Interpersonal Diversity, Inequality and Entrepreneurial Motivation: Evidence from US Second-Generation Immigrants*

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Abstract

This article examines how ancestral diversity, shaped by prehistoric "out-of-Africa" migration, influences the likelihood of becoming an entrepreneur, arguing that greater interpersonal diversity in societies that settled closer to Africa affects the propensity of individuals to stand out and engage in potentially successful entrepreneurial activities. Using the epidemiological approach, we combine data on second-generation US-born Americans from the Current Population Survey with measures of ancestral distance from Africa. Our results confirm our hypothesis and show that an increase of 10,000 km in distance from Africa decreases the probability of becoming an entrepreneur by 0.4% on average. Furthermore, other characteristics of countries of origin do not reduce the role of interpersonal diversity in driving entrepreneurial choices.

JEL classification: J24; L26; Z13.

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1 Introduction

Entrepreneurship and business formation are major drivers of innovation and economic growth (Schumpeter, 1934; Glaeser et al., 2010, 2015). In the US, immigrants and second-generation Americans play a crucial role in fostering business dynamism (Kerr and Kerr, 2020; Azoulay et al., 2022). However, there remains a limited understanding of the variation in entrepreneurial levels between individuals based on their ancestral background. Specifically, why does inherited ancestral culture influence an individual's likelihood of becoming an entrepreneur, and to what extent?

In this paper, we advance and empirically test the hypothesis that the variation in entrepreneurial propensity among individuals with different ancestral origins reflects interpersonal diversity shaped by the historical migration of the *Homo sapiens* out of Africa. Consistent with the "out-of-Africa" hypothesis, populations that settled closer to Africa during the Neolithic revolution exhibit higher levels of interpersonal diversity due to the "serial founder effect" (Ramachandran et al., 2005; Atkinson, 2011; Ashraf and Galor, 2013). In turn, greater interpersonal diversity increases the dispersion in productive traits, which triggers social comparison and enhances the individual disposition to stand out and attain higher socio-economic status. Since entrepreneurship is widely regarded as a means of upward social mobility (McClelland, 1961; McClelland and Burnham, 1976; Johnson, 1990), we argue that interpersonal diversity increases the likelihood of becoming an entrepreneur through social comparison effects.

To examine the role of migration out of Africa in the individual's decision to be a self-entrepreneur, we use data from the Current Population Survey (CPS) for the period 1994-2019, focusing on second-generation Americans. To identify the effect of the out-of-Africa hypothesis, we adopt the epidemiological approach popularized by Fernández and Fogli (2009) and Fernández (2011). Specifically, we focus on individuals born in the US and, hence, exposed to the same institutional background but with a non-US ancestry determined by their parents' country of origin. This approach allows us to disentangle the impact of ancestral cultural characteristics from the local environment in which individuals were raised (Fernández and Fogli, 2009; Fernández, 2011). Moreover, the richness of our data allows us to control for a range of individual demographic variables, such as sex, age, race, marital status, and education.

Using second-generation Americans in lieu of first-generation immigrants reduces the selection bias in migration, which may arise from country-specific and individual characteristics influencing individuals' decisions to migrate. In fact, there has been mounting evidence that migrants engage in risky entrepreneurial activities at higher rates than natives (Chodavadia et al., 2024). Per micro-data from the US, the share of self-employed immigrants has varied between 21% and 31% in the last years (Fairlie, 2014, 2024). Fur-

thermore, by focusing on individuals born in a single destination country, we mitigate potential biases from place-specific factors affecting entrepreneurship. Historical waves of migration to the US have created a rich cultural landscape that allows for a comprehensive analysis of different cultural characteristics across the US (Abramitzky and Boustan, 2017; Abramitzky et al., 2021, 2014). We account for such differences by incorporating area-by-wave fixed effects.

Following prior literature (Levine and Rubinstein, 2017; Chanda and Unel, 2021; Kleinhempel et al., 2023), we measure entrepreneurship using self-employment status. Precisely, the CPS distinguishes between wage-earners and self-employers. Although this measure does not disentangle entrepreneurial ventures in terms of growth potential, industry of operation, or organizational strategies, we differentiate between incorporated and unincorporated self-employed individuals. As Levine and Rubinstein (2017) highlights, incorporated businesses are more likely to reflect high-skill, high-reward entrepreneurship. Consequently, we define our primary entrepreneurship measure as a binary variable indicating whether an individual is an (incorporated) entrepreneur.

We find that the migratory distance from Africa has a negative and statistically significant effect on the likelihood of being an entrepreneur. Precisely, we estimate that an increase of 10,000 km in the distance from Africa reduces the probability of entrepreneurship by 0.4% on average. Our identification rests on the assumption that interpersonal diversity is transmitted across generations (Bisin and Verdier, 2001). However, further cultural, institutional, and geographic factors varying across countries of origin may influence entrepreneurial decisions. Among others, the literature acknowledges the role of risk-taking (Chanda and Unel, 2021), entrepreneurial culture (Kleinhempel et al., 2023), social capital and trust (Kwon et al., 2013), and individualism vs. collectivist orientation (Assmann and Ehrl, 2021). As a result, we conduct robustness checks that account for these factors. Our specifications also control for an array of geographic, agricultural, historical, and institutional variables that may shape long-term economic development and, indirectly, entrepreneurship. Additionally, our results remain robust to potential confounding factors, including country-of-origin characteristics related to social preferences, ethnic fractionalization, genetic diversity, religious composition, and agricultural potential, as well as a range of sample selections. Yet, the negative and statistically significant effect of ancestral diversity on entrepreneurship persists.

In the next step, we extend our baseline analysis by further testing the robustness of our theoretical assumptions. Using data from the American Community Survey (ACS) for the period between 1970 and 2020, we analyze whether the probability of becoming an entrepreneur can be determined by the inequality within the demographic cluster based on the country of origin, age group, gender, and education group. Our results confirm that greater income inequality within the demographic cluster determined by greater interpersonal

diversity, and hence lower migratory distances, leads to an increase in the probability of engagement in entrepreneurship.

Our paper relates two strands of literature. First, we add to the extensive literature studying the determinants of the likelihood of being an entrepreneur (Levine and Rubinstein, 2017; Kerr et al., 2018; Chanda and Unel, 2021; Hegde and Tumlinson, 2021; Kleinhempel et al., 2023). Results from these studies show that educational background, family income, and culture of origin are major drivers of the likelihood of becoming an entrepreneur. We contribute to it by proposing the role of interpersonal diversity that increases the dispersion in economic outcomes (wages, occupation, and education categories), thereby triggering social comparison.

Second, we contribute to the literature on cultural persistence (Alesina et al., 2013; Alesina and Giuliano, 2015; Giuliano and Nunn, 2021), demonstrating that the decision to become an entrepreneur has deep historical roots. Specifically, we build on Galor et al. (2023b), who touch upon the "entrepreneurial spirit" as one of the mediating channels of the relationship between ancestral diversity and current income inequality among Americans with non-US ancestry. We contribute to the literature by providing a novel conceptual background and robust estimates of the impact of the migratory distance on entrepreneurship. Lastly, differently from Galor et al. (2023b), we measure historical migration by looking at the parents' country of origin, information included in the CPS data. This choice is less sensitive to selection and non-response biases of the Census' ancestry measure (Bertoli et al., 2024).

