

Africans in America

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Abstract

The number of African-born migrants to the U.S. has grown exponentially in recent years and they constitute the most rapidly growing group of foreign-born migrants. Relatively little is known about their labor market outcomes and even less about the heterogeneity in these outcomes by country of birth, race, and time of migration. Using 2000-2011 waves of the American Community Survey, we explore implications of country of birth, race, gender, human capital, and timing of arrival for labor market outcomes of this rapidly growing group of new Americans. By comparing African migrants with each other, we highlight their changing composition and heterogeneity, distinctions that are buried in comparisons with US-born Americans. We document considerable variation in these outcomes by country of birth that reflects differences across the African continent in levels of development, human capital, languages, cultural and racial backgrounds, and opportunities to migrate to the U.S. Although this heterogeneity is evident among both men and women, it is more pronounced among men and is only partially explained by observed human capital and demographic characteristics.

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Introduction

The number of migrants to the U.S. from Africa has exploded in recent years, and for the first time in America's history Africans are the most rapidly growing group of foreign-born migrants. Some 1.73 million African-born migrants live in the U.S., accounting for about 4% of the foreign-born population based on data from 2011 American Community Survey (ACS).

Figure 1 displays the number of African-origin migrants who have obtained legal permanent status in the U.S. by decade since 1900. The upper panel is scaled in thousands of people; the lower panel uses a logarithmic scale. After declines before and during the Great Depression, the end of World War II marks the onset of exponential growth in African-origin migration to the U.S. Since the 1950s the number of foreign-born who have become legal permanent residents has quadrupled, but the number from Africa has increased nearly 60-fold—a rate of growth more than twice that for migrants from Asia, the next fastest growing source of new Americans. According to World Bank estimates, in 2010 the U.S. ranked third, behind France and Saudi Arabia, among destination countries of African-born migrants leaving the continent (Capps, McCabe & Fix 2012).

This paper explores labor market outcomes of African-origin migrants by country of origin, race, human capital, age and year of arrival, drawing on the 2000 through 2011 waves of the American Community Survey (ACS). By comparing African migrants with each other, we highlight the heterogeneity of this quickly growing group of new Americans—differences that are buried in comparisons of African-born to native-born Americans.

Over the past six decades the composition of migrants from Africa has changed dramatically. In the 1950s, Morocco, South Africa and Egypt accounted for 60% of migrants from Africa (see Figure 2). The vast majority were white (Kollehlon and Eule 2003). Subsequently migration of blacks has increased even more rapidly than migration of whites. According to the 2011 ACS, close to three quarters of African-born migrants in the U.S. self-identify as black, only about a fifth self-identify as white, and most of the remainder report themselves as Asian-origin. Initially black migrants came mainly from English-speaking countries – particularly Ghana, Kenya,

Liberia, and Nigeria – as well as from Ethiopia. More recently, the number of sending countries has increased and today no single country dominates (Capps, McCabe & Fix 2012).

Morocco, Egypt and South Africa continue to be the primary source of white migrants from Africa. Today whites from these countries account for 20% of all African-origin migrants. Their number has risen 20 fold, from around 7,500 during the 1950s to over 150,000 during 2000-2010. In the same period, the number of migrants from other African countries increased over 100-fold, more than doubling in just the last decade.

Changes in immigration policy such as the 1980 Refugee Act, the 1990 Immigration Act, and the Diversity Visa Program have fueled some of the increase (Jasso 2011; Kolleylon & Eule 2003, Logan & Thomas 2012). Migrants enter the U.S. under an array of legal statutes. Figure 3 displays the number of African-origin migrants who obtained legal permanent residence in the U.S. between 1980 and 2010, distinguishing three main visa types: family-based, employment-based (including Diversity Visas) and refugee-based visas at time of entry.¹ In the 1980s nearly three-quarters of legal permanent residents from Africa entered the U.S. on family-based visas. The number of those visas grew four fold over the next thirty years, but increases in employment and refugee visas were even larger. By 2010, employment visas accounted for around 45% of all visas issued to African legal permanent residents.

Temporal variation in visa composition across African countries is reflected in Figure 4, which displays the number of legal permanent entrants by time and visa type for 12 country groups. Growth in the number of family-based visas, particularly since the beginning of this century, is dominated by English-speaking countries -- Ghana and Nigeria in West Africa and the East African countries of Kenya, Tanzania and Uganda – along with two non-English-speaking countries, Ethiopia and Eritrea. In part, these patterns reflect accumulating numbers of Africans from these countries who have sponsored family members to join them in the U.S. In contrast, the number of family visas has grown relatively modestly in Egypt and South Africa, long-standing sources of migrants to the U.S. Cape Verde has also sent migrants to the U.S. over

¹ Estimates suggest that about 20% are unauthorized entrants, which is small relative to the estimate for foreign-born Hispanics (Capps, McCabe & Fix 2012).

many decades. Today, most migrants from Cape Verde enter the U.S. on family-based visas, a striking contrast with every other African country.

The number of employment-based visas quadrupled in the mid-1990s. This category includes diversity visas that go to winners of lotteries conducted in countries underrepresented in recent migrant flows to the U.S. (all African countries are eligible). Diversity visas have become an important route for skilled migrants from a diverse set of African countries (Logan and Thomas 2012; Thomas 2011a). As shown in Figure 4, employment visas account for relatively large numbers of migrants from some countries (South Africa/Zimbabwe and Egypt) but for relatively small numbers of new migrants from others (Liberia, Sudan and Somalia).

Refugees make up the third prominent visa-type. The number of Africans admitted as refugees increased in the mid 1990s and again in the mid 2000s. The numbers fluctuate across years, but nowadays about one-quarter of all African-origin legal permanent residents entered as refugees. The vast majority come from a small number of countries. One-third of refugees over the last 3 decades were born in Sudan and Somalia, one-quarter were born in Ethiopia and Eritrea, and most of the rest were born in Liberia and East Africa. Refugees are not typically drawn from among the most skilled in their home countries and often arrive with limited employment prospects.

These figures highlight two important facts. First, the growth in African-origin migration to the U.S. is driven by migrants who hail from a vastly more diverse array of countries than was the case 50 years ago. Second, substantial temporal and spatial heterogeneity exists in the types of visas under which the migrants have entered the U.S., which has implications for their human capital, their selectivity relative to those left behind, and the resources available to them in the U.S. These facts, combined with immense differences in human capital and financial resources between and within African countries, likely affect the patterns of labor market outcomes of African-born migrants living in the U.S.

Background

Several theoretical perspectives offer insights into the factors that may influence migrants' labor market outcomes. Human capital theory emphasizes the roles of education, training and experience (Mincer 1974; Card 1999; Hout 2012), all of which are likely to be relevant for African migrants to the U.S. Variation in the levels of schooling among African migrants is enormous. Moreover, the transferability of schooling to the U.S. labor market likely varies substantially as well, in part as a function of differences in country of birth, but perhaps also by race, ethnicity and native language. Human capital theory suggests that migrants whose schooling is less transferable and thus not rewarded by employers are more likely to work in the self-employed sector, at least when they first arrive. These migrants might switch to the market sector after obtaining work experience or education in the U.S.

Age at migration and recency of the move are also likely to be associated with variation in labor market outcomes. Individuals who moved to the U.S. as school-age children will have completed at least some school in the U.S. and so will not suffer the credential penalty experienced by migrants who completed school in their origin country. More generally, their early life experiences differ substantially from those of migrants arriving at older ages. Experiences with schooling and early exposure to the U.S. social, political, and cultural environment may all be related to labor market outcomes (Thomas 2009, 2011b, 2012). On the other hand, the decision to move was typically made by these migrants' parents. Depending on the degree of inter-generational transmission of skills and attributes, the children of migrants are probably less highly selected on characteristics associated with labor market success in the U.S. For example, migrants are likely to be positively selected on entrepreneurship, but whether these skills are transmitted across generations of migrants has not been established (Dunn and Holtz-Eakin 2000; Fairlie 2012.)

African-origin migrants who moved to the U.S. many years ago are likely to be an especially select group. The costs of migration were relatively high (Jasso 2011) and networks of co-nationals were more sparse. Those still in the U.S. have stayed for the long haul and are likely to be relatively more successful than recent arrivals. Moreover, their U.S. experience may have payoffs for navigating demands of the U.S. labor market. More recent migrants have had less

time to assimilate but may benefit from established social networks of co-nationals for job referrals and integrating into the U.S. environment more generally. Recent migrants are also increasingly diverse, and have come to the U.S. for a variety of reasons, some to join family members, others because of their skills or luck in the diversity visa lottery, and others as refugees.

Several studies have investigated wage differentials among white and black migrants from Africa to the U.S. Using the 1990 Census, Doodoo and Takyi (2002) show that hourly wages of 25-64 year old African-origin white male migrants are 32% higher than those of comparable black migrants. The difference falls to 19% after controlling human capital and years in the U.S. Differences by race remained significant with additional controls for the migrant's country of birth and for the subset with U.S. degrees.

Similarly, Kollehlon and Eule (2003), also using 1990 Census data, documented significantly higher hourly earnings at ages 25-64 among African-born white men and women than among their black counterparts, with and without controls for educational attainment, English ability, years of work experience, marital status, year of immigration, region of residence, and children ever born (women only). The white wage premium was higher for men (34%) than women (13%).² Kollehlon's and Eule's findings also pointed to country-of-birth heterogeneity in hourly wages among Africans living in the U.S. by, especially among men.

Borch and Corra (2010) compared earnings of black and white men and women at ages 25-64 who were born in Africa and living in the U.S. in 1980, 1990, and 2000, based on US Census data. They reported a significant white wage premium that was larger for men than for women when adjusted for covariates that included human capital controls, year, whether the person migrated before age 16, region of residence, and marital status. For men the black-white difference appeared to have grown over time.

Others have compared wages of foreign-born to U.S. born blacks to gain insights into migrant adaptation and the role of racial discrimination (Borch & Corra 2010; Borjas, 1999, Butcher

² Among men, African-born Asians also earned less than whites. Among women, there were no differences.

