

# Low-Skilled Liberalizers: Support for Globalization in Africa\*

Lindsay R. Dolan<sup>†</sup> Helen V. Milner<sup>‡</sup>

November 14, 2019

## Abstract

Despite populist backlash to globalization in advanced industrial countries, developing countries have recently made several efforts to promote the free movement of people and goods. To shed light on this phenomenon, we investigate mass attitudes toward free trade and immigration in 35 African countries. Using Afrobarometer data as well as original survey data from Ghana and Uganda, we find that individuals hold views that are consistent with their economic self-interest. As factor endowment models predict for a sample of skill-scarce countries, low-skilled individuals are more likely to support free trade and immigration than high-skilled individuals. Moreover, the strongest and most robust negative effects of skill occur for the most skill-scarce countries in the sample. In two countries, we field original surveys containing more detailed measurements of trade attitudes and skill, and we continue to observe the predicted negative relationship. With all data, we control for cultural and other factors commonly thought to shape attitudes, finding that economic self-interest remains significant. The findings suggest that evidence against economic models attitudes toward globalization may have resulted, in part, from inadequate data from the developing world.

**Keywords:** globalization, trade, immigration, factor endowment models, Africa, surveys

Word Count: 8,254

---

\*Many thanks to Richard Clark, Kolby Hanson, Quynh Nguyen, and members of the Tri-State IPE Working Group for helpful comments.

<sup>†</sup>Assistant Professor, Department of Government, Wesleyan University.

<sup>‡</sup>B.C. Forbes Professor of Politics and International Affairs, Princeton University.

Globalization is under fire in advanced industrialized economies. But while the United States was withdrawing from the Trans-Pacific Partnership and re-writing the North American Free Trade Agreement, developing countries have been opening their borders. Developing countries are responsible for the majority of regional free trade agreements that have been signed since Brexit.<sup>1</sup> These trends are particularly strong in Africa, where in 2018, 44 countries signed the African Continental Free Trade Area (AfCFTA), the largest free trade effort since the founding of the World Trade Organization. Since 2015, a third of African countries have liberalized their visa policies.<sup>2</sup>

This strong discrepancy motivates us to investigate how explanations for mass attitudes toward globalization travel to the developing world. Economists have long turned to factor endowment models to explain variation in support for trade and immigration. Specifically, they argue that individuals support open borders when they hold the relatively abundant factor of production. In skill-abundant (advanced) countries, high-skilled individuals should support free trade and immigration because their country will specialize in products requiring skilled labor. In contrast, in skill-scarce (developing) countries, low-skilled individuals will support free trade and globalization because their country will specialize in products requiring unskilled labor.

Initial evidence from the U.S. and Europe strongly supported the first prediction, but it has been more challenging to test the second, and results have been mixed. While there is evidence that the relationship between skill and support for globalization is heterogeneous by the country's skill scarcity, these surveys heavily overrepresent developed countries (Mayda and Rodrik 2005; O'Rourke and Sinnott 2006). Analyses of the few developing countries in these samples find little evidence of the predicted negative relationship between skill and support for globalization — instead showing a null or even positive relationship (Mayda and Rodrik 2005; Baker 2005; Beaulieu, Yatawara and Wang 2005). These findings have given rise to what Margalit (2012) calls the “education puzzle” — why would skilled individuals prefer the free movement of goods and people even in skill-scarce economies? — and have reinforced a shift in the literature away from economic explanations. Scholars increasingly attribute the positive effect of skill in advanced

---

<sup>1</sup>See <https://rtais.wto.org/UI/PublicAllRTAList.aspx>.

<sup>2</sup>See <https://www.visaopenness.org/>.

countries to culture or identity rather than factor endowments.

We argue that these debates have relied on evidence that underrepresents developing countries, and this evidence is crucial to understanding current events. Using data from Afrobarometer, we conduct a cross-national analysis of attitudes toward globalization in 35 developing countries; we then use detailed original survey data from Ghana and Uganda to examine these patterns more precisely. Our findings are remarkably consistent with canonical models. The pooled results reveal a negative and statistically significant relationship between education and support for open borders. The strongest negative effects occur for the most skill-scarce countries, and the expected interaction between skill and the country's level of skill-abundance is positive and significant. Consistent with the theory, the results are driven by employed individuals. In Ghana and Uganda, more precise measures of skill and trade attitudes allow us to confirm our findings. All results are robust to controlling for economic and non-economic predictors of globalization attitudes. We conclude that global observational evidence is not so inconsistent with factor endowment models as previously thought: African voters, at least, seem to be motivated by their economic interests.

## **1 Explaining Attitudes Toward Globalization**

What explains variation in support for globalization? Political economists have typically turned to the canonical factoral endowment model known as Heckscher-Ohlin in order to explain variation in preferences over free trade and migration. These models show that countries tend to export goods that intensively use factors with which the countries are abundantly endowed. Therefore, owners of the abundant factor of production will benefit from free trade while owners of the scarce factor of production will lose. Because skilled labor is relatively abundant in developed countries but scarce in developing countries, this theory predicts that free trade benefits high-skilled workers in the developed world and low-skilled workers in the developing world. This prediction, known as the Stolper-Samuelson theorem, has led political scientists to expect support for free trade from high-skilled workers in the developed world and low-skilled workers in the developing

world (Rogowski 1987; Alt and Gilligan 1994). In a pure Heckscher-Ohlin world where countries are distinguished solely by their relative factor endowments, the model expects these groups to similarly support immigration. This is because it allows skilled workers to migrate and reap higher real wages in skill-scarce countries and unskilled workers to migrate and reap higher real wages in skill-abundant countries (O'Rourke and Sinnott 2006). Attitudes toward globalization are consistent in a purely economic framework.

Evidence for the factor endowment model is mixed. Consistent with the theory, high-skilled workers in developed countries are more supportive of globalization. Education positively and significantly predicts support for free trade (Scheve and Slaughter 2001*a,b*) and immigration (O'Rourke et al. 2001). Initially, survey data also appeared to support the idea that the effect of skill on support for open borders was stronger for skill-abundant than skill-scarce countries. Using cross-national data from the International Social Survey Programme (ISSP), Mayda and Rodrik (2005) find that education is associated with pro-trade views in skill-abundant countries but anti-trade views in skill-scarce countries. Using the same data, Mayda (2006); O'Rourke and Sinnott (2006) arrive at similar conclusions in the case of immigration attitudes. However, these data include very few skill-scarce countries, and reveal evidence of a negative relationship only in the Philippines. Because of this, Mayda and Rodrik (2005) and Baker (2005) examine patterns in the World Values Survey, which includes Bangladesh, Nigeria, Pakistan, India, and China. For these skill-scarce countries, there appears to be no statistically significant effect of education on trade attitudes. Arguing that these studies still represented very few developing countries, Beaulieu, Yatawara and Wang (2005) investigated survey evidence from Latinobarometro surveys conducted in the 1990s. In contrast to previous studies, they find that the positive relationship between skill and support for free trade exists even for their sample of 17 developing countries in Latin America. In other words, no study has recovered the predicted negative relationship between skill and attitudes toward globalization in skill-scarce economies.

Many scholars have tried to explain mixed evidence for these models. For example, Baker (2003) argues that individuals are driven by their consumption preferences rather than their skill

endowments. But explanations increasingly emphasize non-economic factors.<sup>3</sup> Many argue that education could be driving attitudes not through labor markets but through other mechanisms such as learning, culture, and out-group anxiety (Hainmueller and Hiscox 2006; Mansfield and Mutz 2009; Hainmueller and Hiscox 2007). Individuals may prioritize the welfare of other in-group members (Lü, Scheve and Slaughter 2012; Mutz and Kim 2017). Survey experiments show that non-economic factors, including ethnic and class biases, explain variation in individuals' attitudes toward immigrants (Hainmueller and Hiscox 2010; Gaikwad and Nellis 2017; Hainmueller and Hopkins 2015).<sup>4</sup>

Without challenging the significance of non-economic factors, we claim that economic models have not been tested sufficiently enough on their own terms. Beaulieu, Yatawara and Wang (2005, 943) wrote, "The main hurdle in resolving this debate is that the countries examined in the literature to date are limited in the coverage of developing countries." There has been little improvement since their effort over a decade ago to represent Latin American countries. We contribute by introducing new data to test old predictions, specifically:

**Hypothesis 1.** *In skill-scarce countries, low-skilled individuals are more likely than high-skilled individuals to support globalization.*

**Hypothesis 2.** *As skill-scarce countries become more skill-abundant, high-skilled workers will become more supportive of globalization.*

To confirm that the relationship between skill and support for globalization is driven by the labor market dynamics of Heckscher-Ohlin, Hainmueller and Hiscox (2006) also test whether these effects exist only for employed individuals. Factor endowment models would not expect

---

<sup>3</sup>This is not to say that scholars ignore economic explanations, but these explanations tend to dominate only where economic policy is especially salient. See Margalit (2011); Autor, Dorn and Hanson (2016) on trade-related job losses and Dancygier and Donnelly (2012); Malhotra, Margalit and Mo (2013) on employment threats from immigrants.

<sup>4</sup>Outside of a Heckscher-Ohlin framework, trade and immigration could be driven by different factors. For example, biases against people should not apply to goods. Also, lobbies often cohere around free trade but not pro-immigration interests (Peters 2017). Redistributive dynamics can shape immigration but not trade opinions (Hanson, Scheve and Slaughter 2007). Even so, both issues feature culture, identity, and xenophobia heavily, and still in consistent directions. Again, Heckscher-Ohlin predicts trade and migration opinions move together.

individuals uninvolved in labor markets to exhibit these effects.<sup>5</sup>

**Hypothesis 3.** *The relationship between skill and support for globalization will exist only for employed individuals.*

If these hypotheses prove correct, this simply means that economic factors matter more than previously believed, not that non-economic factors are less important. It also would suggest that individuals are surprisingly sophisticated about economic policy. Some studies show that individuals simply do not know or care enough about trade, a low-salience issue, to influence policy (Guisinger 2009; Rho and Tomz 2017). New studies of trade increasingly therefore focus on firms as the main drivers of trade policy (Kim 2017). Again, these results hail from developed countries, and we remain open to the possibility that individuals behave differently in a dramatically different economic context.

## **2 Support for Factor Endowment Models from Afrobarometer**

To begin, we use data from the Afrobarometer, which in 2015-2016 (round 6) asked individuals in 35 countries about their attitudes toward the free movement of goods and people. Afrobarometer provides a rich source of data on economic attitudes across one of the world's poorest regions. The 35 countries included in the survey account for 87% of Africa's GDP and 74% of its population.<sup>6</sup> Afrobarometer states that it chooses not to implement surveys in countries with poor security conditions and limited freedom of expression.<sup>7</sup> In the Appendix, we provide some descriptive statistics to show that countries included in Afrobarometer tend to be more democratic and have greater freedom of expression than other African countries. They do not appear to trade more or less than excluded countries.

---

<sup>5</sup>Hainmueller and Hiscox (2006) failed to find any differences between employed, unemployed, and retired individuals, leading them to conclude that the education effect must be driven through exposure to ideas rather than through wage concerns.

<sup>6</sup>Authors' calculations using World Development Indicators.

<sup>7</sup>[afrobarometer.org/about/faqs](http://afrobarometer.org/about/faqs), accessed October 31, 2019.

This serves as the dependent variable and is worded as follows: “Which of the following statements is closest to your view? Statement 1: People living in [West/South/East/North/Central] Africa should be able to move freely across international borders in order to trade or work in other countries. Statement 2: Because foreign migrants take away jobs, and foreign traders sell their goods at very cheap prices, governments should protect their own citizens and limit the cross-border movement of people and goods.” Following previous studies, we operationalize this as a dummy variable, where 1 indicates openness to free trade (agrees with statement 1) and 0 indicates aversion to free trade (agrees with statement 0) (Scheve and Slaughter 2001*b*; Hainmueller and Hiscox 2006; Mayda and Rodrik 2005). We omit responses of don’t know, agreed with neither, refused, and missing.<sup>8</sup> Overall, 61% of the sample supports open borders; this ranges from globalization-averse Namibia (38% support open borders) to globalization-friendly Burkina Faso (82%). A map illustrating support for globalization by country appears in the Appendix.

