



2008-WP-05

May 2008

What Can We Learn about Financial Access from U.S. Immigrants? **Una Okonkwo Osili and Anna Paulson**

Abstract: We find that wealthier and more educated immigrants are more likely to make use of basic banking services and other formal financial services. Holding these (and other) factors constant, we find immigrants from countries with more effective institutions are more likely to have a relationship with a bank and use formal financial markets more extensively. The impact of institutional quality affects all immigrant groups except those who have been in the United States for more than 28 years. In addition institutional quality affects all immigrants, regardless of how old they were when they migrated to the United States. These findings are robust to alternative measures of institutional effectiveness and to controlling for unobserved individual characteristics.

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Keywords: financial access, institutions, financial market participation, immigrants.

JEL Classification: O16, J61, G11.

The findings and conclusions presented in this paper are entirely those of the authors and do not necessarily represent the views of Networks Financial Institute or the Federal Reserve Bank of Chicago. This paper was originally published as a Federal Reserve Bank of Chicago Working Paper 2006-25. The authors gratefully acknowledge funding from Networks Financial Institute, the Federal Reserve Bank of Chicago and the Russell Sage Foundation. Shirley Chiu provided excellent research assistance. NFI working papers and other publications are available on NFI's website (www.networksfinancialinstitute.org). Click "Research" and then "Publications/Papers." Please address questions regarding content to Una Okonkwo Osili at uosili@iupui.edu or Anna Paulson at anna.paulson@chi.frb.org. Any errors or omissions are the responsibility of the authors.

What Can We Learn about Financial Access from U.S. Immigrants?

Una Okonkwo Osili and Anna Paulson

1. Introduction

There is a growing interest in understanding what determines the availability and the usage of financial services in both developing and developed countries. Even among developed countries, there is significant variation in the fraction of individuals who use financial services. In the United States, a significant subset of the population makes little use of even basic financial services. Between 10 to 25 percent of individuals in the United States have neither a savings nor a checking account.¹ Participation in retirement savings and stock markets is even lower. In Sweden, Germany and Canada, the fraction of people without a bank account is much lower than in the United States, closer to 3 percent. Although the data are sparse, in some developing countries the norm is to be without a bank account. Approximately 75 percent of households in Mexico lack an account as do 90 percent of Kenyans.²

Recent survey evidence from the United States suggests that a significant fraction of households choose not to hold bank accounts because they “often are imbued with a cultural distrust of banks, and they may be concerned with privacy” (FDIC, 2003). Survey evidence from several developing countries, including Columbia and Mexico, suggests that similar concerns play a role in low rates of formal financial market participation in developing countries as well. Although low rates of participation are influenced by high transaction costs, lack of assets and geographical proximity to banks, many households also have concerns about the security of holding financial assets in weak institutional environments (Caskey, Ruiz Duran and Solo (2006); Solo and Manroth, (2006)). Since financial markets provide important tools for enhancing welfare – tools to transfer resources across time and across states of the world, to make payments, to mitigate risk and to fund investments -- low rates of participation may be associated with lower welfare.

This paper examines the determinants of financial market participation among immigrants in the United States, examining the role of both individual level characteristics like wealth and education as well as the effect of the country of origin institutional environment. If individuals from countries with weak institutions place a higher probability on the possibility of expropriation by financial institutions, the government or some other actor, then they will be less likely to invest in a wide-range of U.S. financial markets, compared with individuals who have experienced stronger institutions and weigh the risk of expropriation less heavily.

In contrast to our earlier work on stock market participation (Osili and Paulson, 2005), this paper is concerned with two more fundamental aspects of financial market participation: breadth and depth. Financial breadth is equal to one if an individual has any relationship with a bank (a savings or a checking account). The second measure, financial depth, captures how many of the

¹ The exact estimate depends on the dataset. The Survey of Consumer Finances delivers estimates closer to 10 percent, while the 1996 – 2000 Survey of Income and Program Participation data that we analyze produces estimates closer to 25 percent.

² Beck, Demirgüç-Kunt and Peria (2005).

functions of financial markets the individual uses: safe savings products (saving accounts or certificates of deposit), payment services (checking or money market accounts) or investment services (stock, IRAs or Keogh accounts).³

One important reason for being concerned with both the breadth and the depth of financial market participation is the extensive literature that shows that better developed financial markets lead to improved conditions at the country level. This literature uses cross-country data to show that financial development accelerates growth, decreases poverty and reduces inequality. See for example, Rajan and Zingales (1998), Levine (2005), and Beck, Demirguc-Kunt and Levine (2004).

Our work is also related to a growing number of studies which show that the ability of a country's institutions to protect private property and to provide incentives for investment can explain a large fraction of the persistent disparity in financial development and economic performance across countries. See for example Rodrik, Subramanian and Trebbi (2002), La Porta et al. (1998), Levine (1998, 1999), Levine, Loayza and Beck (2000), Rajan and Zingales (2003), Beck, Demirguc-Kunt and Levine (2003a, 2003b), and Açemoglu, Johnson and Robinson (2001 and 2002).

We focus our attention on U.S. immigrants for several reasons. First, immigrants are a large and growing segment of the U.S. population whose rates of participation in formal financial markets are low relative to otherwise similar individuals who were born in the United States (Osili and Paulson, 2004). Second, international migration allows us to study the impact of placing an individual into a different formal institutional environment while holding past experience with institutions fixed. In the process of migrating from one country to another, individuals move from one formal institutional environment to another but may maintain beliefs about institutions acquired in their countries of origin. This allows us to explore the importance of the second component of North's (1990) definition of institutions: "formal constraints – rules that human beings devise" and "informal constraints – such as conventions and rules of behavior." By studying the behavior of international migrants in the United States, we isolate the impact of informal institutional constraints, since all of the migrants face the same set of formal rules in the United States⁴ Understanding the role of informal institutional constraints is a crucial component of predicting the impact of formal institutional change.

In addition, by studying immigrants in the United States we retain some of the interesting diversity of a cross-country study but eliminate some confounding factors. To a first approximation, studying immigrants in the United States controls for factors that impact the supply of financial services across countries. For example, the immigrants whose behavior we study face the same competitive environment; make decisions in the same regulatory environment; are subject to the same legal structure, the same infrastructure and so on. We focus

³ We do not examine usage of insurance products explicitly. However, the financial depth measure is likely to capture the ability of an individual to use financial markets to smooth consumption.

⁴ We relax this assumption in the empirical work by including Metropolitan Statistical Areas (MSAs). Effectively, the empirical strategy assumes that formal institutional constraints are the same for immigrants living in the same MSA.

our attention on how the experience of these supply factors in the country of origin manifests itself in preferences and beliefs and by extension the usage of financial services.

Studying immigrants creates some new empirical challenges. Immigrants are not random representatives of their birth countries. Instead they have, typically, chosen to come to the United States. The decision to emigrate may be influenced by country of origin qualities that are correlated with unobservable individual characteristics. We take a number of steps to ensure that our findings are robust to this type of unobserved heterogeneity.⁵

We find that wealthier and more educated immigrants are more likely to make use of basic banking services and have higher measures of financial depth. Holding these (and other) factors constant, we find immigrants from countries with more effective institutions are more likely to have a relationship with a bank and also use formal financial markets more extensively. These results are robust to alternative measures of institutional effectiveness, adding additional country of origin controls and various methods of addressing potential bias due to unobserved individual characteristics, including specifications with country fixed-effects. Country of origin institutions affect the financial market participation of recent immigrants as well as those with up to 27 years of U.S. experience. They also influence the behavior of immigrants who arrive in the United States as children as well as those who migrate as adults. Institutional quality appears to shape preferences and beliefs in a way that influences both the breadth and the depth of financial access.

