

THE AUTOCRATIC ROOTS OF SOCIAL DISTRUST*

by

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ABSTRACT

This paper presents evidence that autocratic culture adversely affects social trust and political participation. We find that individuals whose ancestors migrated from countries with higher autocracy levels are less likely to trust others and to vote in presidential elections in the U.S. The impact of autocratic culture on trust can last for at least three generations while the impact on voting disappears after one generation. These impacts on trust and voting are also significant across Europe. We further assess the robustness of our findings concerning selection into migration and other confounders such as home countries' economic conditions, human capital stocks, and the strength of family ties.

Keywords: Trust, Autocracy, Voting, Immigration

JEL: P16, Z10, Z13

1. Introduction

Social trust is an important fabric of society that makes economies.¹ The sources of social trust, on the other hand, are equally important. It is well known that distant political history shapes contemporary social trust (Tabellini, 2008a).² What is less well understood, however, is how *autocracy* affects social trust. In this paper, we identify a new source of social distrust: an individual's autocratic origin. We show empirically how an individual's inherited autocratic culture affects her generalized trust and political participation and how the effect of inherited autocratic culture evolves in democratic institutions.

Autocracy is the most common form of government throughout human history. It has profound, yet overlooked, influence on social capital formation. Autocratic regimes repress civic engagement (Almond and Verba, 1963) and hence hinder the formation of social capital since social capital is created through civic engagement (Putnam, 1993). In addition, under autocratic regimes, people often face the choice of siding with the state or with their fellow citizens, being subject to state punishment should they choose the latter, which diminishes generalized trust (Uslaner, 2003). Moreover, autocratic countries often lack economic equality and equal opportunity (Moore 1966; Acemoglu and Robinson 2005). When significant social inequality prevails, social trust will be stifled because of the large divides within a society (Rothstein and Uslaner, 2005). Therefore, we argue that autocratic rule should adversely affect generalized trust and political participation (i.e., civic engagement).

¹ Recent empirical studies have shown that greater levels of generalized trust promotes economic growth (Algan and Cahuc, 2010), facilitates financial development (Guiso et al. 2004), fosters bi-lateral trade (Guiso et al. 2009), enhances labor market institutions (Algan and Cahuc 2009, Aghion, Algan, and Cahuc, 2011), reduces the necessity of government regulations (Algion et al. 2010), helps research innovation and development (Akcomak and ter Weel 2009), and encourages cooperation in large organizations (La Porta et al. 1997).

² Scholars have identified a number of historical factors that affect contemporary beliefs and behaviors. For example, Nunn (2008) and Nunn and Wantchekon (2011) find that slave trade in Africa negatively affects generalized trust. Tabellini (2010) finds that political institutional arrangements in the past deeply influence the economic and political outcomes in contemporary European regions. Peisakhin (2013) finds that Ukrainians who live in regions ruled by the Austrian Empire in the 19th century are markedly different in terms of their political attitudes and behaviors toward nowadays Russia from those who live in regions ruled by the Russian Empire. Espinal, Hartlyn, and Kelly (2006) find that childhood experience of authoritarian rule affects individuals' political behaviors even after democratization in the Dominican Republic. Other sources of trust include religious, genetic, and somatic similarities between nations (Guiso, Sapienza, and Zingales, 2009) and family ties (Alesina and Giuliano, 2011).

To test our hypothesis, we look for differences in generalized trust and political participation among individuals who reside in the same democratic destination countries in the U.S. or Europe, but whose ancestors (or they themselves) came from different source countries with different autocracy levels. This epidemiology approach is formalized in Fernandez (2008) and Giuliano (2007) and has been applied to various studies to explore the links between home-country culture and individuals' economic preferences and behaviors in destination countries.³

To estimate the impact of autocratic culture on trust and political participation, we match the autocracy index in the Polity IV database to measures of trust and political participation from the General Social Survey (GSS) and the European Social Survey (ESS) by individuals' countries of origin and their ancestors' times of immigration. As expected, we find that autocratic culture has a significant negative impact on generalized trust. In particular, individuals from autocratic countries are less likely to trust others. This effect remains strong even after we control for a wide range of individual characteristics, time-invariant culture traits such as religion, and source country characteristics such as GDP per capita, education, and the strength of family ties in the U.S. (the results in the European sample are sensitive to the inclusion of GDP per capita and education). More interestingly, we find that the effect of autocratic culture on trust lasts for at least three generations in the U.S. This persistent negative impact of inherited autocratic culture on social trust is stunning, which suggests the resilience of *autocratic* culture in *democratic* institutions.

In addition, the inherited autocratic culture suppresses voter turnout in democratic countries, but this negative effect dissipates more quickly than the effect on trust – it

³ While the original formulation of the epidemiology approach examines the relationship between the same culture traits in the source country and the destination country (see Fernandez and Foglio, 2006; 2009; Giuliano, 2007; Luttmer and Singhal, 2011), later developments of this approach explore the impact of one culture trait from the source country on a different culture trait or behavior in the destination country. For example, Alesina and Giuliano show that the strength of family ties in the home country affects the amount of home production, female labor force participation, geographic mobility (2010), trust, and political participation (2011) in destination countries. This study follows these later developments by exploring the impact of autocratic culture from the source country on trust and political participation in the destination countries. We thank an anonymous referee to point this out for us.

disappears in the second generation. We will discuss some possible mechanisms that may explain these differences after we present the empirical findings.

Our finding that the effect of autocratic culture persists is consistent with Putnam's observation that the effect of culture can last for a long time. Yet, our study provides new insights about how culture survives in new institutional environments. In Putnam's original thesis, culture persists by co-evolving with its original institution, whereas in this paper, we provide evidence that autocratic culture can persist in democratic institutions.

Our study directly contributes to the study of formation and transmission of social capital following the line of research by Putnam (1993), Glaeser, Laibson, Sacerdote (2002), Guiso, Sapienza, and Zingales (2008a), Nunn and Wantchekon (2011), Alesina and Giuliano (2011) among others.

Our study further contributes to the literature on the intergenerational transmission of culture by examining different effects of autocratic culture on trust across generations. Bisin and Verdier (2001), Tabellini (2008b), and Guiso, Sapienza, and Zingales (2008a) provide a theoretical explanation for cultural transmission across generations. Using the GSS, Giavazzi, Petkov, and Schiantarelli (2016) provide an extensive examination of decay of trust and other beliefs by immigrants of different generations. Our study differs from Giavazzi, Petkov, and Schiantarelli (2016) in several aspects. First, we examine changes in autocratic culture under positive shock (i.e., being in democratic institutions) rather than the decay of autocratic culture itself. Second, in addition to trust and beliefs, we also examine the impact of culture on behaviors such as political participation. Third, we focus on *the effect* of autocratic culture on trust and political participation over time, not on how trust decays over time.

Closest to our study is Tabellini (2008a) where he shows that distant political history in the country of origin affects contemporary trust of descendants in the U.S. In that study, he uses Constraints on the Executive and a generic institutional measure (the Polity IV score) which ranges from -10 (extreme autocracy) to 10 (perfect democracy) as measures of political history. However, how different forms of political systems affect

trust remains unclear. Instead of using the Polity IV score, we focus on countries' autocracy levels and examine how the inherited autocratic culture survives and changes in democratic institutions. Our study contributes to the literature by providing direct evidence of the negative impact of autocratic culture on social capital formation and political participation. In addition, while Tabellini (2008a) assigns each country of origin a time-invariant institutional measure, we allow autocratic institutions in the source country to change with times of immigration. This gives a more accurate measure of the inherited autocratic culture, which helps isolate the effect of autocratic institutions from the impact of other slow-moving cultural components in the home country.

Obtaining a more precise understanding of how beliefs and attitudes of immigrants from autocratic countries evolve over time is important for many reasons. Immigrants' attitudes and beliefs can shape the policies of the countries to which they migrate via political participation, so it is important to know the pace at which they converge to those of the natives. In addition, because trust is a key determinant of economic outcomes, including economic growth, knowing the sources and dynamic evolution of trust will help explain the time path of growth in the host country. We should stress that although the negative effect of autocratic culture on trust persists for at least three generations, we observe a very fast convergence between the first- and second-generation immigrants in trusting others. This suggests that exposure to democratic institutions can improve generalized trust among individuals, which is a very positive implication.

The outline of the paper is as follows. Section II discusses the empirical strategy. We present our main findings using the General Social Survey in Section III and additional findings using the European Social Survey in Section IV. Section V presents the results from several robustness checks. Section VI concludes.

2. Empirical strategy

The attempt to estimate the effect of autocratic rule on trust is subject to the classic endogeneity problem since contemporary trust affects contemporary institutions (e.g.,

autocracy) that in turn affect trust.⁴ To tackle this problem, we use the institutionalized autocracy index in an individual's country-of-origin at the time when her ancestors (or she herself) migrate as a proxy for the inherited autocratic culture. We use this institutional measure as a proxy for autocratic culture because culture reflects and co-evolves with institutions (Inglehart, 1988; Putnam, 1993; Grief, 2006). We then examine the impact of the inherited autocratic culture from individuals' countries of origin on individuals' contemporary beliefs and behaviors in a destination country. This epidemiology approach allows us to isolate culture from contemporary institutions.⁵ The key identifying assumption is that contemporary institutions in both the home country and the destination country do not affect immigrants' inherited culture from the past.

