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ABSTRACT

We hypothesize that financial risk-taking originates in preindustrial interpersonal population diversity. We use data on immigrants residing in the United States and show that controlling for all known determinants of portfolio decisions and more than 100 control variables, diversity in the country of immigrants' origin positively affects stock market participation and the level of risky asset holdings. Our results remain robust when instrumenting diversity with plant variety. We also identify the channels through which the effect of diversity operates (mostly individualism and human capital), but also conclude that diversity exerts an independent effect.

1. Introduction

One of the most puzzling findings in finance is that a substantial number of households does not participate in the stock market despite the equity premium. Limited stock market participation is pervasive around the globe, and there is substantial heterogeneity across countries even when controlling for the levels of institutional and economic development, and several behavioral characteristics of individuals. Such characteristics include social capital, interpersonal trust, political preferences, optimism, sociability, cognitive abilities, and institutions.[1]

In stark contrast to these well-studied "contemporary drivers" of financial decision-making, we know little about how ancestral characteristics of populations might shape current financial decisions by forming a deep-rooted financial endowment. Filling this gap, our paper shows that ancestral interpersonal population diversity affects contemporary financial risk-taking. By interpersonal population diversity we mean the within country (rather than across country) population diversity that is based on (i) the proportional representation of each of the ancestral populations of a contemporary nation, (ii) the genetic diversity of each of these ancestral populations, as predicted by its migratory distance from Africa, and (iii) the pairwise genetic distances between each pair of these ancestral populations, as predicted by their migratory distances from one another (Ashraf and Galor, 2013). As ancestral interpersonal diversity is by its nature exogenous to contemporary financial outcomes, it serves as an endowment in portfolio choice

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[1] Among others, see Haliassos and Michaelides (2003); Hong, Kubik, and Stein (2004); Malmendier and Nagel (2011); Grinblatt, Keloharju, and Linnainmaa (2011); Van Rooij, Lusardi and Alessie (2011); Renneboog and Spaenjers, (2012); Gomes, Haliassos and Ramadorai (2020); Michalopoulos and Xue (2021).

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decision-making and explains a significant part of the observed heterogeneity in financial risk-taking.

Our paper builds upon the following theoretical mechanisms. First, we argue that people born in places where their ancestors lived in a diverse populated environment, belong to a culture exposed to a variety of living experiences from diverse human behaviors. Adaptability to such exposure forms a cultural endowment characterized by a preference for acquiring a variety of skills or products to be able to handle diverse challenges. Therefore, these people are more open to new investment ideas that are usually subject to higher economic risk. Moreover, in such environments, social interactions of diverse experiences are denser and, thus, the probability of an individual to learn by doing or getting experiential knowledge of a variety of choices (and financial products) of other individuals is higher. Individuals endowed with these deep-rooted cultural characteristics of diversity, might also be endowed with more risk tolerance and thus higher tendency to participate in the stock market and hold more equity.

Second, in diversely populated environments, individuals are exposed to higher risks coming from unexpected behaviors and potential social conflict (e.g., Arbatli et al., 2020). This can generate two contrasting effects. On the one hand, such individuals might form risk aversion preferences because of trauma associated with negative shocks in the form of natural disasters, wars, bereavements, recessions, etc. (Guiso et al., 2008; Malmendier and Nagel, 2011). In contrast, (Bernile et al., 2018) show that adverse exogenous events can shape a riskier behavior because brain functions affected by noneconomic risk may be subsequently coopted to handle economic risk and lower risk aversion.

More recent societal characteristics likely channel these predetermined effects of interpersonal diversity into individuals' contemporary economic and financial risk-taking decisions (as well as having their own independent effect). Specifically, interpersonal diversity positively affects cooperation, promotes inclusive institutions, and increases innovation and productivity (e.g., Ashraf and Galor, 2013, references therein). Interpersonal diversity also correlates with cultural characteristics such as individualism (versus collectivism), uncertainty tolerance, trust, and social interactions (Desmet et al., 2011; Haliassos et al., 2017). Several of these characteristics are linked to financial risk-taking (e.g., Hong et al., 2004; Osili and Paulson, 2008, Van Rooij, Lusardi, Alessie, 2011) and in turn characterize financially developed countries.

We complement this literature by advancing the hypothesis that ancestral interpersonal diversity is an important factor shaping individual financial risk tolerance not only via well-known contemporary country-specific traits (i.e., by being an "umbrella effect") but also independently. This independent effect is via interpersonal diversity capturing country-specific financial traits hidden in the preferences or social interactions that are not (cannot be) measured by contemporary indices ("financial endowment effect"). In other words, population diversity shapes individuals' deep-rooted risk-taking preferences and this deep-rooted effect is the one shaping more recently identified traits.

We match the country-specific diversity index to microdata about individual immigrants based on their origin countries. We obtain the immigrant data from the Survey of Income and Program Participation (SIPP). We use the immigrant data for several reasons. First, they have significant cross-sectional variation because they include immigrants from 51 countries. Second, immigrants face the same contemporary social, economic, and financial environments because the destination country (here, the United States) is the same for all of them. Having fixed their current environment, we can examine if they "carry" with them the diversity of their home countries and the potential effects. Third, the SIPP data are representative of the U.S. population and include important individual economic and demographic characteristics that we can control for as these may affect financial decision-making. Last, in addition to stock market participation, we use the portion of wealth devoted to risky assets. These two variables are the focus of our main empirical analysis as they have been used extensively in the literature to capture financial risk-taking both theoretically and empirically (among others, Haliassos and Michaelides, 2003, Campbell, 2006, Van Rooij, Lusardi and Alessie, 2011).

Our findings show that an increase of 0.05 points in interpersonal diversity, which approximately corresponds to the difference between European and Latin American immigrants, increases the probability of stock market participation by about 4.5 percentage points or 17% for the mean stock market participation in our sample. The corresponding effect on equity holdings as a percentage of wealth is economically even larger, reflecting the importance of interpersonal diversity in the decision to hold high-risk assets (and not just in the decision to participate). The economic effects of diversity compare favorably to the respective effects of trust, social interactions, individual traits, and general institutions (e.g., Hong et al., 2004; Guiso et al., 2004, 2008; Osili and Paulson, 2008; Addoum et al., 2017).

Our baseline results survive a large battery of robustness tests, including the IV estimation, controlling for U.S. regional fixed effects, conducting the analysis separately for each of the three waves of SIPP (in 1996, 2001, and 2004), and controlling for more than 100 variables reflecting various characteristics of immigrants' origin countries. We also find that the years after migration do not affect the significance of the diversity measure. This latter result suggests that diversity captures a host of deep-rooted factors that still affect how individuals make financial risk-taking decisions long after they have migrated to the U.S.

To validate our main findings further, we examine the ownership of less risky assets such as mutual funds (that are usually managed externally and are more diversified), government bonds, and the ratio of interest income to total income (definitions in the appendix). We conjecture that if diversity affects financial risk-taking preferences, it should have a more potent effect on decisions related to high-risk assets (equity) than on decisions related to relatively safer assets. We show that this is indeed the case: interpersonal diversity has a lesser impact on mutual funds, and a limited impact on government bonds and the ratio of interest income to total income.

An important issue is to identify any contemporary factors (channels) through which the effects of diversity operate. We focus on factors that affect financial risk-taking and are strongly related to interpersonal diversity. They are trust, culture, institutions, religion, knowledge, and risk-taking preferences. We re-estimate our baseline regressions accounting for these country characteristics. We find that, regardless of the channel that we control for, the effect of diversity remains statistically significant. However, in some cases the economic effects of diversity are lower.

To begin with, the only culture-related element affecting interpersonal diversity and financial risk-taking is individualism. In particular, the direct effect of interpersonal diversity loses 42% of its economic significance when controlling for individualism. This finding is consistent with the literature linking diversity with lower levels of individualism because individualism puts less emphasis on the group than the individual (e.g., Turner et al., 1987; Chatman et al., 2015). The other highly important characteristic of origin countries is knowledge, which we measure as average years of schooling and per capita number of scientific articles. The knowledge variable reduces the effect of interpersonal diversity on equity holdings by approximately 16%. In contrast, variables such as contemporary risk-taking preferences (economic or general uncertainty avoidance) and other contemporary cultural characteristics do not affect the relation between interpersonal diversity and financial risk-taking.

Overall, our work makes several contributions. First, our findings suggest that financial risk-taking behavior has a deep-rooted ancestral component related to interpersonal diversity. Given the persistent effects of such predetermined traits, it is not surprising that there is important heterogeneity in financial development around the world. Our findings also suggest that a potential remedy to the negative effects of low diversity on financial-risk exposure is policies highlighting the benefits of investing and wealth creation. Saving and building wealth can enhance self-reliance and willingness to take risk, which are common traits in individualistic societies. Moreover, financial education related to the mechanics of investing can also be useful as countries with low diversity also seem to score lower on our knowledge measures.

Our findings also contribute to the broader literature on household finance. Due to the large heterogeneity in financial decisions, we identify many factors that affect household decisions. They range from the demographic and economic characteristics of stockholders (e.g., Campbell, 2006; Hubar et al., 2020) to their investment mistakes (Calvet et al., 2007). Other important determinants of financial decisions include health status (Rosen and Wu, 2004), social interactions (Hong et al., 2004), optimism (Puri and Robinson, 2007), trust (Guiso et al., 2008), personal experiences (Malmendier and Nagel, 2011; Ampudia and Ehrmann, 2017), financial literacy (Cole et al., 2014), and physical attributes (Addoum et al., 2017).

Our results suggest that some of these factors might be related to ancestral traits. For example, society-specific cultural norms such as individualism affect personal experiences. A country's education level also influences financial literacy. We find that culture and knowledge are related to diversity and financial risk-taking behavior.

Analyzing stock market participation within a risk-taking framework has the limitation that non-participation might not only reflect risk-aversion but also elements such as disappointment aversion (Gul, 1991; Ang et al., 2005), lack of information, etc. We do our best to control for relevant elements in our empirical model (especially examining several asset holdings reflecting different levels of risk and several mediating effects), but naturally behavior is difficult to measure with observational data.

Our paper proceeds as follows. Section 2 motivates our study and develops our testable hypotheses. Section 3 discusses our data set and main empirical variables. Section 4 presents our baseline empirical results. Section 5 provides evidence on the channels through which diversity affects financial risk-taking. Section 6 concludes the paper.

2. Interpersonal diversity: definition and measurement

Ashraf and Galor (2013) construct a new measure of interpersonal diversity. The original variable is the prediction of the regression of genetic diversity (the genetic distance of two individuals selected at random from a given population, data from HGDP-CEPH Human Genome Diversity Cell Line Panel) on the migratory distance from the so-called Afar Triangle in East Africa (also referred to as the Cradle of Humanity or Humankind). The migratory distance determinant is highly correlated (more than 90%) with genetic diversity. A key advantage of this distance measure of ancestral diversity is that it is exogenous to contemporary institutional and cultural forces that shape current economic and financial outcomes.

The measure we use in most of our analysis is ancestry-adjusted (termed "pdiv_aa" in the Ashraf and Galor data file) and has two components. First, individuals within each ancestral group have different degrees of ancestral diversity. Second, there are genetic differences among individuals of different ancestries. A measure of genetic distance typically captures this (Spolaore and Wacziarg, 2009). For any subpopulation pair, the genetic distance between the two subpopulations captures the proportion of their combined genetic diversity that is unexplained by the weighted average of respective (within-country) genetic diversities. Put differently, the overall diversity of a group of individuals from different ancestries increases the weighted average of genetic diversity within different ancestries and of the genetic distance between ancestries.[2]

In Ashraf and Galor (2013) and the prevalent theory in biology, diversity is highest at the cradle of humankind, East Africa. When a new population emerges from a larger population, such as when a group of humans migrated out of East Africa, they take a subset of the diversity available in the initial population. Thus, diversity declines as we move from Africa to Europe to the Americas, with Africa being the most diverse and Latin America the least diverse. Moreover, as humanity migrated from East Africa and colonization took place, various groups from East Africa mixed with other indigenous groups around the globe and diversity increased. To consider these population mixes, Ashraf and Galor (2013) use the global migration matrix of Putterman and Weil (2010) and construct the ancestry-adjusted measure of diversity that weights for indigenous groups. The higher the migratory distance from East Africa, the lower the population diversity even accounting for population mixes.

