

Who Wants to Globalize? Consumer Tastes and Labor Markets in a Theory of Trade Policy Beliefs

Andy Baker Northeastern University

Although the allure of consumption is the engine of globalization, political economists have tended to ignore varying consumer tastes as a potential source of beliefs about trade policy. This article develops a theory of trade policy preferences that adds the notion of varying consumer tastes to the standard labor-market application of the Heckscher-Ohlin trade model. The theory, which can explain trade preferences both across individuals and countries, is supported by an empirical analysis of survey data from 41 nations. Heavy consumers of exportables are found to be more protectionist than heavy consumers of imports and import-competing goods. Moreover, citizens in countries with expensive tradable goods see trade liberalization as a remedy to the rents they pay for protectionism. Other findings also support the more conventional labor-market side of the Heckscher-Ohlin model.

The “Battle of Seattle,” the Cancún walkout, stubborn agricultural subsidies, violence at the Genoa G8 and the S26 Prague meetings, outrage over outsourcing, the annual World Social Forums: all are among the events that observers cite as evidence of a worldwide backlash against globalization. With everyone from violent anarchists to armchair protectionists voicing concerns over unemployment, wages, sweatshops, the environment, national identity, and democratic sovereignty, many consider the continued opening of global markets to be imperiled. While these events and arguments receive much attention, however, the largely unmentioned engine of globalization is the allure of consumption. The U.S. trade deficit with China is driven by Americans’ addiction to cheap imports. Despite boycotts and protests over its continued expansion, 100 million people visit a Wal-Mart store every week. Months after French farmer José Bové tracted over a McDonald’s restaurant, declaring that “the French people . . . are with us in this fight against junk food and globalization,” the corporation opened its one-thousandth franchise in that country (Bhagwati 2004). In short, while citizens as producers and nation-state residents may complain about globalization, citizens as consumers often find it hard to resist.

Does such consumption behavior resonate in citizens’ beliefs about international trade? Despite the huge influ-

ence of trade on consumer options and prices, scholars of mass attitudes have largely ignored consumer tastes and demand patterns as sources of beliefs and domestic cleavages over globalization. This article develops and tests a theory of mass trade policy preferences that incorporates the heterogeneous welfare effects of labor-market outcomes, which have been the exclusive focus of scholars to date, and consumption behavior. I draw from the classic Heckscher-Ohlin trade theory to explain variation in mass commitments to protectionism across individuals and countries. After describing the theory and its application to consumer tastes in the next section, the article proceeds in two empirical parts. The first and main part tests the individual-level implications of the theory using the 1995–97 World Values Survey, a poll of 53,000 people from 41 countries. The second part aggregates attitudes by country, testing whether consumer interests, along with the more conventionally considered labor-market assets, can explain cross-national differences in mass support for free trade.

The Heckscher-Ohlin Model

The Heckscher-Ohlin (H-O) trade theory has dominated the literature on trade policy attitudes. These

Andy Baker is assistant professor of political science, Northeastern University, 301 Meserve Hall, Boston, MA 02115-5000 (a.baker@neu.edu).

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applications of the theory have used a version of the model that categorizes workers into two factors of production: skilled and unskilled labor.¹ Countries are thus classified as skill-abundant or skill-scarce based on their supply of skill relative to other countries. Goods are skilled labor-intensive or unskilled labor-intensive based on the relative weight of factors used in their production. H-O holds that upon liberalizing trade, a country will tend to export goods whose production is intensive in its abundant factor while importing goods that are intensive in its scarce factor (Heckscher [1919] 1949). Global demand for a country's abundant-factor-intensive goods increases and, as a result, so does their domestic price. In contrast, trade increases the domestic supply and thus lowers the domestic price of goods intensive in a country's scarce factor. Real wages for the abundant factor increase while those for the scarce factor decrease, so trade liberalization has important domestic income distribution consequences: it raises the relative wages of skilled workers in skill-abundant countries while lowering the relative wages of skilled workers in skill-scarce countries (Stolper and Samuelson 1941).

When applied to public opinion, the H-O-inspired hypothesis posits that the correlation between worker skill and support for free trade should be positive in skill-abundant countries and negative in skill-scarce countries.² Extant findings on mass opinions toward trade policy partially reflect these expectations. Scheve and Slaughter (2001) find a strong positive correlation between various measures of skill and support for free trade in the skill-abundant United States. Using cross-national data, Mayda and Rodrik (2005) as well as O'Rourke and Sinnott (2001) have found that "the [higher skill] a country, the more positive is the impact of a marginal increase of [worker skill] on the probability of pro-trade attitudes" (Mayda and Rodrik 2005, 1405). Baker (2003) also finds this to be the case in Latin America. At the same time, these authors fail to reveal the expected negative correlation between skill and pro-trade sentiment in most developing countries. They also have roundly ignored other factors of production, namely land and capital. Most importantly, this literature has tended to overlook varying demand and consumption patterns as a possible source of trade policy preferences.

¹The classic treatment of H-O uses capital and labor as the two factors of production. Scholars of mass opinions about trade, however, have used the skilled/unskilled bifurcation of labor.

²This pattern should hold even in countries (like Canada) that trade overwhelmingly with similarly endowed countries (Leamer 1984).

Nonhomothetic Tastes: Consumer Preferences in the H-O Framework

The standard H-O model and its public opinion applications assume homothetic tastes: the ratio of skilled labor-intensive goods to unskilled labor-intensive goods within the set of goods consumed is equivalent for every worker in every country. Stated differently, the share of each worker's consumption bundle that is devoted to skill-intensive goods is identical. This assumption makes the H-O results more tractable. The distributional impact of changing trade flows is assumed to occur solely through labor market shifts: changes in the supply of and demand for workers' employable assets. However, if, as is the case empirically, consumption budgets are allowed to vary—i.e., tastes are "nonhomothetic"—trade-induced price changes also produce differential welfare impacts because of varying consumer tastes.³

Recall that trade liberalization raises the prices of a country's exportable goods while lowering those of its imported goods. As a result, *workers that heavily consume their country's exportable goods experience price increases for their consumption bundles relative to workers that more heavily consume imported and import-competing goods* (Alt and Gilligan 1994; Frieden and Rogowski 1996). Stated generally, holding skill level constant, heavy consumers of goods that are intensive in their country's abundant factor undergo relative *real* wage (i.e., purchasing power) losses from trade liberalization compared to heavy consumers of the scarce-factor-intensive good. Therefore, the propensity to consume skill-intensive goods should be negatively correlated with support for free trade in skill-abundant countries and positively associated with pro-trade inclinations in skill-scarce countries.⁴

³Despite potentially different connotations, "consumer tastes/preferences," "consumption budgets/bundles/baskets," and "demand patterns" are used synonymously in this article.

