# Low-Skilled Liberalizers:

# Support for Globalization in Africa[*]

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## Abstract

Populist movements may be erecting barriers to free trade and immigration in advanced in-dustrialized economies, but developing countries are actively promoting the free movement of people and goods. To shed light on this phenomenon, I investigate public attitudes toward free trade and immigration in 35 African countries. Overall, I find that patterns are consistent with the canonical factor endowment models that scholars are moving away from. Low-skilled in-dividuals are more likely to support free trade and immigration than high-skilled individuals in these skill-scarce countries, consistent with the predictions of the Stolper-Samuelson theorem. The strongest and most robust negative effects of skill occur for the most skill-scarce countries in the sample. The results suggest that evidence against factor endowment models may have resulted, in part, from inadequate data from the developing world.

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

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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.[1] 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.[2]

This strong discrepancy motivates me 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

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[1] See https://rtais.wto.org/UI/PublicAllRTAList.aspx.
[2] See https://www.visaopenness.org/.

countries to culture or identity rather than factor endowments.

I argue that these debates still rely on evidence that underrepresents developing countries, and this evidence is crucial to understanding current events. Using data from Afrobarometer, I conduct a cross-national analysis of attitudes toward globalization in 35 developing countries. My findings are actually quite 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. The results are robust to alternative measures of skill and to including other economic and non-economic predictors of globalization attitudes. I 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.[3]

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

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[3]The Ricardo-Viner model argues that support hinges on the factor endowment of the industry that employs an individual, but I lack the data to test this claim.

endowments. But explanations increasingly emphasize non-economic factors.[4] Many argue that education could by 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).[5]

Without challenging the significance of non-economic factors, I claim that economic models have not been tested sufficiently enough on their own terms to discard. 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. I 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

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[4]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.

[5]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.[6]

**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 I remain open to the possibility that individuals behave differently in a dramatically different economic context.

# 2   Data

I 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. 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, I 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

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[6]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.

2005). I omit responses of don't know, agreed with neither, refused, and missing.[7] Overall, 61% of the sample supports open borders.

A limitation of this study is that the question wording in Afrobarometer combines individuals' attitudes toward trade and immigration. Previous studies have drawn on survey questions that examine each in isolation.[8] It would be ideal to separate these two issues, as there are important differences between them, and I am unable to parse whether any relationships are driven by trade or immigration. Nonetheless, these data still provide valuable information about individuals' attitudes toward open borders in Africa, and at least the factor endowment models motivating this study expect attitudes toward trade and immigration to run in identical directions. My study can therefore still contribute by showing that individuals' attitudes toward open borders are generally consistent with the predictions of these models, even if we do not know whether either trade or immigration may be driving the results.

Following previous work, I use education as a proxy for individual skill. First, I use an ordinal measure of the individual's level of education.[9] However, Hainmueller and Hiscox (2006) find evidence of non-linearities in education's effects in the U.S., and so I also create a second measure of education, consisting of a set of dummy variables. I 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 endowments model, I also require a measure of the country's relative abundance in skilled labor. Following Mayda and Rodrik (2005), I use the logged value of gross domestic product (GDP) per capita as a proxy for relative factor endowments. I obtain the data from the World Development Indicators for the year 2014, which immediately precedes the fielding of the survey round in 2015-2016.

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[7]About 5% answered "don't know," similar to 4% for the comparable ISSP question in 2013.

[8]These wordings appear in the appendix.

[9]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.

Afrobarometer asks whether individuals are employed, unemployed and looking for work, or unemployed and not looking for work. I code students, homemakers, and never had a job as missing. When these individuals and unemployed people not looking for work are excluded, the unemployment rate is 37%.

As in nearly all of the studies mentioned here, I estimate my results using binary probit models. I regress my dummy dependent variable (1 = support for free movement of people and goods across borders) on skill as well as a baseline set of covariates including age, gender, rural, and country fixed effects.[10] I cluster standard errors at the level of the sub-national region to account for relevant spatial correlation related to border regions and trade routes.

## 3  Results

To test hypothesis 1, I 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 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 I find evidence of some non-linear effects of education, they do 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 I 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-

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[10]Other covariates including 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, I do not include party identification. All Afrobarometer respondents are citizens of their countries, so I also do not include this as a control.