To investigate how the inherited autocratic culture affects trust and political participation, we consider the following specification:

$$Y_{ij\tau t} = \beta_0 + \beta_1 Autoc_{j\tau} + \beta_2 X_{it} + \lambda_t + \epsilon_{ij\tau t}, \quad (1)$$

where $Y_{ij\tau t}$ represents measures of trust and political participation of individual i in survey year t who come from source country j in year τ - the year of immigration. $Autoc_{j\tau}$ measures the autocracy level in source country j in year τ . X_{it} is a set of standard individual-level controls including age, gender, marital status, education, labor force status, and religion. We also control for time fixed effect in λ_t . In the following sections, we present results using OLS with standard errors clustered at country-of-origin level.

To examine how the impact of inherited autocratic culture on beliefs and behaviors evolves over generations, we add dummy variables for individuals' generations and

⁴ We examine the correlation between contemporary generalized trust (political participation) and measures of autocracy across different countries by merging the Polity IV database with the World Value Survey. We find strong negative associations between the contemporary autocracy measure and contemporary trust, voter turnouts, interest in politics, discussing politics, signing petition, attending demonstrations, and going on strike. See Table A6 in the online appendix for the results.

⁵ In our main analysis, we examine the beliefs and behaviors of the first- to fourth-generation Americans instead of focusing on the second-generation as originally proposed in Fernandez (2008) to provide a complete picture of how the effect of autocratic culture evolves in democratic institutions. To address the concern that first generation immigrants might be a selected group and the immigration process itself may impact behavior, we present our results by running the analysis on each generation subsample separately. We also address the selection into immigration in the first-generation directly in the robustness check section.

interact the autocracy measure with the generation dummies. Specifically, we are interested in estimating equation (2).

$$\begin{aligned}
 Y_{ij\tau t} = & \beta_0 + \beta_1 Autoc_{j\tau} + \beta_2 Gen2_{it} + \beta_3 Gen3_{it} + \beta_4 Gen4_{it} & (2) \\
 & + \beta_5 Autoc_{j\tau} \cdot Gen2_{it} + \beta_6 Autoc_{j\tau} \cdot Gen3_{it} + \beta_7 Autoc_{j\tau} \cdot Gen4_{it} + \beta_8 X_{ij\tau t} + \lambda_t + \\
 & \epsilon_{ij\tau t}.
 \end{aligned}$$

β_1 represents the effect of autocratic culture on beliefs and behavioral outcomes in the first-generation immigrants. If the effect of autocratic culture remains constant overtime, we should observe β_5, β_6 and β_7 to be statistically insignificant from zero. On the other hand, if any of the β s are statistically different from zero, it suggests that the effect of the autocratic culture changes between generations.

The epidemiology approach solves the endogeneity problem between culture and institutions. However, since the measure of autocracy varies only by country of origin and time, not by individual respondents within the same sending country, any other country-level characteristics that are correlated with autocracy and directly affect contemporary beliefs and behaviors might bias the results. In addition, individuals may select into migration for reasons that are correlated with home-country autocracy levels. We address these concerns more carefully in the robustness check section.

In the following two sections, we provide evidence from both the U.S. and European countries. According to the United Nations, the U.S. has the largest immigrant population in the world in the year 2015.⁶ European countries are also popular destinations for immigrants. Moreover, the U.S. and Europe have the world's most mature democratic regimes. Evidence from those two destinations provides a relatively complete picture of the life path of autocratic culture in democratic institutions.

⁶ See the UN report: *Trends in International Migrant Stock: The 2015 Revision*, available at <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml>

3. Evidence from the United States

We draw on the General Social Survey (GSS) from 1977 to 2014 to explore the impact of autocratic culture on trust and political participation in the U.S. Following Algan and Cahuc (2010), we use respondents' and their forebears' foreign-born status to determine their generations and their ancestors' times of immigration (see online Appendix B for a detailed description of the construction of the generation variables and the time of immigration). In the GSS sample, respondents are allowed to choose multiple ancestries. We use the one to which the respondents feel the closest to determine individuals' countries of origin.⁷ We exclude observations with countries of origin not clearly defined in the GSS, i.e., Arabic, West Indies, Non-Spanish West Indies, Other Spanish, Other Asian, and Other European. In addition, most of the African countries do not exist before the 1950s and thus do not have autocracy measure in the Polity IV database for the years that the GSS respondents' ancestors migrate. Thus, we exclude observations with African origins (as a whole). We also exclude observations with U.S. origins, i.e., American Indians, Puerto Rico, and American only. In the estimation, we use source countries with at least 15 observations. This gives us a list of 23 source countries in the GSS database.

3.1. Variables

The key explanatory variable in our analysis is the country-level Institutionalized Autocracy Index (AUTOC) in the Polity IV database. This index is constructed by adding four coding weights of institutional features: (1) the competitiveness of political participation, (2) the regulation of participation, (3) the openness and competitiveness of executive recruitment, and (4) constraints on the chief executive. This institutional measure is ideal for our purpose because it captures the repressiveness and unfairness aspects of autocratic institutions that will adversely affect social trust as discussed in the introduction. This index is on a scale from 0 to 10 with higher values indicating higher autocracy levels.

⁷ The self-identified ancestry might cause some bias since better-assimilated individuals are less likely to associate themselves to their ancestries (Duncan and Trejo, 2007). We address this concern in the robustness check section.

Figure 1 plots the average autocracy levels by source country in the matched dataset. As we can see, there are wide variations of autocracy levels among the source countries. Russia has the highest average autocracy level with a score of 8.2 while Switzerland among others has a zero autocracy level.⁸ As a benchmark, the U.S. has continuous autocracy measures of 0 since 1809.

Our first key dependent variable is generalized trust. We generate a dummy variable that is equal to 1 if a respondent thinks that most people can be trusted and 0 otherwise. Figure 2 plots the average trust among the GSS respondents by their countries of origin against the autocracy levels in their countries of origin at the time of immigration. From this graph, we can see a clear negative relationship between generalized trust and the autocracy level in the source country. For example, Switzerland, Belgium, and the United Kingdom have relatively low autocracy levels and are among the countries with the highest proportions of immigrants and their descendants reporting trust in others. It is interesting to note that although Russia has the highest autocracy level, its trust level is also relatively high. Table A1 in the online appendix reports the number of observations, average autocracy, and trust for each source country.

Another key dependent variable in our analysis is voting participation in presidential elections. Political scientists consider voting participation as a measure of civic political culture and thus an important part of social capital (Almond and Verba, 1963; Putnam et al., 1983; Putnam, 1993). The GSS asks the respondents' voting behaviors in the most recent one or two presidential elections since 1972. We collapse all the voting dummies into one variable that equals to 1 if the respondent has ever voted in presidential elections and 0 otherwise.⁹ In estimating voting behaviors, we exclude those who report ineligible to vote.

⁸ India and Ireland have very low autocracy levels, which may be against our conventional wisdom. Although India is beset by authoritarian and colonial rules for a long period of time, it earned its independence in 1947 and the autocratic index in Polity IV for India starts in 1950. That is why we observe a low autocratic level for India. Likewise, the autocratic index for Ireland (the Republic of) starts in 1921 after Ireland claims independence from the UK.

⁹ Since the GSS are cross sections, we cannot identify the same individual who votes multiple times. We thus apply the random sampling framework in each cross section and assume independence between observations across years.

Besides voting, we also consider other measures of political participation. The first group of variables measures individuals' general interest in politics, including self-evaluated interest level in politics and frequency to discuss politics. The second group of variables measures political actions, including i) signing a petition; ii) boycotting certain products for political, ethical or environmental reasons; iii) taking part in a demonstration; or iv) attending a political meeting or rally. We also consider the effect of autocratic culture on attitude toward obeying laws. As Feldman (2003) argues, autocratic regimes value conformity against autonomy because social conformity reduces disorder in society. Thus, we expect that individuals with autocratic origins are more likely to obey laws compared with individuals with democratic origins. Unlike trust and voting, these particular measures are not in the core questions and are only collected in topic modules in selected years. Thus, we end up with much smaller samples when we look at these outcomes. Table A2 reports the summary statistics for the GSS sample.

3.2. Results

In this section, we present the results from the GSS sample. We first show the effect of autocratic culture on trust and political participation, and then we examine the change of autocratic culture through generations. The results are generated using OLS with standard errors clustered at country-of-origin level.¹⁰

The first question we are interested in is whether the inherited autocratic culture affects contemporary trust and political participation. The results by estimating equation (1) are reported in Table 1. We can see from column 1 that, controlling for individual characteristics, the source country autocracy level at the time of immigration has a strong negative effect on trust. In particular, a one-point increase on the autocracy scale lowers the probability to trust others by 0.3 percentage points. That is, an individual from an extreme autocratic country (with autocracy level equals to 10) would be three percentage

¹⁰ Results with clusters at the country-year level and/or using Probit are unchanged.

points less likely to trust others compared to someone who is from a non-autocracy (with autocracy level equals to 0). Given that the average trust in the GSS sample is 27 percent, a 3-percentage-point difference is quite substantial. This strong effect holds even after we control for slow-changing cultural factors such as religion and race. Consistent with findings in Guiso, Sapienza, and Zingales (2008a), trust increases with age (but at a decreasing rate). Low- and medium-income individuals are less likely to trust others compared to high-income individuals; unemployed individuals, female, and those with lower education levels are less likely to trust others; Protestants and Catholics are no more likely to trust others compared to other religious dominations.