The existing work in economics and finance interprets diversity as a general measure of overall interpersonal diversity and not *stricto sensu* genetic diversity. For example, Delis et al. (2017) suggest that the Ashraf and Galor (2013) measure of diversity is better viewed as a proxy capturing factors related to deep-rooted cultural, ethnolinguistic, psychological, and institutional traits that contemporary relevant indices do not fully capture. Later studies by Galor and coauthors (e.g., Ashraf and Galor, 2018) also adopt this interpretation.[3] Moreover, Desmet et al. (2011) and Haliassos et al. (2017) confirm the important role of genetic distance in identifying an umbrella effect encompassing several cultural and other traits. The first study provides empirical support that validates genetic distance as a proxy for cultural heterogeneity, showing a strong and robust correlation between cultural distances based on answers to the World Values Survey (WVS) and genetic distances across European populations. Haliassos et al. (2017) group migrants according to their cultural background using a measure of genetic distance, which captures divergence in intergenerationally transmitted (biologically and/or culturally) traits such as norms, values, habits, and biases across populations (the umbrella effect).

The existing literature strongly supports the hypothesis that diversity is a proxy for many deep-rooted factors. First, genetic diversity is related to phenotypic and nonphenotypic characteristics. Phenotypes correlate with physiological differences (Manica et al., 2007) that in turn lead to psychological and social differences. Social differences can exacerbate ethnolinguistic differences. Atkinson (2011) provide evidence that ancestral genetic differences significantly relate to differences in culture and trust.

Second, diversity is mainly determined via migration routes from East Africa during the prehistoric era. Therefore, it determines the fractionalization of humankind into distinct ethnic groups and the associated traits we currently observe. Finally, these deep-rooted factors tend to be highly persistent and transmit

[2] For the multidimensional construction process of diversity measures, please refer to Appendix B of Ashraf and Galor's online Appendix, available at: https://assets.aeaweb.org/assets/production/articlesattachments/aer/data/-feb2013/20100971_app.pdf.

[3] See https://www.odedgalor.com/evolution-development-copy.

Table 1
Summary statistics.
The table reports summary statistics (mean, standard deviation, minimum, and maximum) for the variables used in the empirical analysis.

	Obs.	Mean	Std. dev.	Min.	Max.
Stock market participation	13,022	0.157	0.363	0	1
Equity share	12,124	0.008	0.043	0	1
Bond holdings	13,022	0.028	0.165	0	1
Savings account	13,022	0.246	0.430	0	1
Diversity (anc. adj.)	13,022	0.694	0.029	0.650	0.774
Diversity (anc. unadj.)	13,022	0.667	0.049	0.572	0.774
Total income	13,022	1.217	0.806	−8.412	4.020
Total wealth	13,022	6.298	0.328	−6.908	11.552
Age	13,022	42.555	16.284	18	86
Married	13,022	0.665	0.472	0	1
Male	13,022	0.482	0.500	0	1
White	13,022	0.742	0.438	0	1
Number of children	13,022	0.986	1.225	0	9
Employment status	13,022	0.3789	0.4851	0	1
Highest degree	13,022	38.745	4.304	31	47
Owns home	13,022	0.510	0.500	0	1
Years in the U.S.	13,022	9.081	5.536	1	21
Income per capita in 2000	13,022	9.058	0.733	6.587	10.407
GDP per capita growth	13,022	0.568	0.606	−0.176	2.539
Population density in 1500	13,022	0.092	0.107	0.000	0.466
Land area	13,022	13.686	1.569	6.507	16.048
Trust	13,022	0.293	0.109	0.038	0.664
Power distance	12,814	67.758	17.734	11	95
Individualism	12,814	38.523	21.336	6	90
British legal origin	13,022	0.184	0.388	0	1
French legal origin	13,022	0.584	0.493	0	1
Socialist legal origin	13,022	0.115	0.319	0	1
German legal origin	13,022	0.112	0.315	0	1
Legal & property	12,708	5.909	1.410	2.249	8.944
Protestant	13,022	6.774	13.313	0	97.8
Catholic	13,022	59.193	41.312	0	96.9
Muslim	13,022	4.929	18.401	0	99.2
Years of schooling	13,022	5.226	2.180	1.150	10.690
Scientific articles	12,935	0.133	0.233	0.000	0.975
IQ	11,665	90.471	7.683	61	108
Stock market capitalization 1	10,257	35.771	29.206	0.896	157.185
Stock market capitalization 2	13,022	28.176	29.764	0.000	157.185
Own country population share	12,551	0.033	0.042	0.000	0.108
Plants	10,871	10.431	11.048	2	33

across generations both biologically and culturally (Spolaore and Wacziarg, 2013). Overall, the cultural, ethnolinguistic, psychological, and institutional traits are channels through which interpersonal diversity potentially affects individual behavior (Ashraf and Galor, 2013; Delis et al., 2017).

Using the migratory distance from the Afar Triangle in East Africa is a first-order approximation for the currently well-recognized complexity of the origins of humanity and thereby genetic diversity.[4] These issues should not considerably affect our diversity measures, given general agreement about the role of Africa and Homo Sapiens dominance in our DNA. For example, at most 1.5 to 2.1% of our DNA is attributable to Neanderthals (Prüfer et al., 2014). Our IV analysis further mitigates measurement concerns.

[4] Recent discoveries, including the Jebel Irhoud discoveries in Morocco in 2017 (Hublin et al., 2017) and new scientific tools to discover, date, and analyze fossils, and other archaeological evidence "show that the human world 100,000 or 200,000 years ago was very different to the model that prevailed at the end of the 20th century, which held just two species: Homo Sapiens radiating out from their original home in East Africa; and Neanderthals, descendants of a much earlier migration into Eurasia. Now we know that at least five other human or hominid species coexisted with our ancestors and even, the genetic evidence suggests, occasionally interbred with them. The cradle of humanity is turning out to be more richly populated, more diverse, and more extensive than we had imagined" (FT, 2017).

3. Data and summary statistics

3.1. Survey of income and program participation

To examine how interpersonal diversity affects individuals' financial risk-taking/portfolio decisions, we use individual (micro) data on immigrants to the United States. Looking at international migration has the advantage of holding constant the current level of financial, economic, and social environments in which individuals live (e.g., Osili and Paulson, 2008). Thus, we can study whether individuals moving to the same country carry with them the deep-rooted, ancestral characteristics of their origin countries.

Our main data source is the Survey of Income and Program Participation (SIPP). Its unique feature is that it has information on individuals' country of origin and their financial behavior (stock market participation, use of financial products, share of these products in their overall wealth, etc.), as well as several individual financial and demographic characteristics. There are three waves for 1996, 2001, and 2004, and we use all three waves. The SIPP data are representative of the U.S. population and are cross-sectional in nature with individuals not tracked across waves. For reference, in Appendix A, we define all the variables extracted from the SIPP that we use in our empirical analysis. We also report summary statistics in Table 1.

The sample includes a wide variety of origin countries: there are 51 countries from which immigrants originate in our sample.

For these countries, we have 13,022 observations (immigrants) across three waves for which we also observe all important variables in our analysis. The average number of immigrants per country is 255.3, with most coming from Mexico (5228), India (665), and Germany (631); the fewest come from Denmark (7), Singapore (12), and Uruguay (12). The average immigrant has been in the United States for approximately 9 years and is 42.5 years old. Married individuals constitute approximately 67% of our sample, and the average couple has approximately one child. Moreover, the average immigrant has completed high school.

3.2. Measures of financial decisions

We focus on two key outcome variables. First, following the majority of the extant literature (e.g., Hong, Kubic, and Stein, 2004; Osili and Paulson, 2008; Bonaparte and Kumar, 2013), we use the binary variable *Stock market participation*, which measures the decision to own stocks.[5] As we see in Table 1, *Stock market participation* has a mean value of 15.7%. This is a fairly low participation rate among immigrants. However, it is higher than the 8.6% in Osili and Paulson (2008). Second, we use the percentage of wealth invested in risky assets (*Equity share*). The average value of this ratio in our sample is less than 1%, but it varies a lot cross-sectionally (its cross-sectional standard deviation is 4.3%).

3.3. Measure of diversity

Based on the details provided in section 2.1, we assign the ancestry-adjusted measure of Ashraf and Galor (2013) to each immigrant in our sample based on her/his country of birth. For robustness, we also use the ancestry-unadjusted diversity measure.

According to the construction of *Diversity*, the largest scores are in African countries and these scores decrease with the distance of the countries from Africa and the within country ancestral adjustment. In our sample, immigrants from Ethiopia have the highest scores (0.774), followed by immigrants from other African countries (e.g., Egypt at 0.756), middle east countries (e.g., Jordan, Israel, and gulf countries), European countries, Asian countries, and finally Latin American countries. Immigrants from the latter countries take scores from approximately 0.65 to 0.67, with Guatemalan immigrants having the lowest score in our sample (0.6496).

As evident in Table B1, *Diversity* correlates strongly and positively with current and historical measures of economic development and the cultural elements of individualism, long-term orientation, and educational and institutional quality characteristics of the home countries. In contrast, the respective correlations are strongly negative with the cultural element of power distance, government size, French legal origin, and terrain roughness. In our formal empirical analysis, we find an important mediating role for some of these variables in the effect of *Diversity* on financial risk-taking.

3.4. Control variables

We control for many individual demographic characteristics that potentially affect financial decisions. They are *Total income* and its squared term, *Total wealth* and its squared term, *Age* and its squared term, binary variables distinguishing married individuals, gender (1 for male), *White* (1 for white), *Employment status*, and home ownership (*Owns home*). We also include *Number of children, Highest degree* (our measure of education), and the *Years in the U.S.* These control variables are common in the literature (e.g., Campbell, 2006; Osili and Paulson, 2008; Guisoet al., 2008).

For completeness, in Appendix 1, we provide thorough definitions of these demographic characteristics. Summary statistics in Table 1, suggest that the average immigrant in our sample is about 43 years old. Most of them are male and finished high school. Their average monthly income is approximately $2718 USD, and their average wealth is approximately $146 thousand USD.[6] It seems that our sample is relatively less wealthy and less educated compared to the samples in surveys such as the Survey of Consumer Finances (SCF). This might partially explain low *Stock market participation* and low *Equity share*.

We also consider a set of country-specific variables that reflect characteristics of the origin countries. In our baseline analysis, we include *Income per capita in 2000, GDP per capita growth, Population density in 1500*, and *Land area*. We use these variables to capture the effect of economic development, either contemporary (*Income per capita in 2000* and *GDP per capita growth*) or in the past (land area is the main factor of production, and population density reflects the level of technology in the Malthusian era). We also consider a set of cultural and institutional country characteristics that can shed light on the potential channels through which interpersonal diversity might affect individual financial risk-taking. Sections A.4 and A.5 of the Appendix include detailed definitions of these variables.

Finally, we use an additional 100 variables in robustness tests. We list these variables in Table A1 in the Appendix. They are from Ashraf and Galor (2013), (Galor and Ozak., 2016), Acemoglu et al. (2018), the QOG data set, Nunn and Puga (2012), Freedom House, Heritage Foundation, International Country Risk Guide, and World Development Indicators. In general, many of these variables are highly correlated and thus we cannot simultaneously include them in the same model. Please see Table B1 of Appendix B, where we report a correlations matrix for the main country-level variables in our empirical analysis. We also find that our results are robust to including the additional variables in our regression model.

4. Baseline empirical results: diversity affects financial risk-taking

4.1. Empirical model

Our empirical model takes the following form:

$$F_{ic} = c + \alpha D_c + \beta A_i + \gamma C_c + u_{ic}. \quad (1)$$

The variable F denotes the financial decision of individual i from country c. F is either *Stock market participation* or *Equity share*. The variable D is the diversity in individual i's country of origin c. Further, A is a vector of individual (immigrant) demographic characteristics, and C is a vector of origin country characteristics.

We estimate regression (1) with the probit model when the dependent variable is *Stock market participation*. In this case, we report the marginal effects of all the independent variables. Note that this is the reason we do not report the results on the squared terms. We evaluate the marginal effects at the average values of the independent variables. In the case of *Equity share*, we estimate regression (1) with the tobit estimator because the equity share is left-bounded at 0 and right-bounded at 1. For the equity share regressions, we simply report the parameter estimates. For all regressions, we cluster the standard errors by immigrant origin country.[7]

[5] We study stock held outside of retirement accounts because these holdings are less likely to be determined by occupation and employer.

[6] The respective value of wealth on Table 2 comes from taking the log((wealth + minimum value of wealth +1)/1000).