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.

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.[11] 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, I do find that this coefficient is positive. Again, it is only statistically significant for those individuals who are engaged in the labor market (models 2), which is consistent with hypothesis 3.

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[11]Results for the non-linear education variable are similar (see appendix).

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Table 1: Effects of skill on support for globalization

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | DV: Support for free movement of goods and people | | | | | | | |
| | openborders_dum | | | | | | | |
| Edu | −0.014*** | −0.020*** | −0.008 | −0.010 | | | | |
| | (0.005) | (0.008) | (0.009) | (0.008) | | | | |
| Primary | | | | | −0.021 | −0.052 | −0.030 | 0.002 |
| | | | | | (0.026) | (0.041) | (0.050) | (0.043) |
| Secondary | | | | | −0.018 | −0.079** | 0.006 | 0.021 |
| | | | | | (0.026) | (0.036) | (0.044) | (0.043) |
| AnyHigherEd | | | | | −0.027 | −0.067* | −0.033 | 0.031 |
| | | | | | (0.030) | (0.040) | (0.058) | (0.050) |
| College | | | | | −0.021 | −0.055 | 0.014 | 0.012 |
| | | | | | (0.039) | (0.052) | (0.071) | (0.093) |
| Sample | Full | Employed | Looking | Not Looking | Full | Employed | Looking | Not Looking |
| Observations | 48,991 | 19,004 | 11,506 | 18,310 | 48,991 | 19,004 | 11,506 | 18,310 |

*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).

Table 2: Factor endowment model

| | | | DV: Support for free movement of goods and people | |
| --- | --- | --- | --- | --- |
| | | | openborders_dum | |
| | (1) | (2) | (3) | (4) |
| Edu | −0.078* | −0.153** | −0.054 | −0.057 |
| | (0.042) | (0.060) | (0.068) | (0.064) |
| | | | | |
| Edu*GDPpc | 0.009 | 0.018** | 0.006 | 0.006 |
| | (0.005) | (0.008) | (0.009) | (0.009) |
| | | | | |
| GDPpc | −0.598*** | −0.744*** | −0.751*** | −0.442*** |
| | (0.057) | (0.066) | (0.120) | (0.076) |
| | | | | |
| Sample | Full | Employed | Looking | Not Looking |
| Observations | 47,844 | 18,647 | 11,106 | 17,920 |

*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, GDP per capita, and country fixed effects. Standard errors are clustered at the region level. Cases are weighted using Afrobarometer's combinwt variable.

Figure 1 presents the pattern by plotting the effect of the ordinal education variable on support for open borders for each country individually. Visually, I 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.