1994; Corra and Kimuna 2009; Doodoo 1997; Kollehlon & Eule 2003; Stewart & Dixon 2010). Wages differentials for black male and female migrants from Africa relative to black migrants from the Caribbean and US-born blacks have varied over time. For example, the pattern of lower wages of African-born male migrants relative to US-born blacks and other black foreign-born males observed in the 1980 Census data (Butcher 1994) were absent in analyses of the 1990 US Census (Doodoo 1997; Kposowa 2002; Kollehlon and Eule 2003). Corra and Kimuna (2009), who studied hourly earnings of black female migrants residing in the U.S. in 1990 and 2000, found that the wages of female migrants from Africa deteriorated over time relative to wages of US-born black women. These results are likely related to the changing composition of the African-born black population in the U.S.

Our paper makes at least three contributions to the literature. First, we investigate variation in wages, distinguishing country of birth, race/ethnicity, gender and timing of arrival in the U.S. and interpret the results in the context of observed and unobserved selection of migrants. Second, because returns to schooling in the US labor market vary by country of origin and race/ethnicity, we examine the role of self-employment as an alternative to wage income. Earnings from self-employment are likely to be less contaminated by the roles of signaling and credentialism relative to earnings in the market wage sector. Third, we use more recent data than prior studies. By drawing on annual waves of the ACS from 2000-2011, we more fully capture the tremendous increase in diversity among migrants from Africa since the late 1990s while also providing evidence on labor market outcomes of migrants over the longer-term.

Data and Methods

Twelve waves (2000-2011) of the public use micro samples from the ACS, collected and disseminated by the U.S. Census Bureau (US Census Bureau 2011) yield a sample of 38,546 male and 33,291 female African-born migrants to the U.S. Pooling multiple waves provided a sufficiently large sample to examine migrants separately by country of birth and other factors. The analytical sample includes non-institutionalized males and females ages 25-64 for whom birthplace is recorded as a country in Africa. We have included those in school, many of whom

were also working (excluding individuals who were working while in school does not affect our conclusions). Among males, 91% (34,904) had worked and had positive earnings in the year prior to the survey, as had 75% of females (24,965).

Dependent Variables

Our main dependent variable in the regression analyses is the log of real hourly earnings, which we calculate by dividing total earnings (the sum of wages, salaries, and non-farm self-employment income) the year before the survey by the number of hours worked (the usual number of hours worked per week multiplied by the number of weeks worked in the previous year). All hourly earnings are converted to 2010 dollars using the chained All Items CPI for all urban areas in the U.S. Among men, we also examine factors that predict whether the individual was self-employed (yes, no) and whether earnings from self-employment and from wages varied with migrant characteristics along the lines predicted by theory.

Explanatory Variables

To facilitate interpretation of our results, we examine individual countries of birth or combine them into groups based on geographic location, primary language, and history. These countries, which together account for 80% of all African-born migrants to the U.S. are: Algeria & Morocco; Cape Verde; East Africa (Kenya, Tanzania, Uganda & other East African countries not separately identified); Egypt; Ethiopia & Eritrea; Ghana; Liberia; Nigeria; Senegal & Cameroon; South Africa & Zimbabwe; Sudan & Somalia. The remainder (20%) which includes migrants from countries in North, West and Southern Africa not individually identified in the ACS.

We also control for self-identified race: white, black, and Asian. We coded everyone who self-identified white only as white; those who self-identified as black/African American or black/African American and another race as black; and everyone who self-identified as Asian or Asian and a race other than black/African American, as Asian (Mutchler et al. 2007; Tucker et al. 2002). We experimented with an alternative coding of multi-race individuals but it did not influence our substantive conclusions. We also controlled for marital status (never married, currently married, separated/divorced/widowed), and for women, whether the individual lived with children less than 6 years of age (no, yes) (available only for women in the ACS).

Our human capital characteristics included: educational attainment (less than college, some college, college degree, post college degree; whether at least some education was obtained in the U.S. (no, yes), estimated from age at arrival in the U.S. and the number of years of school completed; and level of English ability (does not speak English or does not speak well, speaks well but not at home, speaks very well but not at home, speaks only English at home).

Other explanatory variables consisted of US citizenship (not a citizen, citizen by virtue of being born to American parents, naturalized), number of years in the U.S. based on the survey date and date of arrival (< 6 years, 6-10 years, 11-15 years, 16-25 years, 25+ years), age at which the individual arrived in the U.S. (coded into 5-year age groups starting at age 0-4 and up to 50+), state of residence in the U.S., and year of survey. We included state to control for variation in labor market conditions and wage rates. We would have liked to include visa type at entry among non-citizens, but this information is not available in the ACS.

Empirical models

We begin by modeling real hourly earnings. We estimate a linear regression model of log of hourly earnings, stratified by gender. In Model 1 we control for country of birth, race, age, years in the U.S., age at arrival, and survey year. In Model 2 we add controls for education and English ability, marital status, citizenship, and state of residence in the U.S. at the time of the survey. Because the distribution of migrants by country of birth varied considerably across self-identified race categories, we also stratified the analysis by race (black and white/Asian). In addition, we stratified by whether the individual arrived in the U.S. before age 18, because the selection mechanisms for migration as a child versus an adult are likely to differ.

To investigate self-employment rather than wage work as a strategy for capturing returns to migration, we identify characteristics that predict participation in the self-employed sector relative to the market wage sector. We also examine hourly earnings among self-employed individuals in comparison to wage earners. These analyses focus on men only (few women are self-employed). Again the key variable of interest is country of birth, and we control for the same

factors described above. We modeled self-employment (yes, no) with a linear probability model and hourly earnings using OLS.

In all models standard errors and test statistics are estimated taking into account clustering by country of birth and heteroskedasticity of arbitrary form. All estimates are weighted to account for sampling probabilities.

Results

Table 1 presents sample characteristics for males and females, overall and further stratified by race and age of arrival in the U.S. Migrants from Nigeria, Egypt, and Ethiopia & Eritrea account for about 35% of all male migrants from Africa. Among male migrants 71% self-identified as black, about 25.5% as white and 3.5% as Asian.

The differences in the country-of-birth distribution by race and age at arrival in the U.S. are substantial. For example, among males who arrived in the US as adults (i.e. after age 17), close to half of black migrants were born in one of four countries, Nigeria (20%), Ethiopia & Eritrea (14%), and Ghana (12%). In contrast about three quarters of white migrants were born in South Africa & Zimbabwe (20%), Egypt (35%) or Algeria & Morocco (21%). Male migrants who came as children account for a small fraction of all first generation African-origin migrants: less than 10% of blacks and less than 25% of white/Asian male migrants. The distributions of black and white/Asian male migrants by country of origin for those who arrived as children is similar to the distributions for adults. Most of these males probably came to the U.S. with their parents.

The differences in the country of birth distributions by race point to potentially important differences between white/Asian and black males in the propensity to leave their countries for the U.S. For example, the numbers of black versus white/Asian migrants to the U.S. from South Africa & Zimbabwe imply that only 1 in every 1,000 Southern African blacks has moved to the U.S., versus over 50 of every 1,000 white /Asian Southern Africans. Black movers from these countries are likely to be especially positively selected.

The distributions of the country of birth and age at migration among black females and white/Asian females (columns 7-10 of Table 1) are similar to those described above for male migrants.

Panel C displays summary statistics for labor market outcomes. The fraction with any earnings in the 12 months preceding the survey is reported in the first row of the panel, along with the fraction reporting self-employment income. Mean real hourly earnings (in 2010 dollars) and the mean of the logarithm of real hourly earnings are reported in the next rows.

By race, adult white/Asian migrants from Africa earned significantly more than black migrants. For those arriving as adults the difference is 35% among males (\$34.29/hour for whites, \$22.13/hour for blacks) and 19% among females (\$26.62 versus \$19.69 for whites and blacks respectively). Migrants who arrived as children have higher hourly earnings than adults, on average, and the racial gaps persist. Male migrants earn more than female migrants, although the gender gaps are much smaller for black migrants than for whites/Asians, especially among those who arrived as children.

These patterns may partly reflect differences in human capital, demographic characteristics, time spent in the U.S., and state of residence. As seen in Table 1, educational attainment for whites/Asians was higher than for blacks. Whites/Asians were also more likely to speak only English at home (particularly if they arrived before age 18), they were more likely to have lived longer in the U.S., and more likely to be U.S. citizens. Among those who arrived below age 18, about a third of whites/Asians are the children of American parents, versus under 10% of blacks. In addition to the observed characteristics, unobserved characteristics are likely to play a role in labor market outcomes and they may vary by country of origin.

Hourly earnings of African-origin male migrants

Table 2 presents results from the linear regression models of the logarithm of real hourly earnings for African-born male migrants to the U.S. For all males combined we show results from two models. Model 1 controls for country of birth, race, age at arrival in the U.S., years in the U.S., and year of survey. Model 2 introduces education, English ability, citizenship, marital

status, and U.S. state of residence (all measured at the time of the survey). All coefficients are multiplied by 100 and so represent percentage differences in earnings relative to the excluded category. The omitted category for country of birth consists of African-born male migrants from countries in North, West and Southern Africa that were not identified in the ACS.

Large differences emerge across country of birth in men's real hourly earnings (column 1). By far the highest real hourly earnings were recorded for migrants born in South Africa & Zimbabwe: they earn 40% more than the omitted group of migrants. Men born in Algeria & Morocco, on the other hand, earn 13% less and those from Sudan & Somalia earn 7% less. Other migrants with relatively high earnings are Nigerians (22%), East Africans (21%), Ghanaians (13%), and Senegalese & Cameroonians (14%), although not all differences are statistically significant. In addition, the earnings of white and Asian male migrants were similar to each other, and both groups earned significantly higher wages than black male migrants.

Differences in country-of-birth coefficients between Model 1 and Model 2 shed light on the extent to which human capital and demographic characteristics account for variation in earnings by country of birth. Differences across country of birth diminish substantially with the introduction of controls for education, English ability, citizenship, marital status, and U.S. state of residence. The most striking change in country-of-birth effects occurs for migrants from Cape Verde, whose educational attainment is relatively low compared to male migrants from the other African countries. Their relative earnings changed from a -5.4% deficit in Model 1 (not significantly different from the omitted group), to a statistically significant 11.9% advantage in Model 2 relative to the omitted category. In addition, the earnings advantages decline by between a third and a half for men born in South Africa & Zimbabwe, East Africa, and Ghana. The earnings advantages for men born in Nigeria and Senegal & Cameroon relative to the omitted category are nearly eliminated, and the earnings disadvantages shrink slightly for men born in Algeria & Morocco and Sudan & Somalia. The gradient in hourly earnings associated with educational attainment is steep, with some post college education conferring an advantage of 62% relative to less than a college education.