The rest of the paper is organized as follows: Section 2 describes the data. In section 3 we discuss our empirical findings. Section 4 concludes.

2. Data

The challenge in using individual data is to find meaningful variation in institutional quality within a single data set. We achieve this by looking at a large sample of immigrants living in the United States. We combine country level data from various sources with individual level data from the 1996 – 2000 Survey of Income and Program Participation (SIPP) to create the key variables of interest for this study.

Country data

The country data include various measures of institutional quality, and other important country characteristics. Table 1 defines each variable and describes its source.

The measure of institutional quality that we use is “protection from expropriation.” This variable evaluates the risk of “outright confiscation and forced nationalization” of property and comes from the International Country Risk Guide (ICRG) IRIS-3 Data. Ratings range from 1 to 10 and

⁵ Our empirical strategy is similar to that of Fernandez and Fogli (2005), who show that country-of-ancestry fertility and female labor force characteristics influence the fertility and work behavior of U.S.-born children of immigrants. Carroll, Rhee and Rhee (1994) also use a conceptually similar approach in their study of the cultural determinants of savings. Borjas (1987) also looks at the impact of country-of-origin characteristics on immigrant wage assimilation.

lower ratings “are given to countries where expropriation of private foreign investment is a likely event.” We average annual country observations from 1982 to 1995 to form the “protection from expropriation” variable that is used in the empirical work.⁶

Other important country of origin variables include: geography, legal origin, gross domestic product (GDP) per capita, religious composition, measures of infrastructure availability, an indicator for whether immigrants from the country in question are likely to speak English, and characteristics of the financial sector in the country of origin. Table 2A presents summary statistics for each of the country-level variables. Correlations between the various country of origin variables are presented in Table 2B.

Individual data

Historically high rates of migration to the United States in the past two decades mean that at least 10 percent of the U.S. population was born abroad. The SIPP data are designed to be representative of the U.S. population and include approximately 46,000 individuals, of whom 11 percent are immigrants. These individuals face a common set of formal institutional constraints in the United States, but the immigrants vary in the institutional constraints that they have experienced prior to coming to the United States.

We restrict the sample to immigrants who are over 18 and live in a metropolitan statistical area (MSA), for a total sample of 15,043 observations, with (approximately) 4 annual observations per person.⁷ Table 3A summarizes these data for immigrants and the native-born. Compared with the native-born, immigrants are younger, more likely to be married, non-white, have more children and more likely to be unemployed or economically inactive. Immigrants also tend to be less educated than the native-born. Slightly less than 36 percent of the immigrant sample has not completed high school, compared with only 15 percent of the native-born sample. However, the percentage of immigrants and the native-born who have an advanced degree is roughly the same at 7 percent and 8 percent, respectively.

Monthly per capita household income is significantly lower for immigrants compared with the native born. In addition to having lower incomes, immigrant households have also accumulated less wealth compared with households headed by individuals who were born in the United States. The median immigrant household has wealth of \$29,001 compared with \$71,123 for the native-born.

The indicators of financial access that we focus on are financial depth (owning a checking or a savings account) and financial depth (the number of distinct functions of financial markets that

⁶ We assign institutional quality measures to individuals who were born in the Soviet Union, the former Yugoslavia or Czechoslovakia in the following way: individuals who reported that they were born in Russia, Armenia, Azerbaijan, the Baltic States, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, USSR, Uzbekistan are mapped to the institutional quality measure for the Soviet Union; individuals who reported that they were born in Czechoslovakia, Slovakia, Czech Republic are mapped to the institutional quality measure for Czechoslovakia and individuals who reported that they were born in Yugoslavia, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Slovenia, Serbia are assigned the institutional quality measure for Yugoslavia.

⁷ We restrict our attention to the four annual survey waves where wealth data are available. Other SIPP data are collected quarterly between 1996 and 2000.

an individual makes use of: safe savings, payment services and investment services). Sixty-one percent of the immigrant sample has a savings or a checking account, compared with 76 percent of the native-born (see Table 3A). The median measure of financial depth is one for immigrants and two for the native-born. In addition, we see that 47 percent of immigrants have a checking account compared with 64 percent of the native-born. Savings account ownership has a similar pattern. Forty percent of the immigrant sample has a savings account, compared with 55 percent of the native-born.

Additional immigrant characteristics are described in Table 3B. Nearly one-half of the immigrants arrived in the United States within the 10 prior to the start of the survey. Just under half of the immigrants were born in a North American country and about 15 percent were born in Europe.⁸ Most of the immigrants arrived in the United States as adults, with almost 71 percent arriving at twenty-one years or older.

3. Empirical Findings

We estimate financial breadth (B_{isj}) and financial depth (D_{isj}) using the following linear model:

$$B_{isj} \text{ or } D_{isj} = \alpha + \beta_1 X_i + \beta_2 Z_j + \delta_s + \varepsilon_{isj},$$

where B_{isj} is the decision to have a bank account (or the intensity of financial market participation, D_{isj}) for individual i who lives in metropolitan statistical area s and comes from country j . Individual controls are incorporated in X_i and include age, age squared, wealth quartiles, income, labor force status, education, sex, marital status, number of children in household, and race. The individual characteristics control directly for the demand for financial services and indirectly for the supply of financial services to the extent that socioeconomic characteristics influence the location or advertising of financial services. A full set of MSA fixed effects are included in δ_s , and Z_j measures supply characteristics in country j . The MSA controls hold constant variation in the supply of financial services at the MSA level. If individual characteristics, like wealth and education, are influenced by supply characteristics in the country of origin, the regression will tend to produce overly conservative estimates of the direct effect of country of origin characteristics, β_2 .

By including measures of individual characteristics, we are able to isolate the effect of country of origin institutions.⁹ All of the reported standard errors are adjusted to allow for correlation across observations for immigrants that come from the same country. When the dependent variable is B_{isj} we also correct for the heteroscedasticity that is implicit in a linear probability model.¹⁰

⁸ Mexico accounts for just over one-quarter of the immigrants in the sample.

⁹ This addresses an important concern with some earlier cross-country studies that focus on the impact of institutions on financial development. For example, the identification strategy used by Acemoglu, Johnson and Robinson (2001) stresses the link between institutional development and settler mortality during the colonial period, but leaves open the possibility that the human capital of colonial settlers played a role in future economic development.