Robustness checks in the appendix further support the predictions of factor endowment models. First, I measure skill using occupation and find similar patterns. Second, I show that labor market dynamics are significant even when I account for any redistributive dynamics that motivate attitudes toward immigration. Third, I include non-economic factors in the model, and the results on skill remain robust. The factor endowment model performs remarkably well at explaining attitudes in Africa.
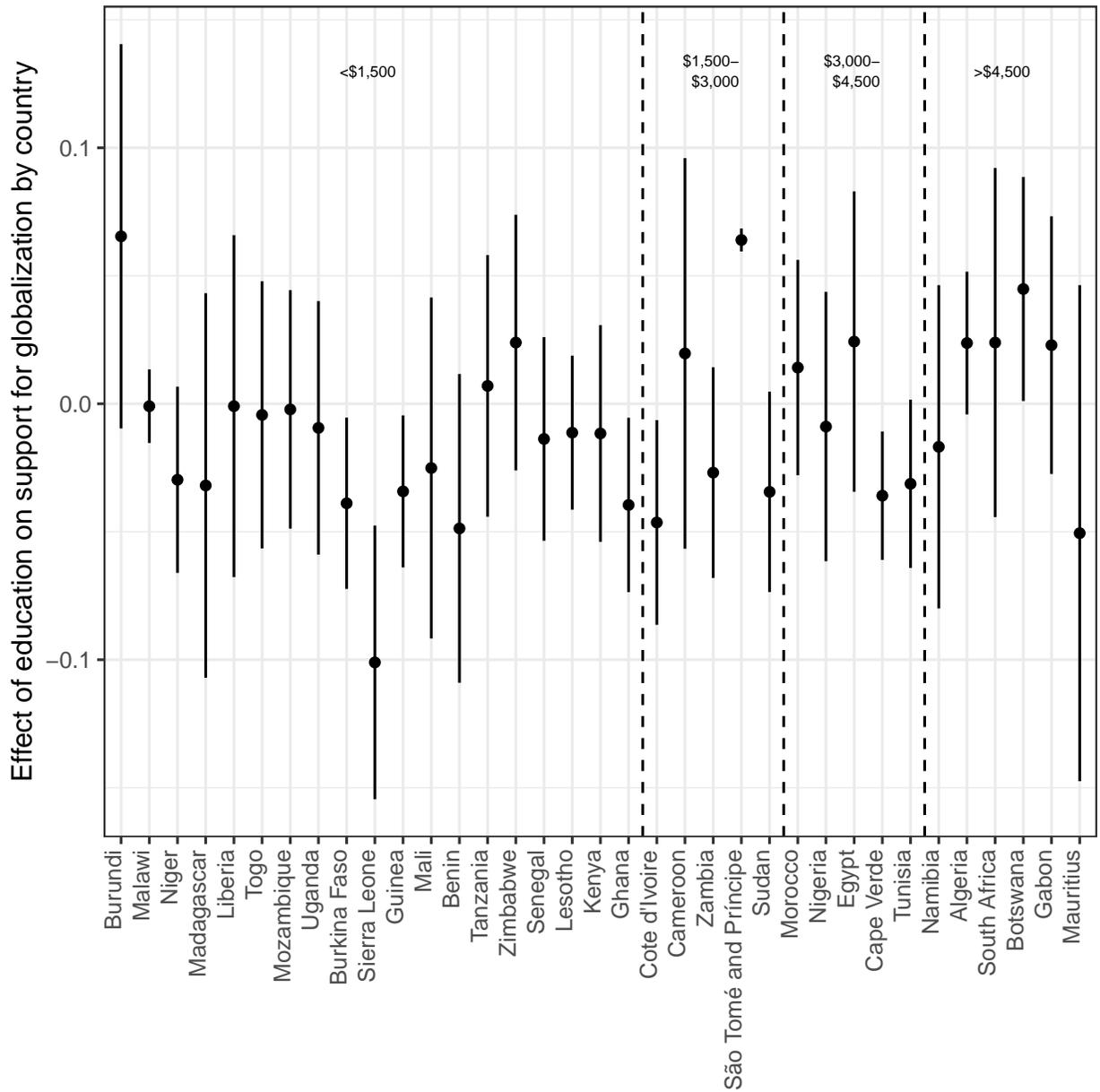
Figure 1: **Effects of Skill by Country Factor Endowment.** Each point indicates the coefficient obtained from a country-specific regression. Regressions are identical to those in Table 1 Model 1, but subset to a single country and therefore omit country fixed effects. Countries are plotted in increasing 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.
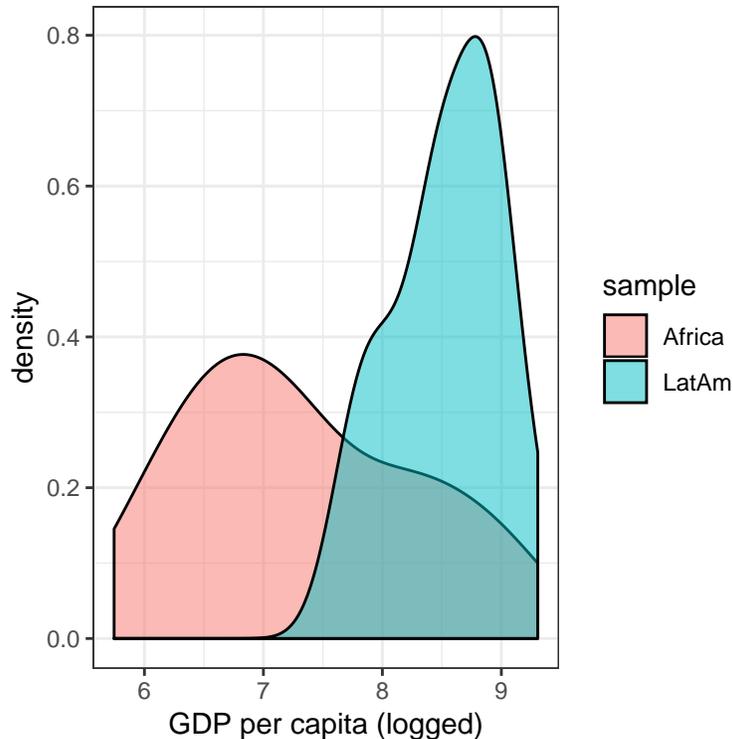
Figure 2: **Benchmarking National Income Distribution.** Density plots are of the distribution of national income for the 35 countries in the Afrobarometer sample and the 17 countries in the Latinobarometro sample used in Beaulieu, Yatawara and Wang (2005). The plot shows that the African sample is substantially 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.