[7] In untabulated regressions, we include the squared term of diversity to capture any nonlinear effects, given the theoretical mechanism stemming from adverse shocks (e.g., conflict or disaster related) being potentially positively correlated with high diversity levels. We do not uncover a significant nonlinear effect and proceed,

Table 2
Financial risk-taking and interpersonal diversity: Baseline results.
The first two columns (dependent variable is *Stock market participation*) report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. The rest of the specifications report coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The dependent variables are given in the first line of the table. In the odd specifications, *Diversity* is the ancestry-adjusted measure, whereas in the even specifications, *Diversity* is the ancestry-unadjusted measure. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations and the inclusion of a wave fixed effect. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
	Stock market participation		Equity share	
Diversity	0.916***	0.522***	1.337***	0.754***
	(0.153)	(0.114)	(0.269)	(0.196)
Total income	0.058***	0.058***	0.019*	0.021**
	(0.007)	(0.007)	(0.010)	(0.010)
Total wealth	0.112***	0.112***	0.156***	0.156***
	(0.018)	(0.018)	(0.016)	(0.016)
Age	0.000	0.000	−0.003	−0.002
	(0.000)	(0.000)	(0.002)	(0.002)
Age squared			0.000	0.000
			(0.000)	(0.000)
Married	0.062***	0.062***	0.391***	0.391***
	(0.009)	(0.009)	(0.041)	(0.041)
Male	−0.011***	−0.011***	−0.019***	−0.021***
	(0.003)	(0.003)	(0.005)	(0.005)
White	0.006	0.006	−0.031**	−0.034**
	(0.013)	(0.013)	(0.013)	(0.014)
Number of children	−0.014***	−0.014***	−0.003	−0.004
	(0.003)	(0.003)	(0.004)	(0.004)
Employment status	−0.006	−0.006	−0.008	−0.007
	(0.005)	(0.005)	(0.008)	(0.008)
Highest degree	0.015***	0.015***	0.012***	0.014***
	(0.001)	(0.001)	(0.002)	(0.002)
Owns home	0.025***	0.025***	0.050***	0.049***
	(0.008)	(0.008)	(0.014)	(0.014)
Years in the U.S.	−0.006***	−0.006***	−0.004***	−0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Income per capita in 2000	0.009*	0.009*	0.018***	0.028***
	(0.005)	(0.005)	(0.006)	(0.010)
GDP per capita growth	0.035***	0.035***	0.033***	0.018**
	(0.006)	(0.006)	(0.007)	(0.009)
Population density in 1500	0.083**	0.083**	0.108**	0.017
	(0.036)	(0.036)	(0.049)	(0.061)
Land area	0.008***	0.008***	0.003	0.008**
	0.916***	(0.003)	(0.003)	(0.004)
Observations	13,022	13,022	12,124	12,124
Wave fixed effect	Y	Y	Y	Y

4.2. Self-selection and measurement error

Before we present our estimation results, we address an important identification problem with the use of immigrant data. In particular, we know that immigrants self-select because they have different characteristics than nonimmigrants. In our analysis, *Diversity* does not suffer from self-selection, because it takes the same value for immigrants and nonimmigrants in the same country. However, our outcome variables might be subject to self-selection biases if immigrants are more willing to take financial risks compared to nonimmigrants. This assumption is not unreasonable, because immigrants are less risk-averse in general (a factor in their decision to immigrate).

We argue that this type of self-selection in our outcome variables results in a novel type of measurement error (Millimet and Parmeter, 2019). In Section A.7 of Appendix A, we extensively discuss this issue and show that, under reasonable assumptions, this type of measurement error does not affect our inferences. That is, it does not bias our estimates of α in Eq. (1). In the unlikely event that these assumptions do not hold, we develop an instrumental variable (IV) estimator that should directly address any concerns related to any endogeneity bias.

4.3. Baseline results

We begin our empirical analysis providing evidence that diversity is related to financial risk-taking. We report these baseline results in Table 2. The results from the stock ownership decisions are in columns 1 and 2, and those related to equity share are in columns 3 and 4. Also, the diversity variables in columns 1 and 3 represent the ancestry-adjusted diversity measure (our main diversity measure). The diversity measure in columns 2 and 4 is the ancestry-unadjusted measure.

As we see in column 1, the marginal effect of diversity (ancestry-adjusted) is positive and significant. Economically, a one-standard-deviation increase in *Diversity* (0.029) increases *Stock market participation* by 2.6 percentage points (0.029 × 0.916). Given that the mean stock market participation in the sample equals 15.7%, this corresponds to an increase in *Stock market participation* of approximately 17% (=2.6/15.7). Thus, our measure of population diversity is among the most significant drivers of *Stock market participation*, explaining an important part of (previously unobserved) cross-sectional heterogeneity.

The results in column 3 show that *Diversity* is positively related to *Equity share*. Specifically, we find that a 0.05 increase in *Diversity*

in the rest of our analysis, with the inclusion of the main term only. We should note, as a caveat, that this result might be due to the lower representation of African countries in our sample, with immigrants from those countries having the highest diversity scores.

increases *Equity share* by 0.067 points. Considering that the mean *Equity share* is as low as 0.008, the documented effect is economically very large. This is also evident by comparing the effect of *Diversity* on *Equity share* with the equivalent effects of *Total income* and *Total wealth*. Specifically, a one-standard-deviation increase in *Diversity* (0.029) increases *Equity share* by 0.038 points. This effect is larger than the equivalent effect of *Total income* (0.019 points) and a bit smaller that the effect of *Total wealth* (0.05 points).

The even-numbered columns in Table 2 report estimates when using the ancestry-unadjusted diversity measure. In line with our expectations, the effect is still statistically significant but economically weaker compared to the adjusted measure. That is, the unadjusted *Diversity* has a significant but economically less potent marginal effect. Further, rerunning the regressions in Table 2 with the adjusted and the unadjusted diversity variables together, we find that the adjusted measure completely dominates the latter (results in Table B2 of Appendix B). This evidence suggests that we capture more encompassing effects of diversity (including the subnational diversity component).

In the third specification of Appendix Table B2, we consider the effect of *Diversity* on *Equity Share*, conditional on *Stock market participation. Equity share* and *Stock market participation* are significantly correlated (their correlation coefficient equals 0.27), and this might imply that results are driven by participation costs (i.e., when *Stock market participation* equals 1). However, the results from the tobit (and the IV tobit, which are available on request) specifications show that the effect of *Diversity* remains statistically and economically significant, despite the importance of the participation decision.

Overall, our baseline results suggest that ancestral interpersonal diversity increases stock market participation and the portion of wealth allocated to risky assets. In what follows, we examine the robustness of this finding to several alternative regression specifications and estimation methods.

4.4. Instrumental variable estimates

A potential criticism of our baseline specification is that diversity in individuals' origin countries reflects unobserved characteristics of these countries, which in turn determine financial decisions. In other words, it is possible that the regression error term, which includes these unobserved characteristics, is correlated with the diversity measure. Such correlation can bias our estimates. This concern might be moot for our analysis because of two reasons. First, our diversity measure is predetermined centuries ago. Therefore, it is highly unlikely that current socioeconomic conditions explain our historical diversity measure (Ashraf and Galor, 2013). Second, the diversity indices we use are constructed from the prediction of the genetic diversity index by the migratory distance from East Africa, the latter being clearly exogenous. Still, that prediction is not from a model of individuals' financial risk-taking (also including the relevant controls in a first stage), while being a prediction it might suffer from measurement error, especially concerning the true origin of humankind within Africa. We formally address these concerns with an instrumental variable (IV) estimator.

Our instrument for diversity is the prehistoric variety in plant species (*Plants*) in the country of origin. Specifically, we use the number of annual and perennial wild grass species that were prehistorically native in a country (Olsson and Hibbs, 2005). Intuitively, this is an appropriate instrument because prehistoric migration routes and settlements were places where plant variety was high enough to aid agricultural activity in indigenous societies. Homelands of agriculture were regions where the most numerous and most valuable wild plants and animal species were native. In these areas, early farmers were able to outcompete local hunter-gatherers and thus decided to settle (Diamond, 2002). Accordingly, we expect that plant variety determines early settling in the prehistoric migration process and thus relates to interpersonal diversity measured by distance from East Africa. Moreover, prehistoric plant variety does not dictate which areas are today most suitable for agriculture due to the technological advances related to agriculture. Therefore, plant variety should not directly affect individual financial risk-taking appetites today. In other words, the exclusion restriction for the instrument is theoretically justified.

Table 3
IV results.
The first column (dependent variable is *Stock market participation*) reports marginal effects and associated standard errors (clustered by individuals' origin country) from an IV probit model. The second column reports coefficient estimates and standard errors (clustered by individuals' origin country) from an IV tobit model. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations and the inclusion of a wave fixed effect. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share
Diversity (anc. adj.)	0.659***	1.226***
	(0.218)	(0.316)
Total income	0.056***	0.018
	(0.008)	(0.012)
Total wealth	0.086***	0.158***
	(0.017)	(0.016)
Age	0.000	−0.001
	(0.000)	(0.002)
Age squared		0.000
		(0.000)
Married	0.055***	0.375***
	(0.010)	(0.044)
Male	−0.012***	−0.020***
	(0.004)	(0.006)
White	−0.001	−0.020
	(0.013)	(0.013)
Number of children	−0.015***	−0.007
	(0.003)	(0.005)
Employment status	−0.007	−0.011
	(0.005)	(0.010)
Highest degree	0.013***	0.012***
	(0.001)	(0.002)
Owns home	0.028***	0.063***
	(0.008)	(0.018)
Years in the U.S.	−0.006***	−0.005***
	(0.001)	(0.001)
Income per capita in 2000	0.006	0.012
	(0.007)	(0.010)
GDP per capita growth	0.030***	0.041***
	(0.008)	(0.009)
Population density in 1500	0.088**	0.160***
	(0.043)	(0.055)
Land area	0.008***	−0.001
	(0.003)	(0.005)
First-stage results		
Plants	0.001***	0.002***
	(0.000)	(0.000)
Observations	10,871	10,043
Wave fixed effect	Y	Y

We report the results from IV estimator in Table 3. The sample size of the IV regressions is smaller than the sample size of the baseline regression because the plant variety measure is not available for all origin countries. At the bottom of Table 3, we report the first-stage regression results, which show that *Plants* predicts diversity with positive and statistically significant estimates. Further, we estimate our baseline regressions from Table 2 including *Plants* as an explanatory variable. We present the results in Table B3 of Appendix B, where we see that plant variety is statistically insignificant. These findings support the suitability of *Plants* as an instrument.

The second-stage regression results in Table 3 support our hypothesis that diversity affects financial risk-taking decisions.

Table 4
The role of prehistoric fauna and stock market participation in the home country.
Columns 1 and 3 report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. Columns 2 and 4 report coefficient estimates and associated standard errors (clustered by individuals' origin country) from tobit models. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations and the inclusion of a wave fixed effect. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.563**	1.525**	0.769***	1.154***
	(0.237)	(0.670)	(0.100)	(0.203)
Animal species	0.005	−0.002		
	(0.003)	(0.006)		
Stock market participation (home country)			0.088**	0.211***
			(0.044)	(0.056)
Observations	10,871	10,043	9666	8.991
Wave fixed effect	Y	Y	Y	Y
Control variables	Y	Y	Y	Y

Specifically, the estimate of diversity in the stock ownership and equity share regression are positive and statistically significant. The economic effect of diversity on stock market participation is somewhat smaller compared to the economic effects of the baseline estimators but, in general, remains large (especially comparing to other previously known determinants of stock market participation). For equity share the decrease in economic significance is very small: a 0.05-point increase in *Diversity* is related a 0.061-point increase in *Equity share* (a small decrease compared to the 0.067-point increase in the equivalent specification of Table 2). Given the similarity of the IV results with those in Table 2, we mainly use the simple probit/tobit models for the reminder of paper. However, all results carry through when using the IV models (results are not reported and available on request).

4.5. Robustness analysis of our baseline results

A potentially important criticism of our analysis is that we are "in a never-ending game" that employs variables reflecting country characteristics formulated further and further back in time. In that sense, an alternative explanation of our findings might be that we are capturing paleontological characteristics of countries, such as prehistoric fauna. In the next section, we fully control for several geographic characteristics, but here we also exclude this alternative explanation by showing that our results are robust to the inclusion of variables reflecting countries' fauna (Olsson and Hibbs, 2005). The results in Table 4 show that *Animals* enters with a statistically insignificant coefficient, while the effect of *Diversity* remains significant.[8]

Aside from the rest of the characteristics of the individuals' origin countries, a potentially confounding effect comes from stock market participation in those countries. Data availability is limited for several countries, but we have been able to collect information for stock market participation for 29 countries. Understandably, this information might not be very reliable or fully comparable between countries. We include the participation rate in columns 3 and 4 of Table 4. The marginal effect of *Diversity* equals 0.77 and remains statistically significant at the 1% level. We uncover similar inferences when using *Equity share* as our outcome variable: the coefficient on stock market participation in the origin country is positive and significant at the 1% level and the coefficient on *Diversity* equals 1.15, also statistically significant at the 1% level. Last, we note that several variables reflecting financial development and included as home-country controls (see Table A1) are strongly correlated with the available observations on stock market participation.