⁴Theoretically, variations in consumption budgets are occasionally incorporated into trade theory through Ricardo-Viner (R-V), an alternative trade model in which, unlike H-O, at least one factor of production is immobile across industrial sectors (Alt and Gilligan 1994; Ruffin and Jones 1977). This article incorporates meaningful nonhomothetic tastes into an H-O setup based on the fact that consumer demand patterns, at least with respect to broad classes of goods and services, tend to be static. Admittedly, consumers could respond to trade-induced price increases by substituting away from exportables to imported goods, making consumption bundles wholly endogenous to trade policy and, in turn, a poor predictor of welfare and protectionist sentiment. However, H-O does not assume this substitution effect occurs, as it would undo the original labor-market effects on distribution (Stolper and Samuelson 1941) by lowering the price of exportables again (through decreased demand). Moreover, empirical findings on consumption baskets

In the empirical literature on international trade, economists have been of two minds with respect to consumer tastes. While homothetic tastes is a rarely relaxed assumption, studies in which demand patterns are allowed to be nonhomothetic indicate that their empirical implications can be vast. For starters, the classic and influential study of Prebisch (1950), which provided the intellectual justification for decades of import substitution in Latin America, claimed that the South's terms of trade would slowly decline with global economic growth because the South specialized in goods with lower income elasticities of demand (worldwide) than the North. A series of subsequent studies has been largely motivated by Linder's (1961) finding that high-income individuals and countries tend to consume manufactured goods at a higher rate than low-income individuals and countries. These studies have found that shared demand patterns encourage North-North (or intra-industry) trade, increasing flows by as much as 25%, while divergent consumer tastes discourage North-South (or inter-industry) trade (Hunter 1991; Hunter and Markusen 1988; Markusen 1986). Most recently, the rising gap between skilled labor's and unskilled labor's wages around the world has been attributed to the fact that economic growth increases the relative demand for skill-intensive goods because wealthier citizens have consumption baskets with more skill-intensive goods (Leonardi 2003).

Moreover, even beyond these pure economic results, cognitive and psychological reasons exist for why political scientists, in particular, should suspect that consumer tastes and habits are an important source of mass trade policy preferences. Citizens are well-known for being "cognitive-misers" when it comes to politics, so they often learn about policy issues when relevant information comes available as a "by-product" of normal activities (Downs 1957; Popkin 1991; Sniderman, Brody, and Tetlock 1991). Consumption, in one form or another, is an activity that most human beings engage in nearly every day, while in even the most advanced economies only 70% of the population is actually in the labor market and far fewer work in a tradable goods sector (Baker 2003). In short, many citizens may be more prone to consider trade as consumers than as producers. Overall, however, despite this long list of theoretical and empirical findings, scholars of trade policy coalitions (Frieden 1991; Hiscox 2002; Keohane and Milner 1996; Rogowski 1989) and mass beliefs about globalization (Beaulieu, Benarroch, and Gaisford

indicate that their composition vis-à-vis the overall skill-intensity of goods consumed does not change substantially as a result of trade-induced price changes. For example, because they are human necessities, poor consumers cannot substitute away from food and clothing (Engel 1857; Houthakker 1957; Hunter 1991; Matsuyama 2000).

2004; Gabel 1998; O'Rourke and Sinnott 2001; Mayda and Rodrik 2005; Scheve and Slaughter 2001, 2004; Seligson 1999) have almost completely ignored variation in consumer tastes as a potential source of preferences, exclusively focusing instead on employable assets.⁵

Theoretical Alternatives

The trade policy attitudes literature has applied several other economic theories besides H-O.⁶ Although under different theoretical guises, one set of alternatives claims that individual skill and protectionist sentiment should be negatively correlated in *all* countries, regardless of factor endowments. Beaulieu, Benarroch, and Gaisford (2004) develop an intra-industry trade model that suggests that trade liberalization measures in recent years have been asymmetrically concentrated in skill-intensive goods; unskilled workers still face protectionist barriers to the goods they tend to produce. Gabel (1998) posits the human capital thesis, claiming that a higher stock of formal skills makes individuals more adaptable to changing labor markets. While both sets of authors do find evidence indicating a cross-national positive association between individual skill and pro-trade attitudes, their survey data come almost exclusively from developed countries, where the H-O-inspired theory has identical empirical implications.

That said, scholars using public opinion data from the developing world have reported rather limited evidence for the H-O-inspired expectation of a negative correlation between skill and pro-trade sentiment. Indeed, this parallels the surprise of many economists at the failure of Latin American and other lower-middle income countries to reduce wage inequality through trade liberalization (Wood 1997). Economists have proposed a slew of explanations for this trend (Goldberg and Pavcnik 2004), but I consider just two in this article. First, illiterate and other poorly trained workers in developing countries, designated as "NO-EDs," do not have even the

⁵In previous work on Latin America (Baker 2003), I presented consumer tastes as a contrast to an H-O-based model. This article more appropriately treats consumption and production as two sides of the same coin within the H-O framework and tests it in countries from all world regions.

⁶A version of the Ricardo-Viner (R-V) model that assumes workers are not mobile across industrial sectors has been tested several times in the literature on trade policy coalitions (Frieden 1991; Hiscox 2002; Magee, Brock, and Young 1989). R-V goes untested in this article because the sector-of-employment data are unavailable in the World Values Survey, although it has so far received rather limited empirical support when tested as a predictor of mass attitudes (Mayda and Rodrik 2005; Scheve and Slaughter 2001).

minimal skills to benefit from unskilled labor-intensive exports (Wood 1994). *NO-EDs* therefore may not have experienced the wage pull that more educated but still unskilled compatriots might have enjoyed. Second, the comparative advantage of many developing countries may no longer lie in unskilled labor at all. Half of the world's unskilled labor force resides in just five Asian nations (Bangladesh, China, India, Indonesia, and Pakistan) that have recently entered global markets, so many lower-middle and middle-income countries have seen their comparative advantages shift away from unskilled workers (Wood 1997).

A final theoretical alternative is “new trade theory,” which has rather divergent expectations from traditional trade models like H-O (Krugman 1990). In new trade theory, countries trade because they have different specializations that may not necessarily be based on variation in resource endowments. New trade theory drops H-O's assumption of constant returns to scale. Instead, the specializations a country achieves through economies of scale provide a basis from which to export, while the lack of specialization in certain areas creates a need to import. New trade theory also relaxes H-O's assumption of no transport costs, noting that international trade volumes have increased as transport costs have declined. Indeed, low transport cost, in the form of geographical proximity to the world's epicenters of production and consumption, can itself be a source of comparative advantage: “Countries that are ‘close to the action’ are shown to have large locational advantages, enjoying high per capita GDP [and] high growth . . .” (Leamer 1997, 505; also see Gallup, Gaviria, and Lora 2003).

Data, Model, Measurement, and Hypotheses

A proper test of whether any of these economic theories helps predict trade attitudes requires survey data from both high-skill and low-skill countries. This is largely because H-O and the other skill-based theories have identical observable implications in the developed world: formal skill level and protectionist sentiment should be negatively correlated. To date, however, almost all research on mass attitudes toward trade policy has been conducted with data from a single country or multiple countries in the developed world (Beaulieu, Benarroch, and Gaisford 2004; Gabel 1998; O'Rourke and Sinnott 2001; Scheve and Slaughter 2001). Studies explaining trade attitudes in the developing world have also been conducted on samples of homogenous countries (Baker 2003; Seligson 1999). The one exception to this is Mayda and Rodrik (2005), who,

while using survey data collected from various world regions, do not consider nonhomothetic tastes or factors of production other than skill.