¹⁰ We use a linear probability model because it is computationally attractive given the large number of fixed effects, is consistent under weak assumptions and because the coefficient estimates are easy to interpret. In particular, the

Baseline Findings

The relationship between financial market participation and institutional quality is explored in Tables 4A and 4B. The sample is restricted to immigrants who are at least 18 years of age, live in a MSA and come from one of the 78 countries for which institutional quality data are available. In addition to a measure of institutional quality, the explanatory variables include age, age squared, wealth quartiles, labor force status, income, marital status, sex, race, education, number of children and controls for the MSA where the immigrant lives.¹¹

We find that institutional quality has a positive and significant effect on having a bank account (Table 4A, column [1]). According to this estimate, if an individual from a country with “average” institutions, as captured by “protection from expropriation” had instead come from a country that had institutions that were one standard deviation above the mean, the likelihood that they had a savings or a checking account would increase by 4.7 percentage points, a 7.7 percent increase in the likelihood of having a bank account, relative to the observed likelihood for immigrants of 61 percent. The same change is associated with a 12 percent increase in financial depth (Table 4B, column [1]). This is roughly equivalent to considering what would happen if Argentina’s “protection from expropriation” had been the same as Germany’s between 1982 and 1995.

These baseline findings suggest that immigrants come to the United States with attitudes shaped by the effectiveness of home-country institutions, and that the ability of home-country institutions to protect investment and provide incentives for investment has a significant effect on immigrant behavior in the United States over and above the impact of individual characteristics including wealth, income and education. We have replicated the results using other measures of institutional quality with largely the same conclusions.¹²

Additional Country Controls

We now turn our attention to exploring the robustness of our findings. The first issue we consider is that there may be other important country-of-origin characteristics that are correlated with institutional quality that were left out of the baseline results. We explore the impact of adding additional country characteristics in columns [2] – [7] of Tables 4A and B.¹³

In column [2], we report on estimates that include continent controls in addition to protection from expropriation. The size of the coefficient on protection from expropriation declines modestly, but otherwise results are unchanged. This rules out the possibility that the results were driven by discrimination against individuals based on their continent of origin, say Africa or Central or South America, for example, and that countries in the same continent tend to share institutional qualities.¹⁴ We also control directly for average GDP per capita, religion and

coefficients on interaction terms are straightforward to interpret (see Ai and Norton, 2003). Nonlinear estimation methods, such as probit or logit, generate similar results.

¹¹ See the Supplemental Materials Table 2 for the impact of these independent variables.

¹² See Tables 3A and 3B in the Supplemental Materials for these estimates.

¹³ The issue of omitted country characteristics is also addressed in specifications which include country fixed effects (see Table 5).

¹⁴ Recall that the estimates include a control for being “non-white,” so the continent controls capture differential treatment based on continent of origin, holding racial characteristics fixed.

whether the origin country is English-speaking in columns [3] – [5]. Adding these controls does not change the strong positive correlation between coming from a country with strong institutions and participating more extensively in U.S. financial markets.

An important issue is whether the availability of home-country financial markets also influences the likelihood of financial market participation among immigrants in the United States. The supply of banks may be lower in countries where entry is costly. In column [6], we add “bank freedom” to the regression.¹⁵ This variable measures the absence of government interference in the banking sector and is likely to be higher in countries where entry is less costly (see Table 1 for a definition). The freedom of the country of origin banking sector has a positive and significant effect on financial market participation. However, home country institutions remain important. The coefficient on institutional quality in the regression where having a bank account is the dependent variable is highly significant and equal to 0.029. Note that the freedom of the banking sector is likely to be influenced, perhaps quite strongly, by the quality of country-of-origin institutions. We have replicated these results using a measure of banking concentration (the percentage of banking assets held by the three largest banks) with similar results.¹⁶

In column [7], we add a proxy for infrastructure conditions in the country of origin. The measure we use is the number of internet users per 1,000 people. The specific measure does not seem to be important, and we get similar results when we use telephone usage or the percentage of roads that are paved. In countries where infrastructure is weak, individuals may have little direct experience with banks and other financial institutions since they may be costly to get to and to communicate with. These conditions appear to spill over to behavior in the United States. Immigrants from countries with more extensive infrastructure are more likely to participate in U.S. financial markets, whether we use financial breadth or financial depth as the dependent variable. The coefficient on institutional quality remains positive and strongly significant in these regressions.

Overall, the results presented in Tables 4A and B suggest that the finding that financial market participation in the United States is influenced by the quality of institutions in the country of origin is robust to including additional attributes of the country of origin.

Unobserved Heterogeneity

We turn our attention now to what is an important empirical issue for any study of immigrant behavior and for ours in particular. Immigrants are not random representatives of their country of origin. They choose to migrate and that decision may be influenced by characteristics that are not observable. If unobserved individual characteristics are correlated with country-of-origin institutional quality, then we need to be concerned that our findings capture the effect of unobserved individual characteristics, rather than the effect of institutional quality.

¹⁵ Beck, Demirgüç-Kunt and Maksimovic (2004) find that firms’ access to finance is more restricted by concentration in the banking industry in countries where bank freedom is lower.

¹⁶ We have also examined the effect of controlling for remittances to the home country. If immigrants are not investing in U.S. financial markets, perhaps they are investing at home through remittances. Including a measure of remittances received in the home country does not alter the effect of institutional quality. We find that migrants from countries that receive higher per capita remittances are more likely to participate in U.S. financial markets. This is consistent with work by Aggarwal, Demirgüç-Kunt and Peria (2006), who find that remittances promote financial development.

Borjas (1987) describes one channel through which unobserved heterogeneity could bias the results. In his model, the decision to migrate is a function of, among other things, unobserved migrant ability and the distribution of income in the country of origin and the destination country. Because high ability migrants are only concerned with the right tail of the income distribution, they will tend to migrate from more equal societies to less equal ones. In contrast, low ability migrants will move from less equal societies to more equal ones, to protect themselves against a draw from the low end of the wage distribution. Assuming that unobserved ability affects financial behavior as well as labor market outcomes, this type of selection could bias our results.

Since countries with low inequality also tend to have strong institutions, our finding that financial market participation increases with country-of-origin institutional quality could be driven by ability bias. For example, immigrants from Sweden, a country with low inequality (relative to the United States) and high quality institutions, are likely to be of high ability. In contrast, immigrants from Brazil, a country with high inequality and less effective institutions, will tend to have lower unobserved ability.

In addition to unobserved ability, there are other individual characteristics that we cannot observe that may play a role in the decision to participate in financial markets and may also be correlated with country-of-origin institutional quality. To produce unbiased estimates of the effect of country-of-origin institutional quality on financial market participation in the United States, we need to eliminate the possibility that omitted individual characteristics are correlated with country-of-origin institutional quality. If we can do this, we can confidently interpret the coefficient estimate on institutional quality, despite the fact that there may be important individual characteristics that we do not observe.

To do this, we create an alternative measure of institutional quality that captures both institutional quality and the potential size of an immigrant network. This measure of institutional quality is the interaction of “protection from expropriation” with “ethnic concentration.” Ethnic concentration is defined as the percentage of people in an MSA who come from the same country as the immigrant in question:

$$EC_{sj} = \frac{\# \text{ of immigrants from country } j \text{ living in MSA } s}{\text{total population in MSA } s}$$

Because this alternative measure of institutional quality varies by country of origin, we can include country-of-origin fixed effects in the estimation and eliminate any correlation between unobserved individual attributes and country of origin.¹⁷ We use data from the 1990 Census IPUMS to calculate this measure for each country of origin and MSA.

