

# Measuring Racial Bias in International Migration Flows

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**Abstract:** Are international migration flows racially biased? Despite widespread consensus that racism and xenophobia affect migration processes, no measure exists to provide systematic evidence on this score. In this research note, I construct such a measure—the migration deviation. Migration deviations are the difference between the observed migration between states, and the flow that we would predict based on a racially blind model that includes a wide variety of political and economic factors. Using this measure, I conduct a descriptive analysis and provide evidence that migrants from majority black states migrate far less than we would expect under a racially blind model. These results pave a new way for scholars to study international racial inequality.

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There is newfound consensus that racism and constructions of race have “shaped visions and practices of international politics” (Bell 2013, 2). Recent International Relations (IR) scholarship shows how racial differences drive perceptions of threat (Búzás 2013), standards of “good” governance (Gruffydd Jones 2013), and the formation of common identities (Vucetic 2011). Accordingly, this nascent research program remains focused on exposing how international politics, and the discipline of IR (Grovoqui 2001; Henderson 2013; Vitalis 2015), is “structured along lines of race” (Anievas, Manchanda, and Shilliam 2015, 7).

This research program is vital because issues surrounding racial inequality have implications for other important debates in world politics. Debates over the role of status (Duque 2018), hierarchy (Zarakol 2017), and the uneven effects of interdependence and globalization (Farrell and Newman 2016) each highlight the importance of inequality to international politics. However, the empirical study of international racial inequality remains marginalized. It has been “disciplined by professional practices as taboo,” labelled as “too historical or descriptive” (Krishna 2001, 402), or simply ignored and “given the epistemological status of silence” (Persaud and Walker 2001, 374). This disconnect is surprising because history shows that international processes are not “frictionless” interactions between homogenous states and that heterogeneity often forms the basis of inequality and subordination (Hurrell 2008, 53—54). Accordingly, this research note calls on scholars to cease acting as if racism stops at national borders and plays no role in the unequal relations among states.

One obvious place racism emerges is in processes of migration, and scholars have long contended that racial animosity toward migrants “can be found in virtually all countries” (Castles, De Haas, and Miller 2014, 60). Native citizens are reluctant to accept immigrants who are racial outsiders (Ayers et al. 2009), and there is evidence that this nativism is associated with the construction of more restrictive immigration and bordering policies (Gruffydd Jones 2008; Lake and Reynolds 2008; Valdez 2016).

This racial bias even extends to refugee resettlement. For instance, through March 2018, the United States resettled 87% of its refugee cap from Europe. Over the same period, the United States has only resettled 35% of its East Asian cap, 21% from Africa, 20% from Latin America, and 16% from the Near East and South Asia (La Corte 2018). This inequality persists even though countries that are signatories to the UN Convention on Human Rights are obligated to accept refugees irrespective of their country of origin. What is more, these patterns suggest that the United States privileges refugees from Europe at the expense of more vulnerable, non-white candidates.

Despite particular examples, there is an absence of systematic evidence of how racism affects larger migration patterns. This lacuna is not surprising because no “racism” variable exists to measure the effect of racial animosity on migration flows. In the case of international migration, such a variable *did* exist—racial immigration quotas and laws such as the U.S. Chinese Exclusion Act and the White Australia Policy. However, decolonization led to “the purging of racist language” (Bell 2013, 2) from laws, and immigration policies were no exception (Bearce and Hart 2017, 72). Ironically, racist laws were inferentially useful, as they clearly indicate the relationship between race and migration. Without them, uncovering that relationship requires more *forensic* analysis, as the structural nature of modern racism is more difficult to measure (Golash-Boza 2015).

Below, I use such an approach to infer racial inequalities in international migration flows. The strategy is inductive: I rule out all other possible explanations of the patterns of movement between states that are not explicit discrimination. The target is to explain as much of the movement between states as possible and then determine whether the remaining, unexplained component exhibits patterns of racial inequality.

To do so, I specify a counterfactual regression model of international migration that includes the economic, political, and geographic determinants of migration flows. This regression model excludes any measure of race or racial difference. I regress the observed flows between all states from 1991 to 2010 on this model. Then, I use the baseline regres-

sion model to generate ideal-typical predictions of migration for every dyad in the world over this period. Finally, I subtract the flows we observed to create a measure of how far the migration between two states deviates from the baseline world. This strategy is analogous to how Savage and Deutsch (1960) measure deviations in trade flows. I use these deviations as a first cut measure of racial bias in international migration flows. For, if this model was correct, there would be no racism or prejudice, and the deviations would look like random noise. However, if racial bias exists, then we should see large deviations between observed and expected migration from non-White parts of the world.

At face, we cannot discern whether deviations are indicative of “true” racial bias or error. In fact, the motivating assumption in this measurement strategy is that racism is bound up with the other. Therefore, my goal is to show that perceived race is associated with larger deviations. However, the cross-national measurement of race is fraught because race is a social construction (Morning 2008, 243). Given this difficulty, I use two imperfect measures of race—a Canadian classification of the race of immigrants and the allele distance between populations—to see if migration deviations are associated with racial difference.