The rest of the paper is structured as follows. The following section presents the theoretical background and outlines our hypothesis. Section 3 describes the data and estimation strategy. Section 4 discusses the results and extensions. Finally, Section 5 concludes.

2 Conceptual Framework

The relevance of entrepreneurship and new business formation as drivers of innovation and economic growth has shifted the attention of economists and policymakers toward understanding its determinants (Guzman and Stern, 2020). Efforts to understand the drivers of entrepreneurship include analyses of diversity and creativity (Lee et al., 2004; Rodríguez-Pose and Hardy, 2015), individuals' demographics (Glaeser and Kerr, 2009), knowledge spillovers generating spatial concentration and clustering of innovation (Acs et al., 2013; Chatterji et al., 2014) and historical factors such as entrepreneurial culture and industry structure (Glaeser et al., 2015; Fritsch and Wyrwich, 2017, 2018). However, research on the factors influencing the individual's decision to become an entrepreneur remains scarce.[1] Particularly, the cultural factors operating through the individuals' ancestry are little understood (Kerr et al., 2018; Chanda and Unel, 2021).

[1] See Shane et al. (2003) for an earlier overview of the motivational factors influencing entrepreneurial propensity.

Thus far, research links cultural values and current individual socio-economic outcomes through the intergenerational transmission of beliefs and preferences by using the so-called epidemiological approach (Fernández and Fogli, 2009; Fernández, 2011). This stream of research rests on the evidence that individuals around the world are characterized by different sets of beliefs, values, and cultural traits, which are, to some extent, socially transmitted through generations (Bisin and Verdier, 2001; Alesina et al., 2013; Giuliano and Nunn, 2021). Models of cultural transmission emphasize that culture evolves with stickiness and is influenced by historical processes that can have persistent effects on current outcomes (Boyd and Richerson, 1985; Rogers, 1988).

The epidemiological approach focuses on the analysis of individuals who are born and raised in the same institutional environment but who differ in their cultural background, which is determined by their parents' country of origin. Hence, focusing on second-generation immigrants rather than first-generation immigrants is less subject to endogeneity concerns, which stem from self-selection, institutional and language barriers, and social discrimination.[2]

In this article, we link ancestral diversity shaped by the prehistoric out-of-Africa migration to the propensity to engage in entrepreneurial activity. The exodus of the Homo Sapiens out of Africa represents a fundamental chapter in human history. The evidence shows that societies that settled farther away from the cradle of humankind in East Africa are characterized by lower diversity (Ashraf and Galor, 2013; Galor et al., 2023b) due to the so-called "serial founder effect" (Atkinson, 2011; Ramachandran et al., 2005). Indeed, the societies that settled far from Africa developed through rapid movements and long periods of settlement, where each wave was characterized by the migration of a smaller proportion of the large population living close to Africa. According to population genetics studies, individuals' genetic diversity decreases as the distance from the larger population increases (Ramachandran et al., 2005; Betti et al., 2009; Atkinson, 2011). Diversity induced by the out-of-Africa migration has been shown to affect modern countries' economic development (Ashraf and Galor, 2013), economic inequality (Galor et al., 2023b), and cultural diversity (Galor et al., 2023a).

We argue that greater interpersonal diversity can positively affect entry into entrepreneurship. Following Galor et al. (2023b), greater interpersonal diversity is conducive to a greater dispersion in economic outcomes, such as wages, skills, and productive traits. In turn, such a dispersion in economic traits can trigger social comparison effects. It is well-known that social interactions and embeddedness of individuals within a society influence their behaviors and attitudes (Festinger, 1954; Turner, 1975). According to the social comparison

[2]For example, migration always entails a high degree of uncertainty. Therefore, first-generation migrants show personality traits associated with higher risk tolerance and need for achievement compared to the destination country's native population (Vandor, 2021).

theory, individuals use other individuals' outcomes as a benchmark to set their goals and aspirations. Thus, a higher differentiation in inherited productive traits and socioeconomic outcomes could lead to an upward drive to reach a better socio-economic status.[3] This human behavior is consistent with the insights from the Prospect Theory elaborated by Kahneman and Tversky (1979), according to which individuals perceive the risk of losses more than how much they value the gains from success. Therefore, the higher the discrepancy from their peers, the higher the individual's aspiration to stand out and devote effort to achieve a higher socio-economic status. Additionally, human beings shift their risk preferences towards higher levels of risk when they experience unequal treatment and face the need to overcome the discrepancy between the desired and achieved outcome (Mishra et al., 2015; Payne et al., 2017; Pickard et al., 2024). Thus, according to this strand of literature, risk-averse individuals become more inclined to take higher risks in situations where their current status differs from their desired outcome.

Entrepreneurship has long been seen as both a risky activity and an opportunity to increase an individual's socio-economic status. First, the decision to undertake a new venture, analogously to the innovation process, involves substantial degrees of risk, which border on Knightian uncertainty (Cramer et al., 2002; Skriabikova et al., 2014; Chanda and Unel, 2021). Second, entrepreneurship is often viewed as a medium for individuals to fulfill their need for achievement and improve their position within society. McClelland (1961) identifies three needs that determine human behavior: power, achievement, and affiliation. Specifically, the key determinant of entrepreneurial propensity is not the monetary reward per se but rather the need for achievement. Thus, individuals possessing these traits are more willing to undertake entrepreneurial ventures because these activities involve more opportunities to exercise autonomy, take risks, and realize personal goals (McClelland, 1961, 1965). Meta-analysis studies by Rauch and Frese (2007) and Collins et al. (2004) reach the conclusion that the need for achievement is a robust predictor of entrepreneurial behavior.

Furthermore, the desire for social recognition, linked to McClelland's framework, has also been explored in studies examining the role of social comparison in entrepreneurial motivation. For instance, Schmitt-Rodermund (2004) find that entrepreneurial activity is often driven by the aspiration to stand out and gain prestige, particularly in competitive and diverse social environments. Diverse social settings amplify these dynamics by providing a broader range of benchmarks against which individuals evaluate their own performance and aspirations. As highlighted by Baum et al. (2001), such settings stimulate the pursuit of innovation and differentiation, reinforcing McClelland's argument that the visibility of successful role models creates a fertile ground for entrepreneurial activity. These findings highlight the interaction between intrinsic motiva-

[3] Besides the first-order effects of cultural persistence on socio-economic outcomes, existing literature also highlights the impact on political outcomes. For instance, Cantoni et al. (2019) link the success of contemporary right-wing political ideology to cultural persistence. The authors show a positive link between historical support for the Nazi Party in 1933 and a stronger voter base for the current right-wing party in Germany.

tion and contextual factors, where diversity and competition act as catalysts for entrepreneurial behavior.

Consequently, the following sections empirically test our main hypothesis that the propensity to select into self-entrepreneurship is positively associated with a higher interpersonal diversity, as measured by the ancestral migratory distance from Africa.