In Table 5, we estimate:

¹⁷ Information about the median ethnic concentration for immigrants from each country is available in the Supplemental Materials, Table 1.

$$B_{isj} \text{ or } F_{isj} = \alpha + \beta_1 X_i + \beta_2 Z_j \times EC_{sj} + \beta_3 EC_{sj} + \delta_s + \delta_j + \varepsilon_{isj},$$

where $Z_j \times EC_{sj}$ is the interaction of institutional quality and ethnic concentration for an individual from country j who lives in MSA s . We include a full set of country-of-origin controls in δ_j . All of the other variables are defined above. The ethnic concentration variable, EC_{sj} , helps to control for the availability of informal investments that might substitute for formal financial services.

By including MSA fixed effects in all of the estimates, we rule out another potential source of bias in the new institutional quality measure.¹⁸ Since location choice is non-random, immigrants who choose to live in an MSA with a large fraction of immigrants from the same country of origin are likely to be systematically different along unobservable dimensions from immigrants who choose to live in an MSA with very few immigrants from the same country of origin. By including MSA fixed effects, we ensure that the coefficient on protection from expropriation interacted with ethnic concentration will not be biased by these unobservable characteristics.

In addition to dealing with a potential source of bias, this approach may also shed light on why the quality of country-of-origin institutions matters for financial market participation. A significant and positive coefficient on the new institutional quality measure means that the impact of coming from a country with weak institutions is reinforced when individuals from countries with weak institutions live near one another.

These estimates are reported in Table 5. The first two columns report the results for the probability of having a bank account and the last two report the results for the number of financial relationships. The estimates presented in columns [1] and [3] do not include country fixed effects. Columns [2] and [4] add country fixed effects. The coefficient on institutional quality interacted with ethnic concentration remains positive and significant when country fixed effects are included.

For the median immigrant who lives in a metropolitan area where 0.78 percent of the population comes from the same country, the estimates imply that the likelihood of having a bank account would increase by 1.1 percentage points and that an individual would make use of 0.03 percent more of the functions of financial markets if institutional quality were one standard deviation higher from 1982 to 1995. By comparison, the baseline findings, which are not corrected for unobserved heterogeneity, imply that the same increase in institutional quality is associated with a 4.7 percentage point increase in the likelihood of having a bank account and a 0.12 percent increase in financial depth.

Enforcement of Informal Institutional Constraints

In addition to addressing an important econometric issue, the estimates which include institutional quality interacted with ethnic concentration speak to an important substantive one. North (1993) defines institutions as a trinity: the formal rules of the game, informal institutional constraints and the enforcement of formal and informal constraints. One role of neighborhoods with a large population of immigrants from a single country is the enforcement of country-of-origin norms and customs (see for example Kandori (1992)). When immigrants live in a place

¹⁸ Note that EC_{sj} varies by country-of-origin for a given MSA, so we can include both country and MSA fixed effects in the regressions.

where country-of-origin institutional constraints are more likely to be enforced, these constraints should matter more.

We find evidence in favor of this view. Ethnic concentration is roughly twice that of the median immigrant for Filipino immigrants and about one-half of the median for Portuguese immigrants. A one standard deviation improvement in institutions in the Philippines is predicted to increase the probability that Filipinos have a bank account by 2.6 percentage points and financial depth by 0.08. The same improvement in institutional quality would increase bank account ownership by 0.52 percentage points and financial depth by 0.02 for Portuguese immigrants.

The finding that the effect of institutional quality varies with size of the potential immigrant network is consistent with work by Madrian and Shea (2000), Duflo and Saez (2003) and Hong, Kubik and Stein (2004) who show that social interactions have important effects on financial decisions. Immigrant networks have also been shown to be important in a number of other non-financial contexts, including employment probabilities (Munshi, 2003), wage growth and human capital accumulation (Boras, 1995 and 2000) and language proficiency (Chiswick and Miller, 1996).¹⁹

Persistence of Institutions

In Table 6, we consider how long-lasting the effects of country of origin institutions are. This Table examines the effect of country-of-origin institutional quality on financial market participation in the United States for subsets of immigrants based on the number of years they have lived in the United States. The top panel reports results for the likelihood of having a bank account and the bottom panel reports on regressions where the dependent variable is financial depth.

Columns 2 – 6 of Table 6 divide the immigrant sample into five sub-samples based on how many years they have been living in the United States. For each sub-sample, two estimates are produced: one which includes controls for how old the immigrant was when she arrived in the United States and one which does not. The effects of informal institutional constraints are very persistent. The effect of protection from expropriation is positive and significant for every sub-sample, except for the sub-sample of immigrants who have been in the United States for more than 28 years.

The persistent impact of country of origin institutions suggests that the “supply” channel is not the major mechanism by which individuals behavior is influenced by institutions. If lack of experience with institutions due to restricted supply conditions in the country of origin was the primary mechanism through which institutions influence individual behavior, it would be likely to decay with time spent in the United States. The long lasting effect of country-of-origin institutions is akin to the finding that individuals who lived through the Great Depression have persistently higher savings rates (see Meredith and Schewe, 1994).

¹⁹ In addition, Fernandez and Fogli (2005) show that the impact of country-of-ancestry norms on fertility and women’s labor force participation is also amplified for the children of immigrants who reside in neighborhoods with other people who share the same country of ancestry.

Learning about Institutions

We have presented evidence that informal institutional constraints are embodied in individuals and that these constraints influence financial market decisions even in a new formal institutional framework. However, these findings do not address the question of how or when these constraints become embodied in individuals. For example, are they inherited and present even in individuals who migrated at a very young age? Or are they only observed in individuals who migrate as mature adults, consistent with the view that they are shaped by an individual's experience in their country of origin? Answers to these questions can help us to better understand the channels through which informal institutional constraints impact behavior.

We take an initial step toward answering these questions via the estimates presented in Table 7. Table 7 examines the effect of country-of-origin institutional quality on the likelihood of having a bank account (top panel) and financial depth (bottom panel) for subsets of immigrants based on their age of arrival in the United States: those who arrived before age 16, those who arrived when they were between 16 and 20 years and those who arrived when they were 21 years or older.

The effect of country-of-origin institutions is present even in those who migrated when they were less than 16 and before many of them would have been likely to have had much direct experience with their country-of-origin institutions outside of school. This suggests that families and possibly the educational system, and not just direct experience, play an important role in shaping an individual's perception of the trustworthiness of institutions.

Intergenerational Transmission of Informal Institutional Constraints

In a final set of estimates, we take another approach to examine the robustness of the findings. This approach also helps to illuminate the mechanism through which institutions come to influence behavior. Expanding on the findings from Table 7, which show that the behavior of immigrants who arrived in the United States as young children is influenced by home-country institutions, we consider whether institutional attitudes are inherited. To do this we take advantage of the fact that the SIPP data provide information on region or country of ancestry for individuals born in the United States. We can map some of these responses to individual countries and then estimate the effect of institutional quality on having a bank account and financial depth for natives as well as for immigrants.²⁰ The estimates are presented in Table 8. The top panel reports results for the probability of having a checking or a savings account, and the bottom panel reports results for financial depth.

For immigrants, we find a positive and significant effect of institutional quality on financial market participation. For those who were born in the United States, but trace their ancestry to one of the same countries, institutional quality has no effect on financial market participation. When the formal institutional environment is altered as profoundly as it is when an individual migrates from one country to another, the influence of informal institutional constraints for financial market behavior do not appear to be passed along to future generations.