Column 2 examines the effect of inherited autocratic culture on voting behavior. We can see that there is a strong negative effect. Individuals with ancestors from countries with higher autocracy levels are less likely to vote in presidential elections in the U.S. To be specific, a one-point increase in the autocracy level in individuals' countries of origin translates into a 0.5 percentage point lower in the probability to vote. Individuals with ancestors from countries with higher autocratic levels are more likely to obey laws (column 3) and are less likely to be interested in politics (column 4). Autocratic culture also adversely affects individuals' interest in politics (columns 4 and 5) and other political actions (columns 6 through 9). These findings are consistent with Uslaner (2003)'s premise that autocracy suppresses civic engagement.

We now turn to the question about how the effect of inherited autocratic culture on beliefs and behaviors evolves over generations by estimate equation (2) using OLS.

The results on trust are reported in column 1 in Table 2. We can see that the inherited autocratic culture has a strong negative effect on trust among the first-generation immigrants. The effects of the inherited autocratic culture on trust in the second- and the third-generation Americans are not significantly different from that in the first generations. However, the effect almost reduces to zero in the fourth generation and above.

These patterns are clearer when we estimate equation (1) using separate subsamples by generation. The results are presented in columns 2 through 5 in Table 2. We can see that

the effects of the inherited autocratic culture on trust are negative and statistically significant from the first-generation to the third-generation. However, the effect disappears in the fourth generation and above.¹¹

Figure 3 simulates the average predicted trust between individuals with non-autocratic origins (autocracy level is equal to 0) and extreme autocratic origins (autocracy level is equal to 10) across generations based on the estimates in column 1 in Table 2. We can see that there is a large difference in the trust levels among the first generations between those two groups of individuals but the gap closes quickly in the second and the third generations. Among the fourth generation and above, there is still a small gap between those two groups. But according to our estimate in column 5 in Table 2, the difference is no longer statistically significant.

Table 3 shows the effects of autocratic culture on voting participation across generations. From columns 1 and 2, we can see a strong negative effect of the autocracy level in source country on voting participation in presidential elections among the first generations. In particular, a one-point increase in the autocracy level in an individual's country of origin decreases her probability to vote by 1.4 percentage points. That is, among the first-generation immigrants, those from extreme autocratic countries (autocracy level equals to 10) are 14 percentage points less likely to vote compared with those from non-autocratic countries (autocracy level equals to 0). However, unlike its effect on trust, the effect of autocratic culture on voting participation quickly fades in the second generation. From columns 3 to 5, we can see that source country autocracy level has a negligible impact on voting, and none of the effects are statistically significant for the second generation and above.

In summary, our findings indicate that the inherited autocratic culture plays a crucial role in affecting individuals' contemporary trust and political behaviors. Those effects gradually disappear as individuals reside for a longer period in the destination

¹¹ We need to be careful interpreting the results in column 5. Since this subsample of individuals are not necessarily the fourth generations but include all generations above the fourth, we do not know if the effect of the autocratic culture disappears in the fourth generation or other generations above the fourth. However, we are certain that the effect can last for at least three generations.

institution. The effect of autocratic culture on generalized trust lasts for at least three generations while the effect on voting participation lasts only one generation.

4. Evidence from Europe

It is important to know how robust the above results are in other destination countries similar to the U.S. To address this question, we draw on the European Social Survey (ESS) from 2004 to 2014 to examine the effect of inherited autocratic culture on individuals' beliefs and behaviors in Europe. To better compare with the U.S., we focus on European countries that have maintained stable democracy since the World War I.¹² Since the ESS sample does not contain direct measures of ancestry but provides detailed information on fathers' and mother's country of birth, we match the ESS with the Polity IV database using father's country of birth (a.k.a, the father sample) and mother's country of birth (a.k.a, the mother sample) respectively as proxies for ancestries. Differences between the father and the mother samples can shed light on fraternal and maternal influence on culture transmission. See Appendix C for a detailed description of the ESS sample including the classification of stable versus non-stable democracies.

We select similar outcome (and control) variables as those in the GSS. In the ESS, generalized trust is measured on a 0 to 10 scale with 10 corresponding to "Most people can be trusted" and 0 corresponding to "You cannot be too careful". We recode this variable into a dummy variable that is equal to 1 if a respondent gives a score higher than or equal to 8.¹³ Voting behavior is captured in the question regarding the last national election. We also consider other outcomes such as the importance of rule obedience, interest in politics,

¹² We classify countries in the ESS into two groups based on the Boix-Miller-Rosato (BMR) database. The BMR database identifies periods of democratic regimes and regime changes in 219 countries from 1800-2010. It provides a dichotomous coding of democracy based on clear standards for contestation and suffrage such as directly elected executive, successful electoral executive turnover to an opposition party, and a majority of adult men suffrage. This objective dichotomous coding enables us to identify stable democracies without choosing an arbitrary threshold from a continuous measure such as the Polity IV score to create a dichotomous measure of democracy. See Boix, Carles; Miller, Michael K.; Rosato, Sebastian, 2014, "Boix-Miller-Rosato Dichotomous Coding of Democracy, 1800-2010", doi:10.7910/DVN/28468, Harvard Dataverse, V1 for details.

¹³ In the GSS, the question on generalized trust is recorded in three categories: "Most people can be trusted", "Cannot be too careful", and "Other, depends". We try to match the ESS measure to the GSS measure by dividing the 10-point scale into three groups with the highest scored group represent the response that "Most people can be trusted".

signing petitions, participating in lawful public demonstrations, and boycotting certain products in the last 12 months. Summary statistics are provided in Tables A4 and A5 for the father and the mother samples from the ESS.

Table 4 presents the results from estimating equation (1) using the ESS samples among stable democracies.¹⁴ The results from the father and the mother samples are very similar. For example, in column 1 in Panel A (the father sample), a one-point increase in the autocracy index in the source country decreases the probability to trust others by 0.4 percentage point. That number in the mother sample in Panel B is 0.3 percentage point.

Results in column 2 show a positive effect of autocratic culture on voter participation in the ESS sample in both the father sample and the mother sample and the effects are statistically significant. Recall that in the GSS source-country autocracy level has a negative impact on respondents' likelihood to vote. We attribute this disparity to differences in destination countries' institutional settings between the U.S. and the European countries. As Jackman (1987) pointed out, institutional arrangements can incentivize parties or candidates to mobilize voters and encourage voters to participate. Such institutional factors include nationally competitive districts, electoral disproportionality, multipartyism, unicameralism, parliamentary system, and compulsory voting laws. The U.S. and European countries largely vary in terms of these institutional settings. For example, compared with the U.S. which uses the single member district plurality system, most of the advanced democracies in Europe use proportional representation that encourages voter turnouts (Blais and Carty, 1990; Jackman, 1987; Powell, 1980).¹⁵ The compulsory voting laws used by some European countries can also largely encourage voter turnout (approximately 10 to 15 percent higher, see Gratschew and López Pintor 2002). The difference in institutional settings may account for the different results from GSS sample and ESS samples. In addition, the GSS asks voting participation

¹⁴ See Table A3 in the online appendix for results from the non-stable democracies.

¹⁵ In fact, all the countries in our stable democracy sample except for the UK use proportional representation. UK uses the single member district plurality system as in the U.S.

in presidential elections whereas the ESS asks voting participation in national elections that are not necessarily presidential elections (many European countries have a parliamentary system under which there is no directly elected president), which may be another reason for the different findings on voting behaviors in the two samples. Nevertheless, the fact that the autocracy measure in the ESS sample affects voting participation provides evidence for the persistence of autocratic culture. In addition, source country autocracy has a positive impact on following rules and joining a demonstration in the father sample.

Table 5 presents the estimates of the impact of source country autocracy on contemporary beliefs and behaviors by generations. Panel A presents the results for the father sample, and Panel B presents the results for the mother sample. The consistent results in the father and mother samples suggest similar culture transmission patterns along the fraternal and maternal lines. Overall, the source country autocracy level negatively affects trust in the first generation. The effect is negative in the second-generation in the father sample but is statistically insignificant.

The lack of statistical significance in the second-generation samples may be due to the inaccuracy in identifying individuals' countries of ancestry. The ESS only asks individuals to report their parents' country of birth. However, the country of birth might be different from the country of ancestry. This may result in a mismatch between parents' country of birth and the inherited culture. Nevertheless, the results from European countries provide further evidence for the persistence and changes of inherited autocratic culture.

5. Robustness checks

The validity of our approach relies on a key assumption that no omitted variables that affect individuals' contemporary beliefs and behaviors are correlated with the autocracy measure at the time of immigration. It also relies on the assumption that individuals' self-

reporting of ancestry does not bias the findings. In this section, we consider several robustness checks to address these concerns.

5.1. Is there selection-into-immigration for political reasons?

A possible omitted variable that may bias our results is immigrants' motivation for migrating for political reasons. We address this concern in several ways. First, we have conducted our analysis on separate subsamples by generation as well as pooling all generations together. As Fernandez (2008) points out, second generation and above are not subjected to the selection-into-immigration concern. The consistent findings between the pooled sample and each generation's subsample suggest that the selection problem is not of much concern.

In addition, we find similar patterns in both the U.S. and Europe that the inherited autocratic culture affects immigrants' contemporary trust and political behaviors. This suggests that immigrants with certain traits do not selectively migrate to the U.S. or the European countries. We also repeat the analysis in the GSS sample by excluding individuals who come to the U.S. during political turmoil in their home countries.¹⁶ The findings remain unchanged.

