in the Attitudes and Politics of International Trade. Paper presented at the annual meeting of the American Political Science Association, Chicago, IL. September 2–5.

Burgoon, Brian, and Michael J. Hiscox. (2008) The Gender Divide over International Trade: Why Do Men and Women Have Different Views about Openness to the World Economy? Unpublished manuscript. Department of Government, Harvard University.

Byrnes, James P., David C. Miller, and William D. Schafer. (1999) Gender Differences in Risk Taking: A Meta-Analysis. *Psychological Bulletin* 125 (3): 367–383.

Conover, Pamela Johnston, and Virginia Sapiro. (1993) Gender, Feminist Consciousness, and War. *American Journal of Political Science* 37 (4): 1079–1099.

Cooke, Thomas J. (2003) Family Migration and the Relative Earnings of Husbands and Wives. *Annals of the Association of American Geographers* 93 (2): 338–349.

Cooke, Thomas J., and Adrian J. Bailey. (1996) Family Migration and the Employment of Married Women and Men. *Economic Geography* 72 (1): 38–48.

Croson, Rachel, and Uri Gneezy. (2009) Gender Differences in Preferences. *Journal of Economic Literature* 47 (2): 448–474.

Diamantopoulos, Adamantios, Marko Sarstedt, Christoph Fuchs, Petra Wilczynski, and Sebastian Kaiser. (2012) Guidelines for Choosing Between Multi-Item and Single-Item Scales for Construct Measurement: A Predictive Validity Perspective. *Journal of the Academy of Marketing Science* 40 (3): 434–449.

Doty, Pamela, Mary E. Jackson, and William Crown. (1998) The Impact of Female Caregivers' Employment Status on Patterns of Formal and Informal Eldercare. *Gerontologist* 38 (3): 331–341.

Eckel, Catherine C., and Philip J. Grossman. (2008) Differences in the Economic Decisions of Men and Women: Experimental Evidence. In *Handbook of Experimental Economics Results*, edited by Charles R. Plott and Vernon L. Smith, 509–519. New York: North Holland.

Eichenberg, Richard C. (2003) Gender Differences in Public Attitudes Toward the Use of Force by the United States, 1990–2003. *International Security* 28 (1): 110–141.

Erikson, Robert S. (2005) *American Public Opinion: Its Origins, Content, and Impact*. New York: Pearson Longman.

Fite, David, Marc Genest, and Clyde Wilcox. (1990) Gender Differences in Foreign Policy Attitudes: A Longitudinal Analysis. *American Politics Research* 18 (4): 492–513.

Flory, Jeffrey A., Andreas Leibbrandt, and John A. List. (2010) *Do Competitive Work Places Deter Female Workers? A Large-Scale Natural Field Experiment on Gender Differences in Job-Entry Decisions*. Cambridge, MA: National Bureau of Economic Research.

Fordham, Benjamin O. (2008) Economic Interests and Public Support for American Global Activism. *International Organization* 62 (1): 163–182.

Fox, Richard L., and Jennifer L. Lawless. (2014). Uncovering the Origins of the Gender Gap in Political Ambition. *American Political Science Review* 108 (3): 499–519.

Gallagher, Nancy W. (1993) The Gender Gap in Popular Attitudes Toward the Use of Force. In *Women and the Use of Military Force*, edited by Ruth Howes and Michael R. Stevenson, 27–37. Boulder, CO: Lynne Rienner.

Gidengil, Elisabeth. (1995) Economic Man—Social Woman? The Case of the Gender Gap in Support for the Canada-United States Free Trade Agreement. *Comparative Political Studies* 28 (3): 384–408.

Gilligan, Carol. (1982) *In a Different Voice: Psychological Theory and Women's Development*. Cambridge, MA: Harvard University Press.

Gneezy, Uri, and Aldo Rustichini. (2004) Gender and Competition at a Young Age. *American Economic Review* 94 (2): 377–381.

Gneezy, Uri, Muriel Niederle, and Aldo Rustichini. (2003) Performance in Competitive Environments: Gender Differences. *Quarterly Journal of Economics* 118 (3): 1049–1074.

Griffin-Pierson, Sharon. (1990) The Competitiveness Questionnaire: A Measure of Two Components of Competitiveness. *Measurement and Evaluation in Counseling and Development* 23 (3): 108–115.

Guisinger, Alexandra. (2011) Information and Gender Differences in Individual Preferences for Protection. Paper presented at the annual meeting of the American Political Science Association, Seattle, WA. September 1–4.