I show that migrants from non-White states are less successful at entering other states than we would expect given their economic, political, and geographic circumstances. While these systematic deviations are likely to have important causes and political consequences, identifying those effects is beyond the scope of this note. Instead, my goal is to provide the first systematic measure of racial bias in the international system and show evidence of its face validity.

Measuring racial bias and its constituents is a difficult, yet important, problem. Still, scholars have done nothing to measure it in the international system. This measure fills an epistemic need because it is arduous to study a phenomenon for which there is no measure. This is an important first step. While this measure is flawed, it walks a vital path toward identifying international racial inequality. In the next section, I reflect on the

discriminatory history of immigration restrictions to motivate the study of racial bias in migration flows. Then, I construct the measure and show evidence of a racial hierarchy of migration. I conclude with a discussion of the implications of this study for theory and practice to further motivate the systematic study of racism in international politics.

## Racial Migration Restrictions in a Post-Quota World

One of the oft-cited successes of the postcolonial international order is the dismantling of racist immigration laws such as the White Australia Policy (Freeman 1995b; Klotz 2013; Lake and Reynolds 2008; Tichenor 2009). However, scholars of migration continue to note how “facially race-neutral immigration policies...[have] disparate impacts on immigrants of color” (Johnson 2000, 532). How are these differential effects possible in a world without explicitly discriminatory policies?

Before describing the politics of such racial migration restrictions since 1945, I define the twin concepts of ethnicity and race to justify the use of the term “racial” below. Consistent with other scholars, I subscribe to a minimalist definition of ethnicity that implies a common and unique origin among members of a community (Joppke 2005, 3). However, discriminatory migration policies before and after decolonization are not “ethnic” because “they were imbued with the negative thrust of excluding some immigrants as members of other-(rather than self-) defined groups that were deemed intrinsically inferior” (Joppke 2005, 32). Following Weber (1978, 234), I define such discriminatory, decent-based restrictions as “racial.” To do so, I subsume both policies of negative (restricting a racial group) and positive (privileging some groups at the expense of others) discrimination under this definition, thereby making the inequalities in movement I uncover “racial” not “ethnic.” The historical record of positive discrimination in modern immigration law corroborates this assumption (see, e.g. Wardle 2005).

Similarly, one can find leeway for continued race-based inequalities of movement in

the lauded Article 1(3) of the UN Convention of the Elimination of All Forms of Racial Discrimination. The Article notes that nothing “may be interpreted as affecting in any way the legal provisions of States Parties concerning nationality, citizenship, or nationalization, provided that such provisions do not discriminate against any particular nationality.” However, this provision excludes only direct *negative* discrimination “presumably of the racial kind,” thereby allowing policies of *positive* discrimination which “also produce concrete losers” presumably of the racial kind (Joppke 2005, 21).

There are many notable examples of such policies in the postcolonial era. These policies may appear nondiscriminatory and universalist, but have the effect (and often the intent) of restricting immigration to racially desirable migrants. The United States is home to several examples. For one, the 1980 Refugee Act, which purported to ensure the equal treatment of all refugees irrespective of nationality or race, has had vastly unequal outcomes. During the first ten years of the Act, less than 4 percent of the predesignated refugee allotment went to Africa, the continent with the most refugees, in favor of refugees from Eastern Europe (Joppke 2005, 72). Refugees from Africa were not explicitly targeted for restriction, rather refugees from Europe were *privileged*, leading to the *de facto* restriction of non-white refugees from elsewhere. These racial inequalities remain to this day and they extend to both asylum policy (Lennox 1993) and “diversity” immigration (Romero 2002).<sup>1</sup> Similar policies exist in many other liberal democracies and include implicitly discriminatory provisions such as language tests (Germany), restrictions on family unification (Australia), the privileging of co-ethnics (Spain and Portugal), and a “racial contrast” in which former colonial subjects received citizenship (United Kingdom) (Brubaker 1995).

Three factors make inferring racially discriminatory policies in the post-quota era difficult. First, is what (Freeman 1995a, 884) calls the “anti-populist norm,” or a norm that

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<sup>1</sup>The treatment of the Haitian “boat people” is indicative of how these inequalities exist in practice. U.S. Congressman Charles Rangel famously asked “Is there any question in your mind that if the people on these boats came from Ireland that we would exercise the same policy [send them back]” (Lennox 1993, 717)?

prohibits “argument over the ethnic composition of migrant streams.” One can interpret the norm as a vindication of the success of liberal equality principles following World War II because even though nativism remains popular in liberal democracies (Ayers et al. 2009), “appeals to ethnic bases of identity, easy and natural before 1945, are now politically unacceptable” (Hansen and Koehler 2005). The anti-populist norm ensures that debates over the racial composition of migration flows take place only indirectly. Because governments deny that these considerations affect their migration policies, it is difficult to ascertain whether policies are discriminatory or not. However, recent political circumstances in the United States and Europe suggest that support for the anti-populist norm may be waning. Popular support for the racialized rhetoric of Donald Trump, the Brexit campaign, and other popular right-wing politicians such as Victor Orbán and Alice Weidel, is evidence that arguments about ethnic purity and composition are losing their social undesirability.