Real mean hourly earnings of white and Asian male migrants were significantly higher than those of black males in Column 1. The gap shrinks with controls for human capital, but Asian men earn 28% more and white men 24% more than black men, even controlling for human capital and other factors. Some roots of labor market success reflect social, political, economic and cultural environments early in life. These contexts vary as a function of race and age of arrival in the U.S. For these reasons we stratify our models by race and age of arrival in the U.S. Results from Model 2 are presented in columns 3 and 4 for blacks and in columns 5 and 6 for whites/Asians. In the ACS the distribution by country of origin and race results in identification of only four country groups common to both black and white/Asian migrants. The composition of the excluded group in the regression for whites/Asians (whites/Asians from other African countries) is not the same as the composition of the excluded group as in the regressions for blacks, but the differences in earnings between the two excluded groups are small (and statistically insignificant) and none of our conclusions changes if the models are estimated with a single excluded group of blacks and whites/Asians (results not shown).

Among black male migrants, differentials in earnings across countries of birth were greater relative to the omitted category among those who arrived in the U.S. below age 18 than among those arriving at older ages. For those who arrived below age 18, migrants from Algeria & Morocco earned 18% less, whereas those from East Africa earned 19% more than the omitted category. Differences among the older migrants ranged from -6% for males born in Sudan & Somalia to 10% for men born in South Africa & Zimbabwe relative to the omitted category. For those born in East Africa, Ghana, Egypt, and Ethiopia and Eritrea, the country-of-birth advantage is greater for those who arrived in the U.S. as a child than for those arriving as adults. For most other comparisons, country of birth differentials are relatively similar regardless of age of arrival.

Considerable heterogeneity in earnings by country of birth, and variation in patterns by age at arrival, emerged for white /Asian men as well. Among white/Asian migrants arriving as adults, those from South Africa & Zimbabwe and from East Africa had significantly higher earnings, 38% and 25% respectively, than the omitted category. In contrast, among those who come below age 18, earnings for South Africans & Zimbabweans were only 4% higher, whereas earnings for East Africans were 11% lower relative to the omitted category. White/Asian male migrants from

Algeria & Morocco and from Egypt did somewhat better (relative to their reference groups) if they came below age 18 than above this age. For this group of migrants we control for Asian race (relative to white). Asians have 4% lower earnings among migrants who arrived after 18, but almost 6% higher earnings among those who arrived before the age of 18.

We now turn to the results for human capital. Estimated returns to completing college or enrolling beyond college are high relative to having less than a college education. The educational gradient in wages is somewhat steeper for white/Asian males than for black males. For neither race does being educated in the U.S. pay a premium; for whites/Asians it conveys a disadvantage in terms of earnings potentially a reflection of selection in those who obtain education in the U.S. Speaking English at home or speaking English well are both rewarded in the labor market, regardless of race or age of arrival, although the effect is strongest for black males who arrived as children. English proficiency may be a particularly effective signal of successful assimilation for these migrants or it may reflect differences in early life experiences. Migrants who have naturalized – another marker of assimilation – earn about a 7% premium if they are black. Among white/Asians the premium to naturalization is 3% for those who arrived as adults, versus 9% for those who arrived as children.

Longer duration of residence in the U.S. was associated with higher earnings among both black and white/Asian males, with greater benefits as duration rises for whites and Asians than for blacks. This is likely to reflect both the more selective nature of longer-term migrants at time of arrival and that staying in the U.S. long term may be more likely for those who succeed in the labor market.

Self-employment and earnings by type of employment among male African-origin migrants

Individuals who leave their country of birth are likely to be selected on characteristics, some observed and some not, that are more highly valued in the destination than in the origin location. For international migrants to the U.S. unobserved traits often hypothesized to be important include ambition and entrepreneurial ability. Neither is measured in the ACS, so we turn to labor market outcomes likely related to these traits and explore variation in the probability of self-

employment and hourly earnings in self-employment. For some, self-employment may be an important route to success in the labor market, particularly if one is entrepreneurial or prone to take risks—skills that are potentially valuable, but not highly valued (or readily observed) by employers in the U.S. For others, self-employment may be the only option in a competitive labor market. Self-employment may also reflect a choice made in response to discrimination against workers with observable traits similar to those of the migrant. To provide evidence on these issues we compare earnings from self-employment to earnings in the market wage sector. In the absence of plausible characteristics to adjust for selection into each sector, we interpret the estimates conditional on sectoral choice. Regression results predicting self-employment and earnings by self-employment status, adjusting for human capital and socio-demographic characteristics, are reported in Table 3.

With respect to the probability of being self-employed, country of birth differences among migrants who arrived as adults are small. Although migrants from a few countries are somewhat more likely to be self-employed (black migrants from South Africa & Zimbabwe and Algeria & Morocco, whites/Asians from East Africa), none of the differences are large. Moreover, the individuals from their countries do not earn more than their counterparts who work for wages. In fact, among white/Asian migrants who arrived as adults, country-of-origin patterns in earnings are the same for those who are self-employed as for those in the market wage sector, suggesting that the wage labor market does not value country-specific traits.

The results differ for black migrants who arrived as adults, some of whom earn very high premiums in the self-employed sector. For example, relative to the reference group of migrants, Liberians earn 57% more in the self-employed than in the wage market sector, and Cape Verdeans and East Africans earn roughly 20% more in the self-employed sector. Benefits are also substantial for Egyptians. The gap between the earnings of the self-employed and wage workers is consistent with the idea that the black migrants who are self-employed have difficulty signaling their value to employers but reap the rewards when they strike out for themselves.

The patterns differ for migrants who arrived as children. Among blacks, those from South Africa & Zimbabwe and Senegal & Cameroon are significantly more likely to be self-employed than

migrants born in other countries, and the differences are relatively large. Relative to the reference group, the self-employed from South Africa & Zimbabwe earn much more than wage workers from those countries, but the self-employed Senegalese and Cameroonians earn much less. As was true for adults, Liberians who arrive when they are less than 18 earn substantially more in the self-employed sector than as wage workers. Among whites/Asians who arrived as children, several of the country of birth effects are large and negative. Asians who arrived before age 18 earn significantly more than their white counterparts (the reverse is true for those arriving after age 18).

We also examine how self-employment, and sector-specific earnings vary by education. Level of education is not related to choosing self-employment. Nor, for the most part is receiving education in the U.S. Returns to educational attainment do vary between self-employed and wage workers. Among blacks who migrated at older ages, the educational gradient in earnings is flatter for the self-employed than for wage workers, whereas for those who arrived before age 18, earnings of the self-employed rise far more dramatically with education than is the case for those earning a wage. This difference in the relationship between education and wages by age of arrival does not characterize whites. The labor market rewards to English ability are positive for both types of workers but appear to be particularly large among the self-employed, although results vary somewhat by subgroup.

Hourly earnings of African-origin female migrants

We next discuss the results for real hourly earnings among women (Table 4). As the models are estimated only for those who reported positive earnings, we stratify by race and age of arrival and estimate two models, the second of which introduces controls for human capital and all other explanatory variables.

In comparison to males, heterogeneity in earnings across country of birth is smaller and the relative positions of countries vary. The sizes of the country of birth coefficients vary from -12.2 to 27.8 for women, versus from -12.8 to 40.2 for men. With respect to particularly countries, relative to the omitted group, the earnings of female migrants from Nigeria are the highest (28%), and shrink only to second place (behind South Africa & Zimbabwe) once controls for

human capital are added. Racial differences are much smaller, and in fact earnings for white women are no different from those for black women once controls for human capital are added (wages for Asian women remain slightly higher).

Shifting to the results that stratify by race and age of arrival, Nigerians were the highest earning workers among blacks who arrived as adults, with a 12% advantage relative to the omitted group. The lowest earning black females were born in Sudan & Somalia; they earned 6% less than the omitted group. Among black women who migrated below age 18, women from Senegal & Cameroon earned 15% more, whereas the earnings of women from Ghana and Sudan & Somalia were 8% lower than the omitted group.

Differences by gender in the country of birth results for blacks suggest that the selection of black migrants from Africa who participate in the U.S. labor force differs in substantively important ways for males and females from the same country. For example, among blacks, the earnings premium for Nigerian males arriving at older ages was only 7%, but it was 12% for women. Among those from Senegal & Cameroon, men who migrated below age 18 earned 10% less than black male migrants in the omitted group, but earnings were 15% higher among women.

Similar differences between males and females appear in the wage premiums of white/Asian male and female migrants from Africa. Although white/Asian females from South Africa & Zimbabwe had the highest earnings among those who migrated after age 18, that premium (20%) was only half the size of the corresponding male premium (38%). Furthermore, white/Asian women from East Africa who migrated below age 18 earned 11% more than the omitted group, whereas white/Asian males from these same countries earned 11% less than the omitted group. White/Asian female migrants who came to the U.S. as children from Egypt and Algeria & Morocco also did better relative to other white/Asian females than did their male counterparts relative to other white/Asian males. These results suggest complex and substantial heterogeneity in the selection of white/Asian males and females born in Africa, both into migration and then, for women, into the work force once they arrive.

The regression models control human capital and socio-demographic characteristics, and the heterogeneity reflects factors that are unobserved in the models. We have pointed to the possible roles of educational quality, social and political context, and family background in driving cross-country differences in earnings. However, the large differences in selection of males and females from the same country of origin cannot likely be attributed to differences in education quality or family background.

Possibly at least part of the country-specific differences between male and female migrants in the labor force arise from different propensities to work. Among males age 25 to 64 the proportion without earned income in the year before the interview was less than 10%, versus around 25% for females. As a result, selection into the labor market is likely to account for more of the differences among female migrants than among their male counterparts. Labor force participation also varies among women by country of birth. Black female migrants from Arabic-speaking countries – Egypt, Algeria & Morocco, and Sudan & Somalia – were far less likely to be in the labor market than other females – particularly among those who came to the U.S. as adults. Black Algerian & Moroccan and Egyptian females who arrived as adults were 18-20% less likely to be working than the omitted group, but no such differential emerged for white/Asian female migrants from these countries. Age at arrival does not seem to be a large part of the story. Differences in labor force participation for females from same country but arriving at different ages were relatively small, and for most countries the migrants who arrived at younger ages were generally less likely to participate in the labor force.

