

The Transmission of Democracy: From the Village to the Nation-State[†]

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Recent studies document significant persistence for a number of societal characteristics including economic outcomes like female labor force participation (Alesina, Giuliano, and Nunn forthcoming), levels of technology (Comin, Easterly, and Gong 2010), and cultural traits (Voigtländer and Voth 2012). This paper contributes to this line of enquiry by analyzing the persistence of institutional features over time. In particular, we examine the persistence of democracy, showing that a tradition of local-level democracy—i.e., a tradition of having the local leader chosen through consensus rather than other methods such as hereditary appointment—is associated with more democratic national institutions. This is consistent both with the persistence of democratic institutions over time and with the transmission of democratic institutions from the local level to the national level.

We provide evidence on mechanisms, showing that past experience with local-level democracy is associated with more supportive beliefs of national democracy today. This finding suggests the possibility that a tradition of village-level democracy may affect people's attitudes about the appropriateness of democratic institutions, which in turn affect the stability of such institutions at the national level. In places where democratic institutions existed traditionally at the local level, it was natural for these institutions to be extended to the national level. National-level

democracy was more likely to be viewed as natural and legitimate by the population and was more likely to remain once implemented.

Lastly, we show that countries with a past experience of local democracy also have a stronger rule of law, less corruption, and higher per capita income today.

Our analysis uses data from the *Ancestral Characteristics Database* recently constructed by Giuliano and Nunn (2013). The database provides measures of a variety of characteristics of the ancestors of the world's current populations. The data, reported at the country, district, and grid-cell levels, are constructed by combining preindustrial ethnographic information on over 100 ancestral characteristics for 1,265 ethnic groups with information on the current distribution of approximately 7,000 language groups reported at the grid-cell level.¹ The database uses the languages and dialects spoken by current populations to construct measures of the characteristics of their ancestors.

These findings complement existing evidence about the importance of traditional state-level institutions (Bockstette, Chanda, and Putterman 2002; Gennaioli and Rainer 2007; Michalopoulos and Papaioannou forthcoming). While these studies examine the development of the nation-state in the past, our analysis considers local-level institutions (i.e., institutions at the village level) and their relationship with contemporary national-level institutions.

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¹For each ethnicity, information is generally coded from the earliest period for which satisfactory ethnographic data are available or can be reconstructed. For all groups in the dataset, the variables are based on the societies prior to industrialization. In total, 23 ethnicities are observed during the seventeenth century or earlier, 16 during the eighteenth century, 310 during the nineteenth century, 876 between 1900 and 1950, and 31 after 1950. For nine ethnicities an exact year is not provided. See Giuliano and Nunn (2013) for further details.

Our finding that a tradition of local democracy is associated with national democracy today is consistent with the arguments and findings from Persson and Tabellini (2009). The authors show that a history of democracy (at the national level) is associated with the persistence of democracy (also at the national level). Their explanation for this fact is that past experience with democracy facilitates the development of democratic capital, measured by a nation's historical experience with democracy, which is beneficial for maintaining democracy.

I. Data

Our analysis uses information on countries' ancestral characteristics taken from Giuliano and Nunn's (2013) *Ancestral Characteristics Database*. The database is constructed by combining information from the *Ethnographic Atlas* (a worldwide ethnicity-level database of preindustrial characteristics constructed by George Peter Murdock containing information for 1,265 ethnic groups) with information on over 7,000 languages and dialects spoken by the world's current populations, constructed from the sixteenth edition of the *Ethnologue* and the *Landscan 2000* dataset.² While information on the characteristics of populations' ancestors is available at many levels of observation—e.g., country, district, grid-cell, etc.—for this analysis, we use only the country-level averages.