Second, immigration policies are notoriously difficult to measure, and most existing datasets are geographically limited to OECD states and a select group of others (Freeman 2011; Peters 2017). Moreover, even if high-quality, cross-national data on immigration policies were available, one would still have trouble generalizing about the discriminatory nature of policies because they are written as universal. Finally, the cross-national measurement of race is difficult, and it is unclear how to infer whether inequalities in movement are associated with such racial perceptions.

Below, I side-step these issues and infer racial bias in international migration using only deviations between the migration we observe between pairs of states and the amount of migration a rational, baseline model predicts. Using this measure, I provide systematic evidence that racial bias in international migration flows exists despite the dismantling of formal discriminatory laws. In so doing, I bridge the gap between putative nativist desires to restrict racially undesirable immigration (and case-specific instances thereof) and the technical difficulties of inference.

## Measurement Strategy and Data

To create the measure, I first estimate the baseline regression model of international migration. The goal of the baseline model is to create a useful facsimile for the world in which migration levels match equilibrium predictions. In this world, migration between states occurs if economic and political “push” and “pull” factors overcome the transaction costs that keep would-be immigrants in their home country. The most common transaction costs are language barriers, distance, and the financial cost of moving. This model provides ideal-type expectations for the magnitude of migration flows if we lived in a world without racial bias and people moved in accordance with rational expectations.

Previous studies of international migration use a version of the economic gravity model to estimate the determinants of flows (Fitzgerald, Leblang, and Teets 2014). However, this approach is not appropriate in this instance because international migration data are zero-inflated. Put differently, a standard gravity model is estimated with ordinary least squares, which requires the dependent variable—migration from state A to state B—to be Gaussian-distributed. However, the dependent variable in the global migration data does not approximate a Gaussian distribution because the data include many dyads with zero flows. In practice this means that such a model *would not provide accurate predictions*. Accordingly, I use a hurdle model to estimate these flows. A hurdle model fits this analysis because it is able to simultaneously model the zero and nonzero flows without inducing bias (Mullahy 1986).

The hurdle model is a mixture of two processes. The first process models the probability that no migration would take place between two states. The second component models the magnitudes of the non-zero flows with a Weibull distribution. Figure 2 in the Supplementary Files confirms the appropriateness of this choice. To summarize, the baseline regression model gives predictions for the number of people that ought to have moved from one state to another. The use of the hurdle model allows for an accurate

prediction of the number of zeros, while allowing for the usual determinants to drive the magnitude of flows. Technical detail of the model can be found in Supplementary Files ??.

To specify the baseline model, I rely on the extensive literature on the determinants of migration flows. This literature investigates whether variation in bilateral migration flows is driven by destination state variables—mostly economic—“pulling” migrants, or origin state factors “pushing” them away (Hatton and Williamson 2003; Fitzgerald, Leblang, and Teets 2014; Ortega and Peri 2009). These variables represent the most comprehensive picture of what ought to drive or inhibit the migration between states in an ideal-typical world. This choice keeps the baseline model within the well-established literature on the rationalist determinants of migration flows. The baseline model is composed of the following variables: existing migrant stock, shared border, colonial relationships, common language, GDP difference (log), GDP per capita (log, origin and destination), GDP per capita squared (log, origin and destination), common currency, liberal democracy (origin and destination), human capital (origin), distance (log), population (log, destination), unemployment rate (destination), and civil war (origin). In addition, I include random effects for origin, destination, period, origin-period, and destination-period to account for the structure of the migration data.<sup>2</sup>

The dependent variable in the baseline regression model is the bilateral migration flows between all states from 1991 to 2010. Existing data on international flows are limited because national statistics agencies either do not keep track of these data or differ in how they define migration. This incongruence has led most large-N studies of international migration to focus on the determinants of in-flows to the OECD and other states for which these data issues are less severe (Freeman 2011, 1548). However, if one wishes to investigate trends in international migration to discern whether patterns of segregation exist, data on the full population of migration flows is necessary. Ignoring all but the OECD and a few other states obscures the full patterns of the international system.

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<sup>2</sup>Detailed descriptions of the variables are found in Supplementary Files ??.

Accordingly, I build the baseline regression model of migration using the data constructed by Abel and Sander (2014). These data overcome previous data availability issues because they cover every pair of countries in the world. The full data provide dyadic migration flow estimates for 196 countries and account for changes in populations due to births and deaths. However, these data are limited to *regular* migration flows. So, the measure of migration bias I create is limited to legal flows, such as labor migration and documented refugees.<sup>3</sup>

To summarize, the data used here include 23,488 unique dyads over the four time periods (1991-1995, 1996-2000, 2001-2005, 2006-2010).<sup>4</sup> Note, these are *directed* dyads. For example, the migration from Germany to France is recorded independently of migration from France to Germany. This choice allows the baseline regression model to make predictions about migration in both directions. For example, it will be able to make unique predictions for both Germany  $\rightarrow$  France, and France  $\rightarrow$  Germany.