With respect to differences in earnings for women by educational attainment, returns to college and to education beyond college were high for all groups of females and similar in magnitude to those for males. As was the case for males, speaking English at home was associated with higher earnings for blacks, whites and Asians who arrived as adults; it was also associated with a substantially higher propensity to be working among all women. In general, longer duration of US residence is also associated with higher earnings among females, but unlike men, the benefits of longer duration of residence appears to be somewhat stronger for black women than white/Asian women, regardless of age at migration.

Discussion and conclusions

Over the past several decades the number of African migrants to America has grown exponentially. Accompanying the growth in numbers, dramatic increases in the diversity of new entrants with respect to country of origin, background, and reason for entry have also occurred. Thomas (2011) analyzes these trends in detail, concluding that they reflect complex interactions among factors that include the evolution of US immigration policies and structural features of sending countries.

The increasing diversity of African migrants raises the question of how labor market outcomes vary for individuals born on the same continent but hailing from disparate countries within it. We focus on these comparisons. By doing so, we contribute a complementary angle to the existing literature that draws out differentials between migrants and native-born Americans of the same race or between migrants of the same race but from different regions. The patterns more fully unfold when we examine differences by country of birth in analyses that also stratify by gender, race and age of arrival, which we establish are important.

Our first main result is simple: the results paint a complex and nuanced picture of labor market outcomes of African-born migrants. This reflects the vast differences across African countries in history and levels of development and the levels and quality of human capital embodied in the population of each country; the diversity of languages, cultural, and racial backgrounds represented by migrants from Africa; and opportunities at home and the option to leave, including country-specific differences in U.S. visa and immigration policies that have afforded very different opportunities for migration across countries and over time. Our understanding of international migration is substantially enriched by embracing this diversity rather than treating African-born migrants as a homogenous group.

From an overall perspective, we find substantial differences in labor market outcomes by country of birth. We control for race and so these differences are more than a byproduct of correlations between race and country of birth. Moreover, they persist in models that are stratified by race. One obvious explanation is that they arise as a function of country-specific differences in

education and language ability. When we add controls for education, English skills, and citizenship these differences are reduced but not eliminated.

The patterns of several countries stand out. Hourly earnings of migrants from Southern Africa, many of whom come on employment visas, are relatively high, whereas those for migrants from Sudan & Somalia, countries from which a high proportion of new entrants arrive as refugees, are relatively low. Males from Cape Verde, a country with a long history of sending migrants to America, earn considerably more than the reference group, *particularly* after human capital is controlled. For each of these countries, significant nuances emerge in our additional analyses, which stratify by race and age of arrival and (for men) consider earnings from self-employment separately from those from wages.

We begin with immigrants from Southern Africa, for whom earlier work documents higher earnings (Borch and Corra 2010; Kolehlon and Eule 2003). In our overall models, the earnings premiums are 27% for men and 14.6% for women. These figures mask the fact that the premiums are much higher for individuals who arrived after the age of 18 than for those who arrived before the age of 18. Among those arriving after age 18, earnings are a striking 38% higher for white males, 20% for white females, 10% for black males, and 4% for black females. But black males who arrived when they were under the age of 18 actually earn 6% less than the reference group and white males earn only 4% more than the reference group (for women the differentials are -1.3% and 9%, for blacks and whites respectively).

The experience for migrants from Sudan & Somalia stands in stark contrast. As revealed in the graphs in Figure 4, the vast majority of migrants from Sudan & Somalia come as refugees—a situation unlikely to equip them with the skills to compete effectively in the workplace. Indeed, in the overall models, earnings of both males and females are at or near the bottom of the barrel with respect to country-specific differentials. Among males, stratifying by age of arrival reveals that the earnings penalty is more negative for men who arrived after 18 than for those who arrived at earlier ages—suggesting that country of birth does not necessarily portend lifelong disadvantage. Moreover, among those born in Ethiopia & Eritrea (other countries from which many refugees arrived in the 1980s and 1990s), men experience no wage penalty, and earnings

of both men and women who arrived when they were less than 18 are significantly *higher* than those for the reference group (by 5.6% for men and 8.7% for women).

As noted above, earnings of men from Cape Verde are relatively high (12% overall), particularly considering their levels of education. Cape Verde is the only country for which differentials are almost identical regardless of men's age at arrival. When we consider earnings separately by self-employment status, the earnings premium is a full 32.5% among the self-employed.

Apparently self-employment has provided a means for a sub-group of those from Cape Verde to capitalize on certain attributes that are better-rewarded outside the structures of wage work. The same is true for Liberians, and to a greater degree—the premium for self-employed Liberians is almost 54%. This finding is interesting given that a high proportion of recent immigrants from Liberia have come as refugees, again suggesting that refugee status may not confer permanent disadvantage in the U.S.

Moving away from the patterns for particular countries, we note the important role of age at arrival in understanding earnings differences among immigrants. In a number of instances factors exert opposing influences on labor market outcomes by age at arrival. As examples we note the reversal in the signs of the South Africa & Zimbabwe coefficients on hourly earnings for black males who arrived after versus before age 18. Among the whites/Asians similar sign reversals occur for the coefficients on being from Algeria & Morocco and for being of Asian race. With respect to human capital controls, English abilities appear to offer greater rewards in the labor market for those who arrived before age 18, particularly among blacks.

On average, immigrants who arrive in the U.S. before age 18 are better educated and report better English skills than those who arrive after age 18. These differences are in the direction one might expect if arriving at earlier ages provides educational opportunities and facilitates assimilation. Migrants who arrive before age 18 also earn more on average. Interestingly, however, among blacks the overall variation in labor market outcomes across countries of birth is as great for those who arrive before age 18 as for those who arrive after age 18. This is not true for whites, for whom country of birth differentials in earnings are smaller among those who

arrive before age 18. This racial difference in patterns by age of arrival is consistent with the idea that processes of assimilation work differently for blacks and whites/Asians.

Distinguishing earnings among the self-employed from earnings for those who work for wages also sheds light on labor market outcomes for migrants. As discussed above, self-employment potentially plays a myriad of roles, ranging from a refuge of last resort for those who can't find other forms of employment to an avenue of opportunity for those with attributes that are penalized or with skills that employers don't reward. Country of birth differentials in earnings tend to be more dramatic among the self-employed than among those in the wage sector. We have already mentioned the strong premiums self-employed black males from Liberia, Cape Verde, and East Africa enjoy. Interestingly, the benefits of speaking English well are much greater for those who are self-employed than for those in the wage sector (apart from whites/Asians arriving after age 18). The patterns of differentials in labor market outcomes between self-employed and wage sector workers are also quite different by race, which is consistent with the idea that processes of signaling and discrimination work differently for black and white/Asian migrants from Africa.

Much of our discussion to this point has focused on men. To what extent are patterns for women similar? Overall, differences in earnings by country of birth and by race are much smaller for women than for men. With respect to country of birth, smaller differentials for women than for men are also noted in work using earlier data (Borch and Corra 2010; Kollehlon and Eule 2003). With respect to race, the advantage of being white relative to black is eliminated in the model that controls for human capital-- a dramatic difference relative to the results for men, where the gap remained 24%. In this respect our results differ from Borch and Corra (2010), who document high earnings for white women based on earlier waves of census data.

The patterns for specific countries differ for men and women as well. The disadvantages of being from Egypt or from Algeria & Morocco that we observed for men do not appear in the analyses for women. It is important to note that the selection processes almost certainly operate differently for men and women—both the processes through which migrants come to the U.S., and whether

they participate in the labor market, something that is far closer to universal for men than for women.

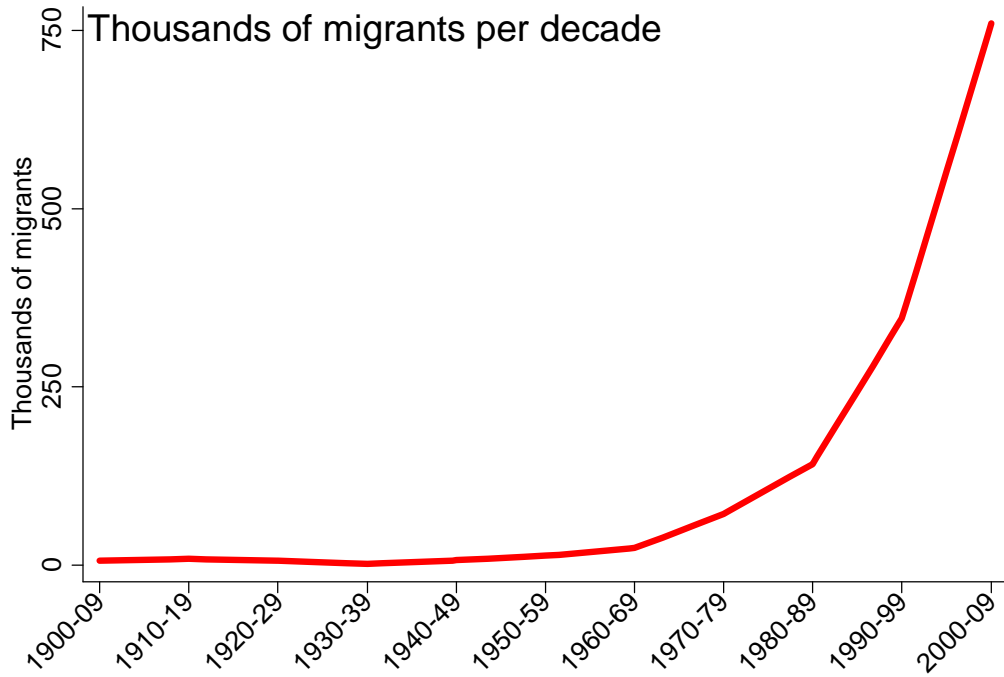
In conclusion, we have demonstrated considerable heterogeneity in labor market outcomes by country of birth for migrants from Africa to the U.S. – heterogeneity that can only be partially explained by observed human capital and demographic characteristics of migrants. The mosaic that we have described is likely to reflect different selection mechanisms by country of birth and gender that contribute to the variation in the success of African-born migrants to integrate and assimilate in the US labor market. Lack of information on reasons for migration, including type of entry visa and strength of local migrant networks in the U.S. are important limiting factors. To gain an enhanced understanding of factors that underlie the decision to migrate and factors that contribute to success in the U.S. requires an alternative research design. In the absence of randomly assigning people to move (through via random assignment of visas, for example) and a longitudinal follow-up of movers and non-movers, at minimum studies are needed that capture experiences in the country of origin and provide evidence on the life of the migrant before and after the move.