We next address the concern that our baseline results might capture effects of the local environment in which individuals reside (for the importance of social interactions on financial risk taking see Brown et al., 2008; Georgarakos and Pasini, 2011; Haliassos, M., Jansson, T., and Karabulut, 2017). In Appendix Table B4, we rerun our baseline specifications with state fixed effects (columns 1–2) or MSA fixed effects (columns 3–4). Our results are robust and are similar to those of Table 2.

Survey data usually suffer from measurement-error issues. One way the literature deals with this problem is to exclude households that report unreasonably low annual incomes or wealth. Therefore, we re-estimate our baseline regressions by excluding individuals that report income and wealth below $500. We report the results in Table B5. Further, we estimate our baseline models separately for each of the three waves to ensure that no specific wave drives our inferences (results in Table B6).

Another potentially confounding effect in our baseline regressions might stem from the correlation of *Diversity* with geographic variables (Appendix Table B8). Important relevant variables are centroid and absolute latitude (distance from the equator) (*Diversity* is based on migratory, not geographical, distance). Moreover, we use several other country-specific geographic variables, such as land suitability for agriculture, terrain roughness, distance from waterways, and temperature (e.g., Acemoglu et al., 2001; Arbatli et al., 2020). Our baseline results on *Diversity* remain statistically significant at the 1% level. Adding more of these variables in the same regression also leaves our inferences unchanged.

To be extremely cautious, we experiment with many other relevant control variables (literally more than 100 variables) that the economic growth and development literature use. These variables are from the G-Econ project, WDI, Acemoglu et al. (2018), etc., and we report them in Table A1. Most of them are typically highly correlated (Table B1) and do not affect our inferences on the importance of diversity.

One concern is that immigrants from a particular country of origin might drive our results. As we see in Table B9, the number of immigrants significantly differs by origin country, and Mexico provides the most immigrants. To account for differences in origin country representation, we estimate weighted regressions, where the sampling weights are calculated from the ratio of the total number of observations in our sample to the number of immigrants from a country. We also estimate regressions where we exclude Mexican immigrants. We report the results in Table B9.

[8] Comparing the estimates in Table 4 with our baseline, we note a drop in the effect of *Diversity* on *Stock market participation* and an increase in the equivalent effect on *Equity share*. These changes are the result of the smaller sample, rather than the effect of the inclusion of *Animals*.

Table 5
Results for bond holdings, interest income and mutual funds.

Panel A. Bond holdings and interest income.
The table reports marginal effects and associated standard errors (clustered by individuals' origin country) from probit models (IV probit models in specifications 3 and 6). In specifications 1 to 3 dependent variable is *Bond ownership* and in specifications 4 to 6 dependent variable is *Savings account*. In specifications 2 and 5, *Diversity* is the ancestry unadjusted measure. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of control variables. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Bond ownership	2 Bond ownership	3 Bond ownership	4 Interest Income	5 Interest Income	6 Interest Income
Diversity	0.248***	0.100**	0.044	0.139***	0.049**	0.125**
	(0.076)	(0.044)	(0.087)	(0.039)	(0.023)	(0.059)
First-stage results						
Plants		0.000***			0.002***	
		(0.000)			(0.000)	
Observations	13,022	13,022	10,938	13,022	13,022	10,871
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

Panel B. Results for mutual funds and all assets inclusive.
The table reports marginal effects and associated standard errors (clustered by individuals' origin country) from tobit and probit models. In specifications 1 and 4, we repeat our baseline results from Table 2. In specification 2, the dependent variable is mutual funds participation and, in column 5, the share of mutual funds in total wealth. In column 6, the depended variable is stock ownership. *Diversity* is the ancestry adjusted measure. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of control variables. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock Ownership	2 Mutual F. Ownership	3 Bonds Ownership	4 Equity Share	5 Mutual F. Share	6 Stock Ownership
Diversity	0.916***	0.457***	0.248***	1.327***	0.347**	0.838**
	(0.153)	(0.107)	(0.076)	(0.267)	(0.151)	(0.059)
Mutual funds (ownership)						0.109***
						(0.008)
Bonds ownership						0.052***
						(0.012)
Observations	13,022	13,022	12,124	12,124	13,022	13,022
Wave fixed effect	Y	Y	Y	Y	Y	
Control variables	Y	Y	Y	Y	Y	

We find that diversity remains economically and statistically significant.

Overall, our baseline results are very robust. We find that diversity is an important explanatory variable for financial risk-taking in different subsamples, across survey waves, with state or MSA fixed effects, and in the presence of a plethora of control variables.

4.6. Validation test: low-risk asset holdings

In this section, we posit that diversity should have a more potent effect on decisions related to holding high-risk assets compared to holding less risky assets. We test this conjecture via the propensity of individuals to own mutual funds, government-type bonds, and other interest income assets, which are less risky than equity. We estimate ownership probit regressions and report the results in Panel A of Table 5. Columns 1 to 3 and 4 to 6 include the results for the bond holdings and other interest income assets, respectively.

In the case of bond ownership, we find that the coefficient estimate on *Diversity* (based on ancestry-adjusted measure) in column 1 is statistically significant at the 1% level. A 0.05 increase implies a 1.24 percentage points increase in the probability of holding government bonds. This effect is obviously weaker than the effects on high-risk assets. In fact, this effect becomes statistically and economically weaker when using the ancestry-unadjusted measure of *Diversity* (column 2) and when using our IV method (column 3).

We find similar results for *Diversity* in the interest income regressions. For example, the estimate reported in column 4 implies that a 0.05 increase in *Diversity* increases the probability of savings account ownership by 0.7 percentage points, which is not substantial. This effect and its statistical significance are lower when using the ancestry-unadjusted measure (column 5) and, more important, when using our IV method (column 6).

The role of *Diversity* in capturing risk-taking (level) effects is further illuminated in the results of Panel B of Table 5. *Diversity* has a positive effect on all assets holdings but the riskier the asset (from stocks to mutual funds to bonds), the higher the marginal effect of *Diversity* either in the participation decision or in the share of holdings. Moreover, in column 6, we examine our baseline specification of stock market participation while controlling for mutual funds and bonds ownership. We observe that the effect of diversity is still statistically significant with a slighly reduced marginal effect. Thus, diversity still strongly explains participation in the riskiest asset market (stocks) even conditional on the ownership of other somewhat less risky assets. The fact that the coefficient of diversity is stronger the riskier the asset (from bonds to mutual funds to stock/equity) might have important implications about asset diversification. However, going deeper into asset substitution and diversification as a source of diversity requires additional data (e.g., observing the same household over time with changes in diversity within the household).

5. Channels: contemporary factors and diversity

An important issue is whether the effects of interpersonal diversity manifest through contemporary factors that we call channels (i.e., by being an "umbrella effect") and if so, whether there is a remaining independent effect capturing financial traits hidden in preferences or social interactions that are not measured by contemporary indices (the financial endowment effect). This is not a

suggestion that country characteristics such as trust, culture, and institutions can only be viewed as "channels" of the effect of ancestral diversity. Rather, we view their mediating effect (originating from ancestral diversity) in addition to their independent effect.

To test this issue, we augment regression (1) with variables reflecting these channels.[9] We identify a potent channel when the additional control variable is statistically significant and the effect of interpersonal diversity loses part of its explanatory strength. We also use causal mediation analysis as in Imai et al. (2010) and show that our inferences are very similar. This analysis entails a two-stage model, the first stage being a regression of the mediating variable (e.g., *Trust*) on covariates including *Diversity* and the second stage being Eq. (1) including the mediating variable.[10]

We examine channels that the literature suggests should relate to both diversity and financial risk-taking. Unfortunately, the SIPP does not include immigrant-level data on these channels. Therefore, we use country-level measures from the origin country. We provide detailed definitions of the channel variables in Section A.5. We find that most of them are significantly correlated (see Table B1). Therefore, one at a time we introduce them into the regression (1).

5.1. Long-term vs. short-term effects

An important question arising from our baseline findings is whether the effect of diversity is long-lasting after migration. Haliassos et al. (2017) examine this premise in the context of household financial behavior, while Pan et al. (2020) in the context of CEOs' attitudes toward uncertainty. A first test to examine whether our identified effect is a permanent endowment based in the country of individuals' origin or changes as immigrants adjust in the U.S. is based on the time since immigration. We thus include our baseline specification an interaction term between *Diversity* and *Years in the U.S.* If immigrants adjust their behavior as they get accustomed to the United States, then the effect of diversity might wear off over time. In this case, the estimate of the interaction term should be negative and significant. Such a negative estimate would imply that diversity does not capture deep-rooted traits of individuals' origin countries but rather relatively recent traits.

We report the results in Table 6. In panel A, we report coefficient estimates and in panel B we report marginal effects. As we see in panel A, the interaction term is insignificant for both the ownership and equity share regressions. Therefore, the marginal effects of *Diversity* in panel B, are very similar to those reported in Table 2. We decide to dig deeper into the potential nonlinearity of this relation by calculating marginal effects for each additional year an immigrant has been in the U.S. In Fig. 1 we report these marginal effects for the *Stock market participation* equation. We confirm that, across all years that an immigrant has been in the U.S., the effect of *Diversity* is statistically significant. However, we also find a gradual decline in the marginal effect, ranging from 0.974 for a new immigrant (minimum value in our sample) to 0.799 for an immigrant being in the U.S. for 21 years (maximum value in our sample). This 0.175 difference in the marginal effects is statistically significant.

These results suggest that *Diversity* mostly captures an endowment effect in individual financial risk-taking decisions, albeit this effect slowly wears off over time. With this finding in mind, we next aim to identify culture as an important channel through which interpersonal diversity affects financial risk-taking.

Table 6
Time since immigration.
Panel A reports coefficient estimates and associated standard errors (clustered by individuals' origin country) from a probit model (specification 1) or a tobit model (specification 2). The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. Panel B reports the respective marginal effects of *Diversity* and *Years in the U.S.* The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share
Panel A: Estimation results		
Diversity (anc. adj.)	4.805***	0.877***
	(1.396)	(0.327)
Years in the U.S.	−0.106	−0.048*
	(0.086)	(0.027)
Diversity × Years in the U.S.	0.094	0.060
	(0.124)	(0.038)
Panel B: Marginal effect of diversity		
Diversity	0.908***	0.877***
	(0.153)	(0.289)
Years in the U.S.	−0.006***	−0.048*
	(0.001)	(0.001)
Observations	13,022	12,124
Wave fixed effect	Y	Y
Control variables	Y	Y

5.2. Trust and culture

We begin with the variables that theoretically should be related to diversity, namely *Trust* and *Culture*. We report the results from the related augmented regressions in Table 7. In line with the existing literature (e.g., Guisoet al., 2008), we find a strong positive correlation between *Trust* and *Stock market participation* (column 1). However, the correlation between *Trust* and *Equity share* is low and insignificant. Importantly, even for *Stock market participation*, where *Trust* enters with a significant coefficient, the effect of diversity is almost intact. The mediation analysis also shows a small percentage of the effect of *Diversity* on *Stock market participation* being transmitted via trust (5.38%) leaving the rest to be the direct effect of *Diversity* (results in the lower part of Table 7). Therefore, we do not find evidence that trust in the origin country plays an important role in the nexus between diversity and financial risk-taking.

We measure culture with five different variables: *Power distance, Masculinity, Uncertainty avoidance, Long-term orientation*, and *Individualism* (Hofstede, 1991; Hofstede et al., 2010). We find that *Masculinity, Uncertainty avoidance*, and *Long-term orientation* are statistically insignificant (see Table B10). *Power distance* is also insignificant but its inclusion in the empirical model lowers the effect of *Diversity* (see columns 3 and 4 of Table 7). On that line, the mediation analysis shows an important role for *Power distance*, especially in the *Equity share* equation where approximately 17% of the effect of *Diversity* is transmitted via *Power distance*.

The most important variable in Table 7 is *Individualism*. We find that it enters with a positive and statistically significant coefficient in both the stock ownership regression (Table 7, column 3) and the levels regression (Table 7, column 4). Most important, *Individualism* affects the estimates of diversity. Specifically, we find that a 0.05 increase in *Diversity* implies an increase in *Stock market participation* of 4.6 percentage points in the baseline analysis. However, this effect is now only 2.6 percentage points. We document a sim-

[9] We do not study causality between the variables reflecting "channels" and our outcome variables, and we are careful to reflect this in the text. We simply use them as control variables that are largely predetermined to our outcome variables and check how they influence the effect of diversity. This is consistent with Angrist and Pischke (2009) on the role of control variables.

[10] This analysis allows using a probit regression when the dependent variable is binary Similar mediation methods by e.g. Buis (2010) and Daniel et al. (2011) also yield very similar inferences.