I use the results from the hurdle model to estimate the migration flow of each dyad in the counterfactual world without racism in each of the four time periods.<sup>5</sup> The results of the baseline model are found in Table 1. I present point estimates and 95% credible intervals for each of the parameters. Importantly, each of the estimated parameters are in the direction suggested by the previous literature (see, e.g. Hatton and Williamson 2005; Fitzgerald, Leblang, and Teets 2014; Ortega and Peri 2009).

To ensure that the baseline model is well-fitting and is modeling the data-generating process of the migration data, I conduct a posterior predictive check. This strategy is the Bayesian equivalent to classic goodness-of-fit statistics (Gelman, Meng, and Stern 1996), and is standard in the literature (Gelman et al. 2014, 143).<sup>6</sup> This check assumes that if the

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<sup>3</sup>The inclusion of irregular migration would still suggest racial bias because racial outsiders would be less able to move legally, indicating racial inequality (Nevins 2002).

<sup>4</sup>The completeness of the Abel and Sander data raises the issue of missing data for the independent variables. To account for missing data, I use Amelia II in R to impute missing values (Honaker, King, and Blackwell 2011). In Table 1, I impute 5 complete datasets, run the baseline model, and then average over the results. Each of the analyses is consistent with the results using non-imputed data.

<sup>5</sup>A robustness check of the specification can be found in Supplementary Files ??

<sup>6</sup>As an additional goodness-of-fit check, I calculate the mean squared error of both the baseline model

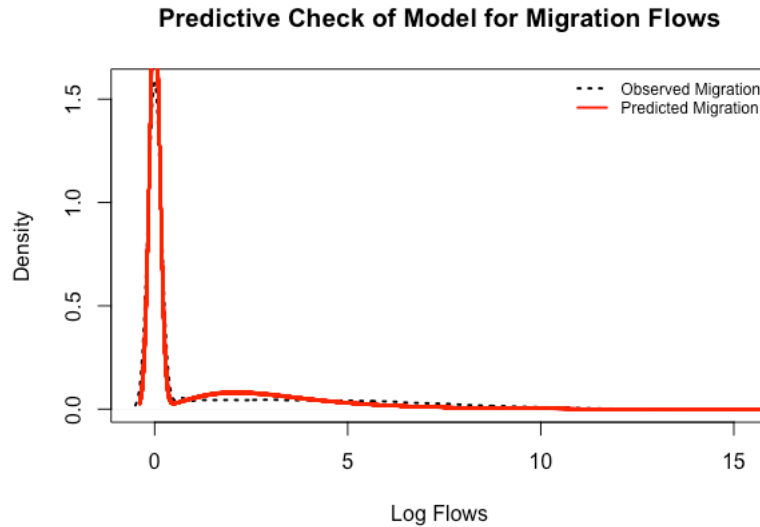


Figure 1: A posterior predictive check of the model of migration flows. The simulations from the posterior distribution of the model track the original distribution of the migration flows well, indicating good model fit.

model of the baseline world is appropriate, then the model must “be a reasonable summary of the data at hand” (Gelman, Meng, and Stern 1996, 734). This procedure simulates new observations from the posterior distribution of the fitted model to see if their distribution looks similar to the observed migration flows. Figure 1 presents the check of the baseline model. The key attributes of the original data are its zero-inflation and its long tail, and a cursory look at Figure 1 indicates that this model of migration captures the original distribution of flows well.

I use these results to construct the measure of migration deviations in five steps. First, I fit the model of migration flows using variational inference, a Bayesian estimation technique.<sup>7</sup> Second, using parameter estimates, I draw 10,000 estimates of the migration flow from one state to another in each time period. This step is akin to generating the fitted values from a standard regression model. Third, I subtract the number of people that actually migrated from from  $A$  to  $B$  from each of these estimates. Note that positive numbers

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and a null model. The mean squared errors of the baseline model and null model are 7.2 and 12.9, indicating the superior performance of the baseline model.

<sup>7</sup>The model is programmed in R using Stan. See, Supplementary Files ??.

indicate that we see less migration than the baseline model predicts. This step generates a distribution of migration flow deviations for each dyad. From this distribution of deviations, I use the median value as the estimated migration bias for each dyad in a given time period. Finally, I aggregate the dyadic measures up to the level of the sending state to test whether non-White states have larger deviations on average than White states. I call this sending state deviation the *emigration deviation*.

This measure is a type of residual. While not common in political science, this is a well-vetted measurement technique that provides a technically valid index (Schulte-Hostedde et al. 2005). Scholars have long used model residuals as both independent and dependent variables because they create measures with “desirable psychometric properties” (Horn and Lee 2016, 470). This technique has been used to measure institutional effectiveness (Horn and Lee 2016) and economic overconfidence (Ortoleva and Snowberg 2015).