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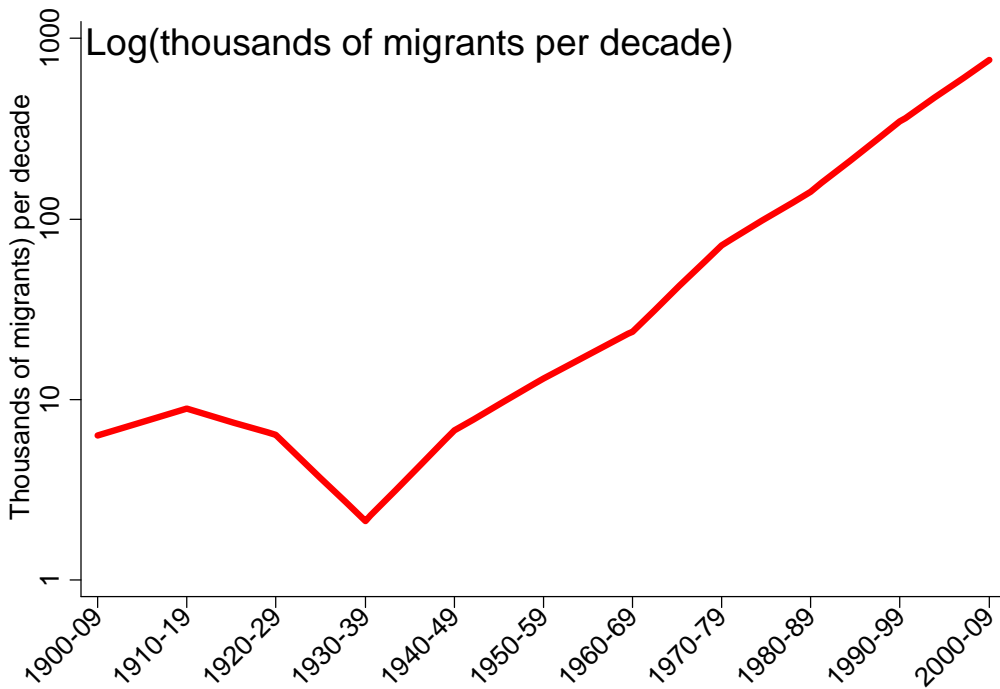
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Figure 1: Number of African-origin migrants to the United States by decade – 1900-2009



Logarithmic scale



Note: Number of migrants from Africa who obtain legal permanent status in each decade
Source: Immigration Statistics Yearbook (<http://www.dhs.gov/yearbook-immigration-statistics>)

Figure 2: Percentage of migrants to the United States for the three largest origin countries in 1950

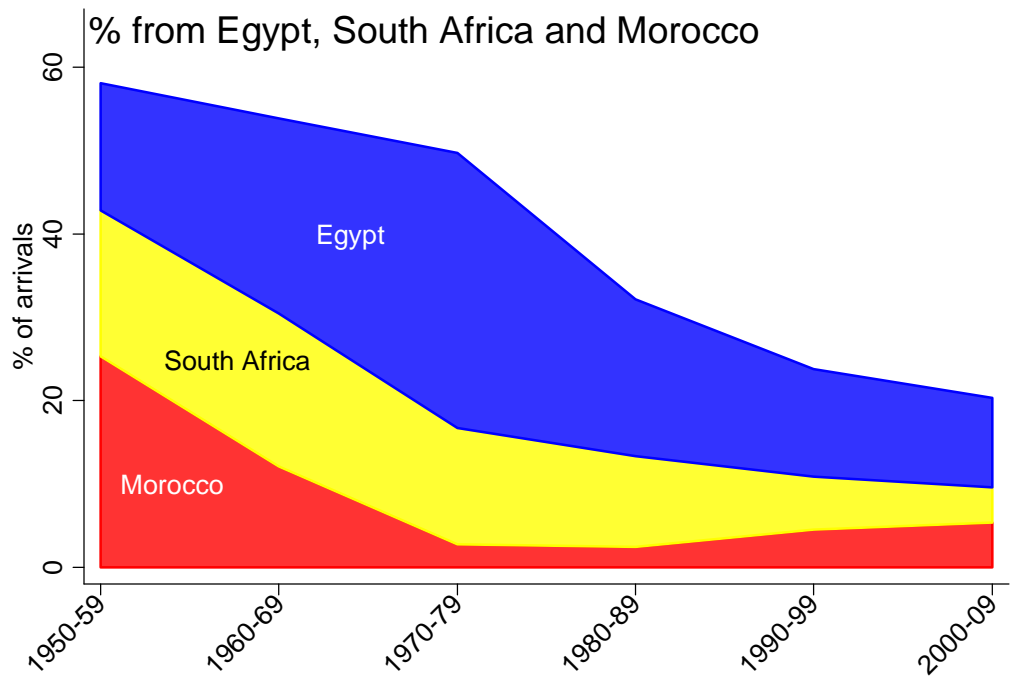


Figure 3: Visa types of African-origin migrants at time of entry as legal permanent residents in United States, 1982-2011

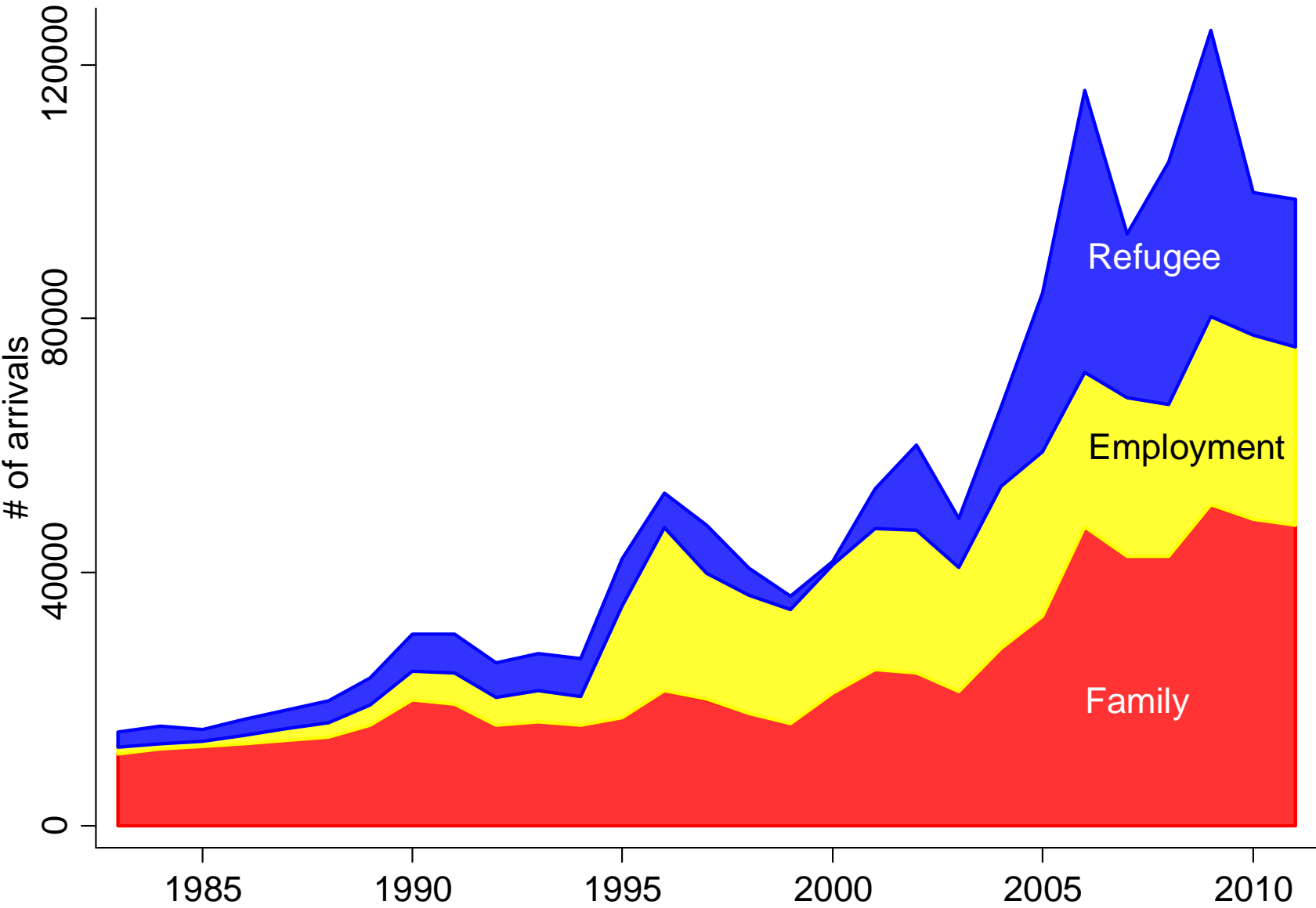


Figure 4: Visa types by country of origin at time of entry as legal permanent residents in United States, 1982-2011