Finally, we compare the average trust level among first-generation immigrants from a certain source country in the GSS sample to the average trust level in that particular country in the World Value Survey (WVS) in a given year. The trust level among first-generation immigrants is least affected by the destination country's institutional environment compared with later generations. If the trust level among first-generation immigrants were different from that in the home country, it would suggest that immigrants are atypical from their home culture. However, when we plot the average trust level among the first-generation immigrants from a particular country in the U.S. against the trust level among the corresponding home country residents in the WVS in Figure 4, we find the

¹⁶ In Polity IV, there is special coding for regimes in transitions. We use those coding to determine political transitions.

fitted line is indistinguishable from a 45-degree line. We also test the hypothesis that the fitted line has a slope that is equal to 1, which means the trust level in the first-generation is equivalent to that in the source country. We fail to reject the null hypothesis (p-value is 0.5), which further provides evidence that immigrants are not “selective” on the outcome measures.¹⁷

5.2. *Family ties*

Alesina and Giuliano (2011) find evidence that the strength of family ties in the source country has a negative impact on trust and political actions among the second-generation immigrants in Europe. If family ties and autocratic culture are correlated, not including family ties in our regression might bias the estimates. To address this issue, we replicate the analyses in the GSS sample on trust and voting by including both family ties (as measured by the importance of family from the WVS) and the measure of autocratic culture from the country of origin.¹⁸ The results are reported in columns 1 and 2 in Table 6. After controlling for family ties, the autocracy level in the source country still has a strong negative effect on generalized trust and probability to vote. The point estimates are almost unchanged compared to the estimates without controlling for family ties.

5.3. *Economic performance, education, and regions of residence*

Other source country characteristics such as economic conditions and human capital stocks that are correlated with autocracy may affect contemporary trust directly. To address this concern, we use the Maddison database and control for source countries’ GDP per capita at the time of immigration.¹⁹ In addition, we use historical data on primary school enrollment in 1910 in the country of origin from Benavot and Riddle (1988) to control for unobserved human capital stock in the source country. We also control for

¹⁷ In the matched sample, we have some extreme values for trust at 0 or 1. This is because we only have several observations from some countries since the time frames in the GSS and the WVS do not overlap much. We also run the analysis excluding those extreme values and the results agree with the finding using the full matched sample.

¹⁸ We use the World Value Survey from 1981 to 2014 to calculate country-level average strength of family ties as in Alesina and Giuliano (2011). We are not able to match the strength of family ties by the time of immigration since most of the individuals in our GSS sample have ancestors (or they themselves) who came to the US before 1980s.

¹⁹ The Maddison-Project, <http://www.ggd.net/maddison/maddison-project/home.htm>, 2013 version.

regions of residence in the destination countries to address the concern that immigrants might cluster in certain geographic locations.

The results in the GSS sample are reported in columns 3 through 6 in Table 6. From columns 3 and 4, controlling for GDP and regions of residence in the destination country does not change the results qualitatively: autocracy affects both trust and voting negatively and remains statistically significant. In column 5, we control for GDP per capita and education in the source country and regions of residence in the destination country. The effect of inherited autocratic culture on trust remains strong at 1% level although the magnitude cuts in half compared to column 1. There is a negative effect of autocracy level on voting with the same magnitude as in column 2. The covariate, however, is less precisely estimated, likely due to moderate correlations between source country GDP and autocracy (correlation of -0.47) as well as source country education and autocracy (correlation of -0.46).

The results for the ESS sample, on the other hand, are sensitive to the country-level characteristics. From columns 1 and 3 in Table 7, after controlling for GDP and education, the effect of autocracy on trust remains negative but is no longer significant either in the father or the mother sample. The effect of autocracy on voting, however, becomes insignificant and change signs from columns 2 and 4. The lack of significance in some of these estimates might be due to the correlation between the country-level characteristics or the fact that the ESS sample does not have direct measures of ancestry (we use parents' birth countries as proxies for ancestry). However, we cannot rule out the possibility that economic conditions in the past directly affect trust formation and voting behaviors through culture heritages, which may bias our results in the ESS sample.²⁰

5.4. *Self-identified ancestry*

²⁰ We also control for regions of residence in columns 5 and 6 in Table 7 and the results are similar to the main analysis. Since regions are not consistently defined in the ESS sample, we are only able to use rounds 2 to 4 for this test.

In the GSS, respondents are allowed to choose multiple ancestries. As discussed in Duncan and Trejo (2007), self-identified ancestry may bias the results in the sense that immigrants (and their descendants) who are better assimilated are less likely to report their unfavorable ancestries. In our case, there might be some unobserved factors (such as discrimination) that affect the choice of ancestry and at the same time affect trust and voting. To address this concern, we repeat the analysis using other measures of ancestry in the dataset. Since the GSS starts to allow multiple choices of ancestries in 1984, we use data from 1984 to 2014 in this subsection. We consider subsample of individuals who report only one ancestry and also use their second- and third-mentioned ancestries. From Table 8 We can see that the results are largely consistent with our main finding that the autocracy level negatively affects generalized trust and voting participation although the effect on voting is statistically insignificant in the second- and third-mentioned ancestry samples. Note that although the self-identified ancestry may potentially carry some bias, the self-identification itself reflects the influence of the dominating culture heritage, especially among those who have multiple ancestries. Thus, if we use alternative choices of ancestry instead of the one to which the respondent feels closest, we might omit some cultural components that we would want to capture.

6. Conclusion

This paper identifies the autocratic roots of social distrust. We find that the inherited autocratic culture has a remarkably persistent negative impact on generalized trust and this impact can last for at least three generations in the U.S.²¹ On the other hand, individuals adjust their voting behaviors rather quickly: the inherited autocratic culture has no impact on voting behaviors for the second generation and above. Other political actions are adjusted quickly as well.

²¹ This negative effect lasts for at least two generations in the ESS sample. We are not able to examine this effect on more generations since the third and above generations are not identifiable in the ESS sample.

The different convergence rates between the effects on trust and political participation are worth noticing. Blau and Kahn (2007) have pointed out that some cultural traits take a long time to change while others change rapidly. It is interesting to know what the long-lasting traits are and why some culture aspects last for long whereas others evolve rapidly. Our study provides some answers to the “what” question that trust changes slowly while voting and political actions change rapidly. The “why” question about the differences in convergence rate remains open. Guiso, Sapienza, and Zingales (2008a) provide an answer to why trust (or mistrust) can last for long: because parents can pass down permissive priors, if the external environment is hostile and the net benefit to cooperate is low, the new generation has little incentive to invest in updating their priors about trusting others in economic transactions. Research in evolutionary anthropology and economics also suggests that when information acquisition is costly or imperfect, individuals tend to use “rules-of-thumb” in decision-making and thus stick to their cultural heritage of distrust (Boyd and Richerdson, 1985; 1995; Nunn and Wantchekon, 2011). Based on those arguments, we argue that when immigrants come to a new destination, they have limited access to information about how the new institution works. It is relatively costly to identify who can be trusted because obtaining accurate information on strangers is almost impossible, whereas it is relatively easy for them to obtain information on the cost and benefits of voting and other political actions due to mass media and extensive political mobilization and propaganda.²² Thus, it is more likely that they choose to cooperate on political actions in the new institution but rely on their autocratic culture in trusting (distrusting) others.

Our results are robust to the inclusion of a number of confounders in the U.S. sample, but we cannot rule out the potential biases caused by omitted variables such as source country GDP, especially in the ESS sample. It should be noted that autocracy and economic development in the country of origin are endogenous. Economic conditions in

²² For example, the projected political advertising spending in the U.S. in the 2016 election season amounts to 10.21 billion U.S. dollars, which is equivalent to the annual GDP of Namibia in 2016. See URL <https://www.statista.com/statistics/470711/presidential-election-season-ad-spend/>

the past may affect contemporary beliefs and behaviors through other cultural heritages. This potential bias cannot be fully mitigated using our current empirical approach. Nevertheless, our findings suggest that autocratic culture plays an important role in affecting social trust and political participation.

This paper contributes to a growing literature on social capital formation and changes. Future work is needed to address the limitations of our empirical approach and to answer why autocratic culture has different impacts on different beliefs and behaviors. It would be interesting to identify the channels through which the autocratic culture passes down through generations, such as families and communities. It would also be interesting to examine how autocratic culture affects economic transactions through its effect on generalized trust.

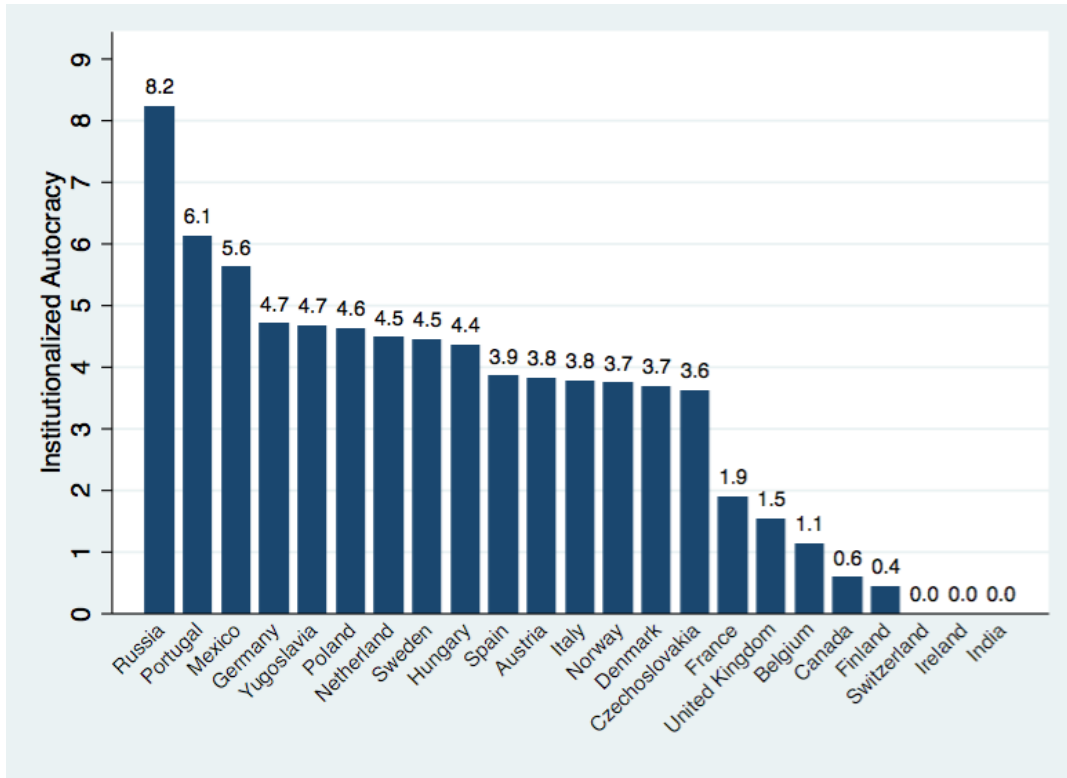


Figure 1. The Average Level of Institutionalized Autocracy Among Source Countries to the U.S. (1816 – 1995)