## Are Migration Deviations Associated with Race?

Next, I use the migration deviation measure to discern whether race is associated with inequalities in movement. Specifically, I test whether non-White migrants have larger emigration underflows than their White counterparts and whether general perceptions of racial difference are also associated with larger deviations. However, this task presents the difficulty of measuring race. This is a hard measurement problem because race is a context-dependent social construction that depends on self-perceptions, other-perceptions, and phenotypical differences that are themselves socially constructed. Accordingly, in medicine, sociology, and some subfields of political science, scholars use imperfect measures of within-state racial categories to study important inequalities (Burchard et al. 2013). Yet in a cross-national setting, measuring race is even more difficult because the meaning of racial categories does not always travel across contexts.

I use two measures to ameliorate these concerns and to investigate the relationship be-

Table 1: Parameter estimates from the baseline model of international migration flows using imputed data (5 imputations) with 95% credible intervals.

	Bilateral Migration
Log Migrant Stock	0.234 (0.209,0.250)
Shared Border	0.024 (0.0002, 0.047)
Colonial Relationship	-0.025 (-0.047,-0.007)
Common Language	0.014 (-0.029,0.022)
Log GDP Difference	0.005 (-0.007,0.018)
Common Currency	0.011 (-0.030,0.011)
Lib. Dem. Origin	0.009 (-0.014,0.044)
Lib. Dem. Dest.	0.055 (0.033,0.069)
Origin Ed.	0.018 (-0.005,0.053)
Civil War Origin	-0.046 (-0.061,-0.034)
Log Distance	-0.285 (-0.295,-0.275)
Log Destination Population	0.076 (-0.015,0.105)
Log Destination Unemployment	-0.020 (-0.030,0.012)
Log GDP per Capita Origin	0.480 (0.238,0.756)
Log GDP per Capita Destination	-0.573 (-1.227,-0.229)
Log GDP per Capita Origin <sup>2</sup>	-0.496 (-0.768,-0.317)
Log GDP per Capita Destination <sup>2</sup>	0.908 (0.536,1.486)
Intercept	0.139 (-0.366,1.258)
Period RE	✓
Origin RE	✓
Destination RE	✓
Origin-Period RE	✓
Destination-Period RE	✓
N	152,880
MSE	7.2
(P)RNG Seed	570175513

tween race and inequalities in migration. Canadian public health scholars developed the first index, which measures the phenotypic perceptions of a state's race (Rezai et al. 2013). I include this variable because it is the only measure available that classifies states based on racial perceptions. The lack of such measures is unsurprising because of the obvious association with eugenics. However, public health scholars use this measure to study the etiology of diseases across populations, inequalities in health outcomes across immigrant populations, and different practices of healthcare delivery (Rezai et al. 2013, e86).<sup>8</sup> This measure is well in line with Weber (1978)'s minimal notion of race that I use above: decent-based classifications that have a negative valence. Even though such a classification is overly coarse because most states are diverse, it picks up on the perceptions involved with creating migration policies. For example, the U.S. quota system was designed to limit immigration from countries deemed undesirable, even though its citizenry may be diverse.

The second is a measure of dyadic allele distance. This index measures the distance between two states based on how long it has been since their populations shared a common ancestor (Spolaore and Wacziarg 2009). Economists use allele distance to proxy for culture and race to estimate how observable and unobservable prejudices affect economic exchange (Guiso, Sapienza, and Zingales 2009). Accordingly, I use allele distance to discern whether the genetic distance between states is associated with larger migration deviations. The allele distance measure is ideal because the distance between any two states is *weighted* by their respective sub-populations. This measure builds on the Canadian measure because it accounts for population diversity, yet also implies a measurement of the physical markers of race and difference. Using these two measures I estimate whether different dimensions of racial difference are associated with larger migration deviations.

To establish the face validity of the migration deviation measure, I specify two sets of regression models. In the first set of models, I investigate whether Black states, as the

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<sup>8</sup>For example, an immigrant from Botswana is classified as being from a "black" state. This is the only measure that classifies the race of immigrants based on country of origin.

Canadian measure defines, have larger deviations. To do so, I aggregate the deviation measure to the level of the sending state. This state-level deviation measures how many more or fewer *emigrants* a state sent abroad during a given period. It is a proxy for the ability of a state's population to move abroad. In the second set, I estimate the relationship between the allele distance between two states and their dyadic migration deviation. Evidence for these two associations would suggest that race or perceptions of race are related to inequalities in international migration flows, even though the laws that govern them are colorblind.