Our variable of interest is the extent of village-level democracy traditionally (i.e., during the pre-industrial period) practiced by the ancestors of those living in a country. The information was originally recorded in the variable *v72* of the *Ethnographic Atlas*. The variable reports the traditional form of succession of the local headman (or close equivalent such as clan chief). The categories recorded in the data are: patrilineal heir, matrilineal heir; appointment by a higher authority; seniority or age; influence, wealth, or social status; formal consensus (including elections); and informal consensus. The variable is used in Whatley (forthcoming),

where he shows that within West Africa the trans-Atlantic slave trade adversely affected local democracy.

To construct a country-level average for the level of traditional local democracy, we define an ancestral ethnic group as having a tradition of democracy if the appointment of the local headman was through either formal consensus or informal consensus. The country-level measure we use is, thus, the fraction of individuals in each country with ancestors for which the local headman was elected through a democratic process, defined as either formal or informal consensus. We call this variable *Local democracy_c*. An alternative coding is to code only formal consensus (i.e., elections) as being democratic. All of the results we present are robust to this alternative coding.

Figure 1 reports a map showing the nature of traditional succession of the local leaders among the ancestors of different populations across the world. The underlying data are reported at the 1 km by 1 km grid-cell level and the measure varies across language/dialect groups. The two practices that we define as traditionally democratic are shown in a darker shade, while all other practices are shown as light grey. Parts of the world that are uninhabited and populations for which data are missing are both shown as white.

The map reveals significant variation in the presence of democratic village institutions in the past. The continents with the lowest presence of traditional democracy are Africa and South America. The mean of *Local democracy_c* within the two regions is 0.18 and 0.22, respectively. The region with the greatest presence of local democracy is Europe, where the mean of *Local democracy_c* is 0.59. The intermediate regions of North America, Oceania, and Asia have means *Local democracy_c* equal to 0.31, 0.31, and 0.33, respectively. In addition, we also observe substantial heterogeneity within regions. For example, within Africa there are countries with no tradition of democracy at the local level (like Rwanda, Botswana, Eritrea, Gambia, and several others) and countries, like Somalia, Morocco, Egypt and Tunisia, who all have a measure of *Local democracy_c* greater than 0.90.

Motivated by the high prevalence of local democracy within Europe and its offshoots, in our analysis, we control for the proportion of a country's population with European ancestry,

² The *Ethnologue* provides a shape file that divides the world's land into polygons, with each polygon indicating the location of a specific language as of the date of publication, while *Landscan 2000* reports estimates of the world's population in 2000 for 30 arc-second (roughly 1 km by 1 km) grid-cells globally.