A limitation of the Afrobarometer data is that this question wording combines individuals’ attitudes toward trade and immigration. Previous studies have drawn on survey questions that examine each in isolation.<sup>9</sup> Although, as previously described, Heckscher-Ohlin expects attitudes toward trade and immigration to run in identical directions, other theories may expect differences, and we would prefer an outcome that separates these attitudes. We do so in the next section, which presents evidence from our original survey, where the outcome measure more precisely measures trade attitudes. Nonetheless, we find value in the Afrobarometer data where we can examine cross-national patterns, even if we do not know whether either trade or immigration may be driving the results.

Following previous work, we use education as a proxy for individual skill. First, we use an ordinal measure of the individual’s level of education.<sup>10</sup> Previous work has concluded that education may capture more than just skill, as individuals may acquire economic knowledge or more cos-

---

<sup>8</sup>About 5% answered “don’t know,” similar to 4% for the comparable ISSP question in 2013.

<sup>9</sup>These wordings appear in the Appendix.

<sup>10</sup>Levels 1-9 include, in order, No formal schooling, Informal schooling only, Some primary schooling, Primary school completed, Some secondary school / high school, Secondary school / high school completed, Post-secondary qualifications, other than university, Some university, University completed.

mopolitan world views when they attend college. In the data, this appears as a non-linear effect of obtaining a college education in the U.S. (Hainmueller and Hiscox 2006). To address this concern, we create a second measure of education that consists of a set of dummy variables. We generate dummy variables for the individual's highest level of education: (1) completing primary school, (2) completing secondary school, (3) highest level of education is some college or non-university post-secondary education, (4) completing college.

To test the cross-national implications of the factor endowment model, we also require a measure of the country's relative abundance in skilled labor. Following Mayda and Rodrik (2005) and others, we use the logged value of gross domestic product (GDP) per capita as a proxy for relative factor endowments. We obtain the data from the World Development Indicators for the year 2014, which immediately precedes the fielding of the survey round in 2015-2016. As an alternative measure, we use data from Barro and Lee (2013) on educational attainment to calculate the ratio of skilled to unskilled labor within the country; our findings are similar.

Afrobarometer asks whether individuals are employed, unemployed and looking for work, or unemployed and not looking for work. For this measure of employment status, we code students, homemakers, and never had a job as missing. When these individuals and unemployed not looking for work are excluded, the unemployment rate is 37%.

As in nearly all of the studies mentioned here, we estimate results using binary probit models. We regress the dummy dependent variable (1 = support for free movement of people and goods across borders) on education as well as a baseline set of covariates including age, gender, rural, and country fixed effects.<sup>11</sup> We cluster standard errors at the level of the sub-national region to account for relevant spatial correlation related to border regions and trade routes.

To test hypothesis 1, we pool the sample of 35 countries and estimate the effect of education on support for the free movement of goods and people. The results appear in Table 1. In the full

---

<sup>11</sup>Ethnicity and religious affiliation are in the data but yield too many specific groups for us to include these as controls without giving up too many degrees of freedom. Other relevant covariates including political knowledge, import duties, and union membership are unavailable. Since right-leaning parties in Africa do not exhibit the same dynamics of right-leaning parties in the U.S. or Europe, we do not include party identification. All Afrobarometer respondents are citizens of their countries, so we also do not include this as a control.



sample, more educated individuals are significantly less likely to support open borders. If we take the Afrobarometer sample to broadly represent the world's relatively skill-scarce countries, then this is in line with the expectations of the Heckscher-Ohlin model. As models 2-4 indicate, this overall finding is primarily driven by individuals who are employed, lending support to hypothesis 3. This too is consistent with the predictions of trade theory, since individuals who are not engaged in the labor market likely do not have the same relative wage concerns.

While we find evidence of some non-linear effects of education, it does not mirror Hainmueller and Hiscox (2006)'s claims about the effect of college on attitudes toward globalization. No non-linearities exist in the pooled sample (model 5). The only non-linearities we identify exist for employed individuals. Completing a secondary education and then enrolling in some post-secondary education each further lower individuals' support for globalization (model 6). There is no non-linearity associated with college, and these non-linearities do not exist for unemployed individuals (models 7-8). Unsurprisingly, the mean level of education declines as we move from employed (some secondary school/high school) to unemployed and looking (completed primary school) and then to unemployed and not looking (some primary school). Given the overall low level of education in this sample, it is possible that graduating from secondary school and obtaining any post-secondary education act as signals to employers, triggering wage concerns in a non-linear way. Since individuals attend secondary school in their nearby communities and neither receive an economics education nor interact with students from other places, it is unlikely that these non-linearities result from changes in their ideas or opinions. We find it plausible that education proxies for skill in this sample.

Do the negative effects of skill on support for open borders vary with the country's relative factor of abundance? Table 2 tests hypothesis 2 by interacting GDP per capita with the main education variable.<sup>12</sup> The Stolper-Samuelson theorem expects a positive coefficient on this interaction term, which would suggest that the observed negative effect of skill attenuates (or even becomes positive) as skilled labor becomes relatively more abundant. Across all sub-samples, we do find

---

<sup>12</sup>Results for the non-linear education variable are similar (see appendix).

that this coefficient is positive. Again, it is only statistically significant for those individuals who are engaged in the labor market (model 2), which is consistent with hypothesis 3.

Table 1: Effects of education on support for globalization

DV: Support for free movement of goods and people								
openborders_dum								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu	-0.019*** (0.005)	-0.029*** (0.009)	-0.014 (0.009)	-0.011 (0.009)				
Primary					-0.019 (0.029)	-0.046 (0.050)	-0.052 (0.052)	0.010 (0.047)
Secondary					-0.018 (0.027)	-0.078* (0.042)	-0.039 (0.049)	0.060 (0.049)
AnyHigherEd					-0.038 (0.032)	-0.068 (0.046)	-0.069 (0.062)	0.016 (0.052)
College					-0.069* (0.040)	-0.123** (0.057)	-0.016 (0.077)	0.084 (0.110)
Female	-0.025* (0.015)	-0.015 (0.026)	-0.018 (0.031)	-0.042* (0.025)	-0.017 (0.015)	-0.009 (0.026)	-0.016 (0.031)	-0.031 (0.025)
Sample	Full	Employed	Looking	Not Looking	Full	Employed	Looking	Not Looking
Observations	37,140	13,602	8,613	14,783	37,140	13,602	8,613	14,783

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education on attitudes toward open borders. Controls include age, gender, rural, and country fixed effects. Standard errors are clustered at the region level. Cases are weighted using Afrobarometer's combinwt variable. With the exception of the country fixed effects, Models 1-8 replicate Table 1 in Hainmueller and Hiscox (2006), which itself replicates Scheve and Slaughter (2001). Source: Afrobarometer.

Table 2: Cross-national test of factor endowment model

DV: Support for free movement of goods and people				
openborders_dum				
	(1)	(2)	(3)	(4)
Edu	-0.072 (0.062)	-0.160** (0.074)	-0.045 (0.081)	-0.050 (0.107)
Edu*GDPpc	0.007 (0.008)	0.018* (0.010)	0.004 (0.011)	0.005 (0.015)
GDPpc	-0.585*** (0.045)	-0.739*** (0.056)	-0.742*** (0.069)	-0.431*** (0.071)
Sample	Full	Employed	Looking	Not Looking
Observations	37,140	13,602	8,613	14,783
<i>Note:</i>			*p<0.1; **p<0.05; ***p<0.01	

*Note:* Regressions use binary probit models to estimate the effects of education on attitudes toward open borders. Controls include age, gender, rural, GDP per capita, and country fixed effects. Standard errors are clustered at the country level. Cases are weighted using Afrobarometer’s combinwt variable. *Source:* Afrobarometer.

Figure 1 presents the pattern by plotting the effect of the ordinal education variable on support for open borders for each country individually. Visually, we observe a positive relationship between that country’s level of GDP per capita and the size of the coefficient on education. In 6 of 35 countries, the result is negative and statistically significant. In only 2 of 35 countries is it positive and significant.

In the Appendix, we measure the abundance of skilled labor using educational data from Barro and Lee (2013) instead of GDP per capita. Again, we obtain a statistically significant positive coefficient on the interaction term for employed individuals, suggesting our findings do not simply result from our measure of factor abundance.

Overall, cross-national and pooled patterns in Afrobarometer data are highly consistent with canonical factor endowment models. Education has a strongly significant negative effect on support for globalization, and the effect is strongest for skill-scarce countries and for employed individuals. Our findings are generally linear with respect to education, suggesting it is measuring

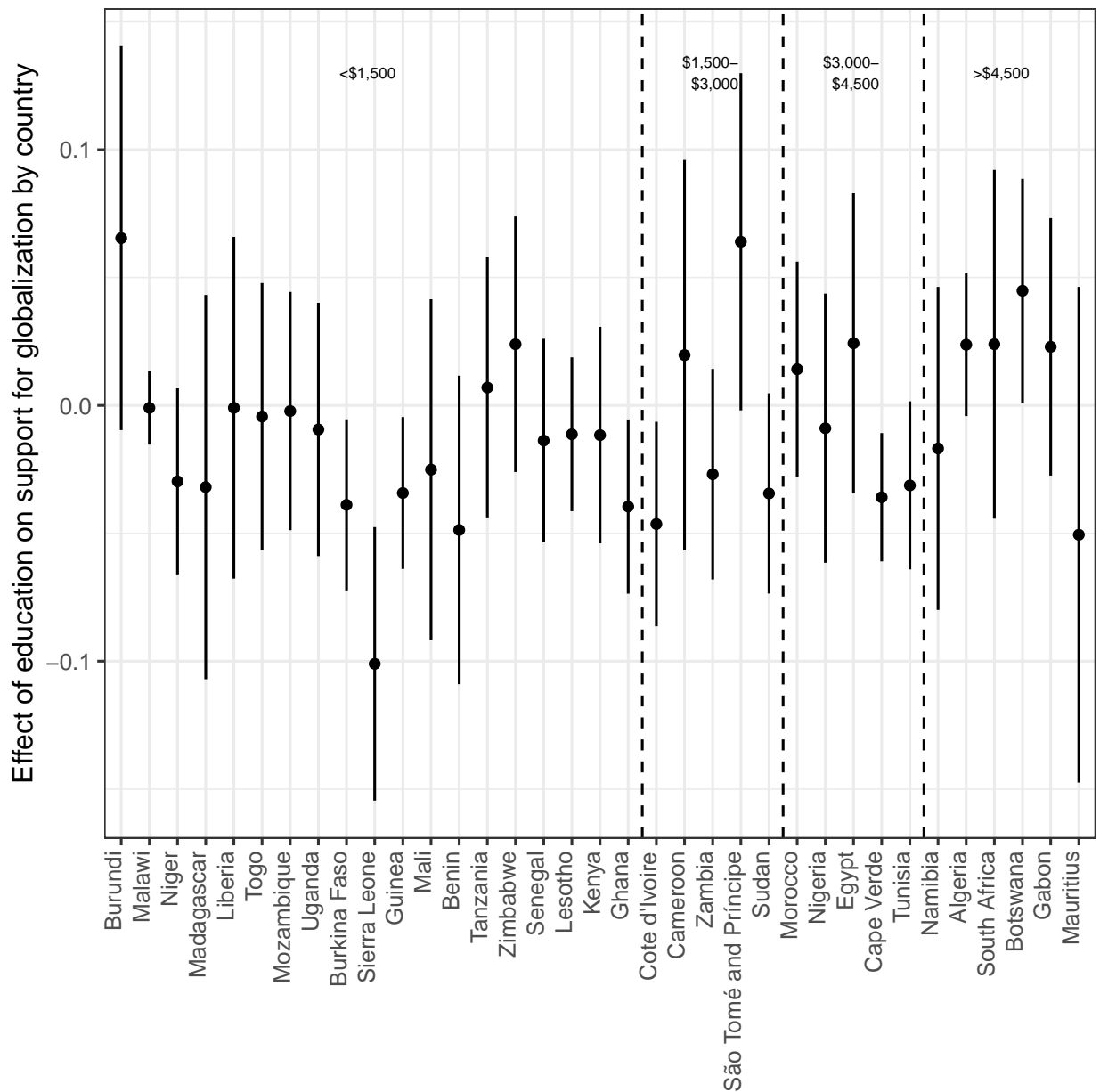


Figure 1: **Effects of Skill by Country Factor Endowment.** Each point indicates the coefficient obtained from a country-specific regression. Regressions are identical to those in Table 1 Model 1, but subset to a single country and therefore omit country fixed effects; an exception is Sao Tome and Principe, which has just two regions, and so we do not cluster the standard errors in this country by region. Countries are plotted in increasing order of GDP per capita (USD, from 2014) and are separated by horizontal lines that benchmark the level of GDP per capita to illustrate that over half of the sample is below \$1,500. Data comes from the World Development Indicators and Afrobarometer.

skill rather than any worldview shift associated with attending university.