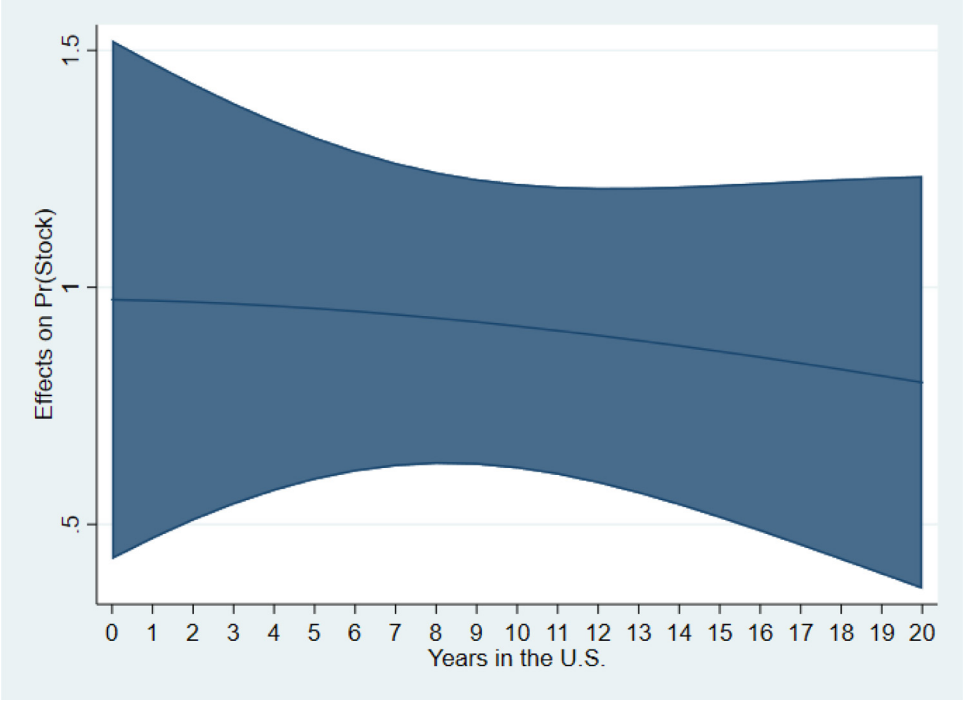

Fig. 1. Marginal effect of *Diversity* on *Stock market participation* by *Years in the U.S.*
The figure plots the marginal effect of Diversity on *Stock market participation* for each additional year an immigrant has been in the United States. The figure includes the confidence interval showing that the marginal effects are statistically significant for all years.

Table 7
The role of trust and culture.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the equivalent results from the mediation analysis (% of the effect of *Diversity* mediated via trust and culture), the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

Contemporary culture										
	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share	7 Stock market participation	8 Equity share	9 Stock market participation	10 Equity share
Diversity (anc. adj.)	0.877***	1.329***	0.842***	1.186***	0.523***	1.052***	0.990***	1.362***	0.826***	1.333***
	(0.142)	(0.270)	(0.218)	(0.301)	(0.190)	(0.337)	(0.190)	(0.279)	(0.200)	(0.332)
Trust	0.102***	0.031								
	(0.034)	(0.056)								
Power distance			−0.000	−0.001						
			(0.000)	(0.001)						
Individualism				0.001***	0.001***					
				(0.000)	(0.000)					
Economic risk-taking						0.003	0.034			
						(0.025)	(0.030)			
Uncertainty avoidance								−0.000	−0.000	
								(0.000)	(0.000)	
Results from mediation analysis										
% of total mediated effect	5.38%	2.68%	11.84%	17.25%	42.97%	25.33%	3.2%	5.9%	13.17%	8%
Observations	13,022	12,124	12,814	11,932	12,814	11,932	12,178	11,362	12,814	11,932
Wave fixed effect	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

ilar decrease in the economic significance of diversity for *Equity share*. Nevertheless, the effect of diversity remains statistically significant, as also corroborated by the mediation analysis. The latter shows that approximately 43% (25%) of the effect of *Diversity* on *Stock market participation* (*Equity share*) is transmitted through *Individualism*. This makes *Individualism* the most important channel throughout our analysis.

The importance of individualism is intuitive because the cultural characteristics of societies typically form after populations settle. It is therefore possible that there is less ethnic clustering in diverse populations, which might prompt individuals to rely less on the community and more on themselves. In other words, interpersonal diversity might lead to more individualism than collectivism. Our results show that diverse societies that expect individ-

Table 8
The role of institutional quality, and religion.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the equivalent results from the mediation analysis (% of the effect of *Diversity* mediated via *Legal and property rights, Democracy*, and *Muslim*), the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share
Diversity (anc. adj.)	0.909***	1.404***	0.825***	1.082***	1.026***	1.440***
	(0.156)	(0.289)	(0.192)	(0.281)	(0.186)	(0.300)
Legal and property rights	0.005	−0.001				
	(0.003)	(0.006)				
Democracy			0.002	0.005**		
			(0.001)	(0.002)		
Protestant					−0.033	−0.043
					(0.033)	(0.044)
Catholic					−0.015	−0.052*
					(0.016)	(0.027)
Muslim					−0.037**	−0.092***
					(0.017)	(0.030)
Results from mediation analysis						
% of total mediated effect	8.40%	1.93%	12.62%	24.13%	3.60%	6.07%
Observations	12,708	11,830	13,022	12,124	13,022	12,124
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

uals to take care of themselves and their families foster stronger appetites for financial risk-taking.

In the last four specifications of Table 7, we examine whether *Diversity* simply captures the effect of contemporary cultural economic risk-taking or general cultural risk avoidance. In columns 7 and 8, we use the variable *Economic risk-taking* (obtained from Falk et al., 2018), which characterizes the societal propensity to take economic risk (as opposed to general risk). In specifications 9 and 10, we instead include Hofstede's (1991) *Uncertainty avoidance*, which characterizes the general propensity of societies to cope with uncertainty (not in the economic form). A full definition of these variables is provided in the Appendix. We find that both the contemporary risk-related variables enter with statistically insignificant coefficients, whereas the effect of *Diversity* remains potent. Thus, the estimates suggest that contemporary risk-taking preferences of societies are not a key driver of financial risk-taking (given control variables and fixed effects); the deep-rooted elements captured by *Diversity* are far more important determinants of financial risk-taking.

5.3. Institutions and religion

Following Osili and Paulson (2008), who use the same survey data, we examine the role of institutions (measured by legal and property rights, and democracy) and religion.[11] We present the results of the expanded regression in Table 8. We find that the quality of institutions only marginally correlates with financial risk-taking and does not significantly affect the economic significance of diversity (see columns 1 and 2). An intuitive exception is the level of democracy in the origin country, for which both its inclusion and the mediation analysis show that it is an important channel (especially in the equity share equation). This is intuitive because in democratic countries institutions are stronger and trust in good institutions can lead to higher financial risk-taking (Guiso et al., 2004, 2008).[12]

In columns 5 and 6, we report results related to the religious background of the country of origin. We examine how religion affects attitudes toward financial risk-taking (Kumar, 2009, 2011). In particular, we control for the share of the population in the origin country that is Catholic, Protestant, and Muslim. We find a negative correlation between financial risk-taking and origin countries with high concentrations of Muslims. This is not surprising, because the Koran prohibits earning income/interest from any monetary investments. However, in these regressions, the effect of diversity remains statistically significant and the mediation analysis shows a low level of pass through via Muslim religion.

5.4. Knowledge and financial development

Knowledge in the country of origin is another potential correlate of both interpersonal diversity and financial risk-taking (Van Rooij, Lusardi, Alessie, 2011), while knowledge and financial literacy are known correlates of financial risk-taking (e.g., Nieddu and Pandolfi, 2021). Our measures of knowledge are average years of schooling and scientific articles per capita (e.g., Barro, 2001). As an additional measure We also use the country-specific IQ scores, following the literature showing a positive effect of IQ on stock market participation (Grinblatt et al., 2011).

We report the results in Table 9. Due to multicollinearity concerns, we exclude from these regressions income per capita because it is highly correlated with education and knowledge variables. Due their high correlation, we also estimate different regressions for years of schooling (columns 1 and 2) and scientific articles (columns 3 and 4). As expected, we find that both knowledge variables are positively and significantly correlated with financial risk-taking. The coefficients on diversity remain statistically significant and are only marginally lower (compared to Table 2) when

[11] In unreported results, we find that the effect of diversity changes minimally when we control for a variety of origin-country characteristics such as legal origin (British, French, German, and Socialist) and economy (like trade freedom, regulatory freedom, and economic freedom), as well as social infrastructure and ethnic fractionalization.

[12] In the Appendix Table B11, we report results using additional institutional characteristics (trade freedom, regulatory freedom, and economic freedom). Also, in Table B12, we include variables measuring social infrastructure and ethnic fractionalization. Some of these variables enter with significant coefficients, but the effect of *Diversity* remains close to the baseline.

Table 9
The role of knowledge and IQ.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the equivalent results from the mediation analysis (% of the effect of *Diversity* mediated via *Years of schooling, Scientific articles*, and *IQ*), the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share
Diversity (anc. adj.)	0.853***	1.217***	0.699***	0.925***	0.903***	1.439***
	(0.148)	(0.259)	(0.161)	(0.207)	(0.109)	(0.278)
Years of schooling						
	0.004**	0.008***				
	(0.001)	(0.002)				
Scientific articles						
			0.048***	0.068***		
			(0.011)	(0.017)		
IQ					0.002***	0.001*
					(0.000)	(0.001)
Results from mediation analysis						
% of total mediation effect	12.00%	14.85%	28.24%	25.94%	3.60%	3.79%
Observations	13,022	12,124	12,935	12,037	11,665	10,889
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

Table 10
The role of financial development.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the equivalent results from the mediation analysis (% of the effect of *Diversity* mediated via *Stock market capitalization*), the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.815***	1.397***	0.901***	1.268***
	(0.170)	(0.289)	(0.152)	(0.251)
Stock market capitalization 1	0.014	0.054***		
	(0.014)	(0.018)		
Stock market capitalization 2			0.011	0.057***
			(0.012)	(0.016)
Results from mediation analysis				
% of total mediation effect	3.89%	9.89%	1.10%	5.21%
Observations	10,257	9559	13,022	12,124
Wave fixed effect	Y	Y	Y	Y
Control variables	Y	Y	Y	Y

using years of schooling. They are lower when using scientific articles. The latter is an expected result, as diversity positively affects idea creation (Ashraf and Galor, 2013). The mediation analysis validates this picture, with an important 28% (26%) of the effect of *Diversity* on *Stock market participation* (*Equity share*) passing via *Scientific articles*.

In the last two columns of Table 9, we examine the role of IQ in the origin country. In line with Grinblatt et al. (2011) we find a strong correlation between *IQ* and *Stock market participation*. However, we find a limited role of *IQ* acting as channel in the relation between interpersonal diversity and stock market participation (as reflected on the *Diversity* estimate and the mediation analysis).

In Table 10 we look into the role of financial development in countries of origin. It is possible that immigrants from countries with high knowledge levels and developed financial markets are simply more exposed to the idea of investing and are more comfortable investing. We measure financial development using the ratio of stock market capitalization to GDP in the year of each wave. Specifically, we create two measures. In the first one, we assign a missing value to the ratio if there is no stock market in the country of origin. In the second, we set the ratio equal to zero for these countries. We find that the ratio of stock market capitalization to GDP does not significantly affect the economic or statistical significance of diversity (also confirmed by the mediation analysis). *Stock market capitalization* has a positive but insignificant effect on *Stock market participation*, but it has a positive and significant effect on *Equity share*. In unreported results, we confirm this finding using other indices of financial development, such as years since stock market creation, bank accounts or bank branches per 1000 people, and bank credit to GDP. This outcome highlights the importance of deep-rooted origins of financial risk-taking behavior in addition to the determinants in the extant literature.

5.5. Diversity versus all other origin country characteristics

Overall, we find that the key country characteristics affecting the relation between interpersonal diversity and financial risk-taking are individualism, democracy, knowledge diffusion (measured by scientific articles per capita), and religion (especially Islam). Trust and institutions also seem to matter, but to a lesser degree. Based on these findings a natural question is whether diversity's effect remains significant if we include all these contemporary "channel" variables in the same specification.

However, we cannot estimate regressions with such a large number of control variables because of the high correlations among them, leading to severe multicollinearity problems (see

Table 11
Inclusive specifications.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.724***	1.332***	0.855***	1.071***
	(0.259)	(0.389)	(0.240)	(0.302)
Trust	0.057	0.015	0.062	−0.051
	(0.039)	(0.066)	(0.038)	(0.056)
Individualism	0.000	0.001		
	(0.000)	(0.000)		
Muslim	−0.018	−0.060*	−0.029	−0.046
	(0.016)	(0.031)	(0.018)	(0.031)
Scientific articles			0.022	0.065**
			(0.019)	(0.028)
Democracy			0.000	0.000
			(0.002)	(0.003)
Observations	12,814	11,932	12,935	12,037
Wave fixed effect	Y	Y	Y	Y
Control variables	Y	Y	Y	Y

Table B1). For example, *Years of schooling* and *Scientific articles* are highly correlated between each other and with *Individualism*.[13] *Democracy* is highly correlated with *Trust*. Therefore, we estimate regression specifications that include the diversity measure and those "channel" variables that do not have very high correlations between them. We report the estimation results in Table 11.