It is important to note that neither of these models is causal. The perceived race of a state is not randomly assigned, nor is the allele distance between any pair of states.<sup>9</sup> All of the evidence below is meant to be illustrative and causal analyses are left for future work. However, in both sets of models, I include a variety of fixed effects to control for all time-invariant confounders. The first set includes fixed effects for country and the second set includes fixed effects for origin, destination, origin-period, and destination-period. I do not include period fixed effects in the first models because the racial category variable does not vary over time. The state and state-period fixed effects control for unobserved confounders at the unit-level to account for unique circumstances within states or dyads that may affect migration deviations. This approach is standard in the trade literature when modeling dyadic flows (see, e.g., Helpman, Melitz, and Rubinstein 2008).<sup>10</sup>

Table 2 presents the results of two models that regress a sending state's deviation on its perceived race. In these models, the unit of analysis is the sending state-period. As I note above, I aggregate each dyadic migration deviation up to the level of the sending state to prove a summary measure of how large a given state's deviation was during a certain period. In Model (1), I recode the race variable to denote whether a given state is either Black or not-Black to test the simple comparison between Black and non-Black

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<sup>9</sup>Though, see Spolaore and Wacziarg (2009) for an argument that genetic distance in CE 1500 satisfies the exclusion restriction for causal identification.

<sup>10</sup>I would like to thank an anonymous reviewer for this suggestion.

states. Model (2) breaks the race variable apart to test the relative comparison of all racial categories. Finally, I do not include any further control variables because any putative confounders are either time-invariant (and therefore included in the fixed effects) or included in the baseline model. The goal of these models is twofold. First, the models test whether Black states of Sub-Saharan Africa and the Caribbean have systematically larger deviations when compared to all other racial categories. Second, I use these models to estimate the global hierarchy of movement.

Models (1) and (2) estimate that black states have systematically larger emigration underflows than other states. The magnitude of this difference is roughly one standard deviation of the entire deviation scale. This result suggests that 1) sending-state migration deviations are racially patterned, and 2) that this relationship is both significant and substantively large. Model (2) of Table 2 shows an even stronger and starker relationship between race and deviations. In this model, I exchange the simple Black/non-Black variable for a variable that includes all racial categories. Model (2) uncovers the same relationship: all racial categories have significantly smaller deviations than Black states ( $p < 0.001$ ).

Estimating Model (2) provides an additional benefit. When I regress the deviation measure on this variable the inference remains the same—black states still have the largest deviations—but now it is possible to estimate the relative ordering of the racial hierarchy of movement. In Table 3, I provide an estimate of the racial hierarchy from 1991 to 2010. In this table, Black states are not included because they are the reference category. I present the other racial groups in order from largest to smallest. This ordering means that West Asian states have the second-highest deviations, South Asian states have the third-highest, and so on. As one may expect, White OECD states have the smallest deviations; however, White, Non-OECD states fall in the middle of the table. This result is most likely a function of the third-wave democracies that are included in this category, such as Hungary and Poland, whose deviations were large in the early periods before decreasing in the later periods. In addition, the placement of Arab states in these results is also of

Table 2: Larger emigration deviations are associated with non-White states. The independent variables have been standardized. The reference category in Model (2) is Black states.

	Deviation	
	(1)	(2)
Black	0.70*** (0.37,1.02)	
Arab		-0.84*** (-1.16,-0.51)
East Asian		-1.44*** (-1.77,-1.12)
Latin American		-0.88*** (-1.21,-0.56)
Non-OECD, White		-0.92*** (-1.25,-0.59)
OECD, White		-2.53*** (-2.86,-2.20)
South Asian		-0.81*** (-1.13,-0.48)
Southeast Asian		-2.04*** (-2.37,-1.71)
West Asian		-0.77*** (-1.09,-0.44)
(Intercept)	0.88*** (0.65,1.11)	1.58*** (1.35,1.81)
	(-8.74,8.36)	(1.35,1.81)
Country FE	✓	✓
N	1,762	1,762
R <sup>2</sup>	0.65	0.65
Adjusted R <sup>2</sup>	0.64	0.64

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table 3: Racial Hierarchy of Movement: Black Racial Bias vs. All other Categories

Comparison:	Category
-0.77	West Asian
-0.81	South Asian
-0.84	Arab
-0.88	Latin American
-0.92	Non-OECD, White
-1.44	East Asian
-2.04	Southeast Asian
-2.53	OECD, White

note. Europe’s recent migration “crisis” led to the securitization of predominantly Muslim migrants fleeing the Middle East (*On Views of Race and Equality, Blacks and Whites are Worlds Apart* 2016), and recent news coverage would suggest that Arabs would have large deviations. However, the period covered in the data ends before the Syrian Civil War, and the colonial ties of many Arab states to Western Europe ameliorated the potential for these states to have larger deviations.

Table 2 provides evidence that a phenotypic measure of race is also correlated with migration deviations. Yet, as I describe above, this measure is just one imperfect way of capturing a state’s race. In Table 4, I use a the measure of allele distance to provide further evidence of this relationship. Allele distance is a useful measure of racial distance because it explicitly accounts aspects of racial difference that are not included in phenotype.

Table 4 presents the results of three dyadic models that estimate the relationship between allele distance and the migration deviation between two states. In these models, the unit of analysis is the dyad-period, so the inference is the relationship between the dyadic allele distance between two states and their migration deviation. Because I include all the theoretically motivated dyadic variables in the baseline model, I report the results of three bivariate regressions in Table 4 just as I do in Table 2.