# 4    Discussion and Conclusion

Overall, evidence from Afrobarometer 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 I observe attenuates for the relatively higher-skilled countries in the sample.

This finding is noteworthy as scholars have somewhat moved away from economic explana-

tions. I do not challenge the claim that non-economic factors are important. Rather, I 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 2 shows that their sample is considerably wealthier than mine. Afrobarometer offers a rich source of data for 35 developing countries in Africa and illustrates that once the sample is skill-scarce enough, the expected negative effect does exist, and the patterns are consistent with economic expectations.

My study prompts several important questions that should be addressed in future research. First, are attitudes driven by economic realities or elite framing? Politicians in the U.S. and Europe routinely campaign on trade and immigration and project influential narratives about their effects, which likely has some role in forming individuals' beliefs. African politicians may also campaign on these policies but in a positive light. 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.[12] Future research should explore whether these issues are salient in other African elections. Second, are these findings driven by trade or immigration? Existing data do not permit a distinction. New surveys could ask about these topics separately.

A third question concerns whether individuals' opinions matter in policy creation. Even if they do not, this study is intrinsically informative, as it illustrates that individuals experience the global economy in the way the factor endowment model expects. Perhaps these individuals 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. It may also be that poverty actually builds economic sophistication.[13] And individuals' policy views may matter for policy after all. For example, the Nigerian government held consultation meetings across the country before choosing not to sign the AfCFTA (although it

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[12] See Alvar Mwakyusa and Nelly Mtema, "Magufuli vows to end Longido, Arumero Land, Border Disputes," *All Africa*, October 7, 2015.

[13] For example, de la Cuesta et al. (2018) find that Ugandans can estimate even the hidden taxes they pay.

may do so later).[14] Their views can also matter indirectly: individuals may reward or punish their politicians based on jobs and prices even if they do not discuss trade or immigration, and this could still lead politicians to adopt certain economic policies.

These results can be read as good news for democratization. Milner and Kubota (2005) argue that democratization can foster globalization because it tends to enfranchise low-skilled workers who benefit from free trade. I have shown that these low-skilled workers indeed hold the political preferences they should. Greater democratization in the global south may therefore lower economic barriers, all while populism in the global north is erecting them.

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[14]See Olabisi D. Akinkugbe, "Nigeria had good reasons to delay signing Africa's free trade deal," Quartz Africa, July 27, 2018.

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# Appendix

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?"

I conduct additional tests to check the robustness of my results.

First, I test whether the findings are driven by using education as the measure of skill. I substitute an occupation-based measure of skill (Mayda and Rodrik 2005; O'Rourke and Sinnott 2006; Hainmueller and Hiscox 2006). The results in Table 3 exhibit similar patterns. In models 1-4, the results remain in the correct direction (negative) although they reduce in magnitude and lose statistical significance (though the *p*-values remain relatively low, less than .2). When I replicate the factor endowment model, the results are quite robust. The interaction term for employed individuals is positive and statistically significant, and it is even stronger than the effect reported in the main text. These tests illustrate that the effect is not just driven by education and appears to capture underlying labor market dynamics.

Second, I test whether the results capture labor market versus consumption or redistributive dynamics. Baker (2003) claims individuals want low prices associated with globalization and

Facchini and Mayda (2009) point out that immigration affects tax burdens. To isolate the labor market mechanism, I separate education (which proxies for skill) and income (which proxies for price-sensitivity and also the tax burden), and let both interact with the country's level of skill abundance (GDP per capita). I measure income through an index of assets individuals report in the Afrobarometer.