²⁰ We form samples of natives and of immigrants who map their ancestry to or were born in one of the following thirteen countries: Canada, France, the Netherlands, England, Germany, Hungary, Ireland, Italy, Poland, Russia, Cuba, Mexico and the Dominican Republic.

Additional Robustness Checks

In addition to the results reported here, we have also examined how institutional quality affects other behavior and how its effect varies across different types of people. These estimates are available in the Supplemental Material Tables 3 - 5. We find that that institutional quality is important for explaining financial behavior and more so when the institutional confidence that is required for a particular investment is particularly high. Institutions have a bigger effect on owning stock than having a savings account, for example. Institutions have no effect on non-financial behavior, driving a car to work, or the frequency of visits to the doctor, for example. The finding that institutions matter when we would expect them to and do not when we would not expect them to gives us confidence that institutional quality is not a proxy for some other country-of-origin characteristic – national attitudes regarding self-reliance or altruism, for example -- that explains all sorts of behavior, not just behavior that should be governed by the institutions that determine protection of private property and incentives for investment.

We have also examined how institutional quality affects different groups of immigrants. We find that while institutional quality has a significant effect on financial behavior for immigrants with both high and low levels of education, institutional quality has a quantitatively larger effect on the behavior of immigrants with less schooling. When we restrict the sample to immigrants who are naturalized U.S. citizens, we continue to find that the likelihood of having a bank account and financial depth are significantly increasing in home-country institutional effectiveness. A quarter of the immigrants were born in Mexico, and we want to make sure that the results are not driven by this large number of immigrants who share the same institutional environment. Eliminating Mexican immigrants from the sample has no effect on the results.

4. Conclusions

We find that immigrants from countries with institutions that more effectively protect private property and provide incentives for investment are more likely to have a bank account in the United States and participate more extensively in U.S. financial markets. These findings are robust to alternative measures of institutional effectiveness and to various methods of controlling for unobserved individual characteristics, including specifications with country fixed-effects.

What do our findings tell us about the likely results of efforts to increase financial access in developing countries? First we learn that institutional reform is a very important tool in the effort to expand financial access. In addition, institutional reform is likely to increase financial access both directly (through the expansion of banks) and indirectly (through beliefs and perceptions about the trustworthiness of financial institutions). In addition, institutions matter even after controlling for wealth, income, and education. This suggests that limited usage of financial services is not simply a problem of poverty (see Claessens, 2006), and while poverty reduction is likely to increase financial market participation, institutional reform has an important role to play as well.

However, mistrust of banks is deeply rooted in informal institutional constraints and is slow to change. We can think about the immigrant experience in the United States as an experiment in institutional reform. In some sense this experiment corresponds to a best case scenario for institutional reform: the change in the institutional environment is credible; it is multi-faceted, affecting fiscal, monetary and trade policy as well as the judicial and political system; and the

majority of the individuals whose behavior we study have, in some sense, sought out institutional change and are motivated to succeed economically. Even in this environment, informal institutional constraints influence the behavior of international migrants in the United States for decades.

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Table 1: Definitions and Sources of Country-level Variables

Variable	Definition and Source
Protection from Expropriation of Private Investment	This variable evaluates the risk of "outright confiscation and forced nationalization" of property. Lower ratings "are given to countries where expropriation of private foreign investment is a likely event." Variable is the average over annual country observations 1982 – 1995. Source: International Country Risk Guide (ICRG) IRIS-3 Data
British Legal Origin	This variable is equal to one if the legal regime of the country is British and zero otherwise. Source: "The Quality of Government" LaPorta, Lopez-de-Silanez, Schleifer, Vishny (1999). http://www.som.yale.edu/faculty/fl69/datasets.asp .
English Speaking	This variable is equal to one if English is one of the official languages of the country <i>and</i> if at least 50 percent of the immigrants from the country who were surveyed in the 1980 U.S. Census report that they do not speak a language other than English at home. Source: Bleakley, Hoyt and Aimee Chin. "Language Skills and Earnings: Evidence from Childhood Immigrants," <i>Review of Economics and Statistics</i> , May 2004.
Latitude	This variable is equal to the absolute value of the latitude of the country's capital divided by 90. Source: "The Quality of Government" LaPorta, Lopez-de-Silanez, Schleifer, Vishny (1999). http://www.som.yale.edu/faculty/fl69/datasets.asp .
Av. Per Capita GDP	Average real GDP per capita 1982 – 1995, 1995 dollars. Source: World Bank World Development Indicators.
Catholic, Protestant, Muslim	The percentage of people in the country (x 100) who are a particular religion. Source: CIA Factbook.
Banking Freedom	This variable indicates the absence of government interference in the banking system and is averaged over the period 1995-99. Specifically, this indicator is based on five questions: (1) Does the government own banks? (2) Can foreign banks open branches and subsidiaries? (3) Does the government influence credit allocation? (4) Are banks free to operate without government regulations such as deposit insurance? (5) Are banks free to offer all types of financial services like buying and selling real estate, securities, and insurance policies? Source: Thorston Beck, Asli Demirguc-Kunt, and Vojislav Maksimovic, "Bank Competition and Access to Finance: International Evidence," <i>Journal of Money, Credit, and Banking</i> , 36(3), (June 2004, Part 2) (citing to data indicator from the Heritage Foundation, http://www.heritage.org/).
Bank Concentration	This variable indicates the share of the assets of the largest three banks in total banking sector assets, averaged over 1995-1999. The variable is calculated using commercial, savings, and cooperative banks as well as nonbank credit institutions data from the Bankscope database. Source: Thorston Beck, Asli Demirguc-Kunt, and Vojislav Maksimovic, "Bank Competition and Access to Finance: International Evidence," <i>Journal of Money, Credit, and Banking</i> , 36 (3), (June 2004, Part 2).
Internet Usage	Average number of Internet users per 1,000 people, 1982-1995. "Internet users" is defined as people with access to the worldwide network. Source: World Bank World Development Indicators.

Table 2A: Summary of Country Variables

Characteristic	N	Mean	Standard Deviation	Min	Median	Max	U.S. value
Measures of Institutional Quality							
Protection from Expropriation	79	7.50	1.74	1.81	7.51	10.00	10.00
British Legal Origin	79	0.29	0.46	0.00	0.00	1.00	1.00
Latitude	79	0.33	0.19	0.01	0.33	0.71	0.42
Other Country Characteristics							
English Speaking	79	0.139	0.35	0.00	0.00	1.00	1.00
GDP Per Capita	74	8,704	10,376	106	3,208	42,873	24,831
Catholic	74	39.29	40.01	0.00	27.2	97.00	24.00
Protestant	74	10.43	19.39	0.00	0.35	87.00	52.00
Muslim	74	16.82	33.77	0.00	0.00	100.00	1.00
Internet Usage	77	4.46	8.40	0.00	.43	41.77	33.96
Banking Freedom	48	3.34	0.73	1.60	3.30	5.00	4.00
Bank Concentration	48	0.52	0.18	0.18	0.51	0.97	0.18

Table 2B: Correlation between Country Variables

Characteristic	Protection From Exp	British Legal Origin	Latitude	Internet Access	Banking Freedom	Bank Concentration
Protection from Expropriation	----					
British Legal Origin	0.119	----				
Latitude	0.572***	-0.200*	----			
Internet Usage	0.607***	0.114	0.530***	----		
Banking Freedom	0.334**	0.046	0.283**	0.312**	----	
Bank Concentration	-0.296**	0.006	-0.069	-0.173	-0.335**	----