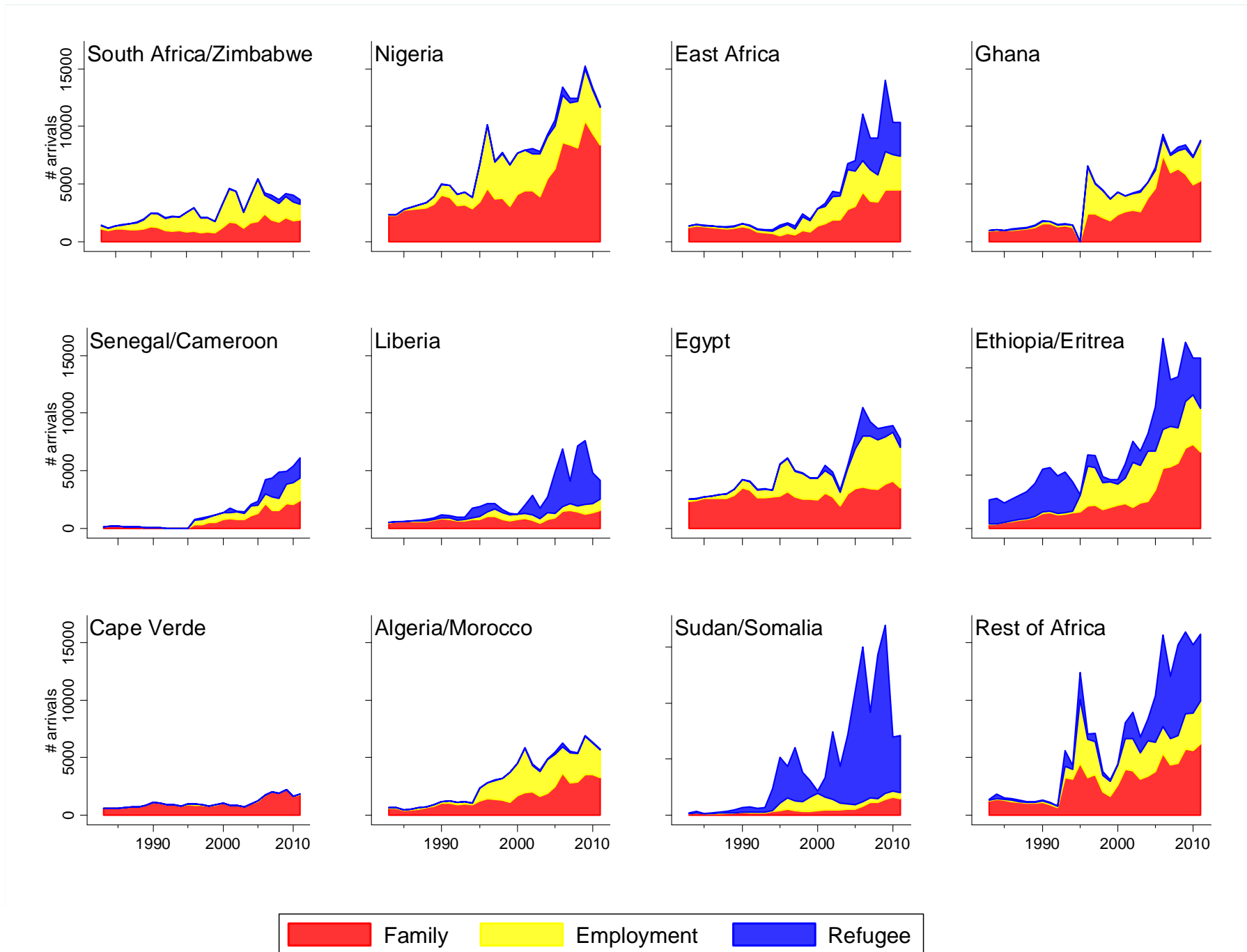


Table 1: Description of Africans in America: By gender, race and age moved to the U.S.

Race Age arrived in US	Males		Females		Males				Females			
	All	All	Black >18	<18	White/Asian ≥18	<18	Black >18	<18	White/Asian ≥18	<18		
Sample size	38,546	33,291	23,180	2,494	9,930	2,942	19,924	2,652	7,904	2,811		
A. Country of birth												
South Africa+Zimbabwe	6.7	8.1	1.5	2.4	19.8	16.7	2.3	2.6	24.1	19.7		
Nigeria	14.5	13.2	20.1	18.8	0.8	2.9	18.5	13.7	0.9	2.4		
East Africa	9.1	10.8	8.4	8.3	10.3	12.2	10.2	7.7	13.0	12.8		
Ghana	8.3	7.6	11.6	10.1	0.3	0.8	10.6	9.4	0.3	1.0		
Senegal+Cameroons	6.4	2.5	8.7	7.5	1.2	1.3	9.0	6.7	1.0	0.9		
Liberia	3.7	4.6	4.8	6.3	0.4	1.3	6.0	8.1	0.2	1.2		
Egypt	10.1	8.4	0.9	1.6	35.0	23.3	0.5	0.6	30.9	20.3		
Ethiopia+Eritrea	10.5	12.0	14.2	13.4	0.9	4.2	16.0	16.1	1.5	2.8		
Cape Verde	1.6	2.5	1.8	5.6	0.3	0.9	2.5	8.4	0.6	0.8		
Algeria+Morocco	6.6	5.5	1.2	1.3	21.1	14.3	1.0	1.3	17.8	14.4		
Sudan+Somalia	2.6	6.5	3.7	2.1	0.2	0.5	3.5	2.6	0.3	0.6		
Other African countries	19.9	18.2	23.1	22.6	9.7	21.5	19.9	22.9	9.4	23.0		
B. Race												
% Black	71.0	71.8	100.0	100.0			100.0	100.0				
% White	25.5	24.0			87.6	88.7			84.2	87.8		
% Asian	3.5	4.2			12.4	11.3			15.8	12.2		
C. Work and earnings												
% Work for income	90.8	74.7	90.6	88.8	91.7	91.9	76.6	83.6	64.0	77.9		
% Self employed	12.1	5.8	10.1	8.4	18.0	15.9	4.6	4.1	8.4	11.5		
Hourly earnings	26.02	22.09	22.13	23.64	34.39	37.45	19.69	23.54	26.61	30.03		
(std err)	0.26	0.37	0.31	1.06	0.54	1.06	0.35	1.01	1.26	1.94		
ln(hourly earnings)	2.91	2.77	2.79	2.86	3.14	3.26	2.69	2.84	2.88	3.02		
(std err)	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.03		
ln(hrly earnings) if self-employed	2.90	2.75	2.70	2.64	3.14	3.29	2.55	2.74	2.99	2.94		
ln(hrly earnings) if wage sector	2.91	2.77	2.80	2.88	3.14	3.25	2.70	2.70	2.84	2.87		
D. Human capital												
Education (years)	13.5	12.3	13.2	13.6	14.3	14.3	11.6	13.3	13.4	14.1		
(std err)	0.03	0.0	0.04	0.11	0.06	0.09	0.05	0.11	0.07	0.12		
% Completed college	75.2	64.7	72.3	76.2	81.0	82.2	58.4	74.1	73.6	82.1		
% some education in US	22.9	23.8	13.6	84.1	12.0	91.5	11.7	82.9	11.7	91.9		
% only English spoken at home	24.9	24.0	19.1	38.3	27.3	61.4	17.4	34.1	26.4	62.0		
% speak English very well not at hc	49.9	45.6	52.4	48.5	47.8	33.0	47.0	51.6	43.3	31.9		
% speak English well not at home	19.3	18.9	21.5	11.2	19.5	4.1	21.7	10.2	19.0	5.1		
E. Years in U.S.												
	14.3	13.9	11.7	22.3	14.0	33.0	10.4	22.2	14.0	33.3		
F. Citizenship												
% US citizen (Amer parents)	3.5	4.3	0.8	8.4	1.7	32.2	1.0	7.4	2.4	35.1		
% US citizen (naturalized)	43.3	42.2	39.2	51.6	49.2	54.7	36.1	58.4	49.8	53.8		

Source: 2000-2011 American Community Survey public use micro samples. Sample size is not weighted; all estimates are weighted.

Table 2: Migrant characteristics that predict ln(hourly earnings): Males age 25-64 at interview
 Roles of country of birth, race, human capital, citizenship and age at arrival in US

Race and gender: Age arrive in US:	All males (control HC)		Blacks		Whites/Asians	
			≥18	<18	≥18	<18
	[1]	[2]	[3]	[4]	[5]	[6]
A. (1) if country of birth is						
South Africa+Zimbabwe	40.24 [12.2]	27.05 [7.8]	10.08 [2.7]	-6.80 [1.5]	38.10 [8.4]	3.97 [1.3]
Nigeria	22.01 [16.1]	4.04 [3.0]	6.70 [6.1]	2.43 [0.5]		
East Africa	20.54 [8.4]	10.90 [7.1]	7.54 [2.7]	18.55 [1.6]	25.00 [5.3]	-10.92 [3.5]
Ghana	13.24 [11.2]	8.00 [11.3]	7.83 [8.9]	12.36 [2.3]		
Senegal+Cameroons	13.55 [1.3]	1.11 [0.4]	1.89 [0.6]	-10.10 [1.6]		
Liberia	4.20 [3.5]	0.33 [0.3]	0.02 [0.0]	1.49 [0.5]		
Egypt	0.55 [0.1]	-7.92 [2.3]	0.04 [0.0]	5.08 [0.7]	-8.58 [2.0]	-2.38 [0.8]
Ethiopia+Eritrea	1.32 [1.1]	1.30 [1.0]	-0.44 [0.4]	5.62 [0.7]		
Cape Verde	-5.43 [3.3]	11.91 [5.9]	11.92 [5.3]	12.06 [1.4]		
Algeria+Morocco	-12.76 [3.7]	-10.92 [3.9]	-4.59 [1.9]	-17.75 [3.5]	-8.77 [2.3]	3.47 [1.6]
Sudan+Somalia	-7.43 [1.4]	-4.14 [1.2]	-6.36 [3.2]	-1.98 [0.2]		
Other African countries	Ref	Ref	Ref	Ref	Ref	Ref
B. (1) if race is						
Asian	34.49 [7.7]	27.65 [6.6]			-4.36 [1.5]	5.64 [1.2]
white	30.71 [7.0]	23.92 [6.0]			Ref	Ref
black	Ref	Ref				
C. Education (1) if						
less than college		Ref	Ref	Ref	Ref	Ref
some college		9.11 [4.1]	9.23 [4.7]	2.19 [0.4]	10.56 [1.4]	16.92 [2.4]
completed college		30.39 [11.3]	26.99 [9.9]	28.06 [4.7]	37.57 [4.6]	53.32 [9.5]
post college		62.34 [28.5]	57.59 [22.8]	58.52 [12.0]	73.38 [11.6]	80.68 [14.1]
educated in US		-1.48 [0.7]	-0.22 [0.1]	2.01 [0.4]	-4.63 [0.6]	-5.38 [0.7]
not educated in US		Ref	Ref	Ref	Ref	Ref
D. (1) speaks English						
at home		19.26 [6.7]	16.16 [4.0]	45.63 [3.2]	16.11 [4.8]	29.62 [3.9]
very well (but not at home)		13.82 [5.7]	12.03 [4.2]	40.96 [3.0]	13.60 [5.0]	19.55 [2.3]
well (but not at home)		2.29 [1.2]	4.01 [1.9]	22.44 [1.5]	-7.64 [1.8]	15.03 [2.1]
not well, not at home		Ref	Ref	Ref	Ref	Ref