Table 4 shows that the original findings are robust, even when redistributive dynamics are occurring. 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.

Table 3: Alternative measure of skill

| | | | | DV: Support for free movement of goods and people | | | | |
| | | | | openborders_dum | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Skill | −0.014 | −0.025 | −0.026 | 0.008 | −0.030 | −0.356** | 0.135 | 0.141 |
| | (0.011) | (0.019) | (0.019) | (0.020) | (0.091) | (0.143) | (0.155) | (0.133) |
| GDPpc | | | | | −0.559*** | −0.676*** | −0.697*** | −0.351*** |
| | | | | | (0.049) | (0.050) | (0.118) | (0.068) |
| Skill*GDPpc | | | | | 0.002 | 0.043** | −0.022 | −0.018 |
| | | | | | (0.012) | (0.018) | (0.020) | (0.018) |
| Sample | Full | Employed | Looking | Not Looking | Full | Employed | Looking | Not Looking |
| Observations | 42,937 | 18,189 | 9,955 | 14,663 | 41,819 | 17,825 | 9,565 | 14,299 |

| | |
|---|---|
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

*Note:* 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 4: Redistributive model

| | DV: Support for free movement of goods and people | | | | | | | |
| | openborders_dum | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Edu | −0.012** | −0.016* | −0.009 | −0.007 | −0.099** | −0.164** | −0.087 | −0.074 |
| | (0.005) | (0.008) | (0.009) | (0.008) | (0.043) | (0.065) | (0.071) | (0.063) |
| | | | | | | | | |
| GDPpc | | | | | −0.557*** | −0.702*** | −0.711*** | −0.377*** |
| | | | | | (0.062) | (0.077) | (0.123) | (0.086) |
| | | | | | | | | |
| AssetIndex | −0.013 | −0.025* | 0.005 | −0.025* | 0.134* | 0.097 | 0.205* | 0.163 |
| | (0.009) | (0.014) | (0.015) | (0.013) | (0.071) | (0.125) | (0.120) | (0.105) |
| | | | | | | | | |
| Edu*GDPpc | | | | | 0.012** | 0.020** | 0.010 | 0.009 |
| | | | | | (0.006) | (0.009) | (0.010) | (0.008) |
| | | | | | | | | |
| AssetIndex*GDPpc | | | | | −0.020** | −0.016 | −0.027* | −0.026* |
| | | | | | (0.010) | (0.017) | (0.016) | (0.015) |
| | | | | | | | | |
| Sample | Full | Employed | Looking | Not Looking | Full | Employed | Looking | Not Looking |
| Observations | 48,991 | 19,004 | 11,506 | 18,310 | 47,844 | 18,647 | 11,106 | 17,920 |

*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 include age, gender, rural, and country fixed effects. The asset index 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.

Third, I include non-economic factors that are likely to influence attitudes toward globalization. Following Mayda and Rodrik (2005), I investigate the role of national identification, ethnocentrism, xenophobia, and support for democracy. National identification measures whether the individual identifies more with his or her ethnic group or national identity.[15] Table 5 shows that both economic and non-economic factors explain variation in attitudes toward open borders. Consistent with expectations (open borders benefit countries as a whole, even if some specific groups lose), individuals who identify more with their country are more pro-trade/immigration. 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.

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[15]Analogously, Mayda and Rodrik (2005) measured whether the individual identifies with neighborhood, city, county, or country.