3 Data and Empirical Strategy

This section first describes the data, discussing the sample of second-generation Americans and the country variables. Next, it presents the estimation strategy.

3.1 Data

Individual data The main sample is composed of individual data sourced from the Annual Social and Economic (ASEC) files of the Current Population Survey (CPS). These data are publicly available and extracted via Integrated Public Use Micro Samples (IPUMS) (Flood et al., 2024). The CPS first recorded data on parents' country of origin in 1994. Hence, we use all the waves from 1994 to 2019. Our sample includes 51,164 second-generation, US-born individuals with a father born outside the US. ASEC data includes information on individuals' gender, age, marital status, educational attainment, work status, and occupation. Our main sample includes non-agricultural workers between 20 and 64 years. Following previous literature (Chanda and Unel, 2021), we impose the restriction that both parents must originate from the same country. Furthermore, we restrict the sample to all non-US source countries with at least 25 observations.[4]

We define an entrepreneur as a self-employed individual. Levine and Rubinstein (2017) and Chanda and Unel (2021) argue that incorporated entrepreneurship is a better proxy of entrepreneurship since these individuals are more educated and have higher earnings. Thus, we restrict our primary sample of analysis to individuals being self-employed incorporated.

In the next step, we cross-validate our analysis using Census data from the American Community Survey (ACS). We use the repeated cross-section ACS data from 1980, 1990, 2000, 2010, and 2020. Our sample consists of second-generation immigrants born. Based on the self-reported primary ancestry ("ancestr1d" detailed ancestry), we attribute the corresponding modern geographic boundaries. We provide a detailed explanation of this approach in Appendix B. Next, we narrow our analysis to include only individuals with non-US ancestry. In subsequent steps, we apply the same sample restrictions as for the CPS data, except that we retain only individuals working at least one hour, given data peculiarity for the first years of analysis.

[4] In Appendix A, we show that our results are robust to alternative sample restrictions.

Country-level data We collect country-level data from several sources.[5] Our main explanatory variable is the migratory distance of ancestral populations from East Africa (Addis Ababa) as a proxy for ancestral diversity (Ashraf and Galor, 2013). To aggregate this measure at the source country, we use a weighted average diversity where the weights are the share of a given ancestral society that corresponds to the current geographic boundaries of the country from Ashraf and Galor (2013). Additional information on geographic characteristics of the country of ancestry, such as absolute latitude, terrain roughness, mean elevation, and religious composition, as well as ethnic fractionalization and observed genetic diversity, is obtained from Ashraf and Galor (2013).

We also consider information from the Global Preference Survey (Falk et al., 2018, 2023) on the country level of risk preference, trust, and patience. From Hofstede et al. (2010), we use information on individualism, uncertainty avoidance, and country-specific long-term orientation indices. The Caloric Suitability data from Galor and Özak (2016) provides information on crops available for cultivation before and after 1500 CE to control for the agricultural potential of the country of origin. Finally, we use data on historical conflicts from Miller and Bakar (2023) and compute an aggregate measure of conflicts since 1468 BC at the country level.

3.2 Econometric model

We investigate the impact of ancestral diversity on entrepreneurship by estimating the following linear probability model:

$$Entrep_{iact} = \beta_0 + \beta_1 Distance_c + \mathbf{X}'_{iact}\beta_2 + \mathbf{Z}'_c\beta_3 + \mu_{at} + \epsilon_{iact} \tag{1}$$

where $Entrep_{iact}$ is a dummy variable that equals one if an individual i, living in area a, whose parents are from country c and observed in wave t is a self-entrepreneur (i.e., incorporated self-employed), and zero otherwise. $Distance_c$ is the ancestral interpersonal diversity defined by the ancestral migratory distance from East Africa measured in 10,000 km. The term $\mathbf{X}'_{iact}$ indicates a vector of control variables capturing socio-demographic characteristics, which include a dummy for gender (i.e., whether the individual is a female), age and age squared, a dummy for whether the individual is married, three race dummies (Black, Asian and others) and three education dummies (high school, some college, college and above). The term $\mathbf{Z}'_c$ is a vector of time-invariant country of origin's characteristics, which include continental dummies, the absolute latitude, average elevation, and roughness of the terrain. In further specifications, we extend the list of covariates. Finally, to control for year-specific area confounding factors, Eq. (1) also include μ_{at}, which represents a set

[5] See Appendix B for detailed information on our data sources.

of area-by-wave fixed effect, while ϵ_{iact} is the idiosyncratic error term.[6]

Table A2 in Appendix A provides summary statistics for the variables used in our analysis.

4 Results

This section presents the results of the empirical analysis. Section 4.1 reports and discusses the highly significant and robust reduced-form causal influence of the migratory distance from Africa on the individual's propensity to engage in entrepreneurship. Section 4.2 investigates the robustness of our results to alternative samples and confounding factors. Finally, section 4.3 provides an extensive analysis of the theoretical mechanisms provided in the previous section.

4.1 Main results

Table 1 reports the results of the effect of the migratory distance from Africa on the likelihood of being an incorporated entrepreneur among second-generation Americans. All specifications presented in Table 1 report standard errors clustered at the country of origin. In the interest of clarity, we show only the estimated coefficient of the migratory distance from Africa (labeled "Ancestral diversity" in Table 1). Column (1) displays the bivariate relationship between entrepreneurship and the migratory distance from Africa. The estimate for the migratory distance from Africa is negative and statistically significant ($p < 0.01$). In columns (2)-(5), we extend the baseline regression estimation with fixed effects and control variables. Column (2) includes US state-by-year fixed effects to control for area- and year-specific shocks. The estimate for the distance remains similar in magnitude and statistically significant ($p < 0.01$). In Column (3), we add continental fixed effects (Africa, Asia, Europe, and Oceania, with the Americas as the omitted variable). While the detailed results are not reported in Table 1 but are available upon request, the coefficients for Africa and Asia are negative and statistically significant. The Europe and Oceania dummies are not statistically significant at standard confidence levels. The estimate for the migratory distance is larger in magnitude and statistically significant ($p < 0.01$). Column (4) adds individual control variables, which include a dummy for gender, age (quadratic), dummy for marital status, race dummies, and education dummies. While not reported, the estimates for the individual controls suggest that female and Asian dummies exert a negative and statistically significant effect, age has an inverted U-shaped effect, while holding a college degree or a postgraduate degree has a strong positive and statistically significant impact on entrepreneurial entry. These estimates align with studies showing a positive effect of education on entrepreneurship (Ahn and Winters, 2023) and a gender gap in entrepreneurial entry

[6] We use state-by-year fixed effects as a benchmark in the main specifications. We include county-by-year fixed effects in robustness checks. The results remain similar.

(Guzman and Kacperczyk, 2019). Nonetheless, the coefficient on the migratory distance remains similar in magnitude, and the estimates are statistically significant ($p < 0.01$).