We find that the effect of diversity remains statistically significant in all the specifications. All other control variables have the expected (consistent with the previous tables) sign; however, they are statistically insignificant. This is an expected result and in line with our main hypothesis. As those control variables are channels through with diversity operates, our findings in the inclusive regressions imply that ancestral genetic diversity is an umbrella that encompasses institutional and behavioral traits ("umbrella effect").

6. Conclusions

Financial risk-taking differs considerably among countries. The evidence in this study suggests that deep-rooted (ancestral) country characteristics embedded in interpersonal diversity affect these cross-country differences. We measure ancestral interpersonal diversity following the literature in macroeconomics that connects diversity to the distance from East Africa. We match these country-specific diversities with the origin countries of U.S. immigrants, for which we observe their financial risk-taking decisions.

We find that when interpersonal diversity increases, the probability of stock market participation rises, as does equity ownership. The economic significance of the diversity effect is large and compares favorably to the equivalent effects of other important factors such as income, wealth, and trust that the literature identifies as important determinants of financial risk-taking.

We also provide some evidence of a causal relationship between diversity and financial risk-taking using an instrumental variable estimator. In the IV setup, we instrument diversity with plant variety that correlates with diversity, but it is unrelated to contemporary financial risk-taking decisions. In a validation test, we also find that diversity has a strong effect on decisions related to high-risk assets but not on decisions related to low-risk assets (such as government bonds and other interest-producing assets).

We complete our analysis by examining several contemporary factors that can act as channels through which diversity affects financial risk-taking. We show that the cultural element of individualism and the level of knowledge in origin countries are two clear channels through which diversity operates. However, even in the presence of these channel variables, diversity has a strong effect on stock ownership and the share of equity holdings, which suggests that deep-rooted factors shaped hundreds of years ago affect risk-taking decisions today and are transmitted intergenerationally. Following our theoretical considerations and our results on nature versus nurture, those factors include deep-rooted preferences for lower risk aversion, and experiential knowledge coming from social interactions. Thus, diversity constitutes an independent, deep-rooted financial endowment. Our findings also help the household finance literature on improving the precision of the effect of contemporary indices on financial risk taking. From a policy viewpoint, interpersonal diversity has a positive effect on engagement with financial products, which in turn contributes to a higher level of financial development.

Our results open new pathways for research in the household finance literature. For example, historical migration, associated conflicts, and empire-building can have important implications for the contemporary financial landscape. Similarly, more attention should be devoted to the prevalence of agriculture versus industrialization and trade in key countries and periods. Moreover, the geographic landscape may also influence the evolution of the financial sector and related institutions. Last, strictly referring to stock-market participation as risk-taking has limitations and as such the role of other determinants of the (non)participation decision entail fruitful extensions. For example, analyzing the impact of diversity from behavioral and informational viewpoints can better synthesize our results with issues related to disappointment aversion, financial literacy, and social traits. We leave these analyses for future research.

Data availability

Data will be made available on request.

[13] In untabulated results, we conduct formal multicollinearity tests that confirm that including all the channel variables results in severe biases. For example, if we include all the variables in the same specification, the classic symptoms of multicollinearity arise (i.e., either the estimates become unreasonably significant with opposite signs, or all of them become statistically insignificant). Another variable causing similar estimation problems is *Income per capita*, which we exclude from the estimation.

Table A1
List of additional country-year control variables.
The table provides a list of more than 100 control variables, which we use in additional regressions. We do not report the results from these regressions, but the effect of *Diversity* is similar to that in our baseline regressions. In many respects, we use more than one variable (i.e. from a different source) for the same country-year characteristic (e.g., corruption). Abbreviation of sources: ICRG: International Country Risk Guide; FH: Freedom House; WB: World Bank (either World Development Indicators or Quality of Governance indices); HF: Heritage Foundation; SWIID: Standardized World Income Inequality Database; GFDD: Global Financial Development Database. Many of the variables below are% of GDP. We acknowledge the Quality of Government Institute (Teorell et al., 2018) for their data-collection process.

Variable	Source	Variable	Source
Corruption	ICRG, FH, WB, HF	Domesticable animals	Ashraf and Galor (2013)
Rule of law	ICRG, FH, WB	Ultraviolet exposure	Ashraf and Galor (2013)
Government quality	ICRG, FH, WB	Years since stock market creation	Own calculations
Language fractionalization	Alesina et al. (2003)	Bank accounts (per 1000 people)	GFDD
Religion fractionalization	Alesina et al. (2003)	Bank branches (per 1000 people)	GFDD
Population size	WB	Corporate bonds to total bonds	GFDD
Population density	WB	Private credit by banks	GFDD
Population growth	WB	Domestic credit to private sector	GFDD
Urban population	WB	Outstanding public debt to securities	GFDD
Political terror	US state department	Syndicated loan issuance volume	Own calculations
Armed forces	WB	Syndicated loan average maturity	Own calculations
Military expenditure	WB	Bank net interest margin	GFDD
Average schooling (years)	Barro and Lee (2013)	Bank lending-deposit spread	GFDD
Average schooling (male and female)	Barro and Lee (2013)	Bank return on assets	GFDD
Government education expenditure	UNESCO	Bank cost to income ratio	GFDD
Age dependency (% of labor)	WB	Foreign bank ownership	Claessens and Van Horen (2014)
Agriculture value added	WB	Bank Z-score	GFDD
Birth rate (per 1000 people)	WB	Bank non-performing loans ratio	GFDD
CO2 emissions	WB	Banking industry H-statistic	GFDD
Death rate (per 1,00 people)	WB	Bank Lerner index	Delis et al. (2015), GFDD
DEC alternative conversion factor	WB	Boone indicator	Delis et al. (2015), GFDD
External balance on goods & services	WB	Remittance inflows	GFDD
Electric power consumption	WB	Banking crisis dummy	GFDD
Various employment ratios	WB, IMF	Consumer price index	GFDD
Consumption expenditure	WB	Capital stringency	Barth et al. (2013)
Foreign direct investment inflows	WB	Bank activity restrictions	Barth et al. (2013)
Fertility rate	WB	Official bank supervisory powers	Barth et al. (2013)
Forest area	WB	Bank private monitoring	Barth et al. (2013)
Gini coefficient	SWIID	Bank external governance	Barth et al. (2013)
Lending interest rate	WB	Bank deposit insurance	Barth et al. (2013)
Deposit interest rate	WB	Bank entry requirements	Barth et al. (2013)
Arable land	WB	Corporate tax rates	WB, OECD, Tax foundation
Life expectancy at birth	WB	Business freedom	HF
Mobile subscriptions	WB	Labor freedom	HF
Infant mortality	WB	Monetary freedom	HF
Official exchange rate	WB	Investment freedom	HF
Latitude	G-Econ project	Financial freedom	HF
Longitude	G-Econ project	Tax burden	HF
Mean and standard dev. of elevation	G-Econ project	Government spending	HF, WB
Population in CE 1	Ashraf and Galor (2013)	Fiscal health	HF
Population density in CE 1	Ashraf and Galor (2013)	Fiscal deficit	WB
Percentage of arable land area	WDI	Fiscal debt	WB
Soil fertility	Michalopoulos (2008)	Health indicators (malaria, pathogen)	WB
Mean temperature and precipitation	G-Econ project	Years since stock market creation	Own data collection

Appendix A. Variable definitions, sources, and self-selection bias

In this Appendix, we define the variables used in our empirical analysis and provide their sources.

A.1. Dependent variables (from the SIPP)

Stock market participation: A binary variable equal to 1 if an individual owns equity (0 otherwise). This variable is based on the answer to the question "During the reference period, did … own, either alone or jointly, stocks?"

Equity share: The value of stocks and/or funds owned by an individual divided by his/her total wealth.

Bond holdings: A binary variable equal to 1 if an individual owns U.S. government savings bonds or municipal or corporate bonds (0 otherwise).

Mutual funds: The share of total wealth in mutual funds and equity share is the share of total wealth on equity.

Savings account: A binary variable equal to 1 if an individual owns or co-owns at least one savings account (0 otherwise).

A.2. Main explanatory variables

Diversity (ancestry adjusted): Follows Ashraf and Galor (2013). The original variable is constructed by the prediction of the regression of the genetic distance of two individuals selected at random from a given population (data from HGDP-CEPH Human Genome Diversity Cell Line Panel) on the migratory distance from the so-called Afar Triangle in East Africa (also referred to as the Cradle of Humanity or Humankind). To additionally incorporate the between-group component of diversity in contemporary national populations, the index makes use of the concept of genetic distance from the field of population genetics (ancestry adjustment). This variable is called pdiv_aa in the Ashraf and Galor database and is available on the website of the American Economic Association.

Diversity (ancestry unadjusted): Follows Ashraf and Galor (2013). The basis of this variable is the same with the ancestry-

adjusted one, without the ancestry adjustment. This variable is called pdiv in the Ashraf and Galor database and is available on the website of the American Economic Association.

A.3. Individual characteristics (from the SIPP)

Total income: The natural logarithm of individuals' total income in thousand USD.

Total wealth: The natural logarithm of individuals' total wealth in thousand USD.

Age: The individuals' age in years.

Married: A binary variable equal to 1 if an individual is married (0 otherwise).

Gender: A binary variable equal to 1 for male individuals (0 for female individuals).

Race: A binary variable equal to 1 if the individual is white (0 otherwise).

Number of children: The individuals' number of children.

Employment status: A variable taking values from 1 to 8 based on the individuals' employment status. The value 1 refers to individuals employed for the full month of the survey. The value 2 refers to employed individuals but with absence without pay for one + weeks (absence is not due to layoff). The value 3 refers to employed individuals but with absence without pay for one + weeks (absence is due to layoff). The value 4 refers to individuals employed for at least 1 but not all weeks, while their absence is not due to layoff and the individuals look for a new job. The value 5 refers to individuals employed for at least one but not all weeks, while absence in some weeks is due to layoff and the individuals look for a new job. The value 6 refers to individuals without a job for the full month of the survey that are on layoff and actively look for a job. The value 7 refers to individuals without a job, being at least one week on layoff, and partially looking for a job. The value 8 refers to individuals without a job, not on layoff, and spend no time to look for a job.

Highest degree: The variable takes values between 31 and 47 based on the highest degree received or grade completed. The values are as follows. 31 Less than 1st grade. 32 1st, 2nd, 3rd or 4th grade. 33 5th or 6th grade. 34 7th or 8th grade. 35 9th grade. 36 10th grade. 37 11th grade. 38 12th grade. 39 High school graduate, high school diploma or equivalent. 40 Some college but no degree. 41 Diploma or cert from voc, tech, trade or bus school beyond high school. 42 Associate degree in college - Occupational/vocational program. 43 Associate Degree in college - Academic program. 44 Bachelors degree. 45 Master's degree. 46 Professional School. 47 Doctorate degree.

Owns home: A binary variable equal to 1 if an individual owns his home (0 otherwise).

Years in the U.S.: The number of years since the individual's year of immigration.

A.4. Characteristics of the origin countries

Income per capita in 2000: Real GDP per capita (in logs), in constant 2000 international dollars, as reported by the Penn World Table, version 6.2.

GDP per capita growth: The mean real GDP per capita growth rate during 1980–2010.

Population density in 1500: Population density (in persons per square km) for a given year is calculated as population in that year, as reported by McEvedy and Jones (1978), divided by total land area, as reported by the World Bank's World Development Indicators. For expositional brevity of the results, we divide this measure by 100. The interested reader is referred to McEvedy and Jones (1978) for more details on the original data sources.

Land area: The total land area of a country from the World Development Indicators.

Centroid latitude: The absolute value of the latitude of a country's approximate geodesic centroid, as reported by the CIA's World Factbook.

Land suitability Gini: Gini of probabilities within a region that a particular grid cell will be cultivated. The variable is obtained from Galor and Ozak (2016) and it was originally computed by Ramankutty et al. (2002).

Terrain roughness: The degree of terrain roughness of a country, calculated using geospatial surface undulation data reported by the G-ECON project (Nordhaus et al., 2006) at a 1-degree resolution. The interested reader is referred to the G-ECON project web site for additional details.

Distance from water: The distance, in thousands of km, from a GIS grid cell to the nearest ice-free coastline or sea-navigable river, averaged across the grid cells of a country. This variable was originally constructed by Gallup et al. (1999) and it is part of Harvard University's CID Research Datasets on General Measures of Geography.