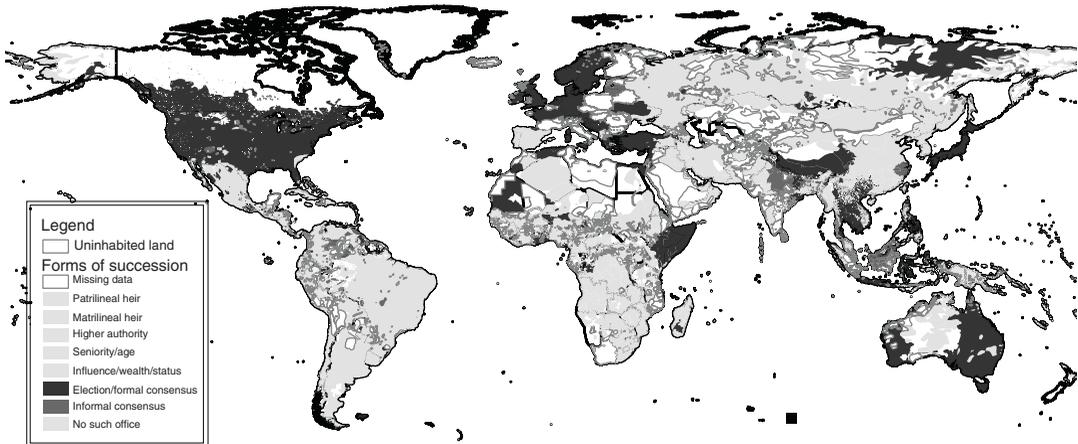


FIGURE 1. SUCCESSION TO THE OFFICE OF THE LOCAL HEADMAN OR CLAN CHIEF

taken from Nunn and Puga (2012).³ We want to be sure that our estimates are not simply reflecting the uniqueness of Western Europe that has been previously documented (Easterly and Levine 2012). Figure 1 also suggests the possibility that societies with better land quality are more likely to have a tradition of local democracy. These geographic characteristics could potentially have an independent effect on our outcomes of interest. Therefore, we also control for the proportion of ancestral land that is suitable for cultivation. The measure is taken from Giuliano and Nunn (2013) and is constructed using the historical centroid of each ethnic group. Land within a 200-kilometer radius of the centroid is used to construct the measure. The final variable that we include is the average year of observation and data collection for the ancestors of a given country. In the *Ethnographic Atlas*, ethnic groups without written records or with later external contact tend to have information from more recent time periods. See Giuliano and Nunn (2013) for a more detailed discussion.

³ The authors use Putterman and Weil's (2010) *World Migration Matrix* to construct this variable.

II. Estimation Results

A. Democratic Institutions

The first outcome we examine is a country's average level of democracy during three 50-year intervals between 1850 and 2000. The level of democracy is measured by the *polity2* variable taken from the *Polity IV* database. This variable takes on integer values and ranges from -10 (hereditary monarchy) to $+10$ (consolidated democracy). Country-level OLS estimates are reported in Table 1. In columns 1–3 the dependent variables are the average annual democracy measures during each 50-year period from 1850–2000. The number of observations in the four specifications differs because of the increasing number of independent countries and the wider availability of data over time. Column 4 reports estimates from a pooled regression (three 50-year periods) that includes period fixed effects, and with standard errors clustered at the country level.

The estimates show that a tradition of democracy at the village level is associated with more democratic national institutions in more recent time periods. This finding is consistent with the argument made in Persson and Tabellini (2009) that past experience with democracy has a positive impact on how well current institutions function, which, in turn,

TABLE 1—THE DETERMINANTS OF DEMOCRACY: COUNTRY-LEVEL OLS ESTIMATES

	Dependent variable							
	Polity2, 1850–1899 (1)	Polity2, 1900–1949 (2)	Polity2, 1950–1999 (3)	Polity2, 1850–1999 (4)	Polity2, 1850–1899 (5)	Polity2, 1900–1949 (6)	Polity2, 1950–1999 (7)	Polity2, 1850–1999 (8)
Mean of dependent variable	–2.003	–0.474	–0.631	–0.824	–2.003	–0.474	–0.631	–0.824
Traditional local democracy	3.573** (1.467)	2.950* (1.484)	2.018 (1.287)	2.495** (1.127)	3.642** (1.689)	3.183** (1.514)	2.286* (1.275)	2.755** (1.123)
Agricultural suitability	–3.205 (3.980)	1.236 (3.331)	2.079 (1.845)	1.252 (1.764)	–3.215 (4.057)	1.211 (3.306)	2.046 (1.832)	1.242 (1.740)
Year sampled	1.303*** (0.439)	0.509 (0.547)	0.676 (0.784)	0.724 (0.503)	1.273** (0.549)	0.381 (0.558)	0.508 (0.784)	0.586 (0.507)
Population of European descent	0.023 (0.024)	0.049** (0.021)	0.066*** (0.013)	0.054*** (0.012)	0.023 (0.025)	0.050** (0.021)	0.069*** (0.013)	0.055*** (0.012)
Political hierarchies					0.051 (0.428)	0.228 (0.420)	0.412 (0.305)	0.290 (0.255)
50-year group FEs	No	No	No	Yes	No	No	No	Yes
Observations	46	73	148	267	46	73	148	267
R ²	0.21	0.25	0.31	0.26	0.21	0.25	0.32	0.27

Notes: The unit of analysis is a country. “Traditional local democracy” is the estimated proportion of citizens whose ancestors appointed their local headman through either formal consensus or informal consensus. The variable ranges from 0 to 1, with mean 0.454 and standard deviation 0.443. Coefficients are reported with robust standard errors in parentheses. In columns 4 and 8, time period fixed effects are included and the standard errors are clustered at the country level.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

affects current income. Our results suggest that past experience, even at the local level, may have beneficial impacts.