Table 1. Migratory distance from Africa and entrepreneurship: Baseline results

	(1)	(2)	(3)	(4)	(5)
Ancestral Diversity	-0.003***	-0.003***	-0.005***	-0.004***	-0.004***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
State-Year FE	-	Yes	Yes	Yes	Yes
Continental dummies	-	-	Yes	Yes	Yes
Individual controls	-	-	-	Yes	Yes
Geographic controls	-	-	-	-	Yes
Observations	51,164	51,164	51,164	51,164	51,164
R-squared	0.011	0.049	0.051	0.065	0.065

Notes. The estimation model is a linear probability model (OLS). The dependent variable is an indicator variable that equals one if an individual is an entrepreneur (incorporated self-employed). Individual controls include female, age (quadratic), married, high school (or equivalent), some college (no degree), graduate, postgraduate, Black, Asian, and other Race. Geographic controls include absolute latitude, terrain roughness, and mean elevation. Standard errors clustered at the country of origin level are presented in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Finally, column (5) reports the full specifications' results when we include geographic controls (absolute latitude, average elevation, and terrain roughness). Regardless of including all these control variables, the migratory distance from East Africa exerts a negative and statistically significant effect on the likelihood of being an incorporated self-entrepreneur. In terms of magnitude, the coefficient of the complete specification reported in column (5) indicates that an increase in the distance from East Africa of 10,000 km reduces the likelihood that an individual is an entrepreneur by 0.4%.

4.2 Robustness checks

4.2.1 Robustness to other country of origin's variables

The economic literature identifies a wide array of cultural traits, geographic characteristics, and institutional variables that can affect current socio-economic outcomes. Therefore, there may be omitted variables in our analysis that are correlated with the ancestral migration out of Africa and current entrepreneurial propensity. To rule out this possibility, we use the most conservative formulation of our estimation analysis from Table 1, column (5), and test the robustness of our results to the inclusion of potential confounding factors. Table 2 summarizes the results.

First, the economic literature has identified a strong association between risk attitudes and entrepreneurship (Chanda and Unel, 2021; Jonsson and Ouyang, 2023). Countries with higher risk tolerance levels are more likely to be more entrepreneurial. To rule out the hypothesis that the effect of ancestral diversity is

Table 2. Migratory distance and entrepreneurship: Robustness to inclusion of country of origin's characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ancestral Diversity	-0.005***	-0.004***	-0.004***	-0.005***	-0.003**	-0.004***	-0.004***	-0.002**	-0.005***
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Observations	42,758	40,499	42,758	43,097	51,048	51,105	51,105	51,014	50,957
R-squared	0.071	0.074	0.071	0.071	0.065	0.065	0.065	0.066	0.065

Notes. The estimation model is a linear probability model (OLS). The dependent variable is an indicator variable that equals one if an individual is an entrepreneur (incorporated self-employed). Columns (1) - (9) consider state-by-year fixed effects and the same control variables used in column (5), Table 1. Standard errors clustered at the country of origin level are presented in parentheses. Columns contain the following additional control variables:(1) risk-taking; (2) trust; (3) patience; (4) individualism index, uncertainty avoidance index, long-term orientation index; (5) observed genetic diversity; (6) crop yield, avg. Calories (Bkcal) per ha/yr, dummy island (7) ethnic fractionalization (8) share Protestants, share Catholics, share Muslims; (9) historical conflicts. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

mediated by the willingness to take risks in the country of ancestry, we include a measure of risk-taking from Falk et al. (2023) and show the results in column (1). Since risk-taking is only available for a subset of countries, the number of observations is reduced to 42,758. Interestingly, the coefficient on risk-taking is positive but statistically insignificant, while the coefficient on ancestral diversity is similar in magnitude to the benchmark specification and statistically significant at the 1% level.

Patience and trust are two other social preferences that may have been shaped by the migratory distance from Africa, as a greater level of interpersonal diversity would increase dispersion in productive traits, affecting inter-temporal preferences within societies. Moreover, trust is persistent through generations and might favor entrepreneurship by improving social relationships and enforcing property rights and transactions (Guiso et al., 2004). On the other hand, variations in levels of patience, also known as long-term orientation, affect the inter-temporal preferences for investment returns (Lumpkin et al., 2010). Columns (2) and (3) show the estimates for ancestral diversity when we include the country of origin's levels of trust and patience, respectively. The coefficient of ancestral diversity remains negative and statistically significant ($p < 0.01$) in both columns (2) and (3). Trust has a negative coefficient and is statistically significant at the 10% level, while patience has a negative and statistically significant effect at 1% level.

Similarly, cultural traits such as individualism, uncertainty avoidance, and long-term orientation are potentially transmitted through generations and may confound the effect of ancestral diversity on entrepreneurship (Gorodnichenko and Roland, 2017). In column (4), we include corresponding values at the country of origin using variables from Hofstede et al. (2010). While the estimates for ancestral diversity remain unaffected, all of the above three measures do not display statistically significant estimates.

The migratory distance from Africa has been proven to determine the observed genetic diversity that, in turn, has a hump shape effect on long-term development (Ashraf and Galor, 2013). Then again, if genetic

diversity within a society fosters innovation, this may be linked to entrepreneurial entry. Thus, in column (5), we control for the predicted genetic diversity within a population. However, while the estimates for ancestral interpersonal diversity become lower in magnitude, they remain statistically significant at the 10% level. On the other hand, the estimates for genetic diversity are statistically significant ($p < 0.05$), but their signs indicate that genetic diversity has a convex-shaped effect on entrepreneurship.

Moreover, long-run geographic characteristics may be correlated with interpersonal diversity, and their impact on inequality may mask the effect of exogenous deep-rooted determinants. For example, ecological diversity might affect population diversity and, hence, entrepreneurship. At the same time, being landlocked may reduce the access to diverse populations. We account for these factors by including the Caloric Suitability Index, which equals the potential calories per year of the most productive crop Galor and Özak (2016), and a dummy for whether the ancestral group of a modern nation was located on an island. Only the dummy for the island yields a statistically significant coefficient at the 10% confidence level, and the sign is negative. However, the coefficient for ancestral diversity remains similar and highly statistically significant.

It has been shown that populations that settled farther from Africa are characterized by lower ethnic groups and a lower degree of ethnic fractionalization (Ashraf and Galor, 2013). Hence, the effect of ancestral diversity on entrepreneurship might run through cultural fragmentation rather than diversity in economic outcomes. Column (7) shows that the effect of ancestral diversity slightly reduces in magnitude but remains statistically significant ($p < 0.01$).[7] The coefficient on ethnic fractionalization is, instead, positive and statistically significant at the 5% level.

Next, the degree of interpersonal diversity may be linked to the diffusion of certain religious beliefs within the population, which, in turn, can influence entrepreneurship by instilling the virtues of hard work and patience. For example, Weber's thesis argues that Protestantism transmits virtues of commitment to work and capitalism spirit (Nunziata and Rocco, 2018). For these reasons, we add the shares of Protestant, Catholic, or Muslim populations in the country of origin. Column (8) shows that the coefficient of ancestral diversity reduces in magnitude but remains statistically significant at the 5% level. We find that the coefficient on the Protestant share is positive but insignificant, the Catholic share is negative and statistically significant, and the Muslim share is positive and statistically significant.