To avoid the pitfalls of most previous work, I analyze the 1995–97 *World Values Survey* (WVS), which measured trade attitudes in over 40 countries ranging in per capita income (at PPP) from US\$832 in Nigeria to US\$27,395 in the United States. The 41 countries in my analysis (listed in the appendix) include 16 that were below the worldwide median per capita income (US\$4,000). The survey contains the following binary measure of trade preferences: “Do you think it is better if (1) goods made in other countries can be imported and sold here if people want to buy them, or that (0) there should be stricter limits on selling foreign goods here to protect the jobs of people in this country?” This variable, dropping “don't know” and other nonresponses, is the dependent variable in the model described and reported in this and the following section. A score of one on this *Supports Free Trade?* variable indicates backing for free trade while a score of zero indicates protectionist sentiment.

Multilevel Model Specification

The causal heterogeneity hypothesized above as well as the multinational nature of the dataset require a multilevel statistical model (Raudenbush and Bryk 2002). This subsection describes the independent variables included in a series of hierarchical binary logit models of trade attitudes in 41 countries.

Skill: Measurement and Hypotheses. A central variable in the H-O model is skill at both the individual and national level, yet skill is a difficult trait to measure. Years of formal education level is often used, but education alone ignores (1) experience-based or post-schooling acquisition of skill, (2) massive domestic and international variation in schooling quality, (3) differences in achievement within equivalent education levels, and (4) the fact that not all skills acquired through formal education are market-relevant. Moreover, education has also been used by political scientists to measure other concepts related to trade preferences like “cognitive mobilization” and resistance to nationalism (Inglehart, Rabier, and Raif 1987), susceptibility to protectionist framing effects (Hiscox 2006), exposure to teaching from a free-market perspective (Hainmueller and Hiscox 2006), and awareness of elite messages (Zaller 1992). As such, I use only the economically relevant aspects of formal education to measure skill in this article.

To do so at the individual level, I conducted for each country a factor analysis of formal education level, income, and occupation. (See Appendix for all question

wordings.) In every country these three variables were highly correlated and loaded on only one significant dimension. The factor scores from this dimension are the measures of *Individual Skill*, or $skill_i$, and they capture only the income- and occupation-relevant aspects of formal education.

Testing the H-O-inspired theory also requires a measure of each country's skill endowments, $skill_j$. Again, education-based measures are precarious: they require making a common and arbitrary cut-off in every country dividing skilled and unskilled labor (often at "some post-secondary education"). Existing datasets of cross-national formal education are rife with extrapolation, unintuitive findings, missing data, and outliers (Barro and Lee 2003).⁷ As such, I use 1995 per-capita GDP at PPP (logged), a variable that is much more available and more meaningfully captures the economically relevant aspect of skill endowments (Mayda and Rodrik 2005; World Bank 2000). Because the meaning of a zero value on this variable is important in an interactive model, I center it at its 1995 international median.

To test the H-O-inspired theory, the coefficient on individual skill ($skill_i$) is allowed to vary by country and is estimated as a function of country skill ($skill_j$). That is,

$$\beta_{(skill_i)_j} = \gamma_{(skill_i)_0} + \gamma_{(skill_i)_1} \cdot skill_j + u_{(skill_i)_j} \quad (1)$$

The two γ coefficients can be interpreted similarly to those in an interaction model: $\gamma_{(skill_i)_0}$ is the slope on individual skill when country skill equals zero (its international median), and $\gamma_{(skill_i)_1}$ is akin to the interaction coefficient for individual skill \times country skill.⁸ The H-O-inspired hypotheses are that $\gamma_{(skill_i)_1} > 0$ and $\gamma_{(skill_i)_0} = 0$. The former would indicate that individual skill is more positively related to free trade support in skill-abundant countries than in skill-scarce countries. The latter would indicate that the relationship is zero in countries with the median skill level. A combination of $\gamma_{(skill_i)_0} > 0$ and $\gamma_{(skill_i)_1} = 0$ would be in line with the human capital and intra-industry trade theories, since it would indicate that skill is positively and equally correlated with free trade support in every country.

I control for individuals that do not cross a minimum skill threshold (respondents without a completed primary education) with a dummy variable for *NO-EDs*.

⁷For example, dichotomizing like this with the Barro-Lee dataset places Peru and the Philippines with skill endowments equivalent to Japan's and 50% greater than Germany's and Britain's. The United States is an extreme outlier, some four standard deviations above Japan and other OECD countries. Finally, over one-third of the countries in the WVS are not in the Barro-Lee dataset.

⁸The one departure from a standard interaction model is the addition of $u_{(skill_i)_j}$, which drops the (probably) unrealistic assumption that $skill_i$ perfectly accounts for cross-country differences in the relationship between individual skill and trade attitudes.

The parameter $\gamma_{(NO-ED)}$ therefore indicates how much *NO-EDs* deviate from the level of support for free trade that their raw skill level would dictate. If Wood is right, such that *NO-EDs* really do not benefit from any skill-related comparative advantage, this coefficient should be negative.

Measuring Consumer Tastes, Land, and Capital. Precise measures of consumption patterns are expensive and time-consuming to collect. Because they require a sample of families to record expenditure patterns for at least a week (and often longer), household budget surveys are scant. The World Values Survey, obviously, does not contain one; indeed, no existing study of family consumption patterns is coupled with a set of attitudinal questions that queries trade policy beliefs. However, a rich research tradition dating back to Engel's law (1857) links consumption patterns to income, which I use as a proxy for consumer tastes.

For the purposes of this article, then, linking income with the propensity to consume skill-intensive goods is crucial yet straightforward. Within a given country, skill-intensive goods comprise a higher share of high-income consumption bundles than of low-income bundles: "income elasticities for high skill-intensive goods are higher than for low skill-intensive goods" (Leonardi 2003, 9). Indeed, it is a well-established, cross-national fact that wealthy individuals consume skill-intensive goods and (especially) services—like motor vehicles, computers, fashionable clothing, education, health care, insurance, entertainment—at a higher rate than poor consumers. The poor, on the other hand, consume low skill-intensive, necessity items—like food, home energy, and inexpensive clothing—at higher rates (Houthakker 1957; Kalwij and Machin 2004). Studies in international economics of nonhomothetic tastes invariably find income to be the primary correlate of various aspects of demand patterns (Hunter and Markusen 1988; Linder 1961). $Income_i$, then, measures differences in consumer tastes.⁹ The slope on income should also depend on country skill endowment, so the income coefficient is also estimated as a function of country skill, similar to equation 1:

$$\beta_{(income)_j} = \gamma_{(income)_0} + \gamma_{(income)_1} \cdot skill_j + u_{(income)_j} \quad (2)$$

⁹Part of this income variable is used to calculate $skill_i$. Multicollinearity, however, is not a concern since the correlation between individual skill and income ranges from only .3 to .6 in all countries. Besides, any measures of skill and income will be correlated, so multicollinearity is not a problem but rather a result of how the world works. Moreover, this setup is necessary to isolate the consumption-related aspect of income from the skill-related component.