One concern with the estimates from columns 1–4 of Table 1 is that the coefficient for the measure of traditional democracy may simply reflect a relationship between political development in the past and political development today. If democratic local institutions are correlated with the development of a state outside of the local community, then our results may simply reflect the relationship between past and current political development shown by Gennaioli and Rainer (2007) and Michalopoulos and Papaioannou (forthcoming). Therefore, in columns 5–8 we re-estimate the specifications from columns 1–4 but controlling for the ancestral measure of the average number of jurisdictional hierarchies beyond the local community, the most commonly used measure of state development from the *Ethnographic Atlas* (e.g., Gennaioli and Rainer 2007; Nunn 2008; Michalopoulos and Papaioannou forthcoming). We find that the importance of local democratic institutions is robust to controlling for the measure of ancestral state development. In addition,

we find no relationship between state development and subsequent democracy.

Our estimates also show that European ancestry is also highly correlated with democracy. This is consistent with the findings from Easterly and Levine (2012) that show a link between European ancestry and contemporary development. Interestingly, while the importance of traditional local democracy appears to be decreasing over time, the importance of European ancestry is increasing over time.

B. Support for Democracy

A potential explanation for the link between a tradition of village democracy and the presence of national democracy today is that past experience with local democracy may have an effect on people’s views about the desirability of democracy at the national level. A tradition of democracy at the village level may generate support for and trust in democratic institutions, which are important foundations for a well-functioning democracy (Almond and Verba 1963). We test for this by examining individual-level attitudes about democracy

TABLE 2—SELF-REPORTED ATTITUDES TOWARD DEMOCRACY: INDIVIDUAL-LEVEL OLS ESTIMATES

	Dependent variable					
	Democracy better (1)	Democratic political system (2)	Democracy important (3)	Democracy better (4)	Democratic political system (5)	Democracy important (6)
Mean of dependent variable	3.23	3.36	8.54	3.23	3.36	8.54
Traditional local democracy	0.149** (0.074)	0.118* (0.068)	0.442** (0.201)	0.141* (0.075)	0.108 (0.070)	0.391* (0.225)
Agricultural suitability	-0.141 (0.139)	-0.045 (0.102)	0.199 (0.358)	-0.152 (0.136)	-0.058 (0.106)	0.129 (0.368)
Year sampled	-0.047*** (0.016)	-0.012 (0.012)	-0.204*** (0.044)	-0.041** (0.018)	-0.005 (0.014)	-0.182*** (0.052)
Population of European descent	0.000 (0.001)	-0.002** (0.001)	-0.004* (0.002)	0.000 (0.001)	-0.002** (0.001)	-0.004 (0.002)
Political hierarchies				-0.015 (0.021)	-0.016 (0.016)	-0.050 (0.054)
Income fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	68	79	47	68	79	47
Observations	112,534	173,829	62,193	112,534	173,829	62,193
R ²	0.017	0.029	0.024	0.018	0.030	0.025

Notes: The unit of observation is an individual. “Traditional local democracy” is the estimated proportion of citizens whose ancestors appointed their local headman through either formal consensus or informal consensus. The variable ranges from 0 to 1, with mean 0.383 and standard deviation 0.414. Coefficients are reported with standard errors clustered at the country level. “Individual-level variables” include: a female indicator, age, age squared, a married indicator, education fixed effects, and income fixed effects.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

taken from the integrated data file of the *World Values Survey* (WVS), a compilation of national surveys on values and beliefs on a wide variety of topics.⁴