Finally, Arbatlı et al. (2020) argue that interpersonal population diversity determines intrasocietal conflicts. An increase in population diversity may reduce trust (Ashraf et al., 2021; Arbatlı et al., 2020), and this can directly affect the predisposition to conflicts. Thus, in column (9), we control for the aggregate number of historical conflicts taken from Miller and Bakar (2023). While the estimated coefficient on the number of con-

[7] The reduction in magnitude of the ancestral diversity is explained by the pairwise correlation of 0.68 between the two variables.

flicts is not statistically significant, the estimated coefficient of ancestral diversity remains almost unaltered compared to the benchmark specification and is highly statistically significant.

4.2.2 Robustness to sample selections

This section describes a battery of robustness checks related to sample composition, individual-level controls, and estimation methods.

We continue with the estimation specified in column (5) of Table 1 and summarize the results of tests that prove the robustness of our main results in Table 3. Column (1) reports the results when we restrict the sample to a smaller range of the population by considering individuals between the ages of 25 and 55. The sample size reduces to 37,182, but the estimated coefficient on ancestral diversity and its significance do not change substantially. Column (2) limits the analysis to individuals working full-time (35 or more hours per week). The estimated coefficient slightly reduces in magnitude but does not vary in terms of significance. In column (3), we consider only countries of origin with at least 50 observations in our sample. This restriction excludes 16 countries of origin without substantially changing the magnitude of the estimate of our main explanatory variable. Column (4) introduces additional individual-level variables. Precisely, we include an interaction between marital status and female, the number of hours worked last week, and a set of industry-by-year fixed effects, which account for industry-specific and year-specific productivity shocks. Again, the estimated coefficient on ancestral diversity remains similar and statistically significant at the 1% level. Finally, column (5) accounts for more granular place-specific unobserved factors by including county-by-year rather than state-by-year fixed effects. Nevertheless, the ancestral diversity estimate remains unchanged.

Table 3. Migratory distance and Entrepreneurship: Sample Constraints

	(1)	(2)	(3)	(4)	(5)
Ancestral Diversity	-0.005***	-0.004***	-0.004***	-0.004***	-0.005***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
State-Year FE	Yes	Yes	Yes	Yes	-
County-Year FE	-	-	-	-	Yes
Industry-Year FE	-	-	-	Yes	-
Individual controls	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes
Observations	37,182	39,799	50,504	50,094	47,882
R-squared	0.071	0.069	0.065	0.174	0.104

Notes. The estimation model is a linear probability model (OLS). The dependent variable is an indicator variable that equals one if an individual is an entrepreneur (incorporated self-employed). Standard errors clustered at the country of origin level are presented in parentheses. Columns contain the following additional constraints: (1) individuals between the ages of 25 and 55; (2) full-time employment; (3) all non-US countries with at least 50 observations; (4) additional individual control variables; (5) inclusion of county-by-year fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We examine the partial correlations between a list of control variables with the migratory distance from

Africa and the propensity of entrepreneurship in Table A3. The results prove the potential confounding bias that not controlling for the respective variables may induce. In subsequent Table A4, we summarize the results of the F-test of joint significance, where different controls separately and all together are highly significant in explaining the migratory distance from Africa and the propensity of entrepreneurship. This suggests that our model in column (5) Table 1 is correctly specified.

4.3 Inequality Results

In this section, we assess the plausibility of our theoretical assumptions. If interpersonal diversity, as migration distance decreases, is conducive to a greater dispersion in economic outcomes such as income inequality, then this will trigger comparison effects that positively affect the likelihood of engaging in entrepreneurial activities.

We use data from the American Community Survey (ACS) for the period between 1970 and 2020, where individuals provide information on their ancestry. According to Galor et al. (2023b), we attribute the ancestry of the individual to the corresponding modern borders of the country. Next, we employ the estimation strategy of the authors and compute demographic bins within our dataset based on the country of ancestry, sex (female and male), age group (20-29, 30-39, 40-49, 50-59, 60-69), and education group (high school or below, college, above college). As presented in the baseline analysis, a higher education degree has a positive impact on the probability of becoming an entrepreneur. Therefore, deriving the income inequality within a demographic bin based on education captures the true impact of interpersonal diversity on income inequality. Within each demographic bin, we determine the Gini coefficient of individuals' earned income. Thus, we hypothesize that greater income inequality within the demographic cluster, defined by greater interpersonal diversity and, thus, lower migratory distance to Africa, is a determinant of higher engagement in self-employment.

We instrument the income inequality within a demographic bin by the migratory distance out of Africa. As already mentioned by Galor et al. (2023b), the reverse causality is not a concern since income inequality registered today cannot affect ancestral diversity. Nonetheless, there are country-level confounders that could potentially influence the effect of instrumented income inequality on the probability of entrepreneurship. Table 4 summarizes our results.

The baseline estimation in column (1) Table 4 remains statistically significant after controlling for ancestral origin's continent fixed effects. However, the coefficient is noticeably larger in magnitude than the baseline analysis. Measurement errors are a possible explanation for this difference. In particular, the historical persistence of inequality may have gradually fostered more unequal societies, resulting in a downward bias in our OLS coefficient. To mitigate this concern, we next include geographic controls, in particular,

following Galor et al. (2023b), we consider the deep-rooted geographical determinants of societal diversity, such as absolute distance from the equator, ecological diversity, and geographical isolation. In the next steps, we consecutively control for ancestral ethnic fragmentation measured by the ethnic fractionalization (Alesina et al., 2003), country agricultural potential (Galor and Özak, 2016), and share of Protestants, Catholics, Muslims. Finally, the observed relationship between variables may reflect ancestral levels of inequality: class stratification and slavery from Ethnographic Atlas (Giuliano and Nunn, 2021). We derive the mean values in the country of origin by mapping ancestral data to modern geographic boundaries. The results prove robust.

Table 4. Migratory distance from Africa and entrepreneurship: Income inequality analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income Inequality	0.288***	0.881***	0.593***	0.539***	0.640***	0.526***	0.578**	0.565**
	(0.119)	(0.222)	(0.158)	(0.123)	(0.240)	(0.160)	(0.228)	(0.222)
	First stage results							
First stage results	-0.002***	-0.004***	-0.005***	-0.007***	-0.004***	-0.005***	-0.005***	-0.005***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Continent dummies	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	-	-	Yes	Yes	Yes	Yes	Yes	Yes
Ethnic fragmentation	-	-	-	Yes	-	-	-	-
Agricultural potential	-	-	-	-	Yes	-	-	-
Religion controls	-	-	-	-	-	Yes	-	-
Ancestral class stratification	-	-	-	-	-	-	Yes	-
Ancestral slavery	-	-	-	-	-	-	-	Yes
Demographic bins	2790	2790	2790	2771	2790	2747	2100	2100
First stage F-stat	39.614	18.686	28.911	44.352	12.718	23.211	15.639	16.226