Nevertheless, we recognize that education is an imperfect proxy for skill. In the Appendix, we show that the cross-national findings hold when we code skill using the occupation an individual reported to the Afrobarometer (Tables A5 and A6) (Mayda and Rodrik 2005; O’Rourke and Sinnott 2006; Hainmueller and Hiscox 2006). This measure, however, imposes several assumptions about the nature of individuals’ work, and so we try to measure skill directly in the next section by fielding original surveys in two countries included in the Afrobarometer.

### **3 Additional Evidence from Ghana and Uganda**

The above patterns illustrate a robust negative relationship between skill and support for globalization in 35 African countries, as well as cross-national patterns that accord with factor endowment models. This large scope is extremely beneficial for our analysis, but certain limitations in the survey prevent us from conducting more stringent tests of the theory. To this end, we complement the Afrobarometer data with original survey data collected in Ghana and Uganda, where we measure both our explanatory and dependent variables more precisely.<sup>13</sup> Additional details about the sampling procedures are available in the Appendix.

In terms of GDP per capita, Ghana has the 11th highest (\$1670) in the Afrobarometer sample of countries, while Uganda sits lower in 23rd place (\$661). We have therefore selected two countries in different regions — Ghana in West Africa and Uganda in East Africa — that are neither extremes nor identical in their economic development relative to other countries in Afrobarometer. While Ghana is therefore relatively wealthier than Uganda, it is important to note that both countries are quite poor and skill-scarce.

In these surveys, we measure individuals’ attitudes specifically toward trade. The dependent variable is the extent to which individuals agree with the statement, “It should be easier for other

---

<sup>13</sup>We draw on data from three different surveys: Ghana (2016), Uganda (2017), and Uganda (2018). The surveys overlap considerably in the questions they share, but are not identical, and not all questions were always asked of all respondents.

countries to buy and sell their goods and services in [COUNTRY].” Again, we create a binary measure, coding individuals as supporting free trade if they reply that they somewhat or strongly agree with this statement. When using our original data, we can be confident that the results reflect individuals’ attitudes toward trade, rather than capturing their opinions on immigration. The overall level of support for free trade is 75% in Ghana (2016), 60% in Uganda (2017), and 78% in Uganda (2018).

We first use education as an explanatory variable to proxy for skill. This variable is constructed almost identically to the ordinal measure from Afrobarometer.<sup>14</sup>

But we also measure skill directly. Individuals are asked about the duties their job requires of them. We create an ordinal variable valued at 1 if the individual lists no duties or manual labor only; 2 if clerical or computer duties; 3 if managing others; and 4 if owning the business. Unlike the Afrobarometer surveys, these questionnaires measure skill directly. Since this measure pertains to the duties of an individual’s job, it only exists for employed individuals. Where possible, we again conduct separate analyses for full and employed samples.

These variables allow us to conduct further tests of hypotheses 1 and 3 in the original data.<sup>15</sup> Again, we estimate results using binary probit models. We regress the dummy dependent variable on education/skill as well as a baseline set of covariates including age, gender, religion, ethnicity, and political knowledge. We cluster standard errors by the largest geographic cluster available, which is the constituency. Since we are unable to exactly replicate the geographic sampling, controls, and clustering from the above analysis, we acknowledge that any differences could also be explained by these elements. Full results are reported in the Appendix, while we summarize our findings below, using the Afrobarometer results for these two countries as a benchmark.

Figure 2 considers, in the cases of Ghana and Uganda, what happens when we use an outcome measure that is specific to trade. In both countries, we recover generally similar findings regarding the effects of education. In Ghana, we replicate the negative and significant effect of education that

---

<sup>14</sup>Levels 1-8 include, in order, No schooling, Some primary, Completed primary, Some secondary school, Completed secondary, Some university or polytechnic, Completed university or polytechnic, Completed post-graduate training. The last level does not exist in Uganda 2018.

<sup>15</sup>With data from only two countries, we do not attempt the cross-national test demanded by hypothesis 2.

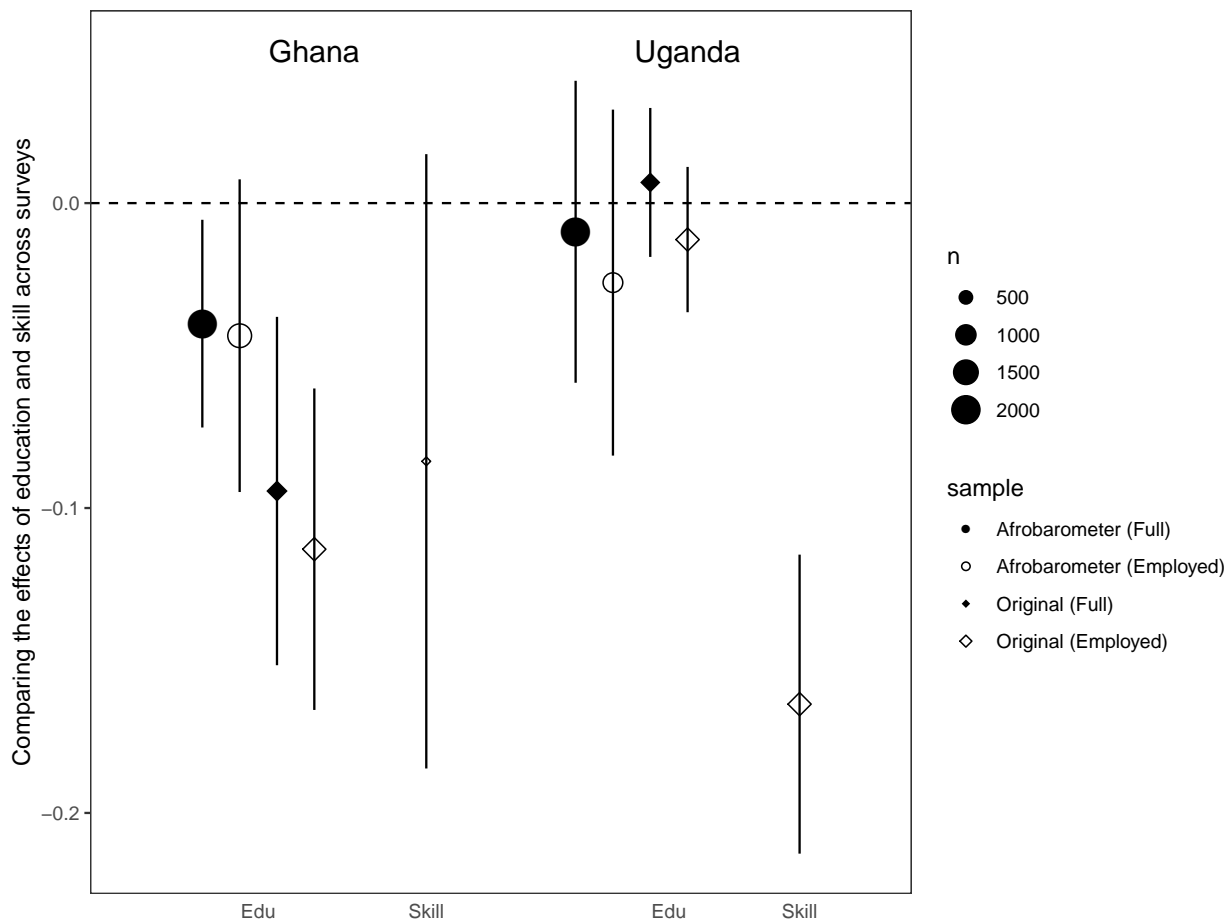


Figure 2: **Comparing the Effects of Education and Skill.** Each point indicates the coefficient obtained from a single regression. Circles indicate effects on attitudes toward globalization in Afrobarometer and diamonds indicate effects on attitudes toward trade in the original surveys. Filled points indicate use of all available data while empty points indicate analysis of only employed individuals. (Filled circles are therefore identical to those reported in Figure 1.) In Ghana, the skill measure was asked for only a subset of all employed individuals. Uganda data are from the 2017 survey only; the 2018 survey did not include this measure. *Source:* Author's data and Afrobarometer.



we found in Afrobarometer, and it is even stronger than it was in Afrobarometer.<sup>16</sup> In Uganda, education again has an insignificant effect. In both countries and across both surveys, the coefficient is somewhat more negative for an employed sample, although not significantly so.<sup>17</sup> Overall, these results suggest that a trade-specific outcome measure behaves fairly similarly to the globalization question asked in Afrobarometer.

Figure 2 also illustrates how our results change when we use an alternative measure of skill. In Ghana, skill has the expected negative effect on support for free trade. However, only a subset of employed respondents were asked this question, which challenges our ability to test whether this result is statistically significant.<sup>18</sup> In Uganda, however, where this result was asked of all employed respondents, skill has a very strong and statistically significant effect on support for free trade.<sup>19</sup> This suggests that education may be proxying for more than just skill in Uganda, which caused us to observe null effects. Although this finding is only for one country, it suggests that the Afrobarometer findings, if anything, understate the negative effects of skill on support for free trade.

Factor endowment models would expect the negative relationship between skill and trade attitudes to be stronger in a more skill-scarce country. Uganda is relatively more skill-scarce than Ghana, so perhaps we might expect stronger effects for Uganda. When we measure skill using education, this expectation does not hold: education has a stronger negative relationship to trade attitudes in Ghana, not Uganda. However, the direct measure of skill in Uganda is very negative and significant, so perhaps this expectation is indeed born out. Nevertheless, we do not put much stock in comparing the findings between the two countries. Any draw of two countries from 35 will result in too much noise to test a cross-national hypothesis. Further, both Ghana and Uganda are quite skill-scarce relative to the world; we don't expect that we would see very strong differences between them.

Public opinion on trade is notoriously sensitive to question wording. In the Uganda 2018 survey,

---

<sup>16</sup>See Table A10.

<sup>17</sup>See Table A15.

<sup>18</sup>See Table A11.

<sup>19</sup>See Table A16.

we include a second measure of support for free trade by asking individuals, “Do you favor or oppose placing new limits on imports?” where 1 is favor new limits on imports and 0 is oppose. Table 3 illustrates that the results are identical and reciprocal when we frame our outcome measure differently.<sup>20</sup> Because our results are not sensitive to question wording, we have greater confidence that individuals understand how trade works.

Table 3: Comparing the effects of education on trade attitudes across measures (Uganda 2018)

	<i>Dependent variable:</i>	
	Should make trade easier	Should limit imports
	(1)	(2)
Edu	-0.054** (0.023)	0.058*** (0.022)
Age	0.005* (0.003)	-0.005* (0.003)
Female	-0.129* (0.072)	0.042 (0.067)
Addtl Controls	Eth	Eth
Observations	1,670	1,654
Log Likelihood	-846.883	-1,011.698
Akaike Inf. Crit.	1,741.766	2,071.396
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

*Note:* Regressions use binary probit models to estimate the effects of education on trade attitudes. Unlike the other original surveys, religion and political knowledge were not asked of respondents, so are not included as controls. Standard errors are not clustered, as geographic data are missing. Data from Uganda 2018. *Source:* Authors’ data.

In factor endowment models, individuals are well-informed, rational, self-interested economic actors who accurately anticipate the distributional consequences of free trade. Although several studies cast doubt on the validity of these assumptions in U.S. and Europe, we find moderate evidence to support them in Africa.<sup>21</sup> The Uganda 2018 survey also probes respondents’ beliefs about the consequences of free trade. Although high and low skill (education) groups hold fairly homogeneous beliefs about how free trade will benefit their families, their businesses, and their economy, they diverge in expectations about the effect of free trade on jobs. Figure 3 shows

<sup>20</sup>This survey did not include the more direct measure of skill, so results are presented for education.