The nonhomothetic tastes hypothesis is $\gamma_{(income)_1} < 0$, which would indicate that income is more negatively correlated with free trade support in high-skill countries than in low-skill countries.

Unlike previous scholars of trade policy attitudes, I test the impact of land and capital as factors of production. At the country level, land is the number of square kilometers of arable land (World Bank 2000) while capital stock is the absolute amount of investment in U.S. dollars in 1996 (Heston, Summers, and Aten 2002). The ratio of these two factor quantities (multiplied by a scale factor of 1,000,000 to ease estimation and interpretation) is the *Land Abundance_j* variable used in the analysis. It is also centered at its international median. Although direct ownership of land and capital is also difficult to ascertain in standard public opinion surveys, the size of one's town or city of residence serves as a viable proxy. Land is by definition abundant in rural areas, while capital (factories, machinery, roads, etc.) is abundant in urban areas. As such, *Town Size_i* of residence is a good measure of the degree to which a respondent's livelihood depends on land relative to capital. The coefficients for these variables are as follows:

$$\begin{aligned} \beta_{(Town\ Size)_j} = & \gamma_{(Town\ Size)_0} \\ & + \gamma_{(Town\ Size)_1} \cdot Land\ Abundance_j \\ & + u_{(Town\ Size)_j}. \end{aligned} \quad (3)$$

According to the H-O-inspired model, $\gamma_{(Town\ Size)_0} = 0$ and $\gamma_{(Town\ Size)_1} < 0$.

Other Independent Variables. The models contain other variables to control for confounding factors. Because the total returns are lower, older workers may be more reluctant to adjust their lifestyle (job change, retraining, relocation) in the face of shifting labor markets. I expect respondent's *Age_i* to be negatively correlated with free-trade sentiment (Tucker, Pacek, and Berinsky 2002). Because of child-birth, child-rearing, and discrimination, women also face a more precarious labor market worldwide than men. *Women_i* may, like the elderly, prefer protection from the vicissitudes of the global market (Hiscox and Burgoon 2003). I also control for *Nationalist Sentiment_i*, which is positively correlated with skill in most countries and is probably negatively associated with support for international trade. Omitting this variable could result in an upwardly biased $\gamma_{(skill)_0}$, although I also consider models without nationalism because it is potentially endogenous to trade attitudes.

Finally, a surprising amount of evidence from a wide variety of countries indicates that a high de-

gree of political awareness leads to more support for trade liberalization and other market policies (Baker 2003; Gabel 1998; Inglehart, Rabier, and Raif 1987; Iverson and Soskice 2001; Scheve and Slaughter 2001). This may be because highly aware citizens are more exposed to discourse from international elites comprising the pro-market "Davos Culture" (Huntington 1996) and "Washington Consensus" (Williamson 1990). Alternatively, they may be more exposed to relevant messages from domestic elites, which in recent years seem to have been, on balance, more favorable toward economic liberalization and integration (Zaller 1992). Regardless, *Political Interest_i* is positively correlated with skill and town size in nearly every country, so it is an important control variable. However, the nature of this relationship may vary with country characteristics, for example, if domestic elites are more pro-trade in skill-abundant countries than in skill-scarce ones. To allow for this potentially confounding interaction effect, the coefficient on political interest is estimated as a function of country skill endowments.

Remaining Specification Decisions. All individual-level variables (except age and women) are centered around their country means and divided by their country-level standard deviations, so each is expressed as the respondent's distance in standard deviations from her or his country mean (i.e., z-scores). This means that results reflect merely common tendencies in *domestic* cleavages over trade policy. Slopes for individual skill, income, town size, and political interest vary systematically with country traits; the remaining variance in cross-country slopes ($\text{Var}[u_{xj}]$) is assumed to be random and normally distributed. Slopes for variables that are not modeled as functions of level-two variables (age, gender, and nationalism) are estimated as normally distributed random coefficients, varying unsystematically across countries.

Missing data was a concern because of item nonresponse (e.g., refusal to report income) and unasked questions in some countries (e.g., interest was not asked in Pakistan). To avoid a severe loss of cases, I used multiple imputation.¹⁰ Finally, I used the individual-level probability weights reported with the WVS data (to correct for under- and overrepresentation of groups) as well as country-level probability weights corresponding to the inverse of each country's share of the world population. These weights make the results pertain to a cluster sample of the world population, although I also consider the robustness of findings to exclusion of these weights.

¹⁰More specifically, I used the techniques (with 10 imputed datasets) described in King et al. (2001) with the EMis algorithm in *Amelia* 2.1 (Honaker et al. 2001).

Results

The hierarchical binary logit results are reported in Table 1, although the estimated variance components of the random coefficients are not shown to reduce clutter. The variables that are the primary tests of the H-O-inspired model and its extension to consumer tastes are coupled with their corresponding coefficient symbols from equations 1, 2, and 3. To confirm findings are robust, estimates for several models are shown, although model 1, which is weighted and the most fully specified, is the preferred one. Model 2 is unweighted, model 3 drops noneco-

nomics (potentially endogenous) variables, and model 4 drops the *NO-EDs* variable.

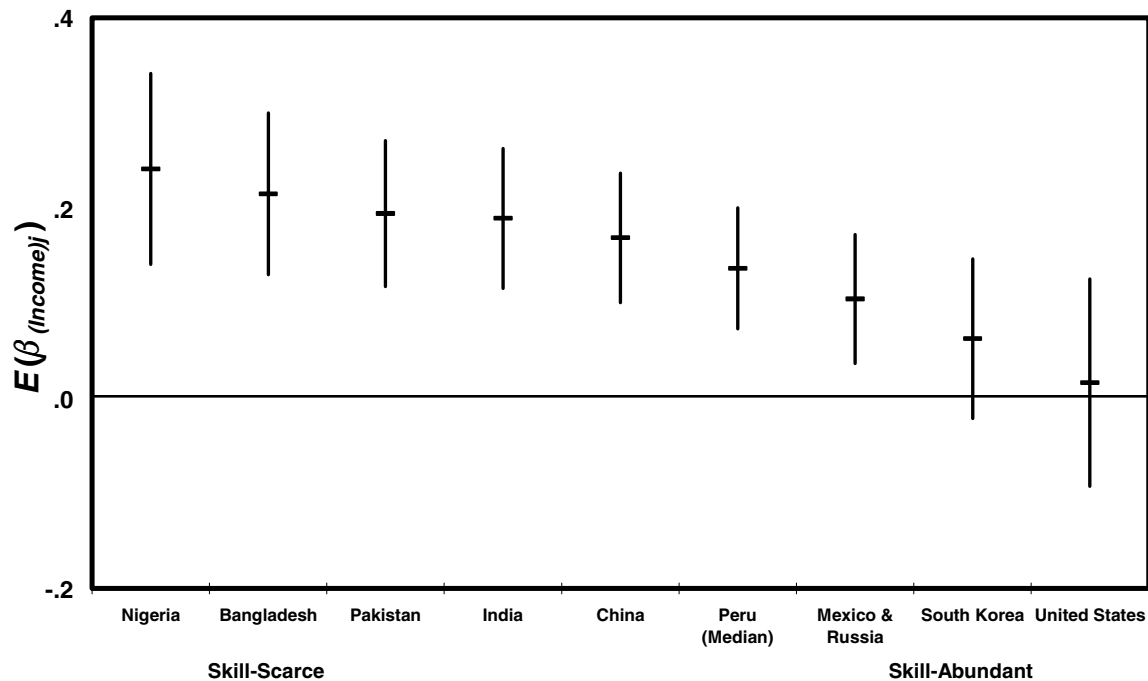
First, the attitudinal relevance of consumer tastes is demonstrated by the robust finding that the association between income (tendency to consume skill-intensive goods and services) and pro-trade attitudes grows increasingly negative as a country's skill endowment grows ($\gamma_{(income)_1} < 0$). This finding is statistically significant in all four models. Figure 1 demonstrates its substantive impact by plotting the predicted slopes for some exemplary countries. Interestingly, this variation is around a positive median (because $\gamma_{(income)_0} > 0$): only in moderately