Notes. The estimation model is an instrumental variable analysis (IV). The dependent variable is an indicator variable that equals one if an individual is an entrepreneur (incorporated self-employed). In the first stage of analysis, we regress the income inequality of migratory distance out of Africa. Income inequality is the Gini coefficient derived from the information on the income of an individual within a demographic bin defined based on the country of origin, sex, age group, and education group. Continental dummies include Africa, Europe, Asia, and Oceania. America is excluded due to collinearity. Geographic controls include absolute latitude, terrain ruggedness, elevation, caloric suitability, distance to the nearest waterway, and island nation dummy. Ethnic fragmentation is a measure of ethnic fractionalization (Alesina et al., 2003). Agricultural potential includes the measures of (caloric) crop yield. Religion controls include the share of Protestants, Catholics, and Muslims. Ancestral class stratification and ancestral slavery are means of values representative to the ethnic groups aggregated at the country level using information from the Ethnographic Atlas (Giuliano and Nunn, 2018). Sex, age group, and education group fixed effects in (1)-(6). Robust standard errors are presented in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5 Conclusion

This article analyzes the impact of ancestral diversity on the propensity of individuals to engage in entrepreneurial activity. Using individual-level data drawn from the Annual Social and Economic files of the Current Population Survey, conducted by the US Census Bureau for the Bureau of Labor Statistics publicly available at the Integrated Public Use Micro Samples (IPUMS) website (Falk et al., 2018) covering the period from 1994 to 2020, we presented new findings on the impact of interpersonal diversity on the probability of entrepreneurship entry.

Relying on previous literature, a simple theoretical framework provides intuition for linking interpersonal diversity to entrepreneurship propensity. In particular, cultural factors transmitted through the ancestry of individuals, which have been previously little analyzed, can positively affect entry into entrepreneurship. We argue that intergenerational transmission of diverse cultural characteristics influences differentiation in inherited productivity traits, risk preference, and needs for high achievements. Since these characteristics are specific to entrepreneurship, this, in turn, positively influences individuals' propensity to engage in self-employment activities.

Empirically, we confirm the hypothesis using a sample of second-generation US residents with different countries of ancestry based on the country of origin of their parents. This allows us to disentangle the impact of ancestral values and beliefs on entrepreneurship propensity. Using a variety of potential confounding variables, such as individual and geographic characteristics, we show that an increase of 10,000 km in distance from Africa increases the probability of becoming an entrepreneur by 0.4% on average. In addition, by controlling for a wide range of cultural, geographic, and institutional characteristics, we demonstrate the robustness of our results to the potential confounding factors that may influence current socio-economic outcomes.

Finally, in light of these findings, we identify several avenues for future research. First, further research should analyze the differences in entrepreneurship activities across and within different industries. Furthermore, the disentanglement of the relative cultural factors on the propensity to engage in entrepreneurship should be highly prioritized. Finally, proving the robustness of these results for different generations of migration waves could help us understand the persistence of our conclusions.

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Appendices

A Appendix: Additional Results

A.1 Tables

Table A1. Variable Description

Variable	Description
Panel A - Individual Data	
Entrepreneurship	Indicator variable that equals one if the individual is an incorporated self-entrepreneur
Female	Indicator variable that equals one if the individual is a female
Age	Age
Age^2	Age squared
Marital status	Indicator variable that equals one if the individual is married
High school (or equivalent)	Indicator variable that equals one if the individual has a high-school degree
Some college	Indicator variable that equals one if the individual has a high-school degree and some years of college
College degree	Indicator variable that equals one if the individual has a college degree
Postgraduate degree	Indicator variable that equals one if the individual has a postgraduate degree
Black	Indicator variable that equals one if the individual's self-reported race is black
Asian	Indicator variable that equals one if the individual's self-reported race is Asian
Other race	Indicator variable that equals one if the individual's self-reported race is anything else except White, Black or Asian
Panel B - Country Data	
Ancestral diversity	Migratory distance from East Africa in 1,000 km
Absolute latitude	Absolute latitude
Terrain roughness	Terrain roughness
Mean elevation	Mean elevation
Predicted genetic diversity	Observed genetic diversity
Ethnic fractionalization	Ethnic fractionalization
Share Protestants	Share of Protestants in the population
Share Catholics	Share of Roman Catholics in the population
Share Muslims	Share of Muslims in the population
Risk-taking	Risk preference measure from Falk et al. (2018)
Trust	Based on the question of whether they assume that other people only have the best intentions (Likert scale, 0-10)
Patience	Time preference measured by combining the responses of quantitative and qualitative survey measures
Individualism index	Individualism index with values between 0 := strongly collectivist and 100 := strongly individualist
Uncertainty avoidance index	Uncertainty avoidance index with values between 0 := weak and 100 := strong uncertainty avoidance
Long-term orientation index	Long term orientation index with values between 0 := very short and 100 := very long oriented
Crop Yield	Average crop yield (per hectare per year)
Avg. Calories (Bkcal) per ha/yr	Average caloric crop yield (Bkcal) (per hectare per year)
Island	Dummy island
Historical Conflicts	Aggregated number of conflicts at the modern country boundaries since 1468BC

Notes. This table provides details on the definition of all the variables used in the estimation model.

Table A2. Summary statistics

	mean	sd	p25	p50	p75	min	max	N
Entrepreneurship	0.028	0.165	0	0	0	0	1	51,164
Ancestral Diversity	15.214	6.113	10.003	19.290	19.290	0	26.771	51,164
Female	0.477	0.499	0	0	1	0	1	51,164
Age	34.923	11.326	26	32	42	20	64	51,164
Age^2	1,347.861	893.052	676	1,024	1,764	400	4,096	51,164
Marital status	0.465	0.499	0	0	1	0	1	51,164
High school (or equivalent)	0.260	0.438	0	0	1	0	1	51,164
Some college	0.222	0.415	0	0	0	0	1	51,164
College degree	0.225	0.417	0	0	0	0	1	51,164
Postgraduate degree	0.111	0.314	0	0	0	0	1	51,164
Black	0.045	0.208	0	0	0	0	1	51,164
Asian	0.156	0.363	0	0	0	0	1	51,164
Other race	0.047	0.212	0	0	0	0	1	51,164
Absolute latitude	27.090	13.183	20	20	35	2	62	51,164
Terrain roughness	0.238	0.091	0.214	0.244	0.287	0.021	1.209	51,164
Mean elevation	0.606	0.341	0.311	0.711	0.813	0.024	1.734	51,164
Risk-taking	-0.085	0.184	-0.139	-0.139	-0.044	-0.792	0.971	42,829
Trust	0.282	0.098	0.241	0.241	0.317	0.038	0.664	40,566
Patience	-0.002	0.261	-0.108	-0.108	0.099	-0.613	1.071	42,829
Individualism index	37.600	19.025	30	30	39	6	89	44,633
Long-term orientation index	35.135	20.312	24.181	24.181	37.783	3.526	100	44,899
Uncertainty avoidance index	71.457	20.804	55	82	82	13	112	44,578
Observed genetic diversity	0.652	0.037	0.634	0.634	0.634	0.552	0.770	51,164
Crop Yield	0.156	0.617	0.021	0.021	0.462	-2.351	3.270	51,164
Avg. Calories (Bkcal) per ha/yr	0.091	0.654	-0.142	-0.142	0.516	-2.088	2.865	51,164
Island	0.187	0.390	0	0	0	0	1	51,164
Ethnic fractionalization	0.408	0.199	0.198	0.542	0.542	0.002	0.850	51,164
Share Protestants	4.894	11.615	1.100	1.200	1.900	0	97.800	51,164
Share Catholics	69.945	36.366	36.200	94.700	94.700	0	96.900	51,164
Share Muslims	2.390	11.137	0	0	0.600	0	99.200	51,164
Historical Conflicts	148.220	131.817	56	151	151	1	533	51,164

Notes. This table presents the summary statistics for the main variables used in the analysis.