<sup>21</sup>For example, see Guisinger (2017); Rho and Tomz (2017).

that high-skilled individuals are more likely to believe that free trade causes layoffs, while low-skilled individuals are more likely to believe that free trade creates jobs. Since these are accurate predictions of the effect of free trade on the labor market, we are reassured that individuals are accurately intuiting how free trade will affect their job prospects.

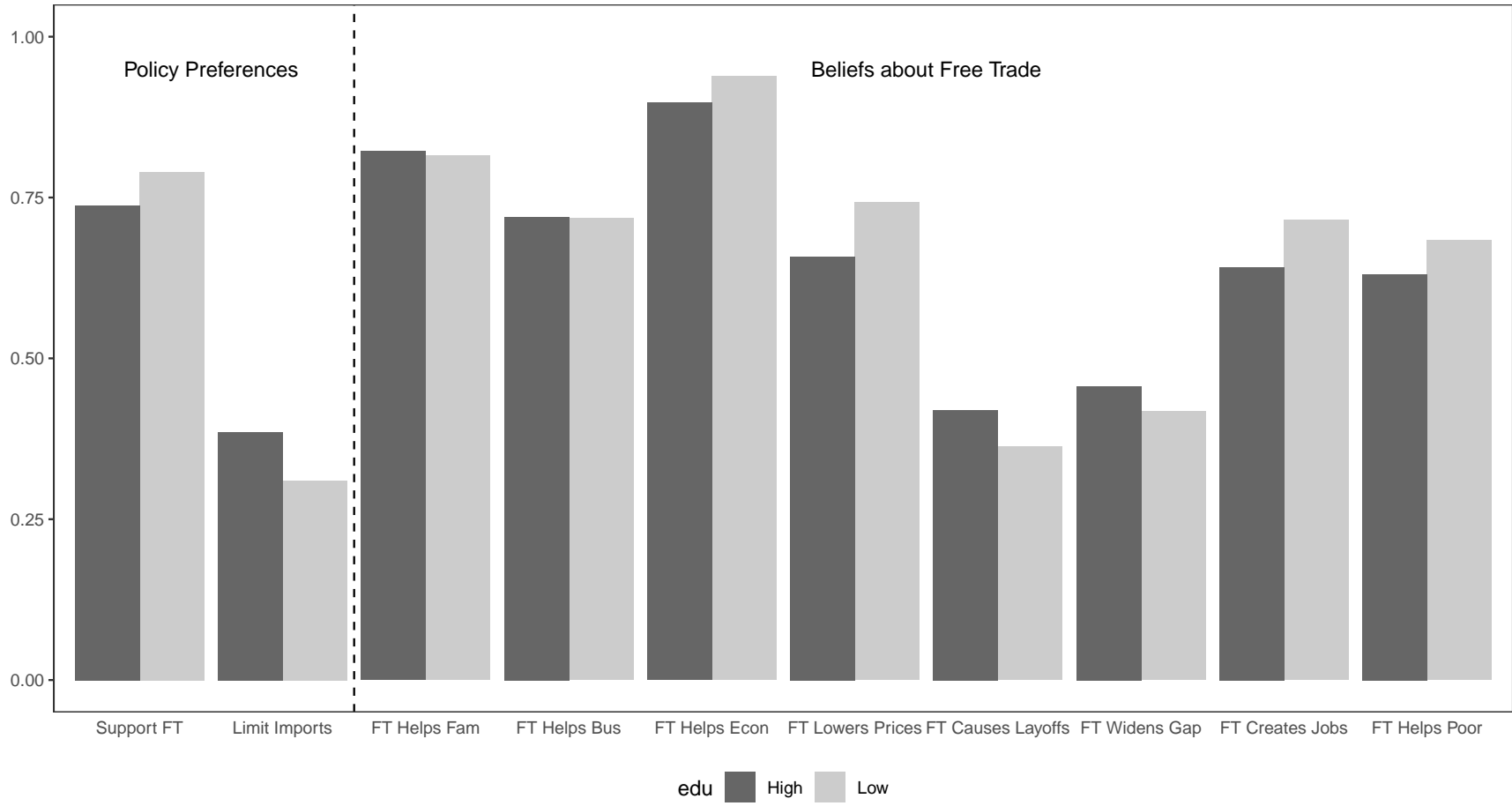


Figure 3: **Beliefs about Free Trade (Uganda 2018)**. N=1,692.

## 4 Addressing Alternative Explanations

We address alternative explanations by controlling for variables thought to predict support for globalization and/or free trade. We present the complete tables in the Appendix and mostly summarize our findings in Table 4 for ease of presentation.

First, we consider whether our results capture labor market versus redistributive dynamics. Facchini and Mayda (2009) points out that immigration affects tax burdens, and education could simply be reflecting the individual's income bracket, which shapes their preferences over immigration. To isolate the labor market mechanism, we follow their approach and separate education (which proxies for skill) and income (which proxies for the tax burden), letting both interact with the country's level of skill abundance (GDP per capita).

This explanation is of greatest relevance for the Afrobarometer data, since only this survey mentions immigration in the outcome measure. While Afrobarometer does not directly measure income, we generate an asset index using items the individual owns. Including this asset index in our model does not change our original findings (Table A7). Education continues to negatively and significantly predict support for open borders and only for the employed individuals. The interaction term between education and GDP per capita remains positive and significant for this group. These effects occur even though there appear to be some redistributive dynamics that are significant, especially for unemployed individuals. This makes sense as this group benefits most from the welfare state. The outcome measure in the original surveys does not mention immigration, nevertheless, we find our results in these surveys are also robust when we control for both assets and household income (Tables A12, A17, and A22). We conclude that redistributive dynamics are not responsible for the patterns we observe.

Second, we show our results are robust to controlling for price sensitivity. Baker (2003) claims individuals want low prices associated with globalization, which is why some in the developing world still support free trade. Indeed, Figure 3 suggests that Ugandans expect free trade to lower prices, and low-skilled individuals are more likely to believe this. If this explains our result, then our finding should disappear when we control for how individuals feel about prices. Using an

Table 4: Summary of tests of alternative explanations

	<i>Alternative explanation</i>		
	Redistribution	Consumption	Non-economic
Afrobarometer	Control for assets	Control for price sensitivity	Control for national identity Control for ethnocentrism Control for xenophobia Control for support for democracy
Ghana (2016)	Control for assets Control for income		Control for national identity Control for national pride
Uganda (2017)	Control for assets Control for income		Control for national identity
Uganda (2018)	Control for assets Control for income		

*Results were robust to inclusion of all above controls.*

Afrobarometer question about how well the current government is doing at keeping prices down, we are able to show that our findings hold, even when we account for price sensitivity (Table A9). Further, price sensitivity is not even a significant predictor of individuals’ support for free trade and immigration. While we are unable to test this with the original surveys, the Afrobarometer analysis reassures us that we are not picking up on consumption dynamics.

Third, we test whether our results are driven by public sector employees. Many countries in the developing world have large public sectors that disproportionately absorb high-skilled workers; trade liberalization would likely contract these sectors, so this could account for our finding that high-skilled workers tend to oppose free trade. In Afrobarometer and Uganda (though not Ghana), we do find that public sector workers are, on average, higher skilled than non-public sector workers (Table A1). However, there is still substantial variation in skill among public sector employees, which allows us to simply control for whether an individual is a public sector employee. Including this variable as a control does not affect our main findings (Table A8, A13, A18, and A23).

Fourth, we recognize the importance of non-economic factors that influence attitudes toward globalization. While several cultural variables significantly predict support for globalization, including them in our models does not weaken the significance of education/skill. Following Mayda

and Rodrik (2005), we investigate the role of national identification,<sup>22</sup> national pride, ethnocentrism, xenophobia, and support for democracy.

In the Afrobarometer analysis, we control for national identification, ethnocentrism, xenophobia, and support for democracy (Table 5). We find that when individuals identify nationally rather than ethnically, they are more likely to support globalization, consistent with the idea that open borders benefit countries as a whole, even if some specific groups lose. In fact this variable is only statistically significant for those who are unemployed, who do not themselves win or lose from free trade and immigration but appear to value the welfare of others in their country. Also unsurprisingly, individuals who are more ethnocentric or xenophobic are significantly less likely to support open borders. Individuals who value democracy are significantly more likely to support the free movement of people and goods.

Even when these non-economic factors are included, the factor endowment model performs admirably. Education continues to have a negative and significant effect on attitudes toward globalization. The interaction term between education and GDP per capita remains positive and significant, but only for those individuals who are employed in the labor market. In the factor endowment model (models 9-12), the effect size of education for employed individuals is double the effect size of cultural variables, although all are significant and meaningful.

---

<sup>22</sup>National identification measures whether the individual identifies more with his or her ethnic group or national identity. Analogously, Mayda and Rodrik (2005) measured whether the individual identifies with neighborhood, city, county, or country.

Table 5: Testing non-economic models (Afrobarometer)

DV: Support for free movement of goods and people								
openborders_dum								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu	-0.032*** (0.007)	-0.038*** (0.011)	-0.032** (0.013)	-0.022** (0.011)	-0.096* (0.056)	-0.239** (0.096)	-0.028 (0.109)	-0.088 (0.093)
GDPpc					0.561 (1.275)	-1.483 (1.687)	1.604 (2.151)	-0.126 (1.929)
NatlID	0.068** (0.027)	0.026 (0.039)	0.081** (0.038)	0.086** (0.039)	0.068** (0.027)	0.025 (0.039)	0.081** (0.038)	0.087** (0.039)
Ethno	-0.221* (0.121)	-0.179 (0.133)	-0.171 (0.133)	-0.283 (0.175)	-0.220* (0.121)	-0.177 (0.133)	-0.171 (0.133)	-0.281 (0.175)
Xeno	-0.145*** (0.052)	-0.144** (0.071)	-0.156* (0.086)	-0.159** (0.073)	-0.145*** (0.052)	-0.143** (0.071)	-0.156* (0.086)	-0.159** (0.073)
SupportDem	0.085*** (0.032)	0.119** (0.055)	0.058 (0.055)	0.081* (0.048)	0.085*** (0.032)	0.121** (0.055)	0.058 (0.055)	0.081* (0.048)
Edu*GDPpc					0.009 (0.008)	0.028** (0.013)	-0.001 (0.015)	0.009 (0.013)
Sample	Full	Employed	Looking	Not Looking	Full	Employed	Looking	Not Looking
Observations	18,690	7,153	4,395	7,090	18,690	7,153	4,395	7,090

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education on attitudes toward open borders. Controls include age, gender, rural, and country fixed effects. *National ID*: “Let us suppose that you had to choose between being a [NATIONALITY] and being a [R’s ETHNIC GROUP].” Variable is a 2 if individual reports “I feel only (national identity)” or “I feel more (national identity) than (ethnic group)”, a 1 if individual reports “I feel equally (national identity and (ethnic group))”, and a 0 if individual feels more or only ethnic group. *Ethnocentrism*: “Please tell me whether you would like having people from this group as neighbors, dislike it, or not care: people from other ethnic groups.” Variable is a 1 if individual reports strongly or somewhat disliking people from this group, and a



0 if they don't care or strongly or somewhat like people from this group. *Xenophobia*: Same construction as ethnocentrism, except group is "immigrants or foreign workers." *Democracy*: "Which of these three statements is closest to your own opinion? Statement 1: Democracy is preferable to any other kind of government. Statement 2: In some circumstances, a non-democratic government can be preferable. Statement 3: For someone like me, it doesn't matter what kind of government we have." 1 if respondent supports statement 1, 0 otherwise. Standard errors are clustered at the region level. Cases are weighted using Afrobarometer's combinwt variable.

In the Appendix we perform similar checks on the original surveys, where we have some limited data on national identification and national pride. Again, our core findings are not sensitive to including these variables (Tables A14 and A19).

In all surveys, we observe a relatively weaker effect of gender than is typically observed in advanced industrialized countries, where women are less supportive of free trade. In the Afro-barometer data, women are somewhat more averse to globalization than men (Table 2), although this effect disappears when we look at sub-samples. In Uganda, we see some weak effects of gender in the 2017 employed sample and the 2018 full sample, but the effects are not very strong or robust (Tables A15 and A20). There is no gender effect in the original survey in Ghana (Table A10). We conclude that gender may play a less important role in shaping trade preferences in African countries, although there is some evidence of a weak gender effect.