A.5. Contemporary channel factors

Trust: The fraction of total respondents within a given country, from five different waves of the World Values Survey conducted during the time period 1981–2008, that responded with "Most people can be trusted" (as opposed to "Can't be too careful") when answering the survey question "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"

Economic risk-taking: Definition from Falk et al. (2018): "Risk preferences were elicited through a series of related quantitative questions as well as one qualitative question. Just as with patience, the quantitative measure consists of a series of five binary choices. Choices were between a fixed lottery, in which the individual could win x or zero, and varying sure payments, y. Choice of the lottery resulted in an increase of the sure amount being offered in the next question, and vice versa, thereby zooming in around the individual's certainty equivalent. The qualitative item and the outcome of the quantitative staircase measure were combined through roughly equal weights."

Power distance: Definition from Hofstede: "This dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally. The fundamental issue here is how a society handles inequalities among people. People in societies exhibiting a large degree of *Power distance* accept a hierarchical order in which everybody has a place, and which needs no further justification. In societies with low *Power distance*, people strive to equalize the distribution of power and demand justification for inequalities of power."

Individualism: Definition from Hofstede: "The high side of this dimension, called Individualism, can be defined as a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, Collectivism, represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular ingroup to look after them in exchange for unquestioning loyalty. A society's position on this dimension is reflected in whether people's self-image is defined in terms of "I" or "we.""

Masculinity: Definition from Hofstede: "The *Masculinity* side of this dimension represents a preference in society for achievement, heroism, assertiveness, and material rewards for success. Society at large is more competitive. Its opposite, *Femininity*, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented. In the busi-

ness context *Masculinity* versus *Femininity* is sometimes also related to as "tough versus tender" cultures."

Uncertainty avoidance: Definition from Hofstede: "The *Uncertainty avoidance* dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong *Uncertainty avoidance* maintain rigid codes of belief and behavior, and are intolerant of unorthodox behavior and ideas. Weak *Uncertainty avoidance* societies maintain a more relaxed attitude in which practice counts more than principles."

Long-term orientation: Definition from Hofstede: "Every society has to maintain some links with its own past while dealing with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies who score low on this dimension, for example, prefer to maintain time-honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future. In the business context, this dimension is referred to as "(short-term) normative versus (long-term) pragmatic"."

Indulgence: Definition from Hofstede: "Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms."

Successful Challenges/Competitions: Tales (motifs) where the hero takes over competitions or challenges with a successful outcome (Michalopoulos and Xue, 2021).

Legal and property rights: Definition from the Fraser Institute. The index is constructed based on the following: A. Judicial independence B. Impartial courts C. Protection of property rights D. Military interference in rule of law and politics E. Integrity of the legal system F. Legal enforcement of contracts G. Regulatory costs of the sale of real property H. Reliability of police I. Business costs of crime.

Protestant: Share of Protestants in the population. Data are from Ashraf and Galor (2013).

Catholic: Share of Catholics in the population. Data are from Ashraf and Galor (2013).

Muslim: Share of Muslims in the country's population. Data are from Ashraf and Galor (2013).

Stock market capitalization 1: Market capitalization of listed domestic companies (% of GDP). For countries without a stock market the observations are left as missing.

Stock market capitalization 2: Market capitalization of listed domestic companies (% of GDP). For countries without a stock market the observations are given the value 0.

Trade freedom: Definition from the Fraser Institute. The index is constructed based on the following: A. Tariffs (i) Revenue from trade taxes (% of trade sector) (ii) Mean tariff rate (iii) Standard deviation of tariff rates B. Regulatory trade barriers (i) Non-tariff trade barriers (ii) Compliance costs of importing and exporting C. Black-market exchange rates D. Controls of the movement of capital and people (i) Foreign ownership/investment restrictions (ii) Capital controls (iii) Freedom of foreigners to visit.

Regulatory freedom: Definition from the Fraser Institute. The index is constructed based on the following: 5. Regulation A. Credit market regulations (i) Ownership of banks (ii) Private sector credit (iii) Interest rate controls/negative real interest rates B. Labor market regulations (i) Hiring regulations and minimum wage (ii) Hiring and firing regulations (iii) Centralized collective bargaining (iv) Hours regulations (v) Mandated cost of worker dismissal (vi) Conscription C. Business regulations (i) Administrative requirements (ii) Bureaucracy costs (iii) Starting a business (iv) Extra payments /bribes /favoritism (v) Licensing restrictions (vi) Cost of tax compliance.

Economic freedom: The general economic freedom indicator from the Fraser Institute.

Democracy: The Polity IV index of democracy. The index is an additive eleven-point scale (0–10). 0 indicates no institutional democracy and 10 indicates a maximum level of institutional democracy.

Social infrastructure: An index, calculated by Hall and Jones (1999), quantifying the wedge between private and social returns to productive activities.

Ethnic fractionalization: A fractionalization index, constructed by Alesina et al. (2003), that captures the probability that two individuals, selected at random from a country's population, will belong to different ethnic groups.

Years of schooling: The average years of schooling from the World Development Indicators.

Scientific articles: The annual number of scientific articles per capita. Information is from the World Development Indicators.

IQ: The country-specific IQ scores from the World-Data.info. The scores are averages from several prior studies and the PISA tests. For additional details, please refer to: https://www.worlddata.info/iq-by-country.php.

A.6. Instrumental variable

Plants: The number of annual and perennial wild grass species, with a mean kernel weight exceeding 10 mg that were prehistorically native to the region to which a country belongs. This variable is obtained from the data set of Olsson and Hibbs (2005).

A.7. Immigrant self-selection

The key regression in our empirical analysis (Eq. (1)) is the following:

$$F_{ic} = c + \alpha D_c + \beta A_i + \gamma C_c + u_{ic}.$$

The diversity variable D does not have self-selection bias because it is the same for immigrants and non-immigrants. In contrast, the outcome variable F might suffer from self-selection bias. For example, immigrants could potentially have different risk preferences than non-immigrants and tend to invest either more or less in risky assets, regardless of the diversity level of their origin country. This type self-selection implies that there exists an unobserved component v, $v = F - F^*$, where F^* is the unobserved average financial risk-taking by non-immigrants. In other words, the regression we should have been estimating should include v:

$$F_{ic} = c + \alpha D_c + \beta A_i + \gamma C_c + v_{ic} + u_{ic}.$$

The important concern with the above regression is whether we can obtain a consistent estimate of a in the presence of the omitted variable v. Given that D varies only in the cross-section of countries, if v is not correlated with D, the parameter α can be identified with the variation arising from diversity differences across (and not within) origin countries. In this case, v is essentially a constant and will absorbed by c.

The previous argument is incorrect if v is correlated with D. In particular, the analysis in Millimet and Parmeter (2019) suggests that the estimate of α is inconsistent if v is heteroskedastic and correlated with D. Heteroskedasticity is not a problem in our estimation because we cluster the standard errors by country. It is also reasonable to assume that v and D are uncorrelated. To begin with, there is no theoretical reason why differences in financial risk-taking between immigrants and non-immigrants of the same country should depend on that country's interpersonal diversity.

Regardless, any correlation between v and D is factored out in our IV estimation. Specifically, there is no reason why our instrument, i.e., the number of prehistorically native plant species, should be correlated with the differences in financial risk-taking between immigrants and non-immigrants of the same country. Thus, our instrument satisfies the exclusion restriction even if we cannot observe v and it is absorbed by the regression error term. Overall, it is reasonable to assume that our results are not affected by self-selection biases.

Appendix B. Additional sensitivity tests

Table B7, Table B11, Table B12

Table B1
Correlations matrix.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Diversity (anc. adj.)	1.00											
2. Diversity	0.80	1.00										
3. Income per capita in 2000	0.45	0.29	1.00									
4. GDP per capita growth	0.38	0.50	−0.02	1.00								
5. Population density in 1500	0.53	0.74	0.34	0.41	1.00							
6. Land area	−0.40	−0.66	−0.43	−0.24	−0.62	1.00						
7. Trust	0.46	0.45	0.40	0.59	0.37	−0.08	1.00					
8. Power distance	−0.80	−0.61	−0.79	−0.26	−0.50	0.46	−0.60	1.00				
9. Individualism	0.74	0.50	0.72	0.01	0.37	−0.22	0.48	−0.82	1.00			
10. Masculinity	−0.43	−0.28	−0.11	−0.40	0.02	0.25	−0.24	0.29	−0.09	1.00		
11. Uncertainty avoidance	−0.53	−0.41	−0.17	−0.48	−0.17	−0.09	−0.72	0.54	−0.57	0.21	1.00	
12. Long-term orientation	0.51	0.65	0.40	0.71	0.79	−0.54	0.52	−0.53	0.25	−0.24	−0.26	1.00
13. British legal origin	0.50	0.29	0.17	0.26	0.12	0.06	0.46	−0.51	0.57	−0.22	−0.74	0.05
14. French legal origin	−0.70	−0.67	−0.38	−0.66	−0.58	0.35	−0.68	0.72	−0.53	0.23	0.60	−0.70
15. Socialist legal origin	0.25	0.30	−0.21	0.47	0.07	0.01	0.19	0.08	0.01	0.02	−0.10	0.20
16. German legal origin	0.26	0.40	0.48	0.33	0.64	−0.54	0.26	−0.47	0.10	−0.02	0.07	0.80
17. Legal & property	0.55	0.39	0.86	0.12	0.42	−0.30	0.57	−0.80	0.81	−0.09	−0.42	0.45
18. Size of government	−0.82	−0.77	−0.44	−0.48	−0.59	0.39	−0.53	0.64	−0.59	0.30	0.39	−0.62
19. Trade freedom	0.16	0.10	0.81	−0.16	0.19	−0.27	0.26	−0.53	0.57	0.11	−0.14	0.23
20. Regulatory freedom	0.18	0.02	0.57	−0.05	0.11	−0.06	0.39	−0.51	0.57	−0.02	−0.41	0.06
21. Economic freedom	0.32	0.20	0.81	0.02	0.31	−0.25	0.50	−0.70	0.68	−0.03	−0.38	0.32
22. Protestant	0.56	0.40	0.65	0.10	0.27	−0.25	0.53	−0.76	0.62	−0.31	−0.45	0.45
23. Catholic	−0.64	−0.70	−0.19	−0.73	−0.61	0.36	−0.66	0.57	−0.32	0.39	0.58	−0.74
24. Muslim	0.29	0.32	−0.35	0.09	0.11	−0.04	−0.01	−0.06	−0.11	−0.27	−0.14	−0.01
25. Stock market capitalization 1	0.46	0.25	0.58	0.21	0.23	−0.06	0.57	−0.65	0.69	−0.15	−0.61	0.25
26. Stock market capitalization 2	0.46	0.25	0.58	0.21	0.23	−0.06	0.57	−0.65	0.69	−0.15	−0.61	0.25
27. Own country population share	−0.73	−0.60	−0.36	−0.48	−0.50	0.37	−0.45	0.63	−0.47	0.39	0.41	−0.56
28. Social infrastructure	0.60	0.46	0.91	0.19	0.47	−0.41	0.59	−0.86	0.76	−0.25	−0.38	0.54
29. Ethnic fractionalization	−0.49	−0.67	−0.43	−0.57	−0.74	0.76	−0.30	0.48	−0.31	0.17	0.11	−0.76
30. Centroid latitude	0.54	0.60	0.59	0.23	0.42	−0.35	0.54	−0.60	0.62	−0.14	−0.37	0.44
31. Land suitability Gini	−0.16	−0.50	−0.07	−0.28	−0.64	0.71	0.13	0.02	0.06	−0.06	−0.30	−0.52
32. Terrain roughness	−0.60	−0.39	−0.37	−0.23	−0.23	0.21	−0.34	0.58	−0.63	0.27	0.49	−0.35
33. Distance to water	0.17	−0.22	0.07	0.11	−0.32	0.64	0.43	−0.18	0.23	−0.19	−0.42	−0.12
34. Years of schooling	0.61	0.41	0.87	0.20	0.39	−0.36	0.55	−0.82	0.77	−0.13	−0.32	0.53
35. Scientific articles	0.65	0.40	0.81	0.11	0.33	−0.21	0.63	−0.86	0.90	−0.21	−0.59	0.35