Table A3. Balancedness Analysis

	Ancestral Diversity		Entrepreneurship	
	Coefficient (1)	Std. Error (2)	Coefficient (3)	Std. Error (4)
Africa	-10.207***	(1.348)	0.002	(0.007)
Europe	-11.416***	(0.994)	0.043***	(0.006)
Asia	-6.510***	(1.191)	0.007	(0.006)
Oceania	2.134	(1.593)	-0.015***	(0.004)
America	11.830***	(0.841)	-0.030***	(0.005)
Female	0.330***	(0.125)	-0.025***	(0.008)
Age	-0.111***	(0.037)	0.002***	(0.000)
Age^2	-0.001***	(0.000)	0.000***	(0.000)
Marital status	-1.101**	(0.515)	0.025***	(0.008)
High school (or equivalent)	1.373***	(0.415)	-0.009***	(0.002)
Some college (no degree)	1.014**	(0.428)	-0.008***	(0.002)
Bachelor's degree	-1.989***	(0.243)	0.009***	(0.003)
Above Bachelor's degree	-3.072***	(0.493)	0.026***	(0.004)
Black	4.292**	(1.868)	-0.022***	(0.008)
Asian	-5.655***	(1.050)	0.001	(0.006)
Other race	-0.069	(0.973)	-0.004	(0.005)
Absolute latitude	-0.246***	(0.069)	0.001***	(0.000)
Terrain roughness	8.769	(8.817)	-0.037	(0.038)
Mean elevation	2.683	(3.424)	-0.010	(0.010)

Notes. The table reports the results regressing the control variables on the independent variable, ancestral diversity (in columns (1) and (2)), and entrepreneurship (in columns (3) and (4)) with industry-by-year fixed effects. Standard errors clustered at the country of origin level are provided in columns (2) and (4). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

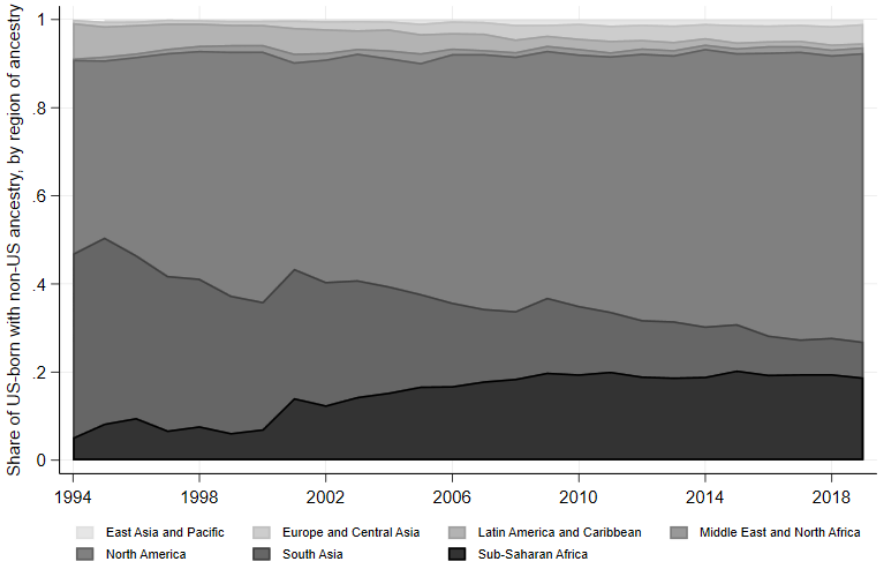
Table A4. Correlates of Ancestral Diversity and Entrepreneurship

	F-Test of Joint Significance			
	Ancestral Diversity		Entrepreneurship	
	F-Test	p-Value	F-Test	p-Value
Continental controls	859.59	0.0000	8.05	0.0000
Continental and individual controls	351.54	0.0000	12.95	0.0000
Continental, individual, and geography controls	402.87	0.0000	18.44	0.0000

Notes. The table reports the results regressing the control variables on the independent variable, ancestral diversity (in columns (1) and (2)), and entrepreneurship (in columns (3) and (4)). Robust standard errors are provided in columns (3) and (4). Continental controls include Africa, Europe, Asia, Oceania, and America. Individual controls include female, age, age^2, marital status, high school (or equivalent), some college (no degree), Bachelor's degree, above Bachelor's degree, Black, Asian, and other races. Geography controls include absolute latitude, terrain roughness, and mean elevation. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