We examine three outcome variables based on three questions that measure respondents’ attitudes towards democracy. The first variable, *democracy better*, is based on a question that asked respondents whether they agreed with the following statement: “Democracy may have problems but it is better than any other form of government.” Respondents answered using the following four-point scale: strongly disagree (taking the value of 1), disagree (2), agree (3), and strongly agree (4). The second

measure, *democratic political system*, is based on respondents’ expressed opinion (on a scale from 1 to 4) about whether having a democratic political system is very good (4), fairly good (3), fairly bad (2) or very bad (1). The third variable, *democracy important*, is based on respondents’ answers to the following question: “How important is it to live in a country that is governed democratically?” Respondents answered on a scale from 1 to 10, where 1 indicated that it is “not at all important” and 10 indicated “absolutely important.”

The analysis examines variation across individuals. We link each individual to the historical characteristics of his/her ancestors using their country of residence and test whether a history of village democracy is associated with attitudes more supportive of democracy today. We estimate the following individual-level equation:

⁴ The integrated data file has five waves, conducted in 1981–1984, 1989–1993, 1994–1999, 1999–2004, and 2005–2008. The countries included in the survey vary by wave.

TABLE 3—INSTITUTIONAL QUALITY AND INCOME: COUNTRY-LEVEL OLS ESTIMATES

	Dependent variable					
	Rule of law (1)	Control of corruption (2)	log (income) (3)	Rule of law (4)	Control of corruption (5)	log (income) (6)
Mean of dependent variable	−0.208	−0.166	7.376	−0.208	−0.166	7.376
Traditional local democracy	0.647*** (0.190)	0.618*** (0.193)	0.859*** (0.277)	0.632*** (0.191)	0.592*** (0.193)	0.900*** (0.280)
Agricultural suitability	−0.200 (0.246)	−0.236 (0.231)	−1.066** (0.410)	−0.199 (0.248)	−0.235 (0.234)	−1.058** (0.415)
Year sampled	−0.304*** (0.080)	−0.262*** (0.073)	−0.659*** (0.108)	−0.294*** (0.080)	−0.246*** (0.073)	−0.686*** (0.114)
Population of European descent	0.011*** (0.002)	0.012*** (0.002)	0.023*** (0.003)	0.011*** (0.002)	0.011*** (0.002)	0.024*** (0.003)
Political hierarchies				−0.023 (0.042)	−0.040 (0.042)	0.061 (0.053)
Observations	150	150	141	150	150	141
R ²	0.38	0.39	0.51	0.38	0.39	0.52

Notes: The unit of analysis is a country. “Traditional local democracy” is the estimated proportion of citizens whose ancestors appointed their local headman through either formal consensus or informal consensus. The variable ranges from 0 to 1, with mean 0.331 and standard deviation 0.412. Coefficients are reported with standard errors in parentheses.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

$$(1) \quad y_{ict} = \alpha_t + \beta \text{Local democracy}_c \\ + X_c \Omega + X_{it} \Pi + \varepsilon_{ict},$$

where i denotes an individual, c a country and t the survey wave. As before *Local democracy* _{c} measures the proportion of a country’s residents with ancestors for which appointment of the local headman or chief occurred through a democratic process. X_c includes our set of baseline historical ethnographic variables also measured at the country level. X_{it} denotes the following individual-level controls: a quadratic in age, gender, marital status, education attainment and income.⁵ α_t indicates survey-wave fixed effects. Standard errors are clustered at the country level.

Estimates of equation (1) are reported in Table 2. Columns 1–3 report estimates without the political hierarchies control, while columns

4–6 report estimates with this control. We find that for all three measures, a tradition of local democracy is associated with attitudes that are more favorable towards democracy at the national level.

For brevity, we do not report the coefficients for our individual-level covariates. We find that on average women tend to be less supportive of democracy and educated individuals more supportive.