Table 2 (continued): Migrant characteristics that predict ln(hourly earnings): Males age 25-64 at interview
 Roles of country of birth, race, human capital, citizenship and age at arrival in US

Sample Age arrived in US Covariates	All males (control HC)		Blacks		Whites/Asians	
	[1]	[2]	≥18 [3]	<18 [4]	≥18 [5]	<18 [6]
E. (1) if US citizen by birth		5.90 [1.8]	16.60 [3.9]	3.53 [0.5]	2.27 [0.3]	-2.76 [0.6]
by naturalization		6.72 [3.8]	7.14 [3.6]	6.46 [1.3]	2.93 [0.8]	8.99 [2.0]
not a citizen		Ref	Ref	Ref	Ref	Ref
F. (1) if years in US						
0-5 (or 0-10) years	Ref	Ref	Ref	Ref	Ref	Ref
6-10 years	19.82 [9.5]	13.97 [6.0]	13.08 [4.5]		16.94 [4.3]	
11-15 years	33.55 [18.1]	22.04 [10.6]	20.52 [8.3]	1.96 [0.3]	30.09 [6.1]	21.74 [1.3]
16-25 years	43.36 [14.9]	25.77 [7.3]	23.66 [5.7]	10.98 [1.5]	36.59 [7.1]	23.06 [1.6]
>25 years	60.30 [13.6]	33.82 [5.8]	23.59 [5.2]	22.61 [2.4]	47.48 [10.2]	53.25 [3.6]
Sample size	34,904	34,904	20,960	2,161	9,079	2,704
R ²	0.10	0.20	0.20	0.20	0.30	0.30

Notes: Dependent variable is logarithm of annual earnings/annual hours of work in 2010 dollars.

All models also include indicator variables for year of survey, years in United States and age of respondent at arrival.

Models [2] through [6] also include state of residence in U.S. at time of survey to adjust for price variation across U.S.

All variance-covariance matrices take into account clustering at the level of birth of country and are robust to heteroskedasticity of arbitrary form. Standard errors are in brackets below OLS coefficient estimates.

All estimates are weighted by sampling weights.

Table 3: Male migrants - probability in self-employment sector, earnings in self-employment and wage sector
 Roles of country of birth, race and human capital

	Age at arrival ≥ 18						Age at arrival < 18					
	Black			White			Black			White		
	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage
	[1]	[2]	[3]	[1]	[2]	[3]	[1]	[2]	[3]	[1]	[2]	[3]
A. (1) if country of birth is												
South Africa+Zimbabwe	3.6 [1.7]	-3.4 [0.2]	13.5 [5.2]	6.9 [4.2]	44.7 [5.7]	37.3 [8.5]	11.6 [2.0]	17.1 [0.7]	-9.8 [1.9]	3.2 [1.3]	-23.4 [1.2]	10.0 [3.5]
Nigeria	2.9 [3.5]	12.4 [5.1]	6.6 [6.7]				1.2 [1.4]	-5.1 [0.5]	-1.2 [0.3]			
East Africa	-1.5 [1.6]	26.5 [6.1]	6.7 [2.4]	4.6 [1.3]	28.8 [2.8]	24.5 [6.2]	-3.6 [2.5]	-15.3 [0.6]	15.9 [1.2]	0.2 [0.1]	-33.9 [1.9]	-6.4 [1.6]
Ghana	-1.7 [2.0]	8.0 [2.5]	7.6 [9.8]				-2.7 [2.6]	-29.9 [1.5]	6.9 [1.4]			
Senegal+Cameroon	4.2 [2.4]	-10.0 [2.4]	4.4 [2.4]				9.0 [1.2]	-40.7 [3.0]	-6.7 [1.4]			
Liberia	-3.2 [3.9]	53.9 [12.6]	-3.7 [2.7]				-2.2 [1.8]	43.1 [2.7]	-6.6 [1.8]			
Egypt	6.2 [6.7]	16.6 [3.6]	-2.3 [2.2]	0.4 [0.2]	-10.1 [1.2]	-7.4 [1.9]	11.3 [6.5]	-22.1 [0.7]	0.7 [0.1]	2.7 [1.1]	1.0 [0.1]	-5.1 [1.5]
Ethiopia+Eritrea	3.9 [4.1]	-6.3 [2.0]	1.8 [1.6]				0.8 [0.7]	-18.8 [1.1]	5.2 [0.6]			
Cape Verde	-5.3 [3.8]	32.5 [3.7]	10.0 [4.2]				-5.9 [3.0]	-6.5 [0.2]	10.5 [1.3]			
Algeria+Morocco	6.4 [1.2]	-4.0 [1.3]	-3.4 [1.3]	1.0 [0.6]	-11.4 [1.3]	-7.5 [2.2]	0.8 [0.4]	-93.5 [3.1]	-7.7 [0.8]	-2.5 [1.2]	-6.2 [0.5]	3.2 [1.3]
Sudan+Somalia	1.3 [1.3]	-8.8 [3.4]	-5.5 [2.5]				-1.7 [0.7]	-42.2 [1.8]	-5.0 [0.7]			
Other African countries	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
B. (1) if race is												
Asian				1.7 [0.5]	-5.0 [0.5]	-3.8 [1.2]				0.6 [0.2]	7.9 [0.3]	3.0 [0.5]
white				Ref	Ref	Ref				Ref	Ref	Ref

Notes: Linear probability model for probability of self-employment (coefficients $\times 100$) in column 1; OLS for ln(hourly earnings) conditional on sector in columns 2 and 3.

All models also include indicator variables for year of survey, years in United States and age of respondent at arrival. All models also include state of residence in U.S at time of survey. All variance-covariance matrices take into account clustering at the level of birth of country and are robust to heteroskedasticity of arbitrary form.

Standard errors are in brackets below OLS coefficient estimates. All estimates are weighted by sampling weights.

Table 3: Male migrants - probability in self-employment sector, earnings in self-employment and wage sector
 Roles of education, English knowledge, citizenship and years in United States

	Age at arrival ≥ 18						Age at arrival < 18					
	Black			White			Black			White		
	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage	Prob self-emp	ln(hourly earnings) self-emp	wage
	[1]	[2]	[3]	[1]	[2]	[3]	[1]	[2]	[3]	[1]	[2]	[3]
C. Education (1) if												
less than college	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
some college	-0.3 [0.4]	4.2 [0.8]	9.5 [4.1]	3.7 [2.4]	17.4 [1.4]	9.9 [1.6]	-0.7 [0.4]	-0.4 [0.0]	4.1 [0.7]	-3.4 [1.5]	9.8 [0.4]	21.1 [2.8]
completed college	-1.9 [2.1]	17.5 [4.1]	26.9 [8.7]	-2.4 [1.5]	34.1 [3.4]	37.6 [4.3]	0.1 [0.1]	57.7 [3.6]	28.4 [4.5]	-4.1 [2.1]	15.4 [0.9]	62.6 [11.4]
post college	-2.8 [2.9]	50.3 [8.8]	57.3 [23.6]	-2.7 [1.5]	94.4 [7.5]	68.6 [12.2]	-4.1 [2.6]	145.9 [4.4]	53.9 [10.3]	-1.5 [0.6]	96.4 [5.2]	80.0 [11.9]
educated in US	-0.7 [0.4]	-2.2 [0.3]	0.0 [0.0]	-3.4 [1.9]	-10.2 [1.0]	-4.5 [0.6]	0.8 [0.4]	14.1 [0.5]	-0.2 [0.0]	-13.5 [3.0]	-20.0 [1.2]	-5.1 [1.0]
not educated in US	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
D. (1) speaks English												
at home	-0.9 [0.7]	31.1 [3.6]	14.9 [3.5]	1.0 [0.5]	8.6 [0.5]	18.7 [3.8]	-6.3 [1.0]	34.1 [0.8]	39.2 [2.8]	14.1 [4.4]	112.4 [2.8]	23.7 [3.7]
very well (but not at home)	-0.4 [0.2]	30.1 [5.3]	10.4 [3.7]	0.7 [0.5]	11.0 [0.6]	15.1 [4.6]	-7.4 [1.1]	76.4 [2.0]	28.5 [2.1]	15.1 [4.1]	105.3 [2.6]	12.8 [2.1]
well (but not at home)	1.7 [1.6]	14.2 [1.6]	3.6 [1.7]	1.8 [0.9]	2.8 [0.1]	-8.8 [1.7]	-4.3 [0.6]	61.2 [1.6]	13.8 [1.0]	13.6 [1.8]	77.7 [1.6]	16.6 [1.5]
not well, not at home	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
E. (1) if US citizen												
by birth	0.2 [0.1]	17.5 [0.7]	16.6 [3.1]	0.8 [0.2]	-13.0 [0.5]	5.5 [0.8]	1.3 [0.3]	0.1 [0.0]	1.8 [0.3]	-6.0 [2.1]	4.1 [0.3]	-8.9 [2.2]
by naturalization	-0.1 [0.1]	-11.4 [2.5]	9.6 [5.0]	0.9 [0.6]	-2.4 [0.3]	3.5 [1.0]	1.7 [0.8]	-2.5 [0.1]	10.1 [2.0]	-0.2 [0.1]	23.2 [2.5]	7.7 [1.7]
not a citizen	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
F. Years in US (1) if												
6-10 years	4.6 [6.2]	3.1 [0.2]	14.1 [5.0]	6.7 [4.9]	17.6 [2.1]	17.6 [4.9]						
11-15 years	7.5 [6.2]	15.2 [1.3]	21.3 [9.6]	13.4 [9.1]	29.5 [3.0]	31.7 [6.8]	-1.4 [0.5]	36.3 [0.9]	-0.9 [0.1]	4.9 [1.1]	92.3 [1.1]	12.7 [0.8]
16-25 years	9.9 [11.8]	16.6 [1.0]	25.4 [7.3]	17.5 [13.1]	37.4 [3.2]	39.1 [8.3]	1.4 [0.5]	49.8 [1.2]	10.5 [1.3]	14.4 [4.5]	11.2 [0.1]	18.8 [1.3]
>25 years	12.9 [13.6]	8.0 [0.5]	27.2 [6.2]	20.2 [8.5]	58.7 [4.8]	46.5 [9.5]	1.0 [0.2]	68.4 [1.9]	20.3 [2.3]	17.6 [5.3]	40.5 [0.5]	46.4 [3.1]