TABLE 1 Determinants of Individual-Level Trade Policy Attitudes in 41 Countries: Hierarchical Binary Logit Estimates

Independent Variables	3: Economic			
	1: Preferred Model	2: Unweighted	Variables Only	4: No <i>NO-EDs</i> Dummy
<i>Cross-Level Multiplicative Terms</i>				
Income _{<i>i</i>} × Skill Abundance _{<i>j</i>} ($\gamma_{(income)_1}$)	-.0642** (.0241)	-.0727** (.0187)	-.0753** (.0240)	-.0619** (.0248)
Skill _{<i>i</i>} × Skill Abundance _{<i>j</i>} ($\gamma_{(skill)_1}$)	.2509** (.0402)	.1524** (.0212)	.2537** (.0375)	.2184** (.0415)
Town Size _{<i>i</i>} × Land Abundance _{<i>j</i>} ($\gamma_{(Town\ Size)_1}$)	-.0444* (.0257)	-.0141 (.0168)	-.0370 (.0307)	-.0293 (.0284)
Political Interest _{<i>i</i>} × Skill Abundance _{<i>j</i>}	.0056 (.0275)	.0633** (.0170)		.0211 (.0278)
<i>Individual-Level Variables</i>				
Income _{<i>i</i>} ($\gamma_{(income)_0}$)	.1365** (.0326)	.1121** (.0228)	.1287** (.0323)	.1393** (.0330)
Skill _{<i>i</i>} ($\gamma_{(skill)_0}$)	.1978** (.0451)	.1642** (.0307)	.2123** (.0418)	.1936** (.0468)
<i>NO-EDs</i> _{<i>i</i>}	.2222* (.0962)	.1712** (.0577)	.2438* (.0916)	
Town Size _{<i>i</i>} ($\gamma_{(Town\ Size)_0}$)	.0591 (.0400)	.0792** (.0278)	.0641 (.0399)	.0539 (.0405)
Age _{<i>i</i>}	-.0154** (.0023)	-.0123** (.0017)	-.0167** (.0023)	-.0149** (.0024)
Woman _{<i>i</i>}	-.1945** (.0513)	-.1916** (.0420)	-.1915** (.0521)	-.1895** (.0517)
Political Interest _{<i>i</i>}	-.0207 (.0148)	.0023 (.0167)		-.0283* (.0151)
Nationalist Sentiment _{<i>i</i>}	-.1701** (.0265)	-.1565** (.0207)		-.1709** (.0264)
Intercept	.4020 (.2700)	.0541 (.1933)	.4545 (.2660)	.3835 (.2713)

Note: N = 53,961, J = 41. Entries are restricted maximum-likelihood estimates with robust standard errors in parentheses. The dependent variable is a binary indicator of (0) protectionist or (1) pro-trade sentiment. Variance components (τ_{xx} , or $\text{Var}[u_{xy}]$) for each individual-level coefficient are available from the author upon request. *p < .05 and **p < .01.

FIGURE 1 Impact of Individual Income as a Function of Country Skill Endowment: Estimates and 95% Confidence Intervals for $E(\beta_{(Income)j})$



high-skilled countries (like South Korea) and upward are the poor *not* more protectionist than the rich. On the whole, however, observed patterns strongly support the importance of nonhomothetic tastes to trade policy beliefs.

Second, as the plot of coefficients in Figure 2 depicts, the correlation between individual skill and support for free trade grows increasingly positive as country skill endowment grows ($\gamma_{(skill)_1} > 0$). Despite the use of different data, measures, and methods, this result, which lends strong support to the H-O-inspired model, replicates that of several other scholars and is thus one of the most important and robust findings in the trade policy attitudes literature.

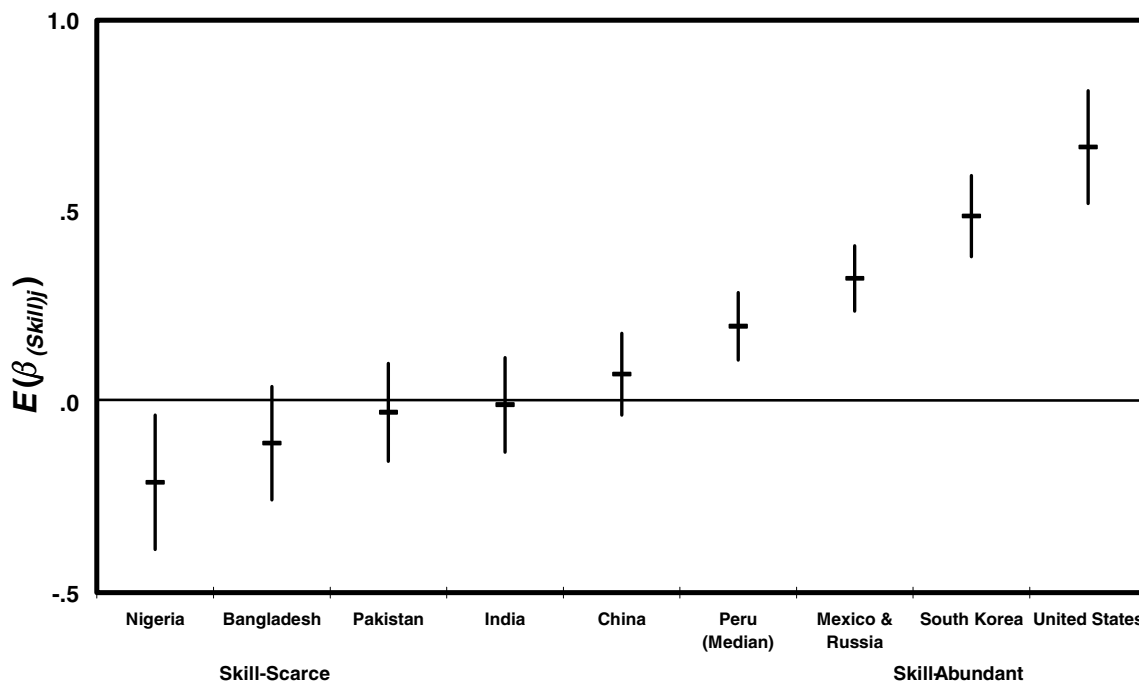
At the same time, however, the correlation between individual skill and support for free trade is strongly positive even in countries with the international median level of skill ($\gamma_{(skill)_0} > 0$). Indeed, this correlation is statistically *below* zero (see Figure 2) only for the least skill-endowed country in the sample, Nigeria. Among unskilled-labor powerhouses Bangladesh, Pakistan, India, and China, the slope between skill and support for free trade is essentially flat. In short, these results seem to correspond to a necessarily modified version of H-O: while the correlation between skill and pro-trade attitudes *does* decline with decreasing country skill endowments, the

variation in this correlation is around an already positive median value.