We are unable to systematically rule out two other leading economic theories of trade preferences. One of these theories is the Ricardo-Viner model of free trade, where individuals' preferences are shaped by the sector in which they are employed rather than the skill of their labor. Our original surveys do contain data on the industry of an individual's employer, but these industries are general. Since exporting industries in the developing world are often highly specific, we are not able to precisely measure whether individuals are in exporting versus import-competing industries (see Appendix for further explanation). Collecting this granular industry-level information (as in Jamal and Milner (2019)) is costly, but should be a priority for future research.

The other theory we are unable to address methodically is the so-called New New Trade Theory, which holds that preferences over free trade are determined by the extent to which the firm an individual works for participates in global value chains (GVCs). If a firm imports inputs from other countries in order to produce products it then subsequently exports, then its employees should favor free trade to support these linkages. But a wealth of evidence demonstrates that Africa lags the rest of the world in GVC integration, and GVC integration is on the decline rather than the upswing. Within Africa, Ghana and Uganda are below average in the percent of foreign value added in exports, with Ghana having almost no foreign value added (Dollar and Kitter 2017). Given such

low overall levels, we find it unlikely that any minimal variation that exists within-country would explain the patterns we observe.

## 5 Conclusion

Overall, evidence from Africa is strikingly consistent with the predictions of factor endowment models. In this skill-scarce sample, it is low-skilled individuals who are more likely than high-skilled individuals to support free trade and immigration. These results are driven by individuals who are engaged in the labor market, for whom these wage concerns would matter most. Cross-national patterns even within this sample also support the predictions of trade theory: the negative effect we observe attenuates for the relatively higher-skilled countries in the sample. While we recognize measurement error associated with measuring skill and public opinion, the magnitude of our finding only increases when we employ alternative measures in original surveys.

This finding is noteworthy as scholars have somewhat moved away from economic explanations. We do not challenge the claim that non-economic factors are important. Rather, we show that a previous critique of factor endowment models — that skilled workers support globalization even in skill-scarce economies — is not correct. This claim was primarily advanced by Beaulieu, Yatawara and Wang (2005), who in focusing on Latin America in the 1990s provided evidence from a more skill-scarce sample than the U.S. or Europe. However, Figure 4 shows that even this sample is considerably wealthier than an African sample. In leveraging multiple sources of data from this part of the world, we illustrate that once the sample is skill-scarce enough, the expected negative effect does exist, and the patterns are consistent with economic expectations.

How is it that Africans' preferences align so closely with their economic interests? The mechanism implied by Heckscher-Ohlin theory, of course, is that individuals are informed and rational participants in labor markets and understand their economic interests accurately. But many have challenged this idea in the U.S. and in Europe, claiming that high-skilled workers do not, as Heckscher-Ohlin would expect, hold the views they should. We believe this topic deserves further

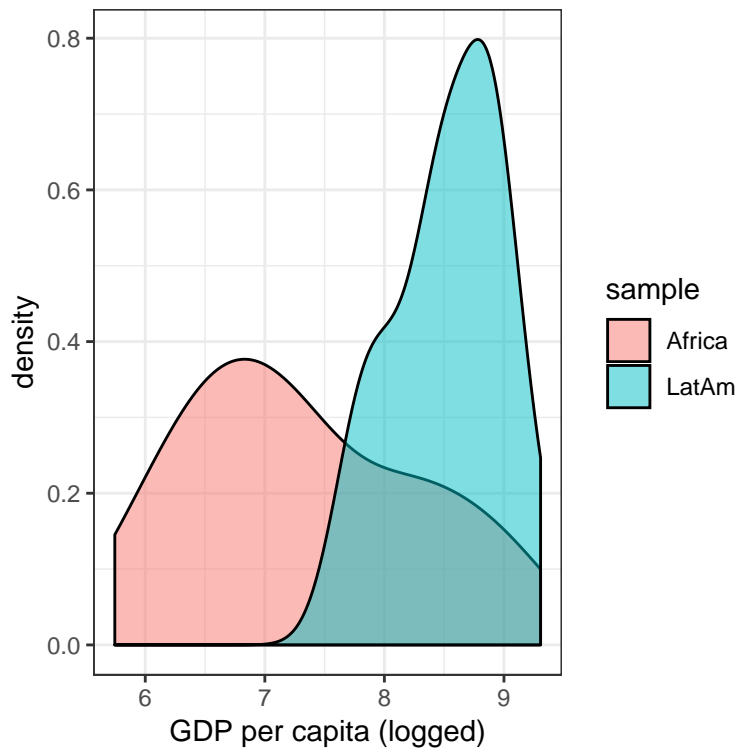


Figure 4: **Benchmarking National Income Distribution.** Density plots are of the distribution of national income for the 35 countries in the Afrobarometer sample and the 17 countries in the Latinobarometro sample used in Beaulieu, Yatawara and Wang (2005). The plot shows that the African sample is substantially poorer than the Latin American sample. Data on the Africa sample comes from the World Development Indicators (using 2014 as the year) and data on the Latin American sample comes from the numbers reported by Beaulieu, Yatawara and Wang (2005) (they do not note the specific year of measurement). Accounting for inflation would only further separate these samples, as the Latin America figures are from the 1990s.

study and offer some initial suggestions here.

First, it may be that inter-industry factor mobility, a critical assumption for factor endowment models, is active in these countries. There is simply not an evidence base on which to assess this claim. The industry reallocation index, which captures job reallocations between industries, has been used in existing studies but only covers OECD countries (Zhou 2008; Hwang and Lee 2014). It appears possible that labor is highly mobile across industries. In Uganda, Dennis et al. (2016)[6] find that high levels of labor switching from low-productivity to high-productivity industries accounted for 80% of Uganda's marked growth in aggregate labor productivity during the 2000s. Extending measures of labor mobility to include more diverse economies will permit more systematic exploration of this possibility.

Second, it may be that elites may introduce frames that highlight class-based interests to their citizens; and this may be in contrast the cultural frames politicians use to talk about trade and immigration in Europe and the U.S. For example, Tanzanian presidential candidate John Magufuli told supporters at a 2015 campaign rally that opening Tanzania's borders to boost trade with other countries would top his agenda.<sup>23</sup> Future research should explore whether these issues are salient in other African elections.

Third, it may be that individuals in Africa behave even more "rationally" than those in advanced industrialized countries. Being relatively new to the liberalization game, Africans may evaluate the costs and benefits of these policies in more purely economic terms. There is growing evidence of economic sophistication among populations living in poverty.<sup>24</sup> Baseline levels of political knowledge in the Ghana and Uganda surveys are much higher than comparable survey questions fielded in the U.S. In the Ghana (2016) survey, 56% of respondents correctly named (in an open-ended response) the Chief Justice of the Supreme Court of Ghana. In the U.S. in 2012, only 34% of U.S. citizens named John Roberts as Chief Justice of the U.S. Supreme Court in a multiple choice question.<sup>25</sup> In the Uganda (2017) survey, 89% correctly named the speaker of Parliament without

---

<sup>23</sup>See Alvar Mwakyusa and Nelly Mtema, "Magufuli vows to end Longido, Arumeru Land, Border Disputes," *All Africa*, October 7, 2015.

<sup>24</sup>For example, de la Cuesta et al. (2018) find that Ugandans can estimate even the hidden taxes they pay.

<sup>25</sup><https://www.pewresearch.org/fact-tank/2015/05/14/dim-public-awareness-of-supreme-court->

prompting, compared with 62% of U.S. citizens who correctly selected Paul Ryan as Speaker of the U.S. House in a multiple-choice question.<sup>26</sup> This high level of political knowledge in this sample is consistent with our claim that attitudes toward globalization stem from individuals' knowledge of their own self-interest.

While we are unable to systematically explain why public opinion in Africa behaves so differently from other regions, in studying this set of countries, we have contributed novel evidence in support of a theory waning in popularity. These results also boost our optimism about the virtuous cycle that may follow from the spread of democracy in Africa. Milner and Kubota (2005) argue that democratization can foster globalization because it tends to enfranchise low-skilled workers who benefit from free trade. We have shown that these low-skilled workers indeed hold the political preferences they should, and we expect them to vote accordingly. Greater democratization in the global south may therefore lower economic barriers, all while populism in the global north is erecting them.

---

<sup>26</sup><https://www.people-press.org/2017/07/25/from-brexit-to-zika-what-do-americans-know/>

## References

- Alt, James E and Michael Gilligan. 1994. "The political economy of trading states: Factor specificity, collective action problems and domestic political institutions." *Journal of Political Philosophy* 2(2):165–192.
- Autor, David H, David Dorn and Gordon H Hanson. 2016. "The china shock: Learning from labor-market adjustment to large changes in trade." *Annual Review of Economics* 8:205–240.
- Baker, Andy. 2003. "Why is trade reform so popular in Latin America?: A consumption-based theory of trade policy preferences." *World Politics* 55(3):423–455.
- 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.
- Barro, Robert J and Jong Wha Lee. 2013. "A new data set of educational attainment in the world, 1950–2010." *Journal of development economics* 104:184–198.
- Beaulieu, Eugene, Ravindra A Yatawara and Wei Guo Wang. 2005. "Who supports free trade in Latin America?" *World Economy* 28(7):941–958.
- Dancygier, Rafaela M and Michael J Donnelly. 2012. "Sectoral economies, economic contexts, and attitudes toward immigration." *The journal of politics* 75(1):17–35.
- de la Cuesta, Brandon, Lucy Martin, Helen Milner and Daniel Nielson. 2018. "Do Indirect Taxes Promote Accountability? Testing The Effects of Revenue Modality on Citizen Behavior." *Annual Meeting of the American Political Science Association* .
- Dennis, Allen, Taye Mengistae, Yutaka Yoshino and Albert Zeufack. 2016. "The Role of Interindustry and Intra-industry Misallocation in the 2000s." *Policy Research Working Paper* 7909.
- Dollar, David and Matthew Kitter. 2017. "Institutional Quality and Participation in Global Value Chains." *Global Value Chain Development Report* .
- Facchini, Giovanni and Anna Maria Mayda. 2009. "Does the welfare state affect individual attitudes toward immigrants? Evidence across countries." *The review of economics and statistics* 91(2):295–314.
- Fink, Günther, John R Weeks and Allan G Hill. 2012. "Income and health in Accra, Ghana: results from a time use and health study." *The American journal of tropical medicine and hygiene* 87(4):608–615.
- Gaikwad, Nikhar and Gareth Nellis. 2017. "The Majority-Minority Divide in Attitudes toward Internal Migration: Evidence from Mumbai." *American Journal of Political Science* 61(2):456–472.
- Guisinger, Alexandra. 2009. "Determining trade policy: Do voters hold politicians accountable?" *International Organization* 63(3):533–557.

- Guisinger, Alexandra. 2017. *American opinion on trade: Preferences without politics*. Oxford University Press.
- Hainmueller, Jens and Daniel J Hopkins. 2015. "The hidden American immigration consensus: A conjoint analysis of attitudes toward immigrants." *American Journal of Political Science* 59(3):529–548.
- Hainmueller, Jens and Michael J Hiscox. 2006. "Learning to love globalization: Education and individual attitudes toward international trade." *International Organization* 60(2):469–498.
- Hainmueller, Jens and Michael J Hiscox. 2007. "Educated preferences: Explaining attitudes toward immigration in Europe." *International organization* 61(2):399–442.
- Hainmueller, Jens and Michael J Hiscox. 2010. "Attitudes toward highly skilled and low-skilled immigration: Evidence from a survey experiment." *American political science review* 104(1):61–84.
- Hanson, Gordon H, Kenneth Scheve and Matthew J Slaughter. 2007. "Public finance and individual preferences over globalization strategies." *Economics & Politics* 19(1):1–33.
- Hwang, Wonjae and Hoon Lee. 2014. "Globalization, factor mobility, partisanship, and compensation policies." *International Studies Quarterly* 58(1):92–105.
- Jamal, Amaney and Helen V Milner. 2019. "Economic self-interest, information, and trade policy preferences: evidence from an experiment in Tunisia." *Review of International Political Economy* pp. 1–28.
- Kim, In Song. 2017. "Political cleavages within industry: firm-level lobbying for trade liberalization." *American Political Science Review* 111(1):1–20.
- Lü, Xiaobo, Kenneth Scheve and Matthew J Slaughter. 2012. "Inequity aversion and the international distribution of trade protection." *American Journal of Political Science* 56(3):638–654.
- Malhotra, Neil, Yotam Margalit and Cecilia Hyunjung Mo. 2013. "Economic explanations for opposition to immigration: Distinguishing between prevalence and conditional impact." *American Journal of Political Science* 57(2):391–410.
- 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.
- Margalit, Yotam. 2011. "Costly jobs: Trade-related layoffs, government compensation, and voting in US elections." *American Political Science Review* 105(1):166–188.
- Margalit, Yotam. 2012. "Lost in globalization: International economic integration and the sources of popular discontent." *International Studies Quarterly* 56(3):484–500.
- Mayda, Anna Maria. 2006. "Who is against immigration? A cross-country investigation of individual attitudes toward immigrants." *The review of Economics and Statistics* 88(3):510–530.