Hainmueller, Jens, and Michael J. Hiscox. (2006) Learning to Love Globalization: Education and Individual Attitudes Toward International Trade. *International Organization* 60 (2): 469–498.

Hays, Jude C., Sean D. Ehrlich, and Clint Peinhardt. (2005) Government Spending and Public Support for Trade in the OECD: An Empirical Test of the Embedded Liberalism Thesis. *International Organization* 59 (2): 473–494.

Herrmann, Richard K., Philip E. Tetlock, and Matthew N. Diascro. (2001) How Americans Think About Trade: Reconciling Conflicts Among Money, Power, and Principles. *International Studies Quarterly* 45 (2): 191–218.

Hiscox, Michael J. (2006) Through a Glass and Darkly: Attitudes Toward International Trade and the Curious Effects of Issue Framing. *International Organization* 60 (3): 755–780.

Holsti, Ole R. (1996) *Public Opinion and American Foreign Policy*. Ann Arbor: University of Michigan Press.

Hoyle, Rick H., Monica J. Harris, and Charles M. Judd. (2001) *Research Methods in Social Relations*, 7th edn. Independence, KY: Cengage Learning.

Huddy, Leonie, Stanley Feldman, Theresa Capelos, and Colin Provost. (2002) The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat. *Political Psychology* 23 (3): 485–509.

Huffman, Matt L., and Philip N. Cohen. (2004) Occupational Segregation and the Gender Gap in Workplace Authority: National Versus Local Labor Markets. *Sociological Forum* 19 (1): 121–147.

Kanthak, Kristin, and Jonathan Woon. (2013) Women Don't Run? Election Aversion and Candidate Entry. Paper Presented at a Conference on Political Representation: Fifty Years after Miller and Stokes. Vanderbilt University Law School, Center for the Study of Democratic Institutions. March 1–2.

Kleinberg, Katja, and Benjamin O. Fordham. (2012) What We Don't Know (or Refuse to Say) About Gender and Trade Policy Preferences. Paper presented at the annual convention of the International Studies Association, San Diego, CA. April 1–4.

Krugman, Paul R. (1992) *Geography and Trade*. Cambridge, MA: MIT Press.

Kulis, Stephen, and Diane Sicotte. (2002) Women Scientists in Academia: Geographically Constrained to Big Cities, College Clusters, or the Coasts? *Research in Higher Education* 43 (1): 1–30.

Lane, Robert E. (1991) *The Market Experience*. New York: Cambridge University Press.

Leamer, Edward E. (1984) *Sources of International Comparative Advantage: Theory and Evidence*. Cambridge, MA: MIT Press.

Liu, Cong. (2004) Multi-Item Measures. In *Encyclopedia of Research Methods for the Social Sciences*, edited by Michael S. Lewis-Beck, Alan Bryman, and Tim Futing Liao, 674. Thousand Oaks, CA: Sage.

Mansfield, Edward D., and Diana C. Mutz. (2009) Support for Free Trade: Self-Interest, Sociotropic Politics, and Out-Group Anxiety. *International Organization* 63 (3): 425–457.

May, Ann Mari, Mary G. McGarvey, and Robert Whaples. (2014) Are Disagreements Among Male and Female Economists Marginal at Best? A Survey of AEA Members and Their Views on Economics and Economic Policy. *Contemporary Economic Policy* 32 (1): 111–132.

Mayda, Anna Maria, and Dani Rodrik. (2005) Why Are Some People (and Countries) More Protectionist Than Others? *European Economic Review* 49 (6): 1393–1430.

Mckinnish, Terra. (2008) Spousal Mobility and Earnings. *Demography* 45 (4): 829–849.

Modigliani, Andre. (1972) Hawks and Doves, Isolationism and Political Distrust: An Analysis of Public Opinion on Military Policy. *American Political Science Review* 66 (3): 960–978.

Mortensen, Dale T. (1976) Unemployment Insurance and Job Search Decisions. *Industrial and Labor Relations Review* 30 (4): 505–517.

Moyle, Penny, and Katharine Parkes. (1999) The Effects of Transition Stress: A Relocation Study. *Journal of Organizational Behavior* 20 (5): 625–646.

Navaie-Waliser, Maryam, Aubrey Spriggs, and Penny H. Feldman. (2002) Informal Caregiving: Differential Experiences by Gender. *Medical Care* 40 (12): 1249–1259.