	13	14	15	16	17	18	19	20	21	22	23	24
13. British legal origin	1.00											
14. French legal origin	−0.59	1.00										
15. Socialist legal origin	−0.11	−0.32	1.00									
16. German legal origin	−0.18	−0.52	−0.10	1.00								
17. Legal & property	0.35	−0.56	−0.04	0.40	1.00							
18. Size of government	−0.16	0.64	−0.52	−0.33	−0.55	1.00						
19. Trade freedom	0.07	−0.16	−0.28	0.31	0.74	−0.13	1.00					
20. Regulatory freedom	0.62	−0.31	−0.40	0.02	0.52	0.04	0.67	1.00				
21. Economic freedom	0.43	−0.41	−0.36	0.33	0.79	−0.18	0.88	0.87	1.00			
22. Protestant	0.25	−0.56	−0.12	0.49	0.71	−0.47	0.55	0.34	0.59	1.00		
23. Catholic	−0.49	0.81	−0.15	−0.47	−0.31	0.53	0.04	−0.20	−0.25	−0.42	1.00	
24. Muslim	0.19	−0.06	−0.04	−0.09	−0.36	−0.08	−0.54	−0.20	−0.33	−0.10	−0.38	1.00
25. Stock market capitalization 1	0.72	−0.53	−0.15	0.04	0.62	−0.26	0.49	0.81	0.74	0.42	−0.45	−0.12
26. Stock market capitalization 2	0.72	−0.53	−0.15	0.04	0.62	−0.26	0.49	0.81	0.74	0.42	−0.45	−0.12
27. Own country population share	−0.38	0.64	−0.20	−0.33	−0.39	0.63	−0.11	−0.21	−0.30	−0.39	0.64	−0.20
28. Social infrastructure	0.40	−0.59	−0.18	0.49	0.89	−0.54	0.72	0.62	0.84	0.71	−0.43	−0.24
29. Ethnic fractionalization	0.05	0.54	−0.30	−0.59	−0.42	0.64	−0.26	−0.02	−0.25	−0.27	0.52	0.12
30. Centroid latitude	0.30	−0.58	0.20	0.31	0.68	−0.60	0.44	0.33	0.51	0.52	−0.38	−0.01
31. Land suitability Gini	0.27	0.19	−0.15	−0.50	−0.02	0.24	−0.04	0.23	0.06	0.11	0.25	0.12
32. Terrain roughness	−0.46	0.65	−0.24	−0.23	−0.51	0.50	−0.23	−0.24	−0.31	−0.61	0.37	0.09
33. Distance to water	0.49	−0.23	0.07	−0.26	0.18	−0.07	−0.05	0.31	0.17	0.19	−0.13	0.10
34. Years of schooling	0.30	−0.69	0.13	0.52	0.87	−0.61	0.65	0.48	0.71	0.74	−0.38	−0.32
35. Scientific articles	0.59	−0.60	−0.09	0.22	0.87	−0.53	0.64	0.70	0.80	0.72	−0.43	−0.12

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Table B1 (*continued*)

	25	26	27	28	29	30	31	32	33	34	35
25. Stock market capitalization 1	1.00										
26. Stock market capitalization 2	1.00	1.00									
27. Own country population share	−0.43	−0.43	1.00								
28. Social infrastructure	0.70	0.70	−0.51	1.00							
29. Ethnic fractionalization	−0.14	−0.14	0.49	−0.43	1.00						
30. Centroid latitude	0.41	0.41	−0.36	0.67	−0.36	1.00					
31. Land suitability Gini	0.23	0.23	0.20	−0.09	0.69	−0.08	1.00				
32. Terrain roughness	−0.32	−0.32	0.42	−0.45	0.29	−0.45	0.04	1.00			
33. Distance to water	0.44	0.44	−0.13	0.19	0.47	0.24	0.73	−0.16	1.00		
34. Years of schooling	0.57	0.57	−0.48	0.86	−0.49	0.66	−0.08	−0.65	0.20	1.00	
35. Scientific articles	0.79	0.79	−0.48	0.88	−0.29	0.69	0.18	−0.58	0.37	0.84	1.00

Table B2

Including both the ancestry-adjusted and ancestry-unadjusted measures, and controlling for stock market participation in the equity share equation.

The first column (dependent variable is *Stock market participation*) reports marginal effects and associated standard errors (clustered by individuals' origin country) from a probit model. The second column (dependent variable is *Equity share*) reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Equity share
Diversity (anc. adj.)	0.804***	1.157***	0.897***
	(0.183)	(0.345)	(0.258)
Diversity (anc. adj.)	0.103	0.160	
	(0.121)	(0.207)	
Stock market participation			0.199***
			(0.014)
Observations	13,022	12,124	11,160
Wave fixed effect	Y	Y	Y
Control variables	Y	Y	Y

Table B3

Direct effect of the instrumental variable on financial risk-taking.

The table reports estimates from the replication of the results of Table 3 with *Diversity (anc. adj.)* as the main explanatory variable. The difference is the inclusion of the instrumental variable (*Plants*) as an additional explanatory variable, showing that it is not directly correlated with the outcome variables. The first column (dependent variable is *Stock market participation*) reports marginal effects and associated standard errors (clustered by individuals' origin country) from an IV probit model. The second column (dependent variable is *Equity share*) reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations and the inclusion of a wave fixed effect. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share
Diversity (anc. adj.)	0.659***	1.744***
	(0.245)	(0.539)
Plants	0.001	−0.001
	(0.001)	(0.001)
Total income	0.058***	0.023*
	(0.007)	(0.012)
Total wealth	0.085***	0.155***
	(0.016)	(0.016)
Age	−0.000	0.001
	(0.000)	(0.003)
Age squared		−0.000
		(0.000)
Married	0.053***	0.368***
	(0.011)	(0.043)
Gender	−0.008**	−0.006
	(0.004)	(0.006)
Race	−0.000	−0.016
	(0.014)	(0.013)
Number of children	−0.015***	−0.008
	(0.003)	(0.005)
Employment status	0.003***	0.009***
	(0.001)	(0.002)
Highest degree	0.013***	0.012***
	(0.001)	(0.002)

(*continued on next page*)

Table B3 (*continued*)

	1 Stock market participation	2 Equity share
Owns home	0.028***	0.065***
	(0.008)	(0.018)
Years in the U.S.	−0.006***	−0.005***
	(0.001)	(0.001)
Income per capital in 2000	0.006	0.017
	(0.009)	(0.012)
GDP per capita growth	0.030***	0.040***
	(0.007)	(0.009)
Population density in 1500	0.087**	0.140**
	(0.043)	(0.059)
Land area	0.008***	−0.002
	(0.003)	(0.006)
Observations	10,871	10,043
Wave fixed effect	Y	Y

Table B4
Including state or MSA fixed effects.
Columns 1 and 3 (dependent variable is *Stock market participation*) report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. The rest of the columns (dependent variable is *Equity share*) report coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, state or MSA fixed effects, and the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.914***	1.177***	1.090***	1.448***
	(0.157)	(0.250)	(0.156)	(0.326)
Observations	13,016	12,124	7686	7654
Wave fixed effect	Y	Y	Y	Y
State fixed effect	Y	Y	N	N
MSA fixed effect	N	N	Y	Y
Control variables	Y	Y	Y	Y

Table B5
Sample trimming based on income and wealth.
The table replicates Table 2 for Diversity (anc. adj.), dropping observations where *Total income* and *Total wealth* are lower than USD 500. The first column (dependent variable is *Stock market participation*) reports marginal effects and associated standard errors (clustered by individuals' origin country) from a probit model. The second column (dependent variable is *Equity share*) reports coefficient estimates and standard errors (clustered by individuals' origin country) from a tobit model. The dependent variables are given in the first line of the table. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share
Diversity (anc. adj.)	1.230***	1.657***
	(0.165)	(0.303)
Observations	12,876	12,020
Wave fixed effect	Y	Y
Control variables	Y	Y

Table B6
Separate results for each wave.
The table reports separate results for each survey wave (1996, 2001, and 2004). The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

Wave:	1996		2001		2004	
	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share
Diversity (anc. adj.)	0.851***	1.843***	1.347***	1.259***	0.586**	0.899***
	(0.185)	(0.581)	(0.201)	(0.289)	(0.239)	(0.248)
Observations	4455	4094	3825	3560	4742	4470
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

Table B7
Additional summary statistics.
The table reports summary statistics (mean, standard deviation, minimum, and maximum) for the variables used in the empirical tests reported in this Appendix.

	Obs.	Mean	Std. dev.	Min.	Max.
Centroid latitude	13,022	28.253	16.730	−42	64
Land suitability Gini	12,919	0.416	0.189	0.043	0.870
Terrain roughness	13,022	0.212	0.077	0.021	0.447
Distance from water	13,010	0.252	0.310	0.008	1.467
Masculinity	12,814	60.514	13.676	5	95
Uncertainty avoidance	12,814	70.699	21.169	8	112
Long-term orientation	12,749	41.160	24.474	4	100
Size of government	12,542	6.341	1.337	2.610	8.573
Trade freedom	12,542	7.022	1.486	0.719	9.768
Regulatory freedom	12,542	6.007	1.093	2.599	8.468
Economic freedom	12,542	6.407	0.926	3.950	8.697
Democracy	13,022	4.113	3.677	0	10
Social infrastructure	12,483	0.506	0.221	0.113	1.000
Ethnic fractionalization	13,022	0.392	0.215	0.002	0.752

Table B8
Geographic characteristics.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share	7 Stock market participation	8 Equity share	9 Stock market participation	10 Equity share	11 Stock market participation	12 Equity share
Diversity (anc. adj.)	0.851***	1.355***	0.719***	1.358***	0.917***	1.329***	0.900***	1.272***	0.873***	1.276***	0.812***	1.369***
	(0.148)	(0.298)	(0.154)	(0.381)	(0.161)	(0.257)	(0.155)	(0.324)	(0.178)	(0.257)	(0.181)	(0.372)
Centroid latitude	0.000*	−0.000										
	(0.000)	(0.000)										
Distance to the equator			0.016**	−0.002								
			(0.006)	(0.016)								
Land suitability Gini					0.020	0.038						
					(0.036)	(0.051)						
Terrain roughness							−0.009	−0.043				
							(0.050)	(0.077)				
Distance from water									0.010	0.016		
									(0.014)	(0.020)		
Temperature											−0.069	
(0.042)	−0.061											
(0.073)												
Observations	13,022	12,124	13,022	12,124	12,919	12,029	13,022	12,124	13,010	12,112	13,010	12,112
Wave fixed effect	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table B9
Weighted regressions and excluding Mexico.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The specifications of the first two columns use the ratio of the total number of observations in our sample to the number of immigrants from a country as a sampling weight. The last two columns exclude Mexican immigrants. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.399***	1.435***	1.015***	0.984***
	(0.080)	(0.167)	(0.289)	(0.341)
Observations	13,022	12,124	7794	7473
Wave fixed effect	Y	Y	Y	Y
Control variables	Y	Y	Y	Y

Table B10
Other dimensions of culture.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share
Diversity (anc. adj.)	0.944***	1.504***	0.826***	1.333***	0.943***	1.396***
	(0.191)	(0.311)	(0.200)	(0.332)	(0.148)	(0.246)
Masculinity	0.000	0.000				
	(0.000)	(0.000)				
Uncertainty avoidance			−0.000	−0.000		
			(0.000)	(0.000)		
Long-term orientation				−0.000	−0.000	
				(0.000)	(0.000)	
Observations	12,814	11,932	12,814	11,932	12,749	11,891
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

Table B11
Additional institutional characteristics.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share	5 Stock market participation	6 Equity share
Diversity (anc. adj.)	1.007***	1.440***	0.943***	1.409***	0.957***	1.424***
	(0.195)	(0.270)	(0.164)	(0.272)	(0.166)	(0.265)
Trade freedom	0.006	0.003				
	(0.005)	(0.005)				
Regulatory freedom			0.006*	0.008**		
			(0.003)	(0.004)		
Economic freedom					0.006	0.007
					(0.006)	(0.011)
Observations	12,542	11,676	12,542	11,676	12,542	11,676
Wave fixed effect	Y	Y	Y	Y	Y	Y
Control variables	Y	Y	Y	Y	Y	Y

Table B12
The role of social infrastructure and ethnic fractionalization.
The dependent variables are given in the first line of the table. When dependent variable is *Stock market participation*, the table report marginal effects and associated standard errors (clustered by individuals' origin country) from probit models. When dependent variable is *Equity share*, the table reports coefficient estimates and standard errors (clustered by individuals' origin country) from tobit models. The variables are thoroughly defined in Appendix A. The lower part of the table reports the number of observations, the inclusion of a wave fixed effect, and the inclusion of the control variables reported in Table 2. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Stock market participation	2 Equity share	3 Stock market participation	4 Equity share
Diversity (anc. adj.)	0.867***	1.324***	0.937***	1.250***
	(0.162)	(0.315)	(0.158)	(0.248)
Social infrastructure	0.038	0.008		
	(0.036)	(0.060)		
Ethnic fractionalization			−0.026	0.084*
			(0.026)	(0.047)
Observations	12,483	11,612	13,022	12,124
Wave fixed effect	Y	Y	Y	Y
Control variables	Y	Y	Y	Y

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