- Mayda, Anna Maria and Dani Rodrik. 2005. "Why are some people (and countries) more protectionist than others?" *European Economic Review* 49(6):1393–1430.
- Milner, Helen V and Keiko Kubota. 2005. "Why the move to free trade? Democracy and trade policy in the developing countries." *International organization* 59(1):107–143.
- Mutz, Diana C and Eunji Kim. 2017. "The Impact of In-group Favoritism on Trade Preferences." *International Organization* 71(4):827–850.
- O'Rourke, Kevin H, Richard Sinnott, J David Richardson and Dani Rodrik. 2001. The determinants of individual trade policy preferences: International survey evidence [with comments and discussion]. In *Brookings trade forum*. JSTOR pp. 157–206.
- O'Rourke, Kevin and Richard Sinnott. 2006. "The Determinants of Individual Attitudes towards Immigration." *European Journal of Political Economy* 22:838–861.
- Peters, Margaret E. 2017. *Trading Barriers: Immigration and the Remaking of Globalization*. Princeton University Press.
- Rho, Sungmin and Michael Tomz. 2017. "Why Don't Trade Preferences Reflect Economic Self-Interest?" *International Organization* 71(S1):S85–S108.
- Rogowski, Ronald. 1987. "Trade and the variety of democratic institutions." *International organization* 41(2):203–223.
- Scheve, Kenneth F and Matthew J Slaughter. 2001a. "Labor Market Competition and Individual Preferences Over Immigration Policy." *The Review of Economics and Statistics* 83(1):133–145.
- Scheve, Kenneth F and Matthew J Slaughter. 2001b. "What determines individual trade-policy preferences?" *Journal of International Economics* 54(2):267–292.
- Zhou, Qiang. 2008. *Partisanship, Union Centralization, and Mobility: The Political Roots of Interindustry Labor Mobility*. PhD thesis Columbia University.

## *Appendix of Supplementary Information*

### **A Measuring Support for Globalization**

Previous questions that have been used to measure support for globalization appear here:

- International Social Survey Programme: “Now we would like to ask a few questions about relations between (respondent’s country) and other countries. How much do you agree or disagree with the following statement: (Respondent’s country) should limit the import of foreign products in order to protect its national economy.” also “Should the number of immigrants to (respondent’s country) be increased a lot / a little / remain the same / be reduced a little/ or reduced a lot.”
- World Values Survey: “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?”
- Latinobarometro: “Generally speaking, do you think that trade with other countries, both the buying and selling of products, helps [nation’s] economy or harms [nation’s] economy?”

Table A1: Comparing education levels of public sector and non-public sector employees

	Education level									Mean
	1	2	3	4	5	6	7	8	9	
<b>Afrobarometer</b>										
Not public sector	1733	562	2599	2887	3695	3147	1272	463	867	4.6
Public sector	59	19	112	126	419	717	739	330	821	6.7
<b>Ghana (2016)</b>										
Not public sector	51	127	249	122	142	13	21	3		3.4
Public sector	1	2	3	0	3	0	1	0		3.6
<b>Uganda (2017)</b>										
Not public sector	22	149	111	304	86	28	35			3.7
Public sector	1	0	0	2	0	0	3			5
<b>Uganda (2018)</b>										
Not public sector	103	517	339	634	89	172	100			3.5
Public sector	0	1	1	9	4	14	21			5.8

*Note:* Table reports frequency of observations in each cross-tabulation, along with the average level of education for each group. Only employed individuals reflected in this table. Afrobarometer coded using the question “Do you work for yourself, for someone else in the private sector or the non-governmental sector, or for government?” Original surveys coded using the question “In the past month, what was your primary source of income?” where one of the responses was “In a government job or a political position.”

## B Public Sector Employees

## C Afrobarometer Findings

Table A2: Descriptive statistics for included and excluded African countries in Afrobarometer

Group	N	Democracy (Polity)	Conflict incidence (UCDP)	Freedom of expression (vDem)	Trade as % of GDP (WDI)
Excluded	17	-0.78	0.21	0.44	83.94
Included	35	4.41	0.18	0.74	74.11

*Note:* Indicates mean statistic for each group. African countries include sub-Saharan Africa and North Africa. t-tests indicate statistically significant differences between the groups for democracy and freedom of expression.

Table A3 illustrates that there are no strong non-linearities of education in the cross-national test of the factor endowment model.

Table A4 illustrates that we retain a statistically significant and positive interaction term (consistent with factor endowment models) when we use an alternative measure of the country's abundance of skilled labor.

We use occupation to generate an alternative measure of skill in the Afrobarometer data (Mayda and Rodrik 2005; O'Rourke and Sinnott 2006; Hainmueller and Hiscox 2006). Individuals are asked "What is your main occupation?" Table A5 provides the category mappings we applied. Using this new measure of skill (0-2), we replicate the main findings in Table A6. The first set of results (the pooled effects of skill on support for globalization) are no longer statistically significant, although the coefficients are still in the expected direction, and  $p$ -values remain relatively low, less than .2. This may occur because the new measure of skill is not as precise as education. The second set of results (interaction between skill's effect and the skill scarcity of the country) are robust: for employed individuals, skill negatively predicts support for globalization, and the effect is stronger the more skill-scarce the country is.



Table A3: Cross-national test of factor endowment model with non-linearities

DV: Support for free movement of goods and people				
openborders_dum				
	(1)	(2)	(3)	(4)
Primary	0.199 (0.317)	-0.430 (0.341)	0.147 (0.465)	0.634 (0.461)
Primary*GDPpc	-0.030 (0.042)	0.053 (0.044)	-0.027 (0.061)	-0.088 (0.063)
Secondary	-0.168 (0.306)	-0.137 (0.307)	-0.442 (0.420)	-0.139 (0.528)
Secondary*GDPpc	0.020 (0.039)	0.010 (0.040)	0.053 (0.052)	0.026 (0.073)
AnyHigherEd	-0.492 (0.325)	-0.988** (0.428)	-0.408 (0.500)	-0.113 (0.418)
AnyHigherEd*GDPpc	0.060 (0.041)	0.122** (0.053)	0.045 (0.065)	0.016 (0.056)
College	-0.691* (0.420)	-1.226** (0.534)	-0.303 (0.601)	-0.224 (0.888)
College*GDPpc	0.081 (0.057)	0.145** (0.069)	0.038 (0.084)	0.039 (0.119)
GDPpc	-0.563*** (0.021)	-0.689*** (0.023)	-0.747*** (0.040)	-0.396*** (0.030)
Sample Observations	Full 37,140	Employed 13,602	Looking 8,613	Not Looking 14,783

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A4: Cross-national test of factor endowment model (skilled labor ratio)

DV: Support for free movement of goods and people				
openborders_dum				
	(1)	(2)	(3)	(4)
Edu	-0.025*** (0.008)	-0.041*** (0.010)	-0.021* (0.012)	-0.010 (0.014)
Edu*SkillRatio	0.012 (0.010)	0.028*** (0.011)	0.015* (0.008)	-0.004 (0.016)
SkillRatio	0.896*** (0.051)	0.947*** (0.064)	1.173*** (0.057)	0.730*** (0.075)
Sample	Full	Employed	Looking	Not Looking
Observations	37,140	13,602	8,613	14,783

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A5: Coding an alternative measure of skill in Afrobarometer

skill	response to occupation
0	Agriculture / farming / fishing / forestry Unskilled manual worker Trader / hawker / vendor Never had a job
1	Security services Artisan or skilled manual worker Retail / shop
2	Supervisor / Foreman / Senior Manager Clerical or secretarial Mid-level professional Upper level professional Student
NA	Housewife / homemaker

Table A6: Substituting an alternative measure of skill (Afrobarometer)

DV: Support for free movement of goods and people								
openborders_dum								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Skill	-0.012 (0.012)	-0.043* (0.023)	-0.030 (0.024)	0.028 (0.022)	-0.123 (0.131)	-0.453** (0.195)	-0.036 (0.216)	0.138 (0.182)
GDPpc					-0.570*** (0.017)	-0.680*** (0.021)	-0.721*** (0.026)	-0.356*** (0.029)
Skill*GDPpc					0.015 (0.017)	0.055** (0.024)	0.001 (0.028)	-0.015 (0.024)
Sample Observations	Full 32,491	Employed 12,955	Looking 7,493	Not Looking 11,934	Full 32,491	Employed 12,955	Looking 7,493	Not Looking 11,934

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

*Note:* Models 1-4 replicate the models described in Table 1. Models 5-8 replicate the models described in Table 2. Regressions use binary probit models to estimate the effects of occupational skill on attitudes toward open borders. Controls include age, gender, rural, and country fixed effects. The occupational measure of skill is an ordinal variable with three levels: (1) unskilled workers (“Agriculture / farming / fishing / forestry”, “Unskilled manual worker”, “Trader / hawker / vendor”, “Never had a job”), (2) semi-skilled workers (“Security services”, “Artisan or skilled manual worker”, “Retail / Shop”), (3) skilled workers (“Student”, “Supervisor / Foreman / Senior Manager”, “Clerical or secretarial”, “Mid-level professional”, “Upper-level professional”). I include students as skilled workers because they anticipate entering the skilled labor market and I omit those listed as “Housewife / homemaker.” Standard errors are clustered at the region level. Cases are weighted using Afrobarometer’s combinwt variable. *p*-values for skill in models 1-4 are .18, .2, .17, and .69 respectively.



Table A7: Testing the redistributive model (Afrobarometer)

DV: Support for free movement of goods and people								
openborders_dum								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu	-0.017*** (0.005)	-0.024*** (0.009)	-0.016 (0.010)	-0.008 (0.009)	-0.102** (0.043)	-0.184** (0.075)	-0.088 (0.081)	-0.075 (0.069)
GDPpc					-0.544*** (0.066)	-0.689*** (0.086)	-0.712*** (0.128)	-0.367*** (0.092)
AssetIndex	-0.010 (0.010)	-0.025 (0.016)	0.015 (0.017)	-0.023 (0.014)	0.155* (0.080)	0.143 (0.129)	0.218 (0.136)	0.177 (0.113)
Edu*GDPpc					0.011** (0.006)	0.022** (0.010)	0.010 (0.011)	0.009 (0.010)
AssetIndex*GDPpc					-0.023** (0.011)	-0.023 (0.018)	-0.027 (0.019)	-0.028* (0.016)
Sample	Full	Employed	Looking	Not Looking	Full	Employed	Looking	Not Looking
Observations	37,140	13,602	8,613	14,783	37,140	13,602	8,613	14,783

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education and assets on attitudes toward open borders. Controls (not shown) include age, gender, rural, and country fixed effects. *AssetIndex*: Includes whether the individual owns a radio, television, motor vehicle (car or motorbike), and mobile phone, so the variable ranges between 0 (none) and 4 (all). Standard errors are clustered at the region level. Cases are weighted using Afrobarometer's combinwt variable.