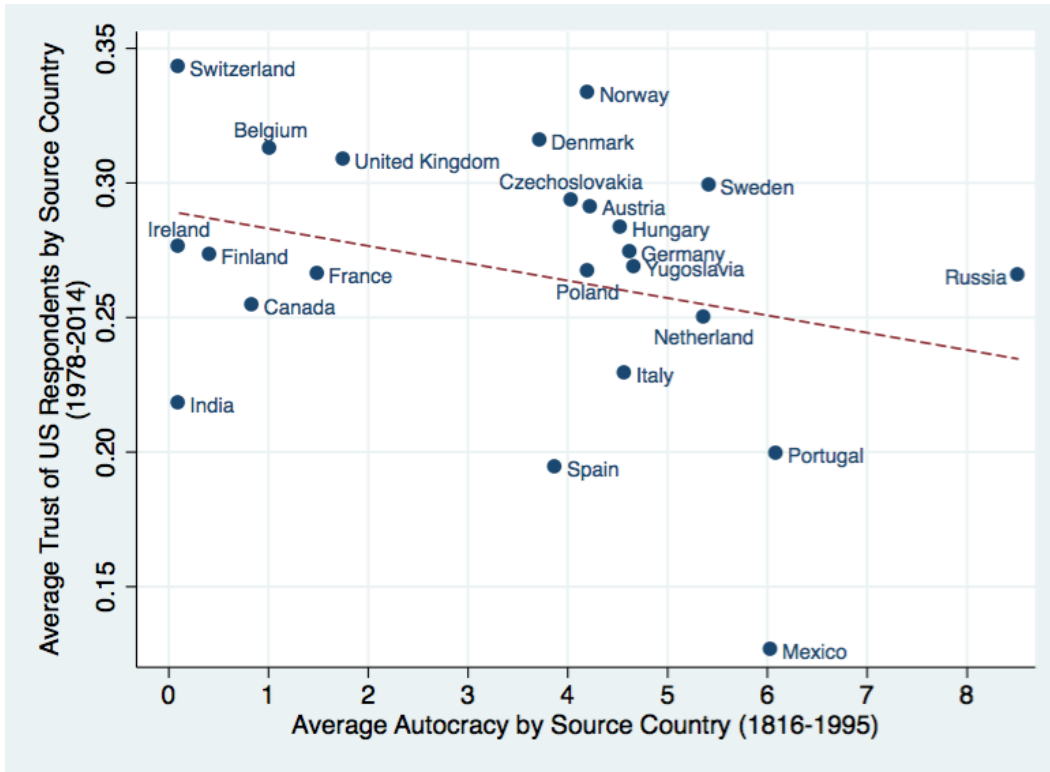


Figure 2. Average Trust and Autocracy by Source Country

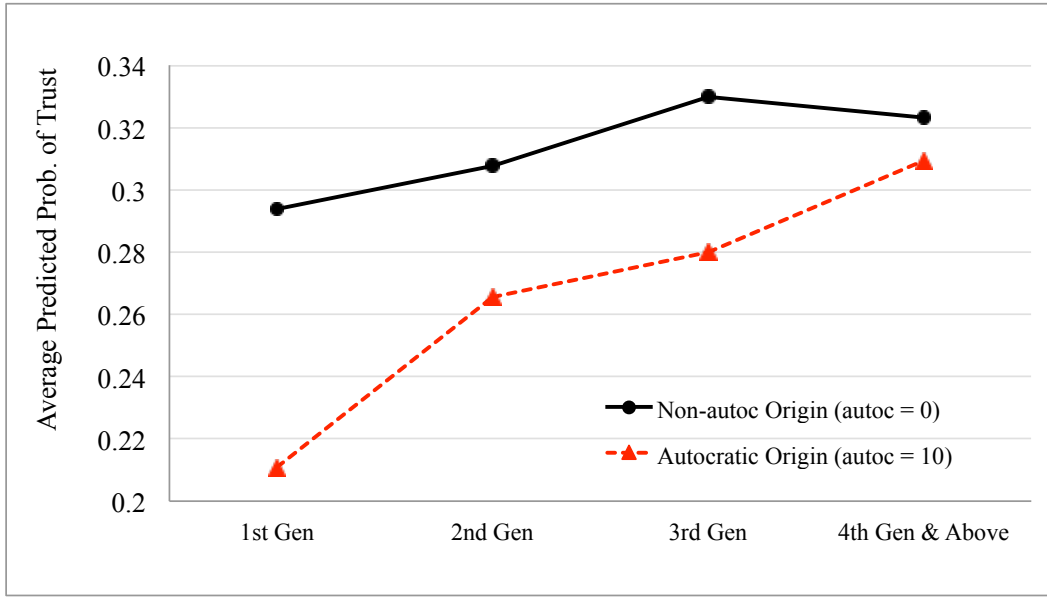


Figure 3. Average Predicted Prob. To Trust Others Across Generations

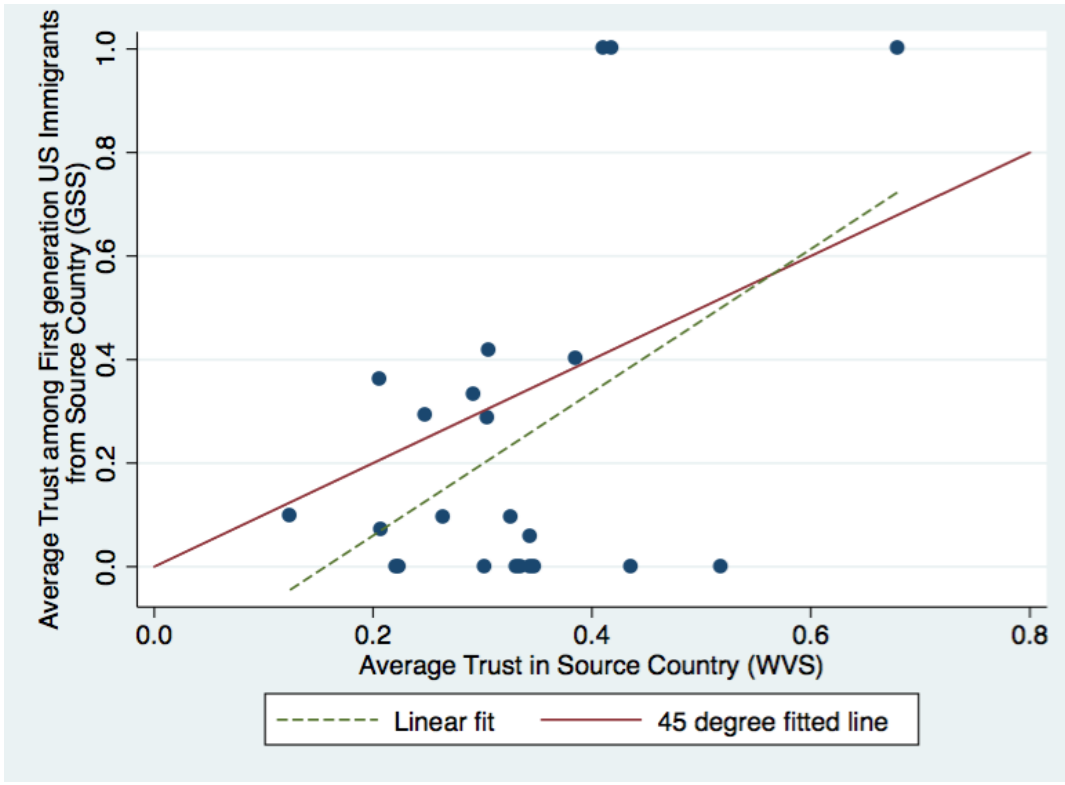


Figure 4. Average Trust Among First-generation US immigrants and Average trust in the Source Country