Table 4: Migrant characteristics that predict ln(hourly earnings): Females age 25-64 at interview
 Roles of country of birth, race, human capital, citizenship and age at arrival in US

Race and gender: Age arrive in US:	All females (control HC)		Blacks		Whites/Asians	
			≥18	<18	≥18	<18
	[1]	[2]	[3]	[4]	[5]	[6]
A. (1) if country of birth is						
South Africa+Zimbabwe	25.94 [6.5]	14.63 [4.1]	4.05 [0.7]	-1.34 [0.1]	20.30 [5.0]	9.06 [1.0]
Nigeria	27.83 [10.8]	10.76 [5.3]	11.87 [6.0]	-4.19 [1.2]		
East Africa	14.68 [3.6]	4.58 [1.4]	4.29 [1.4]	-3.14 [0.6]	1.88 [0.3]	10.75 [1.4]
Ghana	9.69 [3.9]	7.56 [3.9]	7.96 [4.5]	-8.05 [2.3]		
Senegal+Cameroons	18.46 [2.8]	6.13 [1.6]	5.74 [1.2]	15.38 [2.6]		
Liberia	1.81 [0.7]	0.85 [0.4]	-1.16 [0.6]	-2.01 [0.5]		
Egypt	11.84 [2.4]	0.89 [0.2]	-0.93 [0.4]	0.09 [0.0]	2.82 [0.7]	11.33 [1.7]
Ethiopia+Eritrea	-1.82 [0.5]	0.54 [0.3]	-3.67 [1.9]	8.72 [1.3]		
Cape Verde	-11.52 [4.2]	-0.98 [0.5]	-2.21 [1.0]	-5.51 [1.3]		
Algeria+Morocco	3.62 [0.6]	2.08 [0.5]	0.71 [0.2]	1.15 [0.1]	1.01 [0.2]	13.79 [2.1]
Sudan+Somalia	-12.21 [2.8]	-4.20 [1.9]	-5.95 [3.0]	-7.99 [1.3]		
Other African countries	Ref	Ref	Ref	Ref	Ref	Ref
B. (1) if race is						
Asian	9.64 [1.7]	3.58 [0.8]			4.11 [1.0]	14.05 [2.5]
white	7.63 [1.5]	0.56 [0.1]			Ref	Ref
black	Ref	Ref				
C. A80Education (1) if						
less than college		Ref	Ref	Ref	Ref	Ref
some college		[3.0]	[1.9]	[3.2]	[0.1]	[0.2]
completed college		-1.43	-1.56	4.57	-5.11	-18.33
post college		36.82 [14.7]	35.40 [11.7]	47.95 [11.7]	32.20 [14.1]	42.93 [8.5]
educated in US		62.62 [21.8]	54.01 [13.3]	74.69 [11.7]	70.58 [19.6]	66.73 [12.3]
not educated in US		1.92 [0.7]	3.38 [1.3]	1.52 [0.3]	-6.81 [1.0]	20.98 [2.1]
		Ref	Ref	Ref	Ref	Ref
D. (1) speaks English						
at home		16.39 [4.7]	10.30 [3.4]	43.04 [3.5]	30.54 [7.4]	-15.08 [1.0]
very well (but not at home)		15.26 [4.3]	11.78 [3.1]	41.41 [3.4]	28.09 [5.3]	-23.68 [1.7]
well (but not at home)		3.60 [1.4]	1.51 [0.5]	29.58 [2.4]	9.81 [1.9]	-31.59 [2.0]
not well, not at home		Ref	Ref	Ref	Ref	Ref

Table 4 (continued): Migrant characteristics that predict ln(hourly earnings): Females age 25-64 at interview
 Roles of country of birth, race, human capital, citizenship and age at arrival in US

Sample Age arrived in US Covariates	All females (control HC)		Blacks		Whites/Asians	
	[1]	[2]	≥18 [3]	<18 [4]	≥18 [5]	<18 [6]
E. (1) if US citizen by birth		6.78 [1.6]	11.36 [2.8]	-3.91 [0.4]	2.07 [0.3]	9.43 [0.7]
by naturalization		7.94 [4.3]	7.41 [3.4]	5.99 [1.0]	8.82 [2.9]	7.36 [1.0]
not a citizen		Ref	Ref	Ref	Ref	Ref
F. (1) if years in US						
0-5 (or 0-10) years	Ref	Ref	Ref	Ref	Ref	Ref
6-10 years	19.82 [9.5]	14.4 [4.9]	14.7 [4.7]		15.4 [3.4]	
11-15 years	33.55 [18.1]	21.4 [6.9]	23.1 [6.5]	9.8 [0.9]	19.0 [3.9]	-11.7 [0.9]
16-25 years	43.36 [14.9]	27.2 [9.5]	30.5 [12.8]	15.2 [1.6]	23.8 [3.4]	-2.6 [0.1]
>25 years	60.30 [13.6]	34.2 [11.3]	34.6 [10.3]	30.2 [3.1]	25.2 [3.1]	12.9 [0.7]
Sample size	24,965	24,965	15,468	2,225	5,089	2,183
R ²	0.10	0.20	0.20	0.20	0.20	0.20

Notes: Dependent variable is logarithm of annual earnings/annual hours of work in 2010 dollars.

All models also include indicator variables for year of survey, years in United States and age of respondent at arrival.

Models [2] through [6] also include state of residence in U.S. at time of survey to adjust for price variation across U.S.

All variance-covariance matrices take into account clustering at the level of birth of country and are robust to heteroskedasticity of arbitrary form. Standard errors are in brackets below OLS coefficient estimates.

All estimates are weighted by sampling weights.

Appendix Table 1: Description of Africans in America: By gender, race and age moved to the U.S.

Race	Males		Females		Males		Females		Race	
	All	All	Black	White/Asian	Black	White/Asian	Black	White/Asian	Black	White/Asian
Age arrived in US			≥18	<18	≥18	<18	≥18	<18	≥18	<18
A. Marriage and children										
% currently married	64.4	63.2	63.2	40.4	75.3	63.3	60.4	42.8	79.0	66.7
% formerly married	13.2	18.8	14.7	11.9	10.0	11.8	21.3	16.7	13.4	16.0
% w/ coresident child age<6							28.5	29.3	22.8	22.3
B. Age, age arrived in US										
Age @ survey	41.3	40.4	41.3	33.8	43.7	40.7	40.0	34.0	43.9	40.9
Age arrive in US	27.0	26.5	29.5	11.5	29.7	7.8	29.6	11.7	29.9	7.6
% arrived in US age 0-4	3.4	4.1		13.9		39.2		13.3		40.2
age 5-9	2.4	2.9		16.4		20.1		16.3		19.8
age 10-14	3.2	4.1		28.2		20.0		29.7		21.2
age 15-19	9.2	10.5	5.9	41.6	5.1	20.7	6.9	40.7	5.8	18.8
age 20-24	21.4	20.4	25.3		22.6		24.6		23.4	
age 25-29	23.8	23.4	26.6		29.7		28.0		27.4	
age 30-34	16.4	15.2	18.6		19.7		17.7		19.3	
age 35-39	9.7	8.7	11.5		10.4		10.0		11.4	
age 40-49	8.3	7.5	9.4		10.1		8.8		9.6	
age >50	2.30	3.22	2.74		2.39		4.07		3.12	
C. Years in US										
% respondents who have lived in US										
0-5 years (0-10 years if arriv<18)	23.9	23.5	28.8	9.3	23.7	2.6	31.9	7.6	24.5	1.5
6-10 years	22.5	16.0	26.5		20.7		28.9		21.4	
11-15 years	15.9	19.7	16.0	20.9	17.1	5.5	16.7	21.2	15.7	4.5
16-25 years	21.5	15.6	19.1	37.1	23.9	19.8	16.2	38.2	22.5	20.2
>25 years	16.2	0.2	9.6	32.8	14.7	72.1	6.3	32.9	16.0	73.8
D. Survey year										
ACS 2000 round	5.9	5.4	5.3	4.9	8.0	6.0	5.2	5.5	6.2	5.1
2001 round	6.6	6.5	6.5	3.6	7.3	7.7	6.1	5.2	7.7	8.1
2002 round	7.1	6.4	7.2	5.8	6.9	8.5	6.2	4.8	7.2	8.2
2003 round	7.0	6.8	6.8	5.1	7.6	7.9	6.5	5.0	8.0	8.7
2004 round	8.0	7.6	8.1	6.9	8.5	6.6	7.4	8.8	7.4	9.1
2005 round	8.1	8.0	7.8	8.2	9.0	8.2	8.1	5.8	9.0	7.7
2006 round	8.5	8.8	8.6	8.4	8.4	8.4	9.1	8.4	8.8	7.4
2007 round	9.2	9.1	9.5	8.8	8.8	9.0	9.2	7.9	9.5	8.8
2008 round	9.2	9.4	9.3	10.9	8.7	8.5	9.8	9.6	8.8	7.9
2009 round	9.6	9.9	9.6	12.4	8.8	9.1	10.1	12.2	9.1	8.1
2010 round	10.0	10.7	10.2	11.8	8.8	9.9	11.1	13.2	8.8	10.4
2011 round	10.6	11.2	10.9	13.2	9.2	10.2	11.4	13.7	9.6	10.5

Source: 2000-2011 American Community Survey public use micro samples. Sample size is not weighted; all estimates are weighted.