Table A8: Controlling for public sector (Afrobarometer)

DV: Support for free movement of goods and people		
openborders_dum		
	(1)	(2)
Edu	-0.029*** (0.009)	-0.036*** (0.009)
Public Sector		0.090** (0.045)
Sample	Employed	Employed
Observations	13,602	13,602

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

*Note:* Regressions use binary probit models to estimate the effects of education attitudes toward open borders, controlling for whether the individual is a public sector employee. Controls (not shown) include age, gender, rural, and country fixed effects. Cases are weighted using Afrobarometer's combinwt variable.

Table A9: Testing the consumption model (Afrobarometer)

DV: Support for free movement of goods and people								
openborders_dum								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Edu	-0.018*** (0.006)	-0.028*** (0.009)	-0.015 (0.010)	-0.008 (0.009)	-0.089* (0.053)	-0.097 (0.081)	-0.039 (0.088)	-0.156* (0.081)
GDPpc					-0.282*** (0.049)	-0.287*** (0.073)	-0.301*** (0.070)	-0.277*** (0.063)
HighPrices	-0.057** (0.024)	-0.040 (0.034)	-0.064 (0.040)	-0.071* (0.038)	-0.089*** (0.026)	-0.081** (0.038)	-0.085** (0.037)	-0.098** (0.038)
Edu*GDPpc					0.009 (0.007)	0.009 (0.011)	0.004 (0.012)	0.017 (0.011)
Sample	Full	Employed	Looking	Not Looking	Full	Employed	Looking	Not Looking
Observations	36,105	13,132	8,440	14,408	36,105	13,132	8,440	14,408

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education and price sensitivity on attitudes toward open borders. *HighPrices*: “How well or badly would you say the government is doing at keeping prices down?” Variable is 1 if individuals reply badly or very badly, and a 0 otherwise. Controls include age, gender, rural, and country fixed effects. Standard errors are clustered at the region level. Cases are weighted using Afrobarometer’s combinwt variable.

## **D Original Surveys**

### **D.1 Survey Samples**

The original data in this paper comes from intake surveys of participants in lab experiments in Ghana and Uganda. The experiments were on different topics than those raised in this paper, and we do not discuss them. Because these data are collected in lab settings in a few central locations, these responses should not be taken as nationally representative of Ghana or Uganda, but we nevertheless feel them to be informative.

The Ghana (2016) survey was administered June 18-July 28, 2016 to 1,235 respondents. The survey and subsequent experiment took place in Accra and recruited participants from eight constituencies, which were chosen to be a mix of “low” and “medium/high” constituencies. When benchmarked against a larger sample of households in Greater Accra (Fink, Weeks and Hill 2012), the sample we study is remarkably representative.

The Uganda (2017) survey was administered January 28-March 2, 2017 to 1,245 respondents. The study took place at a set of field sites in and around Kampala, and participants were recruited from the surrounding neighborhoods, yielding a convenience sample. There are 23 constituencies represented in the data, but most of the respondents are from just four constituencies.

The Uganda (2018) survey was administered July 17-October 20, 2018 to 2,551 respondents.

### **D.2 Ghana (2016)**

Table A10: Effects of education on support for free trade (Ghana 2016)

	DV: Should be easier to trade freely						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Edu	-0.094*** (0.029)		-0.114*** (0.027)		-0.071* (0.043)		-0.111*** (0.027)
Primary		-0.051 (0.072)		-0.057 (0.079)		-0.047 (0.178)	
Secondary		-0.333*** (0.086)		-0.301*** (0.062)		-0.362* (0.189)	
College		-0.162 (0.207)		-0.482* (0.246)		0.205 (0.369)	
Postgrad		0.060 (0.819)		-0.332 (1.000)		4.264*** (0.239)	
Occ:Student							-0.589 (0.429)
Occ:Retired							0.546 (0.871)
Occ:Unemployed							-0.208 (0.180)
Occ:Other							0.671* (0.355)
Age	-0.003 (0.002)	-0.002 (0.002)	-0.007** (0.003)	-0.006* (0.003)	0.002 (0.003)	0.0003 (0.003)	-0.005 (0.003)
Female	-0.009 (0.099)	0.003 (0.099)	0.014 (0.120)	0.030 (0.126)	-0.049 (0.125)	-0.026 (0.117)	-0.004 (0.097)
Pol Knowledge	0.412*** (0.087)	0.403*** (0.084)	0.416*** (0.083)	0.398*** (0.077)	0.414*** (0.116)	0.420*** (0.113)	0.416*** (0.088)
Edu*Occ:Student							0.156*** (0.058)
Edu*Occ:Retired							-0.049 (0.284)
Edu*Occ:Unemployed							0.022 (0.049)
Edu*Occ:Other							-0.183** (0.082)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Full	Full	Employed	Employed	Not Employed	Not Employed	Full
Observations	1,130	1,130	688	688	442	442	1,130
Log Likelihood	-604.634	-604.496	-360.784	-361.873	-240.609	-237.928	-601.050
Akaike Inf. Crit.	1,233.267	1,238.992	745.567	753.746	505.219	505.855	1,242.100

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Standard errors clustered by constituency.

Table A11: Alternative measure of skill (Ghana 2016)

	DV: Should be easier to trade freely					
	(1)	(2)	(3)	(4)	(5)	(6)
Edu	-0.114*** (0.027)	-0.222*** (0.035)				
Skill (0-4)			-0.085* (0.051)			
High Skill (0-1)				-0.277 (0.184)		
HH Skill (0-4)					-0.073 (0.045)	
HH High Skill (0-1)						-0.242 (0.155)
Age	-0.007** (0.003)	-0.002 (0.006)	0.004 (0.007)	0.005 (0.007)	0.002 (0.007)	0.002 (0.007)
Female	0.014 (0.120)	-0.036 (0.223)	0.191 (0.214)	0.194 (0.219)	0.094 (0.214)	0.099 (0.217)
Pol Knowledge	0.416*** (0.083)	0.484*** (0.145)	0.376** (0.149)	0.373** (0.150)	0.347** (0.148)	0.344** (0.148)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Employed	Employed (subset)	Employed (subset)	Employed (subset)	Employed (subset)	Employed (subset)
Observations	688	321	321	321	351	351
Log Likelihood	-360.784	-153.516	-158.858	-158.662	-171.896	-171.691
Akaike Inf. Crit.	745.567	329.032	339.717	339.324	365.793	365.382

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A12: Testing the redistributive model (Ghana 2016)

	DV: Should be easier to trade freely								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Edu	-0.094*** (0.029)	-0.082*** (0.031)	-0.097*** (0.029)	-0.114*** (0.027)	-0.093*** (0.032)	-0.113*** (0.026)			
Skill							-0.085* (0.051)	-0.076 (0.051)	-0.085* (0.051)
Internet Use		-0.056* (0.032)			-0.130 (0.092)			-0.311*** (0.088)	
HH Income (log)			0.022 (0.029)			-0.008 (0.043)			0.007 (0.044)
Age	-0.003 (0.002)	-0.004** (0.002)	-0.003 (0.002)	-0.007** (0.003)	-0.010** (0.004)	-0.007** (0.003)	0.004 (0.007)	-0.006 (0.005)	0.004 (0.007)
Female	-0.009 (0.099)	-0.026 (0.096)	-0.005 (0.101)	0.014 (0.120)	-0.031 (0.115)	0.013 (0.117)	0.191 (0.214)	-0.010 (0.231)	0.193 (0.218)
Pol Knowledge	0.412*** (0.087)	0.418*** (0.087)	0.406*** (0.088)	0.416*** (0.083)	0.430*** (0.085)	0.417*** (0.089)	0.376** (0.149)	0.458*** (0.166)	0.374** (0.149)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Full	Full	Full	Employed	Employed	Employed	Employed (subset)	Employed (subset)	Employed (subset)
Observations	1,130	1,130	1,130	688	688	688	321	321	321
Log Likelihood	-604.634	-604.219	-604.398	-360.784	-359.520	-360.774	-158.858	-155.353	-158.855
Akaike Inf. Crit.	1,233.267	1,234.438	1,234.797	745.567	745.041	747.548	339.717	334.705	341.710

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education, skill, assets, and income on attitudes toward free trade. The survey asks about TV use frequency, phone ownership, and internet use frequency. Only internet use frequency exhibits a normal distribution, as most individuals use a TV frequently and own a phone. We code internet use as an ordinal variable that best maps this distribution (1 = Never; 2 = Less than once a month, Once a month, 2-3 times a month, Once a week, or 2-3 times a week; 3 = Daily). Household income is the logged sum of the cash a respondent earned in the past month plus that earned by the household primary earner, if not the respondent. Standard errors are clustered at the constituency level.

Table A13: Controlling for the public sector (Ghana 2016)

	DV: Should be easier to trade freely	
	(1)	(2)
Edu	-0.114*** (0.027)	-0.114*** (0.027)
Public Sector		0.421 (0.443)
Age	-0.007** (0.003)	-0.007** (0.003)
Female	0.014 (0.120)	0.016 (0.121)
Pol Knowledge	0.416*** (0.083)	0.410*** (0.082)
Addtl Controls	Rel, Eth	Rel, Eth
Sample	Employed	Employed
Observations	688	687
Log Likelihood	-360.784	-360.366
Akaike Inf. Crit.	745.567	746.732

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01



Table A14: Testing non-economic models (Ghana 2016)

	DV: Should be easier to trade freely					
	(1)	(2)	(3)	(4)	(5)	(6)
Edu	-0.094*** (0.029)	-0.084*** (0.026)	-0.114*** (0.027)	-0.104*** (0.026)		
Skill					-0.085* (0.051)	-0.047 (0.059)
Natl ID		0.133 (0.086)		0.054		0.204* (0.119)
Pride		0.098** (0.043)		0.136		0.147*** (0.038)
Age	-0.003 (0.002)	-0.002 (0.002)	-0.007** (0.003)	-0.007** (0.003)	0.004 (0.007)	0.005 (0.006)
Female	-0.009 (0.099)	-0.021 (0.105)	0.014 (0.120)	0.009 (0.117)	0.191 (0.214)	0.108 (0.215)
Pol Knowledge	0.412*** (0.087)	0.351*** (0.077)	0.416*** (0.083)	0.335*** (0.089)	0.376** (0.149)	0.217 (0.166)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Full	Full	Employed	Employed	Employed (subset)	Employed (subset)
Observations	1,130	1,087	688	667	321	314
Log Likelihood	-604.634	-561.722	-360.784	-334.398	-158.858	-148.149
Akaike Inf. Crit.	1,233.267	1,151.444	745.567	696.796	339.717	322.299

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education, skill, assets, and income on attitudes toward free trade. *Natl ID*: “I feel only (national identity)” or “I feel more (national identity) than (ethnic group).” Variable is 2 if feels only national identity, 1 if equally national and ethnic identity, and 0 if ethnic identity only. *Pride*: “How proud are you to be Ghanaian?” Variable is 1-10. Standard errors are clustered at the constituency level.

### **D.3 Uganda (2017)**

Table A15: Effects of education on support for free trade (Uganda 2017)

	DV: Should be easier to trade freely						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Edu	0.007 (0.012)		-0.012 (0.012)		0.054 (0.045)		-0.019** (0.008)
Primary		0.052 (0.077)		0.072 (0.081)		-0.002 (0.131)	
Secondary		0.206 (0.139)		0.121 (0.111)		0.371 (0.394)	
College		-0.056 (0.090)		-0.209 (0.135)		0.388*** (0.133)	
Postgrad		-5.086*** (0.233)				-5.509*** (0.256)	
Occ:Student							-0.183 (0.676)
Occ:Homemaker							0.666 (0.604)
Occ:Retired							-9.683*** (0.410)
Occ:Unemployed							-0.201 (0.215)
Occ:Other							-0.104 (0.645)
Age	0.003 (0.003)	0.004 (0.003)	0.009* (0.005)	0.010** (0.005)	-0.002 (0.003)	-0.003 (0.004)	0.002 (0.002)
Female	-0.146 (0.107)	-0.127 (0.120)	-0.215** (0.109)	-0.212* (0.109)	-0.082 (0.157)	-0.032 (0.197)	-0.165 (0.132)
Pol Knowledge	0.089*** (0.024)	0.086*** (0.025)	0.117** (0.049)	0.117** (0.051)	0.059 (0.112)	0.053 (0.112)	0.093*** (0.026)
Edu*Occ:Student							0.045 (0.115)
Edu*Occ:Homemaker							-0.660*** (0.122)
Edu*Occ:Retired							2.082*** (0.074)
Edu*Occ:Unemployed							0.068** (0.034)
Edu*Occ:Other							0.158 (0.130)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Full	Full	Employed	Employed	Not Employed	Not Employed	Full
Observations	1,012	1,012	691	691	321	321	1,012
Log Likelihood	-668.094	-665.866	-456.826	-455.812	-197.062	-194.623	-658.204
Akaike Inf. Crit.	1,386.188	1,387.731	961.652	963.624	442.123	443.245	1,386.409

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Standard errors clustered by constituency.