O'Rourke, Kevin H., and Richard Sinnott. (2001) The Determinants of Individual Trade Policy Preferences: International Survey Evidence. *Brookings Trade Forum*: 157–206.

Ortmann, Andreas, and Lisa K. Tichy. (1999) Gender Differences in the Laboratory: Evidence From Prisoner's Dilemma Games. *Journal of Economic Behavior & Organization* 39 (3): 327–339.

Pew Research Center for the People & the Press. (2009) *America's Place in the World 2009: An Investigation of Public and Leadership Opinion About International Affairs*. Pew Research Center for the People & the Press. http://www.people-press.org/2009/12/03/us-seen-as-less-important-china-as-more-powerful/. (Accessed March 13, 2012.)

Public Opinion Quarterly. (2005) Special Issue: Web Survey Methods. 72 (5): 635–796.

Robinson, John P., Phillip R. Shaver, and Lawrence S. Wrightsman. (1991) *Measures of Personality and Social Psychological Attitudes*. San Diego: Academic Press.

Rodrik, Dani. (1995) The Dynamics of Political Support for Reform in Economies in Transition. *Journal of the Japanese and International Economies* 9 (4): 403–425.

Scheve, Kenneth F., and Matthew J. Slaughter. (2001a) *Globalization and the Perceptions of American Workers*. Washington, DC: Institute for International Economics.

Scheve, Kenneth F., and Matthew J. Slaughter. (2001b) What Determines Individual Trade-Policy Preferences? *Journal of International Economics* 54 (2): 267–292.

Shapiro, Robert Y., and Harpreet Mahajan. (1986) Gender Differences in Policy Preferences: A Summary of Trends from the 1960s to the 1980s. *Public Opinion Quarterly* 50 (1): 42–61.

Shauman, Kimberlee, and Yu Xie. (1996) Geographic Mobility of Scientists: Sex Differences and Family Constraints. *Demography* 33 (4): 455–468.

Spenner, Kenneth I. (1990) Skill. *Work and Occupations* 17 (4): 399–421.

Stolper, Wolfgang F., and Paul A. Samuelson. (1941) Protection and Real Wages. *Review of Economic Studies* 9 (1): 58–73.

Szalai, Alexander. (1972) *The Use of Time: Daily Activities of Urban and Suburban Populations in Twelve Countries*. The Hague: Mouton.

US Census Bureau. (2008a) North American Industry Classification System (NAICS). http://www.census.gov/epcd/www/naics.html. (Accessed March 31, 2009.).

US Census Bureau. (2008b). DP-3, Profile of Selected Economic Characteristics: 2000. http://factfinder.census.gov/servlet0QTTable?_bm_y&-geo_id_01000US&-qr_name_DEC_2000_SF3_U_DP3&-ds_name_DEC_2000_SF3_U&-_lang_en&-_caller_geoselect&-state_qt&-format_. (Accessed April 30, 2009.)

US Department of Commerce. (2008). Industry Economic Accounts. Bureau of Economic Analysis. http://www.bea.gov/industry/gdpbyind_data.htm. (Accessed April 30, 2009.)

US Department of Labor. (2008a) Standard Occupational Classification. Bureau of Labor Statistics. http://www.bls.gov/soc/. (Accessed April 30, 2009.)

US Department of Labor. (2008b) Occupational Employment Statistics. Bureau of Labor Statistics. http://www.bls.gov/oes0oes_dl.htm. (Accessed April 30, 2009.)

US International Trade Commission. (2008) USITC Interactive Tariff and Trade DataWeb. http://dataweb.usitc.gov/scripts/user_set.asp. (Accessed April 30, 2009.)

Waddoups, Jeffrey, and Djeto Assane. (1993) Mobility and Gender in a Segmented Labor Market: A Closer Look. *American Journal of Economics and Sociology* 52 (4): 399–412.

Wakabayashi, Chizuko, and Katharine Donato. (2005) The Consequences of Caregiving: Effects on Women's Employment and Earnings. *Population Research and Policy Review* 24 (5): 467–488.

Welch, Susan, and John Hibbing. (1992) Financial Conditions, Gender, and Voting in American National Elections. *Journal of Politics* 54 (1): 197–213.

Wolbrecht, Christina. (2005) Gender Differences in Public Opinion. In *Polling America: An Encyclopedia of Public Opinion*, edited by Samuel J. Best and Benjamin Radcliff, 267–271. Westport, CT: Greenwood Press.