Because this model is dyadic, I include different sets of fixed effects. Model (4) includes no fixed effects, Model (5) includes fixed effects for origin and destination, and Model (6) includes fixed effects for origin and destination, as well as origin-period and destination-

Table 4: Larger allele distances between states are associated with larger migration deviations. The model includes fixed effects for year, destination, and origin.

	Deviation		
	(1)	(2)	(3)
Allele Distance	0.83*** (0.78,0.87)	0.52*** (0.48,0.56)	0.52*** (0.48,0.56)
Constant	0.61*** (0.59,0.63)	1.43*** (1.22,1.63)	1.15*** (0.77,1.53)
Origin FE	X	✓	✓
Destination FE	X	✓	✓
Origin-Period FE	X	X	✓
Destination-Period FE	X	X	✓
N	50,732	50,732	50,732
R <sup>2</sup>	0.03	0.40	0.50
Adjusted R <sup>2</sup>	0.03	0.40	0.49

\*p < .05; \*\*p < .01; \*\*\*p < .001

period to account for multilateral restrictions in movement.<sup>11</sup> This specification ensures that any time-invariant omitted variables are included in the fixed effects.

The models in Table 4 present evidence for a strong relationship between allele distance and dyadic migration deviations. Substantively, this implies that as the allele distance between two states increases, the difference between observed and expected migration increases as well. Although this is an imperfect measure of race, the results help corroborate those from Table 2 to present a more complete set of preliminary evidence for a racial hierarchy of movement.

To conclude, one may be concerned that the baseline model specification is driving these results in one of two ways. First, the inclusion of existing migrant stocks might bake in the evidence of racial bias because migrant stocks after decolonization were already racially biased. In other words, I was set up to find evidence of bias because racial quotas governed international migration before decolonization and migrants moved along existing networks ever since. Preferential attachment would ensure that the already-existing

<sup>11</sup>I thank an anonymous reviewer for this suggestion.

racial bias continues to this day. This potential critique alone validates the motivation of this study: racial bias still exists even though racial discrimination is illegal.<sup>12</sup> However, I re-run the analysis without the migrant stock variable to answer this potential challenge. Excluding the stock variable from the baseline model does not affect any of the results (see, Supplementary Files ??).

Second, one may question why I did not include the “racial” variables in the baseline model of migration. As a robustness check, I re-estimate the baseline model including these variables and investigate whether racial patterns still emerge. Figure 2 shows descriptive evidence of racial bias even when the racial perception variables are included in the baseline model. It is clear that Black states still have systematically larger deviations than even their counterparts in the Global South. This results suggests two conclusions. First, both the Canadian and allele distance measures are imperfect. If either variable perfectly measured perceptions of a state’s race, the deviations would not be patterned in this way. Second, the results provide confidence in the measurement strategy. Remember that states no longer explicitly restrict migration based on race. On the one hand, this suggests that there should not be a perfect correspondence between racial perceptions and migration deviations. On the other hand, prior to decolonization, we would have been able to perfectly account for racial bias in migration flows using similar variables. All in all, this analysis shows the technical difficulty in studying race and racial inequality in the international system. Yet, these results should provide the opportunity for others to refine and improve the measurement strategies to better study this important, yet under-studied aspect of international politics.

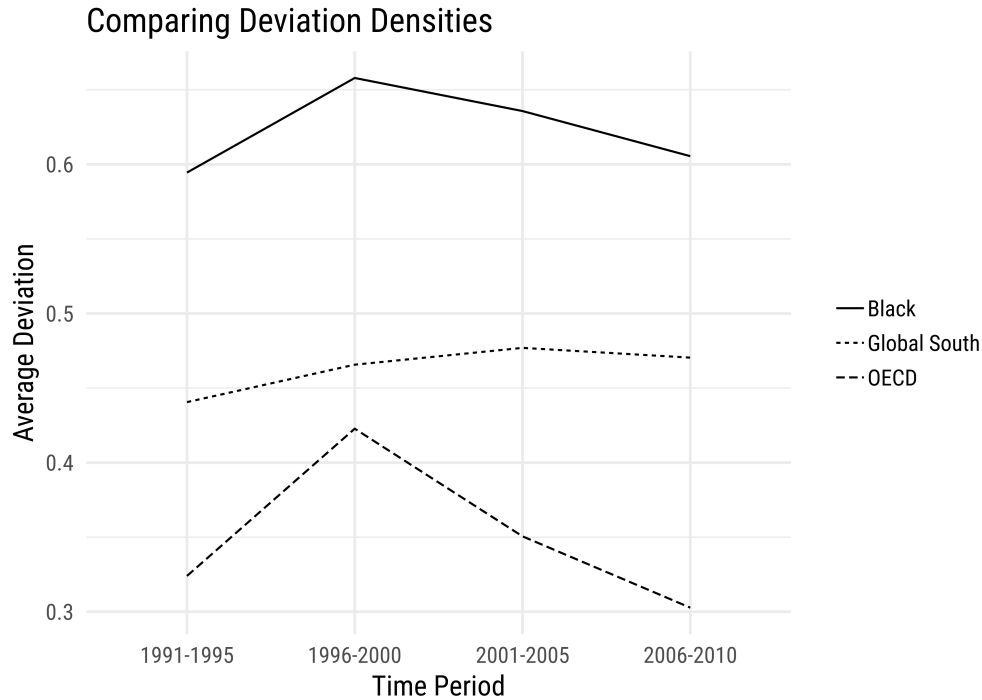
## Discussion and Implications for Research and Practice