Table A16: Alternative measure of skill (Uganda 2017)

	DV: Should be easier to trade freely					
	(1)	(2)	(3)	(4)	(5)	(6)
Edu	-0.012 (0.012)	-0.012 (0.012)				
Skill (0-4)			-0.164*** (0.025)			
High Skill (0-1)				-0.420*** (0.065)		
HH Skill (0-4)					-0.116*** (0.022)	
HH High Skill (0-1)						-0.307*** (0.045)
Age	0.009* (0.005)	0.009* (0.005)	0.010* (0.006)	0.011* (0.006)	0.003 (0.004)	0.003 (0.004)
Female	-0.215** (0.109)	-0.215** (0.109)	-0.167 (0.128)	-0.178 (0.126)	-0.111 (0.094)	-0.110 (0.093)
Pol Knowledge	0.117** (0.049)	0.117** (0.049)	0.073 (0.056)	0.078 (0.058)	0.066* (0.034)	0.068** (0.033)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Employed	Employed	Employed	Employed	Full	Full
Observations	691	691	687	687	972	972
Log Likelihood	-456.826	-456.826	-441.801	-445.231	-624.284	-626.897
Akaike Inf. Crit.	961.652	961.652	931.602	938.462	1,298.569	1,303.793

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Standard errors clustered by constituency.

Table A17: Testing the redistributive model (Uganda 2017)

	DV: Should be easier to trade freely									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Edu	0.007 (0.012)	-0.013 (0.016)	-0.003 (0.013)	-0.012 (0.012)	-0.043** (0.017)	-0.016 (0.013)				
Skill							-0.164*** (0.025)	-0.173*** (0.023)	-0.161*** (0.028)	
Asset Index		0.047*** (0.016)			0.086** (0.042)			0.093** (0.047)		
HH Income (log)			0.017 (0.021)			0.024 (0.035)			0.029 (0.035)	
Age	0.003 (0.003)	0.004 (0.003)	0.005 (0.003)	0.009* (0.005)	0.010* (0.005)	0.010** (0.005)	0.010* (0.006)	0.013* (0.007)	0.011** (0.005)	
Female	-0.146 (0.107)	-0.133 (0.105)	-0.137 (0.109)	-0.215** (0.109)	-0.186* (0.105)	-0.221** (0.110)	-0.167 (0.128)	-0.112 (0.123)	-0.165 (0.127)	
Pol Knowledge	0.089*** (0.024)	0.096*** (0.023)	0.083*** (0.027)	0.117** (0.049)	0.127*** (0.049)	0.106** (0.049)	0.073 (0.056)	0.086 (0.056)	0.071 (0.055)	
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	
Sample	Full	Full	Full	Employed	Employed	Employed	Employed	Employed	Employed	
Observations	1,012	1,011	984	691	691	679	687	687	676	
Log Likelihood	-668.094	-666.661	-645.908	-456.826	-454.990	-446.233	-441.801	-439.363	-433.015	
Akaike Inf. Crit.	1,386.188	1,385.322	1,343.816	961.652	959.980	942.465	931.602	928.726	916.030	

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education, skill, and non-economic factors on attitudes toward free trade. The survey asks about TV use frequency, phone ownership, and internet use frequency. Only TV and internet use frequency exhibit a normal distribution, as most individuals own a phone. We code TV and internet use as ordinal variables that best maps this distribution (1 = Never; 2 = Less than once a month, Once a month, 2-3 times a month, Once a week, or 2-3 times a week; 3 = Daily), and sum the two for an asset index. Household income is the logged sum of the cash a respondent earned in the past month plus that earned by the household primary earner, if not the respondent. Standard errors are clustered at the constituency level.

Table A18: Controlling for the public sector (Uganda 2017)

	DV: Should be easier to trade freely	
	(1)	(2)
Edu	-0.012 (0.012)	-0.009 (0.014)
Public Sector		-0.574 (0.383)
Age	0.009* (0.005)	0.009* (0.005)
Female	-0.215** (0.109)	-0.220** (0.109)
Pol Knowledge	0.117** (0.049)	0.116** (0.049)
Addtl Controls	Rel, Eth	Rel, Eth
Sample	Employed	Employed
Observations	691	690
Log Likelihood	-456.826	-455.434
Akaike Inf. Crit.	961.652	960.869

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A19: Testing non-economic models (Uganda 2017)

	DV: Should be easier to trade freely					
	(1)	(2)	(3)	(4)	(5)	(6)
Edu	0.007 (0.012)	0.008 (0.013)	-0.012 (0.012)	-0.011 (0.013)		
Skill					-0.164*** (0.025)	-0.159*** (0.025)
Natl ID		-0.066 (0.065)		-0.043 (0.086)		-0.002 (0.074)
Age	0.003 (0.003)	0.003 (0.003)	0.009* (0.005)	0.009* (0.005)	0.010* (0.006)	0.011* (0.006)
Female	-0.146 (0.107)	-0.167 (0.106)	-0.215** (0.109)	-0.230** (0.106)	-0.167 (0.128)	-0.192 (0.121)
Pol Knowledge	0.089*** (0.024)	0.088*** (0.023)	0.117** (0.049)	0.108** (0.052)	0.073 (0.056)	0.064 (0.058)
Addtl Controls	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth	Rel, Eth
Sample	Full	Full	Employed	Employed	Employed	Employed
Observations	1,012	965	691	656	687	653
Log Likelihood	-668.094	-637.193	-456.826	-434.494	-441.801	-421.427
Akaike Inf. Crit.	1,386.188	1,326.387	961.652	918.987	931.602	892.853

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education, skill, and non-economic factors on attitudes toward free trade. *Natl ID*: “I feel only (national identity)” or “I feel more (national identity) than (ethnic group).” Variable is 2 if feels only national identity, 1 if equally national and ethnic identity, and 0 if ethnic identity only. Standard errors are clustered at the constituency level.

## D.4 Uganda (2018)

Table A20: Effects of education on support for free trade (Uganda 2018)

	DV: Should be easier to trade freely						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Edu	-0.054** (0.023)		-0.053** (0.026)		-0.090 (0.055)		-0.050* (0.026)
Primary		-0.029 (0.084)		-0.030 (0.093)		-0.056 (0.206)	
Secondary		-0.165 (0.113)		-0.177 (0.126)		-0.192 (0.274)	
College		-0.239 (0.148)		-0.278 (0.169)		-0.207 (0.326)	
Occ:Homemaker							-0.746 (1.211)
Occ:Other							0.640 (0.418)
Occ:Retired							4.256 (381.527)
Occ:Student							-0.403 (1.190)
Occ:Unemployed							0.149 (0.297)
Age	0.005* (0.003)	0.005* (0.003)	0.002 (0.003)	0.003 (0.003)	0.015** (0.007)	0.012* (0.006)	0.004 (0.003)
Female	-0.129* (0.072)	-0.120* (0.071)	-0.110 (0.081)	-0.103 (0.081)	-0.219 (0.169)	-0.165 (0.166)	-0.110 (0.074)
Edu*Occ:Homemaker							0.069 (0.339)
Edu*Occ:Other							-0.090 (0.087)
Edu*Occ:Retired							0.041 (74.398)
Edu*Occ:Student							0.054 (0.235)
Edu*Occ:Unemployed							-0.040 (0.078)
Addtl Controls	Eth	Eth	Eth	Eth	Eth	Eth	Eth
Sample	Full	Full	Employed	Employed	Not Employed	Not Employed	Full
Observations	1,670	1,692	1,333	1,349	337	343	1,670
Log Likelihood	-846.883	-861.568	-675.856	-684.793	-157.410	-164.924	-841.486
Akaike Inf. Crit.	1,741.766	1,775.137	1,399.712	1,421.586	358.820	377.848	1,750.972

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01



Table A21: Effects of education on opposition to free trade (Uganda 2018)

	DV: Should limit imports						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Edu	0.058*** (0.022)		0.048** (0.024)		0.103** (0.050)		0.052** (0.024)
Primary		0.029 (0.078)		0.0002 (0.086)		0.170 (0.190)	
Secondary		0.236** (0.105)		0.192 (0.118)		0.467* (0.250)	
College		0.265* (0.140)		0.266 (0.162)		0.223 (0.304)	
Occ:Homemaker							0.061 (1.194)
Occ:Other							0.200 (0.337)
Occ:Retired							-2.375 (2.438)
Occ:Student							-0.268 (1.127)
Occ:Unemployed							-0.015 (0.278)
Age	-0.005* (0.003)	-0.005** (0.003)	-0.004 (0.003)	-0.004 (0.003)	-0.008 (0.006)	-0.008 (0.006)	-0.004 (0.003)
Female	0.042 (0.067)	0.026 (0.066)	0.014 (0.076)	-0.008 (0.076)	0.004 (0.153)	-0.012 (0.153)	0.041 (0.069)
Edu*Occ:Homemaker							0.080 (0.336)
Edu*Occ:Other							0.017 (0.074)
Edu*Occ:Retired							0.328 (0.422)
Edu*Occ:Student							0.090 (0.221)
Edu*Occ:Unemployed							-0.007 (0.074)
Addtl Controls	Eth	Eth	Eth	Eth	Eth	Eth	Eth
Sample	Full	Full	Employed	Employed	Not Employed	Not Employed	Full
Observations	1,654	1,676	1,318	1,334	336	342	1,654
Log Likelihood	-1,011.698	-1,026.211	-802.598	-814.492	-194.708	-196.707	-1,007.565
Akaike Inf. Crit.	2,071.396	2,104.422	1,653.197	1,680.983	433.417	441.414	2,083.130

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table A22: Testing the redistributive model (Uganda 2018)

	DV: Should be easier to trade freely					
	(1)	(2)	(3)	(4)	(5)	(6)
Edu	-0.054** (0.023)	-0.055** (0.024)	-0.067*** (0.025)	-0.053** (0.026)	-0.053* (0.028)	-0.052* (0.028)
Phone Access		0.009 (0.090)			0.003 (0.101)	
Income (log)			0.009 (0.013)			-0.027 (0.023)
Age	0.005* (0.003)	0.005* (0.003)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)
Female	-0.129* (0.072)	-0.128* (0.072)	-0.105 (0.079)	-0.110 (0.081)	-0.110 (0.082)	-0.114 (0.085)
Addtl Controls	Eth	Eth	Eth	Eth	Eth	Eth
Sample	Full	Full	Full	Employed	Employed	Employed
Observations	1,670	1,670	1,396	1,333	1,333	1,257
Log Likelihood	-846.883	-846.878	-714.086	-675.856	-675.856	-646.723
Akaike Inf. Crit.	1,741.766	1,743.756	1,478.173	1,399.712	1,401.712	1,343.445

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Note: Regressions use binary probit models to estimate the effects of education, skill, assets, and income on attitudes toward free trade. The survey asks about cell phone ownership, access to a smartphone, and access to the internet; however, the latter two variables are missing for a majority of the sample. Although most have a cell phone, this is the only asset for which we have complete data. Income is the logged cash a respondent earned divided by the period of time, scaled to a per day ratio (the survey does not ask about the partner's income). Standard errors are not clustered due to missing geographic data.

Table A23: Controlling for public sector employment (Uganda 2018)

	DV: Should be easier to trade freely	
	(1)	(2)
Edu	-0.053** (0.026)	-0.061** (0.027)
Public Sector		0.363 (0.294)
Age	0.002 (0.003)	0.002 (0.003)
Female	-0.110 (0.081)	-0.118 (0.082)
Addtl Controls	Eth	Eth
Sample	Employed	Employed
Observations	1,333	1,333
Log Likelihood	-675.856	-675.072
Akaike Inf. Crit.	1,399.712	1,400.144

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01