C. Institutions and Income

Given the known positive association between democracy, institutional quality, and economic development, we now examine the cross-national relationship between traditional village democracy and current institutions and economic development. We measure domestic institutions using the “rule of law” and “control of corruption” measures from the World Bank’s *Worldwide Governance Indicators* (WGI). The variables range from −2.5 to +2.5 with a higher number indicating stronger rule of law and less corruption. We take the

⁵ The education categories are lower, middle, and upper. We include indicator variables for the middle and upper levels. Income is measured by a variable that reports 11 categories. We include ten indicator variables, excluding the lowest income category.

average of the measures across all years available between 1996 and 2005. We also measure the average of real per capita GDP across these same periods.⁶

Estimates are reported in Table 3. As shown, we find a strong robust relationship between a tradition of local democracy and rule of law, control of corruption, and real per capita GDP. This is true whether or not we control for traditional state development, measured by the number of political hierarchies beyond the local community.

III. Conclusions

We have provided evidence that a history of democracy at the local level is associated with contemporary democracy at the national level. Auxiliary estimates show that a tradition of local democracy is also associated with attitudes that favor democracy, with better quality institutions, and higher level of economic development. The findings not only show persistence in democratic institutions over time but are also consistent with national institutions being affected by local institutions. A likely mediating mechanism is individual beliefs and values about the appropriate national political structure. Individual beliefs are affected by traditional practices at the local level and are an important foundation for well-functioning national institutions.

REFERENCES

- Almond, Gabriel, and Sidney Verba.** 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press.
- Alesina, Alberto F., Paola Giuliano, and Nathan Nunn.** Forthcoming. "On the Origins of Gender Roles: Women and the Plough." *Quarterly Journal of Economics*.
- Bockstette, Valerie, Areendam Chanda, and Louis Putterman.** 2002. "States and Markets: The Advantage of an Early Start." *Journal of Economic Growth* 7 (4): 347–69.
- Comin, Diego, William Easterly, and Erick Gong.** 2010. "Was the Wealth of Nations Determined in 1000 BC?" *American Economic Journal: Macroeconomics* 2 (3): 65–97.
- Easterly, William, and Ross Levine.** 2012. "The European Origins of Economic Development." National Bureau of Economic Research Working Paper 18162.
- Gennaioli, Nicola, and Ilija Rainer.** 2007. "The Modern Impact of Precolonial Centralization in Africa." *Journal of Economic Growth* 12 (3): 185–234.
- Giuliano, Paola, and Nathan Nunn.** 2013. "Ancestral Characteristics of Modern Populations." Unpublished.
- Michalopoulos, Stelios, and Elias Papaioannou.** Forthcoming. "Pre-colonial Ethnic Institutions and Contemporary African Development." *Econometrica*.
- Nunn, Nathan.** 2008. "The Long-Term Effects of Africa's Slave Trades." *Quarterly Journal of Economics* 123 (1): 139–76.
- Nunn, Nathan, and Diego Puga.** 2012. "Ruggedness: The Blessing of Bad Geography in Africa." *Review of Economics and Statistics* 94 (1): 20–36.
- Persson, Torsten, and Guido Tabellini.** 2009. "Democratic Capital: The Nexus of Political and Economic Change." *American Economic Journal: Macroeconomics* 1 (2): 88–126.
- Putternam, Louis, and David N. Weil.** 2010. "Post-1500 Population Flows and the Long-Run Determinants of Economic Growth and Inequality." *Quarterly Journal of Economics* 125 (4): 1627–82.
- Voigtländer, Nico, and Hans-Joachim Voth.** 2012. "Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany." *Quarterly Journal of Economics* 127 (3): 1339–92.
- Whatley, Warren.** Forthcoming. "The Trans-Atlantic Slave Trade and the Evolution of Political Authority in West Africa." In *Africa's Poverty in Historical Perspective*, edited by Emmanuel Akyeampong, Robert H. Bates, Nathan Nunn, and James A. Robinson. Cambridge: Cambridge University Press.

⁶ The years available are: 1996, 1998, 2000, 2002, 2003, 2004, and 2005. Real per capita GDP is taken from the *World Development Indicators*.