The existence of both tendencies no doubt explains the apparently contradictory findings of scholars who have limited their analyses to middle- and upper-income countries; some have cast a vote for H-O (Mayda and Rodrik 2005; O'Rourke and Sinnott 2001) while others have argued for hypotheses akin to the human capital argument (Beaulieu, Benarroch, and Gaisford 2004; Gabel 1998). An exploration of the sources of this pattern lies well beyond the scope of this article, as economists themselves disagree on why trade has not reduced inequality in lower- and lower-middle-income countries in recent years. It is clear, however, that *NO-EDs* are not responsible for this tendency, as the inclusion of this dummy variable does not eliminate the positive correlation between skill and support for free trade in most countries. In fact, *NO-EDs* are actually slightly *more* favorable toward free trade than their skill level would dictate.

Third, support for the relevance of land and capital endowments as determinants of trade attitudes is more mixed. In the preferred model factor endowments matter in the hypothesized direction: rural dwellers are more pro-trade relative to urban dwellers in land-abundant countries than in capital-abundant ones ($\gamma_{(Town\ Size)_1} < 0$). But this finding is not very robust, and as in the case of skill

FIGURE 2 Impact of Individual Skill as a Function of Country Skill Endowment: Estimates and 95% Confidence Intervals for $E(\beta_{(skill)j})$



endowments, this variation in slope tends to be around a positive median ($\gamma_{(Town\ Size)_0} > 0$): urban residents tend to be less protectionist than rural residents in countries with median degrees of land abundance (e.g., China). The weaker predictive power of these factors is perhaps due to the fact that capital is more internationally mobile than labor (Wood 1994).

Finally, a few interesting patterns emerge among the control variables. The most robust findings are that women, the elderly, and nationalists are on average far more protectionist than other compatriots. The impact of exposure to elite discourse, by contrast, is unclear. Political interest may increase support for trade in skill-abundant countries while reducing it in skill-scarce countries (a potential sign that elites in the former are more pro-trade than in the latter), but this finding is neither robust nor does it hold in the preferred model.

Country Results: Why Are the North’s Citizens So Protectionist?

The H-O-inspired model is therefore quite successful in explaining intra-country cleavages over trade policy, but the theory and empirical testing to this point have ignored

cross-national differences in mean support for free trade. The average proportion of free traders in the 41 countries is 0.35 with a standard deviation of 0.16, so clearly some countries have a more protectionist citizenry than others. Can both the consumption and labor-market side of the H-O equation discussed above explain why?

Two sets of hypotheses stem from the theoretical discussion above, one pertaining to consumer interests and the other to employable assets. Regarding consumption, protectionism drives up consumer prices for tradable goods: citizens are, in essence, charged for economic rents that are redistributed to protected sectors. Therefore, voters may see trade liberalization as a remedy to high prices. For example, Japan is widely known as being both protectionist and one of the most expensive countries in the world. The fact that it has the most pro-trade citizenry in the WVS sample—77% support free trade, almost three standard deviations above the mean—is potential evidence that consumer patience with paying producer rents has worn thin.

Regarding labor markets or, more precisely, factor endowments, I hypothesize that aggregate support for free trade should vary with the distribution of factor ownership, particularly, the relative size of groups endowed with each country’s abundant factor (Alt and Gilligan 1994; Mayer 1984; Milner and Kubota 2005; Rogowski 1989).

Protectionist sentiment should be widespread in countries in which abundant-factor assets are concentrated in a slim slice of the population. In contrast, aggregate support for free trade should be much higher in countries where abundant-factor assets are shared throughout a broad segment of the population. Regarding labor, unskilled workers outnumber skilled workers in *every* society, even in the most highly educated countries in the world: “Even after 60 years of rising educational attainment, the median US worker is still a high-school graduate. . .” (Scheve and Slaughter 2001, 83). Indeed, workers with at least some college education comprise only about 25% of the population in the wealthy countries where they are the abundant labor factor (Barro and Lee 2003). Capital is also not widely distributed, even in capital-rich countries, whereas land is widely distributed in land-abundant nations. In other words, the skilled-unskilled and capital-land ownership distributions are left-skewed in *all* countries (Mayer 1984). As such, I expect support for free trade to be higher in land-abundant and skill-scarce countries.

It is important to note that the latter hypothesis concerns a crucial element of the globalization debate: is trade more or less popular in wealthy countries? Antiglobalization protesters tend to assert that trade liberalization is imposed by developed-world business interests to the detriment of the world’s poor. Despite this, developing countries have been the most vociferous movers toward free trade in recent decades, prompting a leading trade theorist to recently suggest an “ironic reversal” of globalization support from North to South (Bhagwati 2004). In fact, the zero-order correlation between skill abundance and support for free trade is a mere +0.07, providing support for neither side. I demonstrate below, however, that upon controlling for confounding factors, a much stronger and more interesting pattern emerges.

Measurement and Hypotheses

To test these and other hypotheses, I run a series of regression models (with multiple imputation) in which each case is a country ($n = 41$) and the dependent variable is the proportion of survey respondents expressing support for free trade.¹¹ Skill and land abundance are measured

¹¹Why not test these cross-national hypotheses by simply including the independent variables in the multilevel model in Table 1? One reason is to avoid methodological obfuscation: the goal is to explain cross-national differences, so it is most straightforward to use merely country-level measures. A more technical reason is that substantive results would not vary because individual-level variables in the multilevel model were mean-centered by country. As such, individual skill and income were, in essence, constrained from explaining cross-national differences.

with the same variables used in the individual-level models reported above. I also control for nationalism using each country’s mean score on the nationalism question in the WVS.

I use price data from the Center for International Comparisons to measure how expensive tradables are in each country (Heston, Summers, and Aten 2002). This dataset reports 1996 price parities ($P_{jk}/P_{(US)k}$ for equivalent good k with price P in country j) for various categories of goods in 37 of the 41 countries. The *Price Level of Tradables* is the weighted (by share of national consumption) average of price parities over all tradable goods categories divided by the country’s US\$ exchange rate.¹² While skill-abundant countries tend to have higher prices than skill-scarce countries (Summers and Heston 1991), I expect to find that, controlling for skill, countries with expensive tradables are more pro-trade than countries with cheap tradable goods.