Notes: *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Table 3A: Characteristics of Immigrants and the Native Born in the SIPP Data

Characteristic	Native Born	Immigrant
Individual Characteristics		
Age	46.47 (17.52)	45.22 (16.51)
% Male	45.6%	46.2%
% Married	57.4%	65.6%
% Non-white	16.4%	32.2%
% Unemployed or out of the labor force	33.8%	36.7%
# Of children < 18 in household	0.720 (1.090)	1.118 (1.347)
Average monthly per capita household income	\$2,224.44 (2,832.45)	\$1,639.53 (2,375.44)
Median monthly per capita household income	\$1,578	\$1,050
Average household wealth	\$185,754 (1,398,146)	\$122,685 (978,910)
25 th percentile of household wealth	\$14,660	\$3,017
Median household wealth	\$71,123	\$29,001
75 th percentile of household wealth	\$186,512	\$117,917
Educational Attainment (%)		
Less than high school	15.0%	35.8%
High school graduate	30.4%	24.5%
Some college	30.6%	20.1%
Bachelor degree	15.9%	12.5%
Advanced degree	8.1%	7.1%
Financial Market Participation		
Financial breadth (% with bank relationship)	76.3%	61.0%
Financial depth (# of types of financial relationships) mean	1.71 (1.02)	1.22 (1.01)
Financial depth – median	2.00	1.00
% who own stock	20.0%	8.6%
% with a checking account (interest or non-interest)	63.8%	47.0%
% with a savings account	54.8%	40.1%
Other characteristics (%)		
% who are self-employed	9.1%	8.7%
% who drive own car to work	81.7%	75.1%
% who visited doctor in past 12 months	78.8%	79.3%
% who purchased prescription drugs for children	51.8%	34.1%
Number of individuals	31,046	5,020
Number of observations	100,839	15,043

Notes: Unless otherwise noted, mean values are reported. Standard deviations are in parentheses. The unit of observation is a person-wave. Sample is restricted to the four waves of the Survey on Income and Program Participation with wealth information, to individuals 18 and over, to those who live in a Metropolitan Statistical Area and to those who have non-missing data for “expropriation risk.” See text for definitions of financial breadth and depth.

Table 3B: Immigrant Characteristics

Characteristic	Immigrant
Year of Arrival in the U.S. (%)	
Before 1964	11.5%
1965 – 1969	8.2%
1970 – 1974	10.1%
1975 – 1979	12.8%
1980 – 1984	17.9%
1985 – 1989	18.4%
1990 – 1996	21.2%
Age at Migration (%)	
five years or younger	3.7%
six to ten years	4.6%
eleven to fifteen years	6.8%
sixteen to twenty years	14.3%
over twenty years	70.6%
Continent of Origin (%)	
North America	46.9%
Europe	15.4%
Asia	30.3%
Africa	0.9%
South America	6.3%
Australia and Oceania	0.2%

Notes: Unless otherwise noted, mean values are reported. Standard deviations are in parentheses. The unit of observation is a person-wave. Sample is restricted to the four waves of the Survey on Income and Program Participation with wealth information, to individuals 18 and over, to those who live in a Metropolitan Statistical Area and to those who have non-missing data for “expropriation risk.”

Table 4A: The Effect of Institution Quality on the Probability of Having a Bank Relationship

Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Protection from Expropriation	0.027 *** (0.005)	0.023 *** (0.007)	0.023 *** (0.005)	0.020 *** (0.008)	0.019 ** (0.008)	0.029 ** (0.008)	0.030 *** (0.008)
Av. Per Capita GDP [†]				2.490 ** (1.180)	2.470 ** (1.150)	-0.301 (1.090)	-3.290 ** (1.370)
English Speaking					0.024 (0.018)	-0.020 (0.035)	-0.078 ** (0.035)
Bank Freedom						0.037 ** (0.015)	0.040 *** (0.014)
Internet Usage							0.010 *** (0.002)
Religion Controls	No	No	Yes	No	No	No	No
Continent Controls	No	Yes	No	No	No	No	No
Adjusted R-Squared	0.2666	0.2697	0.2706	0.2687	0.2688	0.2877	0.2887
Number of Observations	14,232	14,232	13,250	13,336	13,336	10,799	10,799

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. The number of observations differs depending on the number of countries for which a particular country characteristic is available. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. The reported coefficients and standard errors of explanatory variables marked by a † are the actual ones multiplied by 1,000,000. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Table 4B: The Effect of Institution Quality on Depth of Financial Market Participation

Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Protection from Expropriation	0.071 *** (0.012)	0.056 *** (0.015)	0.057 *** (0.013)	0.044 *** (0.016)	0.039 ** (0.017)	0.055 *** (0.014)	0.056 *** (0.014)
Av. Per Capita GDP [†]				8.730 *** (2.770)	8.660 *** (2.760)	7.170 *** (2.620)	2.30 (3.260)
English Speaking					0.080 * (0.049)	-0.0001 (0.068)	-0.095 (0.091)
Bank Freedom						0.056 ** (0.026)	0.061 ** (0.026)
Internet Usage							0.016 (0.007) **
Religion Controls	No	No	Yes	No	No	No	No
Continent Controls	No	Yes	No	No	No	No	No
Adjusted R-Squared	0.3969	0.3997	0.3981	0.4043	0.4047	0.4179	0.4185
Number of Observations	14,232	14,232	13,250	13,336	13,336	10,799	10,799

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. The number of observations differs depending on the number of countries for which a particular country characteristic is available. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. The reported coefficients and standard errors of explanatory variables marked by a † are the actual ones multiplied by 1,000,000. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

**Table 5: Does Enforcement Matter?
Controlling for Unobserved Heterogeneity, Institution Quality and Ethnic Concentration**

Explanatory Variable	Probability of Having a Bank Relationship		Depth of Financial Market Participation	
	[1]	[2]	[3]	[4]
Protection from Expropriation * Ethnic Concentration	1.118*** (0.300)	0.827* (0.487)	2.704*** (0.604)	2.422** (1.075)
Ethnic Concentration	-8.638*** (2.225)	-5.734* (3.581)	-20.989*** (4.516)	-18.090** (7.995)
Country Controls	No	Yes	No	Yes
Adjusted R-Squared	0.2626	0.2754	0.3914	0.4104
Number of Observations	13,867	13,867	13,867	13,867

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the individual level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Table 6: The Persistence of Institutions
The Effect of Institution Quality on the Financial Market Participation by Years of U.S. Experience