Table 1. Autocratic Culture, Trust, and Political Participation (the GSS, 1978-2014)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Trust	Vote	ObeY Law	Interest in Politics	Discuss Politics	Signed petition	Join boycott	Join demon.	Attending rally
Autocracy Level	-0.003** (0.001)	-0.005* (0.003)	0.009** (0.003)	-0.004* (0.003)	-0.007* (0.004)	-0.012 (0.009)	-0.005 (0.008)	0.000 (0.006)	-0.003 (0.004)
Age	0.006*** (0.001)	0.014*** (0.001)	-0.003 (0.007)	0.001 (0.003)	0.010** (0.005)	0.021*** (0.004)	0.019*** (0.004)	-0.005 (0.003)	0.012*** (0.003)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000* (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)
Low income	-0.047*** (0.009)	-0.090*** (0.008)	0.040 (0.033)	-0.030 (0.025)	-0.099** (0.039)	-0.002 (0.033)	-0.057 (0.052)	-0.037 (0.025)	-0.065* (0.036)
Medium income	-0.028*** (0.007)	-0.027*** (0.008)	0.023 (0.023)	0.035* (0.018)	-0.029 (0.050)	0.019 (0.036)	-0.034 (0.024)	0.014 (0.025)	-0.023 (0.017)
Unemployed	-0.020** (0.009)	-0.053*** (0.014)	0.025 (0.046)	-0.057 (0.074)	-0.013 (0.079)	-0.026 (0.054)	-0.017 (0.091)	0.075 (0.077)	-0.029 (0.082)
Female	-0.031*** (0.004)	0.004 (0.004)	0.075*** (0.026)	-0.080*** (0.021)	-0.071*** (0.024)	0.013 (0.022)	0.046* (0.024)	-0.014 (0.029)	-0.015 (0.029)
Primary School	-0.188*** (0.009)	-0.346*** (0.028)	0.265*** (0.023)	-0.231*** (0.026)	-0.239*** (0.040)	-0.438*** (0.079)	-0.405*** (0.032)	-0.117** (0.045)	-0.300*** (0.048)
Secondary School	-0.104*** (0.007)	-0.141*** (0.014)	0.121*** (0.018)	-0.104*** (0.016)	-0.113*** (0.020)	-0.090*** (0.031)	-0.202*** (0.031)	-0.107*** (0.036)	-0.192*** (0.027)
Married	0.009 (0.005)	0.038*** (0.009)	0.047* (0.027)	0.013 (0.021)	-0.056* (0.027)	0.010 (0.034)	-0.007 (0.026)	-0.068** (0.033)	-0.061 (0.042)
Protestant	0.013 (0.008)	0.033** (0.012)	0.123*** (0.029)	0.015 (0.028)	-0.071 (0.042)	0.046 (0.035)	-0.059 (0.053)	-0.086* (0.042)	-0.039 (0.039)
Catholic	-0.008 (0.015)	0.023 (0.022)	0.127*** (0.033)	0.004 (0.027)	-0.134** (0.053)	-0.019 (0.050)	-0.133** (0.061)	-0.094** (0.034)	-0.095** (0.036)
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	29,612	27,951	1,805	3,825	1,512	1,501	1,485	1,510	1,510
R-squared	0.129	0.158	0.088	0.070	0.070	0.147	0.126	0.043	0.099

Robust standard errors are clustered at country-of-origin level.

*** p<0.01, ** p<0.05, * p<0.1

Table 2. Autocratic Culture and Trust across Generations (the GSS, 1978-2014)

	(1)	(2)	(3)	(4)	(5)
	Trust	Trust in Gen 1	Trust in Gen 2	Trust in Gen 3	Trust in Gen 4
	-				
Autocracy Level	0.008** (0.003)	-0.007** (0.003)	-0.004* (0.002)	-0.005*** (0.002)	-0.001 (0.002)
Second generation	0.014 (0.009)				
Third generation	0.036* (0.019)				
Fourth generation	0.029 (0.019)				
Autoc X second generation	0.004* (0.002)				
Autoc X third generation	0.003 (0.004)				
Autoc X fourth generation	0.007* (0.004)				
Individual Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes
Observations	29,612	1,969	3,749	7,155	16,739
R-squared	0.130	0.154	0.173	0.135	0.119

Robust standard errors are clustered at country-of-origin level. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic.

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Autocratic Culture and Turnouts across Generations (the GSS, 1978-2014)

	(1)	(2)	(3)	(4)	(5)
	Vote	Vote in Gen 1	Vote in Gen 2	Vote in Gen 3	Vote in Gen 4
Autocracy Level	-0.014*	-0.012*	-0.001	-0.002	-0.004
	(0.008)	(0.007)	(0.003)	(0.002)	(0.003)
Second generation	0.200***				
	(0.036)				
Third generation	0.197***				
	(0.037)				
Fourth generation	0.224***				
	(0.045)				
Autoc X second generation	0.014*				
	(0.008)				
Autoc X third generation	0.011				
	(0.008)				
Autoc X fourth generation	0.008				
	(0.010)				
Individual Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes
Observations	29,612	1,407	3,590	6,870	16,084
R-squared	0.130	0.294	0.156	0.170	0.150

Robust standard errors are clustered at country-of-origin level. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic.

*** p<0.01, ** p<0.05, * p<0.1

Table 4. Autocratic Culture, Trust, and Political Participation in Stable Democracy (the ESS, 2004-2014)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Trust	Vote	Follow rule	Interest in Politics	Signed petition	Join demon.	Join boycott
<u>Panel A. Father Sample</u>							
Autocracy Level	-0.004*	0.008**	0.018*	0.002	0.003	0.005**	0.003
	(0.002)	(0.003)	(0.010)	(0.004)	(0.004)	(0.002)	(0.003)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,147	3,859	4,926	5,150	5,142	5,155	5,152
<u>Panel B. Mother Sample</u>							
Autocracy Level	-0.003	0.009***	0.016	-0.001	0.003	0.004**	0.000
	(0.003)	(0.003)	(0.011)	(0.003)	(0.004)	(0.002)	(0.002)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,201	3,913	4,959	5,206	5,193	5,211	5,203

Robust standard errors are clustered at country-of-origin. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic. Stable democracy are those countries with more than 100 years' democratic regime, including Belgium, Denmark, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, and the United Kingdom.

*** p<0.01, ** p<0.05, * p<0.1

Table 5. Autocratic Culture, Trust, and Turnouts across Generations in Stable Democracy (the ESS, 2004-2014)

	(1)	(2)	(3)	(4)	(5)	(6)
	Trust	Trust in Gen. 1	Trust in Gen. 2	Vote	Vote in Gen. 1	Vote in Gen. 2
<u>Panel A. Father Sample</u>						
Autocracy Level	-0.006** (0.003)	-0.006** (0.003)	-0.001 (0.002)	0.021*** (0.005)	0.019*** (0.006)	-0.008** (0.004)
Second Generation	0.010 (0.016)			0.308*** (0.033)		
Autoc X second generation	0.004 (0.003)			-0.028*** (0.006)		
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	No	No	Yes	No	No
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,147	2,884	2,263	3,859	1,832	2,027
<u>Panel B. Mother Sample</u>						
Autocracy Level	-0.006** (0.003)	-0.006** (0.003)	0.001 (0.002)	0.019*** (0.006)	0.019*** (0.007)	-0.005 (0.004)
Second Generation	0.020 (0.018)			0.283*** (0.038)		
Autoc X second generation	0.005 (0.004)			-0.023*** (0.007)		
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	No	No	Yes	No	No
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,201	2,871	2,330	3,913	1,816	2,097

Robust standard errors are clustered at country-of-origin. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic. Stable democracy are those countries with more than 100 years' democratic regime, including Belgium, Denmark, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, and the United Kingdom.

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Autocratic Culture, Family Tie, GDP, and Education (the GSS, 1978-2014)

	(1)	(2)	(3)	(4)	(5)	(6)
	Trust	Vote	Trust	Vote	Trust	Vote
Autocracy Level	-0.004*** (0.001)	-0.005* (0.003)	-0.006*** (0.002)	-0.011* (0.006)	-0.002** (0.001)	-0.006 (0.004)
Family Tie	-0.007 (0.039)	0.061 (0.053)				
GDP per cap			-0.000 (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Primary Education					0.001*** (0.000)	0.002** (0.001)
Individual Control	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24,116	22,690	22,534	21,129	22,350	20,967

Robust standard errors are clustered at country-of-origin level. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic.

*** p<0.01, ** p<0.05, * p<0.1

Table 7. Autocratic Culture, Trust, and Political Participation in Stable Democracy (the ESS)

	Round 2-7, 2004-2014				Round 2-4, 2004-2008	
	(1) Trust	(2) Vote	(3) Trust	(4) Vote	(5) Trust	(6) Vote
<u>Panel A. Father Sample</u>						
Autocracy Level	-0.003 (0.003)	-0.005 (0.004)	-0.002 (0.003)	-0.003 (0.002)	-0.006** (0.002)	0.012*** (0.004)
GDP per Cap	0.000 (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)		
Primary Education			0.001** (0.000)	0.003*** (0.001)		
Region fixed effect	No	No	No	No	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Destination country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,290	3,175	3,736	2,791	2,681	1,979
<u>Panel B. Mother Sample</u>						
Autocracy Level	-0.002 (0.003)	-0.003 (0.004)	-0.001 (0.003)	-0.002 (0.003)	-0.008** (0.003)	0.015** (0.006)
GDP per Cap	0.000 (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)		
Primary Education			0.001* (0.000)	0.003*** (0.001)		
Region fixed effect	No	No	No	No	Yes	Yes
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Destination country FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,407	3,291	3,863	2,914	1,958	1,327

Robust standard errors are clustered at country-of-origin. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic. Stable democracy are those countries with more than 100 years' democratic regime, including Belgium, Denmark, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. In columns 5 and 6 Luxembourg is not included since it does not have region measures in rounds 2-4.