A central tenet of new trade theory is that small countries have more to benefit from trade liberalization because their firms and consumers do not enjoy economies of scale in the home market. I measure *Economies of Scale* with each country’s absolute GDP at PPP in US\$ (divided by US\$1 trillion), expecting this variable to have a negative relationship with aggregate support for free trade (World Bank 2000). Transport costs, which according to new trade theory should also be negatively correlated with pro-trade belief, are captured with *Distance to Markets*:

$$\text{Distance to Markets}_i = \sum_j \left(\frac{\text{GDP}_j}{\text{World GDP}} D_{ij}^{-0.6} \right)^{-0.6} \quad (4)^{13}$$

In words, this variable is akin to taking the inverse of country i ’s distance (D_{ij}) from country j , weighting it by country j ’s share of world GDP, then summing the reciprocal of these values over all J countries in the world

¹²Price data reflect final, after-tax and after-subsidy prices. The 18 tradables categories are bread and cereals, meat, fish, dairy products, oils and fats, fruits and vegetables, other food, non-alcoholic beverages, alcoholic beverages, tobacco, clothing, footwear, fuel and power, furniture, other household goods, household appliances, personal transportation equipment, and machinery and equipment.

¹³What occurs when $i = j$ —that is, what is a country’s distance to itself (D_{ii})? Countries with large land masses have greater internal impediments and costs to trade—much of their production and consumption is distant from foreign borders—than small countries, so a value of 0 for “distance to self” is unsatisfactory. Instead, distance to self is simply defined as a country’s land mass converted into a linear radius on the assumption that the country is perfectly circular:

$$D_{ii} = \left(\frac{A_i}{\pi} \right)^{.5} \quad (5)$$

TABLE 2 Determinants of Country-Level Support for Free Trade: Regression Estimates

Independent Variables	1: OLS	2: OLS with Japan Dummy	3: Robust Regression	4: OLS for Figure 3
Price Level of Tradables	.0959** (.0349)	.0719* (.0363)	.1457* (.0722)	.0540* (.0275)
Skill Abundance	-.0678** (.0310)	-.0548* (.0311)	-.0890* (.0457)	
Land Abundance	-.0217 (.0261)	-.0076 (.0266)	-.0002 (.0348)	
Distance to Markets	-.0273** (.0110)	-.0286** (.0105)	-.0275** (.0123)	-.0261** (.0106)
Economies of Scale	.0060 (.0148)	-.0029 (.0151)	.0128 (.0177)	
Nationalist Sentiment	-.2665** (.0624)	-.2265** (.0646)	-.2608** (.0709)	-.2292** (.0560)
Japan		.2198 (.1279)		
Constant	1.006 (.1424)	.9282 (.1445)	.9451 (.1781)	.9228 (.1287)
N	41	41	40	41
R ²	.65	.67	—	.56

Note: Entries are slope estimates with standard errors in parentheses. Results are from 20 multiply imputed data sets (King et al. 2001; Honaker et al. 2001). Nigeria is dropped by the robust regression model. *p < .05 and **p < .01.

(Leamer 1997).¹⁴ In the end, after dividing by 1000, distance to markets has a mean of 3.0 and ranges from 0.8 (Germany) to 6.6 (South Africa).

Results

The results of four different models are shown in Table 2, although only models 1 through 3 should be used to draw substantive conclusions. The six independent variables described above were included in these first three models, but three different specifications were used to check for the robustness of the findings. Model 1 is a simple OLS regression. Model 2 “dummies out” Japan, which is a potentially influential observation because it is extremely expensive, skilled *and* pro-trade. Model 3 is a robust regression model that downweights influential observations, a useful check on findings in small-*N* models.¹⁵

¹⁴ D_{ij} is raised to the -0.6 because empirical research indicates that trade between two countries is proportional to $D_{ij}^{-0.6}$ weighted by the product of their GDPs (Leamer 1997).

¹⁵This bounded influence procedure assigns a probability weight to each case. The weight for a given case is inversely proportional

to its Cook's distance, a measure of each case's influence on the coefficient estimates. Cases with extremely high Cook's distances, like Nigeria, are dropped.

Despite the different specifications, the substantive conclusions are equivalent across all three models. Most importantly, consumption-based interests matter a lot: citizens in expensive countries see trade liberalization as a remedy to the rents they pay on tradable goods. This finding is even robust to dropping the Japanese case (model 2). Indeed, the Japanese dummy variable is not statistically significant, indicating that Japanese citizens' extreme support for free trade is rather well-explained by the theoretical variables. So why do consumers not get the free trade they prefer in countries where it is seen as a solution to high prices? While a complete solution to this policy paradox lies beyond the scope of this article, the empirical pattern seems to point to the problem of “diffuse gains with concentrated costs” that underlies the endogenous trade policy literature. Consumer concerns, while important for determining preferences, may not receive a political voice because of collective action costs (Alt and Gilligan 1994). Domestic political institutions (e.g., many of the WVS countries are nondemocracies) certainly also

play a role in determining why mere mass preferences and, in particular, the median voter do not prevail (Mansfield, Milner and Rosendorff 2000; McGillivray 2004).

The land abundance hypothesis is not supported, but a very interesting pattern underlies the skill abundance result. As a variable about which there is much debate and speculation, skill merits more discussion. In line with H-O's predictions, skill has a negative and statistically significant coefficient, a reflection of the small number of citizens in skill-abundant countries that are actually skill-endowed. Why did this strong negative pattern emerge in the regression model when the zero-order correlation is essentially zero? The bivariate relationship masks a strain of what might be called "conditional protectionism" in the North. Because they have, on average, higher prices ($r_{skill-pricelevel} = +.45$), shorter distances to markets ($r_{skill-distance} = -.25$), and less nationalist citizens ($r_{skill-nationalism} = -.20$), citizens in skill-abundant nations are supposed to be more pro-trade than those in skill-scarce ones. After controlling for these variables, however, skill is negatively associated with support for free trade, as models 1 through 3 indicate. Figure 3 demonstrates this conditional relationship graphically by plotting the residuals for the 41 countries (three-letter country codes are identified in the appendix) from model 4—a regression model that contains only these three variables—against country skill. All told, because their well-endowed factor is a minority, skill-abundant nations have more protectionist citizens than their low transport costs, high prices, and less nationalist beliefs would dictate.

Regarding the control variables, the one non-economic variable in the model performs well: countries with high degrees of nationalist support also tend to have protectionist citizens. New trade theory receives mixed

support. On the one hand, citizens are very sensitive to transport costs: distance from large markets like the United States, the EU, and Japan tends to be strongly associated with antitrade attitudes. On the other hand, economies of scale are irrelevant.