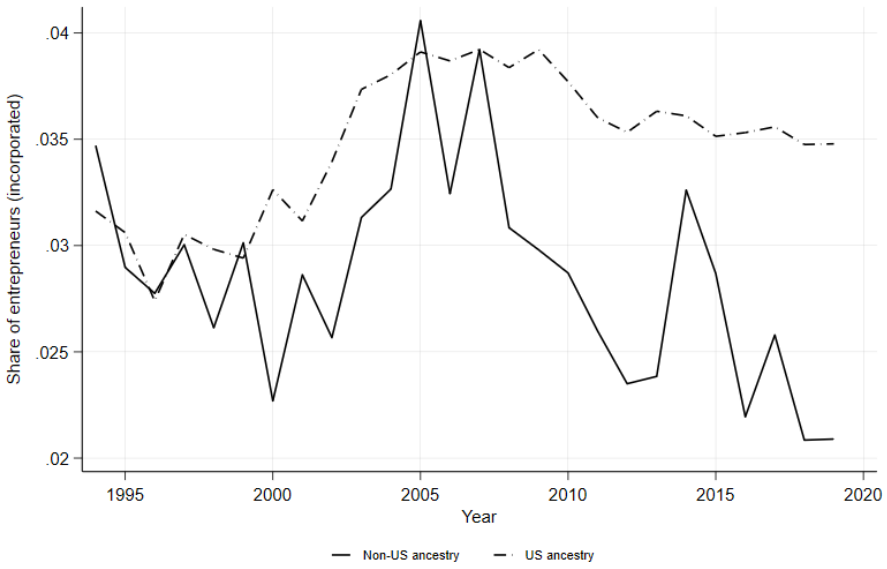
A.2 Figures

Figure A1. Share of US-born with Non-US ancestry, by region of ancestry



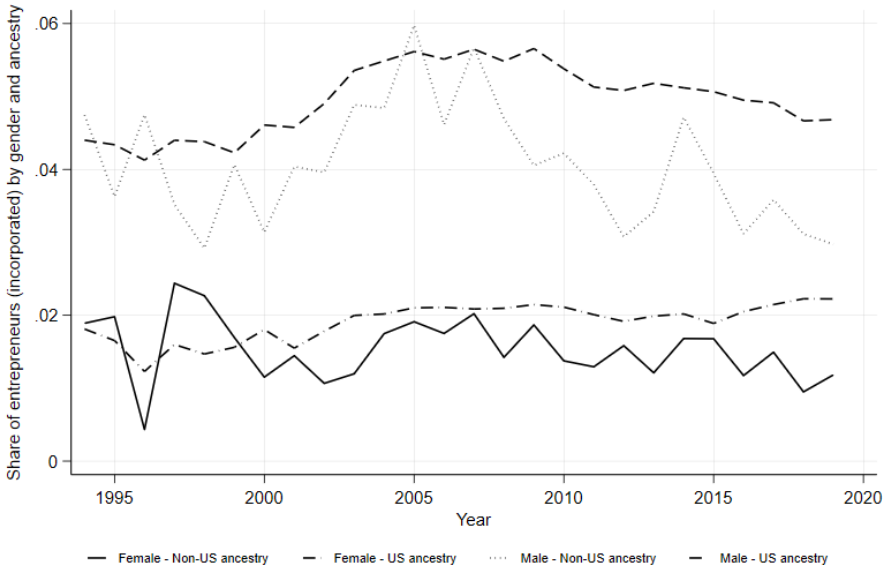
Notes: The figure plots the share of US-born individuals with a non-US ancestry in our sample of analysis by region of country of origin. Our sample is restricted to individuals whose mother and father have the same country of origin. US ancestry indicated that both father and mother report the US, n.s. as their country of origin, whereas non-US origin indicates a country of origin other than the US. Data: ASEC CPS.

Figure A2. Share of entrepreneurs (incorporated) by Non-/US ancestry



Notes: The figure plots the share of entrepreneurs (incorporated), computed as the total number of entrepreneurs divided by the total number of individuals in our sample by year. Our sample is restricted to individuals whose mother and father have the same country of origin. US ancestry indicated that both father and mother report the US, n.s. as their country of origin, whereas non-US origin indicates a country of origin other than the US. Data: ASEC CPS.

Figure A3. Share of entrepreneurs (incorporated) by Non-/US ancestry and gender



Notes: The figure plots the share of entrepreneurs (incorporated) by gender, computed as the total number of entrepreneurs divided by the total number of individuals in our sample by year and by gender. Our sample is restricted to individuals whose mother and father have the same country of origin. US ancestry indicated that both father and mother report the US, n.s. as their country of origin, whereas non-US origin indicates a country of origin other than the US. Data: ASEC CPS.

B Appendix: Data Sources

In Table A1, we summarize the individual and country-level variables used in our analysis. In this chapter, we present a detailed composition of different data sources used in our analysis.

B.1 Individual Data: ASEC CPS

We use data sourced from the Annual Social and Economic (ASEC) files of the Current Population Survey (CPS) available at the Integrated Public Use Micro Samples (IPUMS) repository https://cps.ipums.org/cps/.

Sample Construction - Dependent Variable Our main baseline sample consists of second-generation immigrants with birthplaces in the US, (2) with a father whose birthplace is other than the US and US outlying areas/territories, (2) between 20 and 64 years old, (3) employed, currently working or has a job, but was not at work last week and with at least twenty hours worked per week, (4) excluding of unpaid family worker or individuals working in the agricultural sector. Next, we employ the restriction that (5) the mother's and father's country of origin are the same. In the case of countries such as Czechoslovakia, we follow Galor et al. (2023b) and assign the former nation to the modern country boundaries where the former and current capital is located, e.g., since Czechoslovakia's capital was Prague, we assign it to the Czech Republic. Finally, we restrict the sample to the countries of origin that can be attributed to the ancestry of at least 25 individuals in our sample (6). Given that information on the country of origin of the respondents' parents is available starting with 1994, our sample is restricted to the period between 1994 and 2019.

B.2 Individual Data: Census ACS

Sample Construction We use the American Community Survey (ACS) data, one of the main sources of detailed demographic information on the American population. In particular, we use the repeated cross-section ACS releases from 1980, 1990, 2000, 2010, and 2020. We extract information similar to that from ASEC CPS regarding the age, sex, race, educational attainment, and working patterns of individuals born in the US. We further restrict the sample of analysis to (1) age between 18 and 64, (2) only employed individuals, (3) exclude individuals that are classified as unpaid family workers or illegible, and (4) select individuals with at least one hour of work per week.

In comparison to ASEC CPS, we have only information on the reported first and second ancestry. We use the information on the detailed self-reported ancestry ("ancestr1d", first response) of the individuals born in the US. We follow Galor et al. (2023b) and attribute ancestry information to the country. First, if the information on the first ancestry is reported, we match this to the modern boundaries of the respective

country. For instance, if the ancestry is reported as *German*, we can unambiguously attribute it to *Germany*. In the case of ancestry pairs such as *German-French-Irish*, we attribute the ancestry to the first reported value such as *Germany*, based on the argument by Galor et al. (2023b) that the corresponding countries to each indicated ancestry have relatively similar migratory distances from Africa. Alternatively, we could have used the information on the second country of ancestry to locate more accurately. However, the reported information on the second ancestry is highly unbalanced.

Using country classification corresponding to World Bank Development Indicators (WDI), we attribute to the ancestry information the corresponding country. In case the reported ancestry cannot be attributed to the modern national boundaries, we employ the approach provided by Galor et al. (2023b) and assign the corresponding countries.[8]

B.3 Country data

We use different sources of country-level data. In what follows, we provide a detailed description of the information used.

Sample Construction - Independent and Control Variables The out-of-Africa hypothesis suggests that some 300,000 years ago, a stepwise migration of human species started. populating the entire globe. Along with this spatial diffusion of humans, when moving from a parental colony and establishing a new one, humans carried with them only a subset of the traits of their parental colony, which, according to the Serial Founder Effect, decreased along with the migratory distance from East Africa (Ashraf and Galor, 2013; Ashraf et al., 2021; Galor et al., 2023b,a). We use the information on the migratory distance from East Africa from Ashraf and Galor (2013), which is computed as the weighted migratory distance from Africa corresponding to the ancestral population, accounting for their proportional representation in the respective country corresponding to modern geographic boundaries (Galor et al., 2023a, 8). The variable values are measured in 10 thousand km.

Additionally, we use the adjusted definition of migratory distance to Africa that "accounts for the diversity arising from differences between sub-national ethnic groups" (Ashraf and Galor, 2013, 32). Additionally, we extract information on the country of ancestry's geographic characteristics, such as absolute latitude, terrain roughness, and religious composition defined by the share of Protestants, Catholics, and Muslims, as well as observed genetic diversity and ethnic fractionalization measures. Next, we use the information on the measure of time preferences, risk preference, and trust from the Global Preferences Survey (Falk et al., 2018,

[8]The authors provide in Appendix the detailed steps in attributing the ancestry to modern countries(Galor et al., 2023b, 36).

2023). From Hofstede et al. (2010), we use the measures of individualism, uncertainty avoidance, and long-term orientation. Finally, Galor and Özak (2016) provides information on the average crop yield (per hectare per year), caloric average crop yield, and geographic characteristics of a country. Historical Conflict variable is the aggregated number of conflicts in the country according to the modern boundaries from Miller and Bakar (2023).