This measurement strategy and set of results suggest several paths forward for future research and practice. First, while I restrict the analysis above to only investigate the

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<sup>12</sup>I thank an anonymous reviewer for highlighting the bright side of this critique.

Figure 2: Black states still have systematically larger migration deviations even when the baseline model includes racial perception variables.



association between deviations and race, these results raise the question of effect. What are the costs of having large emigration deviations? Answering such questions will draw a fruitful connection between literatures on race in world politics and the political economy of international migration. Doing so will also raise the stakes of both literatures. If the citizens of non-white states have less opportunity to move than their counterparts and this disadvantage has material costs, then this result would provide systematic evidence that racial hierarchies still have important effects in international politics. Such a relationship would reveal the importance of political factors when considering the efficacy of standard expected-utility models of migration. Moreover, a unique feature of the measure is that it provides an estimate for nearly every dyad in the world from 1991 to 2010. Scholars can take advantage of the cross-national coverage of this measure to investigate whether large deviations are associated with economic underdevelopment in the most vulnerable states.

Second, one can use this method to study other types of migration such as refugee flows. For instance, scholars could use this technique to estimate deviations in refugee flows from specific countries to reveal whether civil conflicts, environmental disasters, or other events produce deviations in flows compared to what we expect. Such an analysis would be relevant to IR scholars, environmental scientists, and scholars from other fields, because it would provide a principled way to compare the effects of various catalysts and estimate the requirements of a putative humanitarian response. Related to this application, one can apply this method to study other cross-border movements such as trade, capital, and tourist flows. While I expect that non-labor forms of international economic exchange would not be racially biased, this method can still reveal inefficiencies in these networks and whether such deviations have knock-on effects on global production and development.

Finally, this empirical contribution suggests a path forward for the systematic study of racial inequality in world politics. Recent work on race and racism in IR has provided rich, case-specific evidence of the existence of racial hierarchies despite the “illegality” of *de jure* racism in institutions (see, e.g., Búzás 2018; Gruffydd Jones 2013), as well as problematized the racist foundations of international theory and method (see, e.g., Hobson 2012; Shilliam 2013). However, if systemic racial hierarchies remain in world politics, then it is vital to gather system-level evidence. This measurement strategy is one way of doing so, and *pace* Aradau and Huysmans (2014), an important corollary of this study is to show how quantitative methods can buttress “critical” scholarship. While it is true that measures “create” objects and render them as legitimate categories of inquiry (Hansen and Porter 2012), a goal of this contribution is to use this power to illuminate a dimension of international politics that has been largely ignored. Results that demonstrate the existence and persistence of racial inequality in one domain will warrant similar studies in others.

These avenues of further research also suggest important policy implications of this

measure. In particular, lawyers working in migration law would find this approach to be of use when arguing cases involving racially biased asylum policies.<sup>13</sup> This measure may help in such cases because the measurement strategy compares observed flows to flows we would expect *given a specific dyadic context*. Not all dyadic migration relationships are created equal, and a strength of this measure is that it takes these contexts into account. What is more, this empirical approach has large implications for the politics and study of diasporas. Migration deviations can reveal relationships where diaspora flows do not match expectations and consequently have policy importance. This method would allow one to study questions regarding the role of transborder communities in policymaking, whether diaspora communities produce security concerns, and the implication of such communities for the identity of the nation-state (King and Melvin 2000).

Scholars have long claimed that international inequality continues to fall along the “global color line” (Du Bois 1903, 19) even as institutions and policies are enacted to mitigate the vestiges of the colonial era (Bell 2013). These claims imply that, like in domestic politics, expunging racial language from laws is not sufficient to eliminate structural racism in the international system. In this note, I introduce a novel measure that helps reveal whether such structural bias exists in international migration flows, even as explicit racial quotas have disappeared (Lake and Reynolds 2008). I show that black states have larger migration underflows than every other racial group. Moreover, states that are farther apart in allele distance—a measure that proxies for observable and unobservable racial differences—also have larger underflows. Taken together, these results suggest that racial privilege remains in the international system, even in the absence of *de jure* racist and colonial policies. While this is not a perfect test, it is a first cut at measuring a politically important problem that has gone previously unmeasured, and these results contribute to vital (and controversial) normative and policy debates in contemporary international politics.

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<sup>13</sup>I thank an anonymous reviewer for raising this policy implication.

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