*** p<0.01, ** p<0.05, * p<0.1

Table 8. Autocratic Culture and Choice of Ancestry (the GSS, 1984-2014)

	One ancestry		2nd-mentioned ancestry		3rd-mentioned ancestry	
	(1) Trust	(2) Vote	(3) Trust	(4) Vote	(5) Trust	(6) Vote
Autocracy Level	-0.003*	-0.008**	-0.003*	-0.000	-0.009***	-0.001
	(0.001)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Individual Control	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,660	9,841	7,529	7,232	3,127	2,990

Robust standard errors are clustered at country-of-origin level. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic.

*** p<0.01, ** p<0.05, * p<0.1

APPENDIX A

Table A1. Country-level summary statistics in the GSS sample

Country	N	"Most people can be trusted"	Average Autocracy
Austria	219	0.29	4.2
Belgium	74	0.31	1.0
Canada	765	0.25	0.8
Czechoslovakia	475	0.29	4.0
Denmark	282	0.32	3.7
Finland	171	0.27	0.4
France	800	0.27	1.5
Germany	6,764	0.27	4.6
Hungary	214	0.28	4.5
India	240	0.22	0.1
Ireland	4,815	0.28	0.1
Italy	2,211	0.23	4.6
Mexico	1,752	0.13	6.0
Netherland	619	0.25	5.4
Norway	701	0.33	4.2
Poland	1,133	0.27	4.2
Portugal	141	0.20	6.1
Russia	547	0.27	8.5
Spain	458	0.19	3.9
Sweden	645	0.30	5.4
Switzerland	172	0.34	0.1
United Kingdom	6,445	0.31	1.7
Yugoslavia	162	0.27	4.7

Table A2. Summary Statistics in the GSS Sample

	Obs	Mean	SD
<i>Dependent Variable:</i>			
Trust	29,805	0.27	0.44
Vote	29,805	0.72	0.45
Obey law	1,812	0.39	0.49
Interest in politics	3,839	0.71	0.46
Discuss politics	1,525	0.51	0.50
Signed petition	1,513	0.71	0.46
Join boycott	1,497	0.43	0.50
Join demonstration	1,522	0.20	0.40
Attending rally	1,521	0.34	0.47
<i>Independent Variable:</i>			
Autocracy	29,805	3.13	2.75
Age	29,730	46.90	17.68
Low income	29,805	0.27	0.45
Medium income	29,805	0.37	0.48
Unemployed	29,802	0.03	0.17
Female	29,805	0.55	0.50
Primary school	29,762	0.16	0.37
Secondary school	29,762	0.52	0.50
Married	29,800	0.55	0.50
Protestant	29,720	0.53	0.50
Catholic	29,720	0.30	0.46

Table A3. Autocratic Culture, Trust, and Turnouts across Generations in Non-stable Democracy (the ESS, 2004-2014)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust	Trust	Trust in Gen.1	Trust in Gen. 2	Vote	Vote	Vote in Gen. 1	Vote in Gen. 2
<u>Panel A. Father Sample</u>								
Autocracy Level	0.002 (0.002)	0.003* (0.002)	0.002 (0.002)	-0.000 (0.002)	0.006** (0.003)	0.007** (0.003)	0.007* (0.004)	0.001 (0.003)
Second Generation		0.009 (0.016)				0.140*** (0.027)		
Autoc X second generation		-0.003 (0.003)				-0.003 (0.004)		
Individual Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	No	No	Yes	Yes	No	No
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,634	7,634	3,459	4,175	6,625	6,625	2,693	3,932
<u>Panel B. Mother Sample</u>								
Autocracy Level	0.003* (0.001)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)	0.006* (0.003)	0.005 (0.004)	0.007 (0.004)	-0.000 (0.003)
Second Generation		0.004 (0.019)				0.121*** (0.034)		
Autoc X second generation		-0.002 (0.004)				0.000 (0.005)		
Individual Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ESS round fixed effect	Yes	Yes	No	No	Yes	Yes	No	No
Destination country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,145	7,145	3,433	3,712	6,159	6,159	2,680	3,479

Robust standard errors are clustered at country-of-origin. Each regression includes controls for age, age squared, low income, medium income, unemployed, out of labor force, female, married, primary school, secondary school, protestant, and catholic. Non-stable democracy are those countries with regime changes during or after WWII, including Austria, France, Italy, Israel, Germany, Greece, Portugal, Cyprus, Spain, Turkey, Poland, Bulgaria, Hungary, Estonia, Latvia, Romania, Slovenia, Ukraine, Albania, Lithuania, Russia, Czech Republic, Slovakia, Croatia.

*** p<0.01, ** p<0.05, * p<0.1

According to Guiso, Sapienza, and Zingales (2008a), under negative shocks in economic transactions (e.g., being cheated), individuals will be trapped in a mistrust equilibrium and only positive shocks can lift an individual out to a trust equilibrium. Intuitively, if the government or the people in an authoritarian regime repeatedly cheat an individual, she might not trust others regardless of whether or not she is from an autocratic or democratic culture. Thus, we might not observe any impact of autocratic culture on trust in authoritarian countries. This is exactly what we find in the non-stable democracy sample. As shown in Table A3, across the father and mother samples, we do not observe a consistent negative impact of autocratic culture on trust in this group of countries, though we still observe a positive impact of autocratic culture on voting.

Table A4. Summary Statistics in the ESS Father Sample

	Obs	Mean	SD
<i>Dependent Variable:</i>			
Trust	102,726	0.26	0.44
Vote	93,537	0.81	0.39
Follow rule	97,700	3.87	1.35
Interest in politics	102,792	0.55	0.50
Signed petition	102,466	0.31	0.46
Join boycott	102,573	0.22	0.41
Public demonstration	102,771	0.06	0.24
<i>Independent Variable:</i>			
Autocracy	11,091	2.21	3.14
Age	99,210	49.29	17.90
Low income	86,369	0.21	0.41
Medium income	86,369	0.42	0.49
Unemployed	102,347	0.03	0.18
Out of labor force	102,347	0.45	0.50
Female	102,840	0.52	0.50
Primary school	102,141	0.13	0.34
Secondary school	102,141	0.51	0.50
Married	85,134	0.41	0.49
Protestant	96,331	0.27	0.44
Catholic	96,331	0.22	0.41

Note: Summary statistics for stable democracies, including Belgium, Denmark, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and Finland.

Table A5. Summary Statistics in the ESS Mother Sample

	Obs	Mean	SD
<i>Dependent Variable:</i>			
Trust	102,726	0.26	0.44
Vote	93,537	0.81	0.39
Follow rule	97,700	3.87	1.35
Interest in politics	102,792	0.55	0.50
Signed petition	102,466	0.31	0.46
Join boycott	102,573	0.22	0.41
Public demonstration	102,771	0.06	0.24
<i>Independent Variable:</i>			
Autocracy	11,279	2.18	3.20
Age	99,210	49.29	17.90
Low income	86,369	0.21	0.41
Medium income	86,369	0.42	0.49
Unemployed	102,347	0.03	0.18
Out of labor force	102,347	0.45	0.50
Female	102,840	0.52	0.50
Primary school	102,141	0.13	0.34
Secondary school	102,141	0.51	0.50
Married	85,134	0.41	0.49
Protestant	96,331	0.27	0.44
Catholic	96,331	0.22	0.41

Note: Summary statistics for stable democracies, including Belgium, Denmark, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and Finland.

Table A6 - Autocratic Culture, Trust, and Political Participation (the WVS, 1981-2014)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Trust	Vote in Parliament Election	Vote in National Election	Vote in Local Election	Interest in Politics	Discuss Politics	Signed petition	Join boycott	Join demon.	Go on Strike
Autocracy Level	-0.007*** (0.001)	-0.082*** (0.021)	-0.018*** (0.003)	-0.054*** (0.003)	-0.029*** (0.002)	-0.020*** (0.003)	-0.013*** (0.001)	0.000 (0.001)	-0.011*** (0.001)	-0.021*** (0.001)
Family Tie	-0.009*** (0.003)	0.023*** (0.006)	0.023*** (0.005)	0.021*** (0.006)	0.019*** (0.003)	0.018*** (0.005)	0.002 (0.003)	-0.011*** (0.002)	-0.006** (0.003)	-0.005** (0.002)
Age	0.001 (0.000)	0.024*** (0.001)	0.019*** (0.001)	0.019*** (0.001)	0.005*** (0.000)	0.009*** (0.001)	0.010*** (0.000)	0.005*** (0.000)	0.007*** (0.000)	0.003*** (0.000)
Age squared	0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Low income	-0.043*** (0.004)	-0.007 (0.007)	-0.017*** (0.006)	-0.023*** (0.006)	-0.056*** (0.004)	-0.052*** (0.005)	-0.043*** (0.003)	-0.018*** (0.003)	-0.011*** (0.003)	-0.014*** (0.003)
Medium income	-0.022*** (0.003)	-0.008 (0.006)	-0.001 (0.005)	-0.009 (0.005)	-0.027*** (0.004)	-0.019*** (0.005)	-0.021*** (0.003)	-0.012*** (0.003)	-0.009*** (0.003)	-0.011*** (0.003)
Unemployed	-0.021*** (0.003)	-0.014* (0.008)	-0.041*** (0.007)	-0.038*** (0.007)	-0.002 (0.004)	-0.002 (0.006)	-0.018*** (0.003)	0.002 (0.003)	0.000 (0.004)	0.005 (0.003)
Female	-0.005*** (0.002)	-0.014*** (0.004)	-0.008** (0.003)	-0.008** (0.003)	-0.106*** (0.002)	-0.124*** (0.003)	-0.017*** (0.002)	-0.024*** (0.001)	-0.041*** (0.002)	-0.028*** (0.002)
Primary School	-0.070*** (0.003)	-0.084*** (0.006)	-0.051*** (0.005)	-0.035*** (0.006)	-0.197*** (0.004)	-0.241*** (0.005)	-0.167*** (0.003)	-0.084*** (0.002)	-0.137*** (0.003)	-0.036*** (0.002)
Secondary School	-0.067*** (0.003)	-0.058*** (0.005)	-0.048*** (0.004)	-0.032*** (0.004)	-0.101*** (0.003)	-0.105*** (0.004)	-0.096*** (0.003)	-0.059*** (0.002)	-0.090*** (0.002)	-0.019*** (0.002)
Married	0.012*** (0.003)	0.060*** (0.006)	0.019*** (0.005)	0.024*** (0.005)	0.026*** (0.004)	0.017*** (0.006)	-0.010*** (0.003)	-0.013*** (0.002)	-0.012*** (0.003)	-0.005** (0.002)
Single	0.013*** (0.004)	-0.012 (0.008)	-0.025*** (0.007)	-0.026*** (0.007)	0.028*** (0.005)	0.033*** (0.007)	-0.008** (0.004)	-0.002 (0.003)	0.012*** (0.004)	0.000 (0.004)
Protestant	0.012*** (0.004)	0.044*** (0.008)	0.034*** (0.007)	0.021** (0.008)	0.012** (0.005)	0.013* (0.007)	0.019*** (0.004)	-0.016*** (0.004)	-0.032*** (0.004)	-0.012*** (0.004)
Catholic	0.003 (0.003)	0.039*** (0.007)	0.031*** (0.005)	0.025*** (0.006)	0.003 (0.004)	0.010* (0.005)	-0.007** (0.003)	-0.014*** (0.003)	-0.024*** (0.003)	-0.012*** (0.003)
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	199,746	49,557	51,206	49,423	205,504	96,667	188,742	184,697	187,960	132,560