Probability of Bank Relationship	Years in the U.S.					
	ALL	1 – 7	8 – 12	13 – 17	18 – 27	28+
No Age at Arrival Controls						
Protection from Expropriation	0.027*** (0.005)	0.022** (0.011)	0.029** (0.011)	0.023*** (0.008)	0.027*** (0.009)	0.012 (0.011)
Adjusted R-Squared	0.2666	0.3653	0.3168	0.3033	0.2653	0.2369
Age at Arrival Controls						
Protection from Expropriation	0.027*** (0.005)	0.022** (0.011)	0.027** (0.011)	0.022*** (0.008)	0.027*** (0.009)	0.010 (0.011)
Adjusted R-Squared	0.2673	0.3679	0.3191	0.3046	0.2656	0.2427
Depth of Financial Market Participation						
	Years in the U.S.					
	ALL	1 – 7	8 – 12	13 – 17	18 – 27	28+
No Age at Arrival Controls						
Protection from Expropriation	0.071*** (0.012)	0.052** (0.023)	0.078*** (0.024)	0.081*** (0.019)	0.083*** (0.020)	0.050* (0.029)
Adjusted R-Squared	0.3969	0.4293	0.4593	0.4369	0.4284	0.3967
Age at Arrival Controls						
Protection from Expropriation	0.069*** (0.012)	0.052** (0.022)	0.075*** (0.023)	0.081*** (0.020)	0.083*** (0.020)	0.039 (0.028)
Adjusted R-Squared	0.3978	0.4312	0.4630	0.4364	0.4283	0.4012
Number of Observations	14,232	2,619	2,192	2,145	2,750	2,955

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Table 7: Learning about Institutions
The Effect of Institution Quality on the Financial Market Participation by Age at Migration

Probability of Bank Relationship	Age at Arrival in U.S.			
	ALL	1 – 15	16 – 20	21+
No Year of Arrival Controls				
Protection from Expropriation	0.027*** (0.005)	0.032*** (0.011)	0.026** (0.013)	0.019*** (0.005)
Adjusted R-Squared	0.2666	0.3322	0.3319	0.2720
Year of Arrival Controls				
Protection from Expropriation	0.028*** (0.005)	0.029** (0.013)	0.025* (0.013)	0.019*** (0.005)
Adjusted R-Squared	0.2698	0.3350	0.3319	0.2769
Depth of Financial Market Participation	Age at Arrival in U.S.			
	ALL	1 – 15	16 – 20	21+
No Year of Arrival Controls				
Protection from Expropriation	0.071*** (0.012)	0.061*** (0.020)	0.061** (0.029)	0.060*** (0.013)
Adjusted R-Squared	0.43969	0.4727	0.4344	0.4051
Year of Arrival Controls				
Protection from Expropriation	0.071*** (0.013)	0.054** (0.022)	0.062** (0.028)	0.061*** (0.014)
Adjusted R-Squared	0.4006	0.4742	0.4384	0.4126
Number of Observations	14,232	1,677	1,639	7,963

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children, and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

**Table 8: Intergenerational Transmission of Institutional Lessons
The Effect of Institution Quality on Financial Market Participation
Selected Natives and Immigrants**

Probability of Bank Relationship	Native	Immigrant
Protection from Expropriation	-0.0001 (0.012)	0.041*** (0.010)
Adjusted R-Squared	0.2226	0.2964
Depth of Financial Market Participation	Native	Immigrant
Protection from Expropriation	0.039 (0.038)	0.127*** (0.029)
Adjusted R-Squared	0.3666	0.4300
Number of Observations	44,181	7,040

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level. The native-sample used in these estimates includes U.S. born individuals who identified their ancestral country as: Canada, France, the Netherlands, England, Germany, Hungary, Ireland, Italy, Poland, Russia, Cuba, Mexico, and the Dominican Republic. The immigrant sample includes foreign-born individuals who were born in these same countries.

Supplemental Table 1: Ethnic Concentration and Number of Observations per Country

	Country	Median Ethnic Concentration (%)	Number of Observations
1	Argentina	0.0747%	96
2	Australia	0.0580%	30
3	Austria	0.0633%	64
4	Bahamas, The	---	11
5	Bangladesh	---	40
6	Belgium	0.0314%	21
7	Bolivia	0.0479%	36
8	Brazil	0.0965%	55
9	Canada	0.6848%	392
10	Chile	0.0717%	77
11	China	0.8739%	595
12	Colombia	0.7335%	217
13	Costa Rica	---	34
14	Cuba	17.3184%	617
15	Czechoslovakia ²¹	0.1673%	38
16	Denmark	0.0704%	7
17	Dominican Republic	1.5686%	267
18	Ecuador	0.6477%	172
19	Egypt	0.1477%	38
20	El Salvador	1.0890%	494
21	England ²²	0.5252%	419
22	Ethiopia	0.0815%	5
23	Finland	0.0145%	3
24	France	0.1185%	88
25	Germany (East and West)	0.4858%	373
26	Ghana	---	16
27	Greece	0.3521%	124
28	Guatemala	0.1697%	158
29	Guyana	0.5743%	134
30	Haiti	0.6296%	219
31	Honduras	0.1611%	143
32	Hong Kong	0.1917%	139
33	Hungary	0.1195%	72
34	India	0.3301%	417
35	Indonesia	0.1241%	1
36	Iran	0.0987%	145
37	Iraq	0.1540%	53
38	Ireland	0.1394%	136
39	Israel	0.1350%	53
40	Italy	0.5840%	290
41	Jamaica	1.0060%	318
42	Japan	0.3189%	182
43	Jordan	0.0270%	16
44	Kenya	---	7
45	Korea, South	0.5308%	438
46	Lebanon	0.0330%	52

²¹ Includes individuals who reported that they were born in: Czechoslovakia, Slovakia, Czech Republic.

²² Includes individuals who reported that they were born in: England, United Kingdom, Scotland, Wales, Northern Ireland.

Supplemental Table 1: Ethnic Concentration and Number of Observations per Country, continued

	Country	Median Ethnic Concentration (%)	Number of Observations
47	Malaysia	0.0232%	19
48	Mexico	8.5920%	4,163
49	Morocco	---	6
50	Myanmar	---	23
51	Netherlands	0.1492%	46
52	New Zealand	0.0027%	3
53	Nicaragua	0.3377%	81
54	Nigeria	0.0562%	39
55	Norway	0.0386%	19
56	Pakistan	0.0764%	84
57	Panama	0.0652%	26
58	Peru	0.2147%	108
59	Philippines	1.8140%	916
60	Poland	0.7874%	249
61	Portugal	0.3592%	88
62	Romania	0.0873%	52
63	Russia ²³	0.4919%	365
64	Singapore	0.0130%	3
65	South Africa	0.0297%	24
66	Spain	0.1249%	66
67	Sweden	0.0388%	29
68	Switzerland	0.0464%	16
69	Syria	0.0511%	42
70	Taiwan	0.2270%	216
71	Thailand	0.0547%	79
72	Trinidad & Tobago	0.4149%	131
73	Turkey	0.0555%	15
74	Uruguay	0.0644%	7
75	Venezuela	0.3400%	46
76	Vietnam	0.7256%	663
77	Yugoslavia ²⁴	0.1243%	117
	All	0.7829%	15,043

²³ Includes individuals who reported that they were born in: Russia, Armenia, Azerbaijan, the Baltic States, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, USSR, Uzbekistan.

²⁴ Includes individuals who reported that they were born in: Yugoslavia, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Slovenia, Serbia.