Table 5: Cultural model

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DV: Support for free movement of goods and people | | | | | | | |
| | | | | | openborders_dum | | | | | | | |
| Edu | −0.026*** (0.007) | −0.027** (0.011) | −0.028** (0.012) | −0.025** (0.010) | | | | | −0.111** (0.051) | −0.239*** (0.075) | −0.067 (0.088) | −0.069 (0.077) |
| Primary | | | | | −0.052 (0.038) | −0.140*** (0.054) | −0.084 (0.074) | 0.062 (0.068) | | | | |
| Secondary | | | | | −0.083*** (0.030) | −0.134*** (0.044) | −0.074 (0.056) | −0.055 (0.055) | | | | |
| AnyHigherEd | | | | | −0.077** (0.036) | −0.112** (0.052) | −0.044 (0.065) | −0.062 (0.060) | | | | |
| College | | | | | −0.032 (0.055) | −0.044 (0.071) | −0.110 (0.095) | 0.077 (0.123) | | | | |
| GDPpc | | | | | | | | | 0.494 (1.262) | −1.530 (1.646) | 1.602 (2.144) | −0.006 (1.919) |
| NatlID | 0.054** (0.023) | 0.011 (0.033) | 0.080** (0.034) | 0.070** (0.034) | 0.052** (0.023) | 0.010 (0.033) | 0.077** (0.034) | 0.068** (0.034) | 0.055** (0.023) | 0.014 (0.033) | 0.082** (0.034) | 0.070** (0.034) |
| Ethno | −0.200** (0.088) | −0.092 (0.090) | −0.215** (0.096) | −0.276** (0.138) | −0.195** (0.089) | −0.092 (0.090) | −0.212** (0.096) | −0.275** (0.139) | −0.183* (0.100) | −0.055 (0.100) | −0.209* (0.114) | −0.271* (0.153) |
| Xeno | −0.160*** (0.044) | −0.158*** (0.061) | −0.129* (0.071) | −0.192*** (0.066) | −0.158*** (0.044) | −0.159*** (0.062) | −0.129* (0.071) | −0.190*** (0.067) | −0.144*** (0.045) | −0.148** (0.062) | −0.115 (0.073) | −0.167** (0.068) |
| SupportDem | 0.109*** (0.028) | 0.158*** (0.046) | 0.106** (0.046) | 0.070 (0.043) | 0.105*** (0.029) | 0.155*** (0.047) | 0.102** (0.045) | 0.065 (0.043) | 0.112*** (0.029) | 0.161*** (0.048) | 0.106** (0.047) | 0.076* (0.044) |
| Edu*GDPpc | | | | | | | | | 0.012* (0.007) | 0.029*** (0.010) | 0.005 (0.012) | 0.006 (0.011) |
| Sample | Full | Employed | Looking | Not Looking | Full | Employed | Looking | Not Looking | Full | Employed | Looking | Not Looking |
| Observations | 24,636 | 9,825 | 5,836 | 8,915 | 24,636 | 9,825 | 5,836 | 8,915 | 23,963 | 9,584 | 5,618 | 8,701 |

*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 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.

Table 6: Factor endowment model (non-linear education)

| | DV: Support for free movement of goods and people | | | |
|---|---|---|---|---|
| | openborders_dum | | | |
| | (1) | (2) | (3) | (4) |
| Primary | 0.075 | −0.224 | −0.116 | 0.373 |
| | (0.211) | (0.312) | (0.423) | (0.299) |
| | | | | |
| Primary*GDPpc | −0.013 | 0.024 | 0.012 | −0.052 |
| | (0.029) | (0.042) | (0.058) | (0.041) |
| | | | | |
| Secondary | −0.132 | −0.119 | −0.387 | −0.113 |
| | (0.239) | (0.306) | (0.382) | (0.347) |
| | | | | |
| Secondary*GDPpc | 0.015 | 0.006 | 0.052 | 0.020 |
| | (0.031) | (0.041) | (0.049) | (0.046) |
| | | | | |
| AnyHigherEd | −0.341 | −0.620* | −0.496 | −0.042 |
| | (0.247) | (0.337) | (0.398) | (0.424) |
| | | | | |
| AnyHigherEd*GDPpc | 0.041 | 0.073 | 0.061 | 0.008 |
| | (0.032) | (0.045) | (0.053) | (0.054) |
| | | | | |
| College | −0.505 | −0.677 | −0.416 | −0.203 |
| | (0.317) | (0.427) | (0.551) | (0.906) |
| | | | | |
| College*GDPpc | 0.061 | 0.080 | 0.056 | 0.026 |
| | (0.040) | (0.053) | (0.072) | (0.113) |
| | | | | |
| GDPpc | −0.566*** | −0.675*** | −0.747*** | −0.406*** |
| | (0.049) | (0.052) | (0.108) | (0.065) |
| | | | | |
| Sample | Full | Employed | Looking | Not Looking |
| Observations | 47,844 | 18,647 | 11,106 | 17,920 |

*Note:* $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$