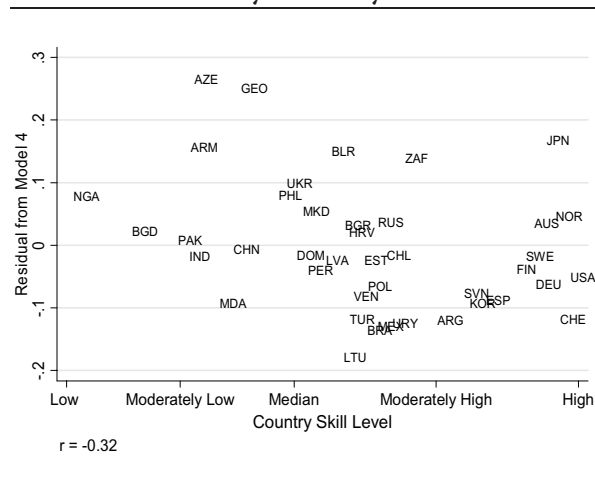
Discussion and Conclusion

Consumer tastes matter, then, for explaining trade attitudes. The allure of globalization's benefits for consumer options and prices varies across individuals and countries, a fact that is reflected in overall beliefs about trade policy. The more conventional notions about the sources of trade policy beliefs also hold: employable assets and labor markets are important determinants of citizens' reactions to globalization. First, heavy consumers of exportables (the poor in skill-scarce countries and the wealthy in skill-abundant ones) tend to be more protectionist than heavy consumers of imports and import-competing goods (the poor in skill-abundant countries and the wealthy in skill-scarce countries). Second, the ratio of skilled workers' to unskilled workers' support for free trade is greater in skill-abundant countries than in skill-scarce ones. Third, the ratio of rural to urban support for free trade tends to be greater in land-abundant nations than in capital-abundant ones, though this finding is tentative.

The findings on consumer tastes echo various elements of conventional wisdom regarding trade and consumption patterns. Bhagwati argues the following regarding the costs of protection: "Current protection in the United States seems particularly aimed at lower-end consumer goods . . . that have virtually gone out of production in the United States by now and where the net effect on our workers' well-being comes not from the effect on their wages in employment, but overwhelmingly from their role as consumers" (Bhagwati 2004, 127). It is for similar reasons that, because it sells so many inexpensive Chinese imports, Michael Cox has said that "Wal-Mart is the greatest thing that ever happened to low-income Americans" (Lohr 2003; also Reich 2005). On the flip side, middle- and upper-class consumers in less developed countries tend to appreciate the influx of luxury goods and services (electronic appliances, vehicles, foreign entertainment) that arrive on the heels of trade liberalization (Baker 2003; Porto 2003).

Combined with the standard H-O effects regarding individual skill, these results suggest that the consumption and labor-market channels produce cross-cutting welfare effects. Consider that "poor countries produce necessities, and rich countries produce luxuries" (Dalgin, Mitra, and Trindade 2004, 19), a pattern that is bolstered by the

FIGURE 3 Conditional Support for Free Trade by Country Skill Level



fact that poor countries tend to produce low quality goods while rich countries produce high quality goods (Murphy and Shleifer 1997). Therefore, a poor country's exports (the products that increase in price under trade liberalization) tend to be goods that its poor citizens consume at a higher rate than its wealthy citizens. Conversely, a rich country's exports tend to be products that its rich citizens consume at a higher rate than its poor citizens. Because skill and income are correlated in all societies, consumption tastes may offset somewhat the labor-market impact of trade.

Despite these cross-cutting effects, it is hard to ignore the unequivocal finding that this cross-national causal heterogeneity varies around substantively important and revealing medians that do not conform to H-O expectations. In nearly every country, the poor and the unskilled tend to be more protectionist than the wealthy and the skilled. Globalization's critics thus seem to have fodder for their complaints about trade's detrimental impact on the poor. The picture, however, is not so one-sided. Many citizens, including those that live in the South, see trade as a remedy to high consumer prices. Moreover, once controlling for nationalism and certain economic interests, citizens in less developed countries are actually more enthusiastic about free trade than those in the North. Global patterns of support for free trade thus defy simplistic descriptions because citizens consider the issue from a diversity of perspectives.

Appendix

WVS Countries and Question Wordings

The 41 countries included in the analysis with their three letter World Bank codes, in order from lowest GDP per capita (at PPP) in 1995 to highest, are Nigeria (NGA), Bangladesh (BGD), Pakistan (PAK), India (IND), Armenia (ARM), Azerbaijan (AZE), Moldova (MDA), China (CHN), Georgia (GEO), Philippines (PHL), Ukraine (UKR), Dominican Republic (DOM), Macedonia (MKD), Peru (PER), Latvia (LVA), Belarus (BLR), Lithuania (LTU), Bulgaria (BGR), Croatia (HRV), Turkey (TUR), Venezuela (VEN), Estonia (EST), Brazil (BRA), Poland (POL), Mexico (MEX), Russia (RUS), Chile (CHL), Uruguay (URY), South Africa (ZAF), Argentina (ARG), Slovenia (SVN), South Korea (KOR), Spain (ESP), Finland (FIN), Sweden (SWE), Australia (AUS), Germany (DEU), Japan (JPN), Norway (NOR), Switzerland (CHE), and the United States (USA). The following countries were part of the 1995 wave of the WVS but did not record trade attitudes: Great Britain,

Colombia, Taiwan, and Ghana. Bosnia/Herzegovina and Yugoslavia were excluded due to a lack of macroeconomic data.

Education: (1) No formal education, (2) incomplete primary school, (3) complete primary school, (4) incomplete secondary school: technical/vocational type, (5) complete secondary school: technical/vocational type, (6) incomplete secondary: university-preparatory type, (7) complete secondary: university-preparatory type, (8) some university-level education, without degree, (9) university-level education, with degree.

Income: Income was coded with the integers 1 through 10, with respondents placing themselves into one of 10 ordered categories following this prompt: "Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in. Just give the letter of the group your household falls into, before taxes and other deductions." Although respondents were shown categories defined by local currencies, the WVS codebook reports that 1 through 10 correspond roughly to deciles. I took the natural log of this variable because some relatively wealthy individuals were extreme outliers.

Occupation: "In which profession/occupation do you or did you work? If more than one job, the main job?" Interviewers wrote down the raw answers and coders later converted these into the following ordinal categories, which increase with the degree of skill: (1) agricultural worker, (2) farm owner, (3) unskilled manual worker, (4) semi-skilled manual worker or armed forces, (5) skilled manual worker, (6) foreman or supervisor, (7) employer/manager in small business (<10 employees), (8) non-manual office worker, (9) office worker supervisor, (10) employer/manager in medium or large business (>10 employees), (11) professional.

Town Size: Interviewers placed respondent town size into one of the following categories: (1) Under 2,000; (2) 2,000 to 5,000; (3) 5,000 to 10,000; (4) 10,000 to 20,000; (5) 20,000 to 50,000; (6) 50,000 to 100,000; (7) 100,000 to 500,000; (8) 500,000 and more.

Nationalist Sentiment: "How proud are you to be [nationality], (3) very proud, (2) quite proud, (1) not very proud, (0) not at all proud?"

Political Interest: "How interested would you say you are in politics? (1) Not at all interested, (2) not very interested, (3) somewhat interested, (4) very interested."

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