Supplemental Table 2: The Effect of Control Variables on the Probability of Having a Bank Relationship and Depth of Financial Market Participation

Explanatory Variable	Probability of Having a Bank Relationship		Depth of Financial Market Participation	
	[1]		[2]	
Age [†]	0.704	***	1.818	***
	(0.153)		(0.394)	
Age Squared [†]	-0.004	***	-0.015	***
	(0.002)		(0.004)	
2 nd Wealth Quartile	0.183	***	0.331	***
	(0.015)		(0.029)	
3 rd Wealth Quartile	0.173	***	0.444	***
	(0.017)		(0.044)	
4 th Wealth Quartile	0.168	***	0.689	***
	(0.019)		(0.048)	
Unemployed or Out of Labor Force	-0.086	***	-0.073	**
	(0.013)		(0.032)	
Per Capita Income ^{††}	37.900	***	115.200	***
	(8.540)		(16.300)	
Per Capita Income Squared ^{††}	-0.001	***	-0.003	***
	(0.000)		(0.001)	
Male	-0.050	***	-0.120	***
	(0.007)		(0.017)	
Married	0.163	***	0.302	***
	(0.014)		(0.029)	
Number of Children	-0.022	***	-0.046	***
	(0.005)		(0.014)	
Non-white	0.019		0.012	
	(0.018)		(0.041)	
High School Graduate	0.126	***	0.235	***
	(0.015)		(0.022)	
Some College	0.187	***	0.404	***
	(0.015)		(0.033)	
Bachelor Degree	0.200	***	0.449	***
	(0.018)		(0.046)	
Advance Degree	0.189	***	0.595	***
	(0.021)		(0.049)	
Protection from Expropriation	0.027	***	0.071	***
	(0.005)		(0.012)	
Constant	-0.115	***	-0.731	***
	(0.056)		(0.119)	
MSA Controls	Yes		Yes	
Adjusted R-Squared	0.2666		0.3969	
Number of Observations	14,232		14,232	

Notes: A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. The reported coefficients and standard errors of explanatory variables marked by a † are the actual ones multiplied by 100, by a †† are multiplied by 1,000,000. The lowest wealth quartile is the omitted wealth category, and the omitted education category is less than high school graduate. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Supplemental Table 3A: The Effect of Institutional Quality Probability of Having a Bank Relationship, Alternative Measures of Institutional Quality

Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Protection from Expropriation	0.027*** (0.005)						
Constraints on the Executive		0.013*** (0.004)					
Domestic Protection from Expropriation			0.031*** (0.011)				
Rule of Law				0.019*** (0.004)			
British Legal Origin					0.044* (0.023)		
Latitude						0.192*** (0.070)	
Average Years of Schooling, 1960							0.017*** (0.007)
Adjusted R-Squared	0.2666	0.2651	0.2884	0.2664	0.2625	0.2644	0.2177
Number of Observations	14,232	14,052	7,814	14,232	14,232	14,232	7,856

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. The number of observations differs depending on the number of countries for which a particular measure of institutional quality is available. A linear probability model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Table 3B: The Effect of Institutional Quality on the Depth of Financial Market Participation, Alternative Measures of Institutional Quality

Explanatory Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Protection from Expropriation	0.090*** (0.016)						
Constraints on the Executive		0.029** (0.013)					
Domestic Protection from Expropriation			0.155*** (0.048)				
Rule of Law				0.071*** (0.011)			
British Legal Origin					0.176** (0.073)		
Latitude						0.650*** (0.196)	
Average Years of Schooling, 1960							0.060*** (0.016)
Adjusted R-Squared	0.4289	0.4231	0.4670	0.4296	0.4221	0.4246	0.3940
Number of Observations	14,232	14,052	7,814	14,232	14,232	14,232	7,856

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. The number of observations differs depending on the number of countries for which a particular measure of institutional quality is available. A linear probability model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level.

Supplemental Table 4: Do Institutions Matter Differently for Different Types of Behavior?

	Stock Ownership	Savings Account	Checking Account	Self-Employment	Drive own Car to Work	Visited a Doctor in Past 12 Months
A. Baseline specification	[1]	[2]	[3]	[4]	[5]	[6]
Protection from Expropriation	0.016 *** (0.005)	0.022 *** (0.006)	0.024 *** (0.006)	0.007 * (0.004)	-0.003 (0.006)	0.002 (0.003)
Mean of Dependent Variable	8.6%	40.1%	47.0%	8.7%	75.1%	79.3%
Adjusted R-Squared	0.2315	0.1835	0.2386	0.1090	0.0573	0.0035
Number of Observations	14,232	14,232	14,232	14,231	7,546	8,705
B. Controlling for Unobserved Heterogeneity						
Protection from Expropriation x Ethnic Concentration	0.696 * (0.369)	-0.282 (0.598)	1.625 *** (0.496)	0.037 (0.340)	0.892 (0.658)	-0.268 (0.492)
Ethnic Concentration	-5.142 * (2.757)	2.533 (4.417)	-12.004 *** (3.665)	-0.400 (2.499)	-6.702 (4.820)	1.839 (3.619)
Country Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.2599	0.1973	0.2492	0.1230	0.0682	0.0017
Number of Observations	13,867	13,867	13,867	13,866	7,340	8,474

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level. “Checking Account” is equal to one if the respondent has a checking account that either does or does not pay interest. “Savings Account” is equal to one if the respondent has a savings account and zero otherwise. “Entrepreneur” is equal to one if the respondent is the owner or part-owner of a business, and zero otherwise. “Drives own Car to Work” is asked of respondents who are employed or own a business and is equal to one if the respondent drives to work and is equal to zero otherwise. “Visited a Doctor in the past 12 months” is equal to one if the respondent visited a doctor in the 12 months before the survey question and zero otherwise.

**Supplemental Table 5:
Do Institutions Matter Differently for Different Types of Immigrants?**

	Baseline	High Educ. Immig.	Low Educ. Immig.	High Skill Workers	Low Skill Workers	Citizens	Exclude Mexico
Probability of Bank Relationship	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Protection from Expropriation	0.027*** (0.005)	0.022*** (0.006)	0.044*** (0.010)	0.006 (0.005)	0.033*** (0.010)	0.021*** (0.006)	0.031*** (0.005)
Adjusted R-Squared	0.2666	0.1558	0.2453	0.1478	0.2482	0.1819	0.2281
Depth of Financial Market Participation							
Protection from Expropriation	0.071*** (0.012)	0.074*** (0.019)	0.082*** (0.019)	0.059*** (0.019)	0.071*** (0.020)	0.066*** (0.014)	0.073*** (0.011)
Adjusted R-Squared	0.3969	0.3270	0.2875	0.3311	0.3060	0.3314	0.3688
Number of Observations	14,232	2,842	5,127	1,984	2,408	5,829	10,199

Notes: In addition to those reported on here, all of these regressions include controls for age, age squared, wealth quartiles, labor force status, income, marital status, sex, ethnicity, education, number of children and MSA controls. A linear model is used and standard errors are corrected for heteroskedasticity and clustering at the country level. High education immigrants are those with a bachelor's degree or more education. Low education immigrants are those with less than a high school degree. Standard errors are in parentheses. *** indicates significance at at least the 1 percent level, ** at at least the 5 percent level, * at at least the 10 percent level. "High Skill Workers" are workers whose 3-digit occupation code from SIPP is mapped into "Professional and Technical" or "Executive, Administrative, and Managerial" according to Bureau of Labor Statistics classifications. "Low Skill Workers" include workers whose 3-digit occupation code from SIPP is similarly mapped into "Transportation and Material Moving Occupations", "Handlers, Equipment Cleaners, Helpers and Laborers," and "Service Occupations, Except Private Household."