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A7 - The Most Recent Democratic Regime and Its Duration Among th ESS Countries

Country	Democratic period	Duration (years)
Switzerland	1848-2010	162
United Kingdom	1885-2010	125
Luxembourg	1890-2010	120
Belgium	1894-2010	116
Netherlands	1897-2010	113
Norway	1900-2010	110
Denmark	1901-2010	109
Sweden	1911-2010	99
Finland	1917-2010	93
Ireland	1921-2010	89
Austria	1946-2010	64
France	1946-2010	64
Italy	1946-2010	64
Israel	1948-2010	62
Germany	1949-2010	61
Greece	1974-2010	36
Portugal	1976-2010	34
Cyprus	1977-2010	33
Spain	1977-2010	33
Turkey	1983-2010	27
Poland	1989-2010	21
Bulgaria	1990-2010	20
Hungary	1990-2010	20
Estonia	1991-2010	19
Latvia	1991-2010	19
Romania	1991-2010	19
Slovenia	1991-2010	19
Ukraine	1991-2010	19
Albania	1992-2010	18
Lithuania	1992-2010	18
Russia	1992-2010	18
Czech Republic	1993-2010	17
Slovakia	1993-2010	17
Croatia	2000-2010	10

Source: Boix, Miller, and Rosato (2013).

Appendix B: Description of the GSS sample

The General Social Survey (GSS) is a series of cross section surveys that have been conducted by the National Opinion Research Center since 1972. It starts as an annual survey (except for years 1979, 1981 and 1992) and later changes to a biennial survey in even years since 1994. In each round, the GSS asks, “From what countries or part of the world did your ancestors come?” Respondents are allowed to choose multiple ancestries. We use the one to which the respondents feel the closest to determine individuals’ countries of origin in the main analysis.

The GSS collects data on respondents’ and their forbears’ foreign-born status since 1977, which allow us to determine respondents’ generations. To be specific, following Algan and Cahuc (2010), we define first-generation Americans as those who were not born in the U.S. with neither parent being born in the U.S., second-generation Americans as those who were born in the U.S. with at least one parent who were born outside of the U.S., third-generation Americans as those whose parents were born in the U.S. and at least two grandparents were born outside of the U.S., fourth-generation (and above) Americans as those whose parents were born in the U.S. and *at most* one grandparents were born outside the U.S.²³

We use respondents’ generation to determine their ancestors’ times of immigration, as the GSS has no information on the actual time of ancestors’ arrival. Since an individual may come to the U.S. at any time during her lifetime, to make sure that the assigned autocracy measure captures the cultural heritage in the country of origin, we use individuals’ birth year as the time they arrive in the U.S. This assignment rule guarantees that an individual is subject to her home country culture only at the assigned time of immigration.²⁴ Suppose the current calendar year is T . Consider an individual in our sample who is t years old (in year T). If this individual is a first-generation immigrant, we assume that she came to the U.S. in calendar year $T-t$, or equivalently, she inherited the autocratic culture from her country of origin in calendar year $T-t$. Following Algan and Cahuc (2010), we assume a 25-year gap between generations.²⁵ Thus, if this individual is a second-generation immigrant, her parent(s) came to the U.S. in calendar year $T-t-$

²³ Note that there is no standard definition for later generations. We follow the definition in Algan and Cahuc (2010). We also check other definitions for immigrants’ generations. For example, we use the definition for the third-generation as all their grandparents are born outside of the U.S. and for the fourth-generation as no grandparents were born outside of the U.S. The results are not sensitive to different definitions.

²⁴ If we assume the year-of-entry at a later stage in life, say at age 20, but an individual actually came to the U.S. when she was 10, the autocratic culture in her home country at her age 20 might have already changed and she was not subject to those changes since she has already migrated.

²⁵ Note that a 25-year generation gap essentially assumes that parents’ have children when they were 25. According to the National Vital Statistics, the average age in the U.S. to have first child was 25 in 2000, up from 21 in the 70s and kept on rising. According to our assignment rule on the time of immigration, most of the respondents (and their ancestors) came to the U.S. before 1995. In addition, respondents may not be the first-child in their families. Thus, we feel that a 25-year generation gap is reasonable.

25. Similarly, if this individual is a third-generation immigrant, her grandparent(s) came to the U.S. in calendar year $T-t-50$. If this individual is a fourth-generation (and above), her great grandparents came to the U.S. before calendar year $T-t-75$. Using this assignment rule, we are able to trace back individuals' ancestors who came to the U.S. as early as 1816.²⁶ We then assign the autocracy level from Polity IV in a respondent's country of origin in the year she or her ancestors came to the U.S. as a proxy for her inherited autocracy culture from her country of origin.

Appendix C: Description of the ESS sample

The European Social Survey (ESS) is the European equivalent of the GSS in the U.S. It is a biennial cross-section multinational survey conducted since 2002 (Round 1). In each round, a sample of EU countries is surveyed and more than thirty European countries are covered in multiple rounds. The survey begins to collect information on respondents' father's and mother's country of birth in 2004 (Round 2). Unlike the GSS, we do not have information on respondents' grandparents' birthplace or respondents' ancestry. Thus, we can only identify the first- and the second-generation in the ESS sample.²⁷

Although the EES makes our destination countries more representative, the turbulent history of Europe in the past 100 years causes some complications in the analysis. Unlike the U.S., which has enjoyed stable democracy since early nineteenth century, many European countries have experienced regime changes between autocracy and democracy since the World War I. From 1922 to 1942 the number of democratic countries in the world reduced to only twelve and most of the democratic breakdowns occurred in Europe. Many European countries, such as Turkey, Poland, and Czech Republic, were authoritarian regimes until very recently. Since the first-generation in our European sample on average enters Europe in 1961 (as we calculated) and the second-generation on average enters Europe in 1941, this raises concerns about the destination countries' regime type at the time of immigration. For example, if a country has just switched from democracy to autocracy at the time of immigration, the autocracy measure at that particular time might not capture the autocratic culture among its expatriates. Table A7 lists the ESS countries' most recent period of democratic regime and duration based on

²⁶ Think about someone who is 84 years old in 1975 and a fourth-generation. Her ancestor came to the U.S. in 1816(=1975-84-75).

²⁷ We are not able to identify the country of origin for the third-generation and above because their parents were also born in their country of residence.

the Boix-Miller-Rosato (BMR) data. We define the stable democracies as those countries that maintain stable democracy since the World War I (Huntington, 1993), while the non-stable democracies as those that are currently democracies but have ever reversed to autocracy at various times after the WWI. Countries with stable democracy include Belgium, Denmark, Finland, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. We will focus our analysis on this group of countries. This selection rule guarantees that an average second-generation enters a destination country in Europe under stable democracy.

As a comparison, we also run analysis on countries with non-stable democracy that have regime changes during or after the two world wars, including Austria, France, Italy, Israel, Germany, Greece, Portugal, Cyprus, Spain, Turkey, Poland, Bulgaria, Hungary, Estonia, Latvia, Romania, Slovenia, Ukraine, Albania, Lithuania, Russia, Czech Republic, Slovakia, Croatia.

We use the same method that we previously applied to the GSS, and match the ESS sample with the Polity IV database on the country of origin and times of immigration. The ESS asks the first-generation immigrants their exact time of entering Europe. For the second-generation Europeans (i.e., those who were born in the surveyed EU country with at least one parent born outside of their residence country), we use a similar assignment method by assuming that the second-generation's parents came to the EU country 25 years before the respondent were born.

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