

NBER WORKING PAPER SERIES

THE TRANSMISSION OF DEMOCRACY:
FROM THE VILLAGE TO THE NATION-STATE

Paola Giuliano
Nathan Nunn

Working Paper 18722
<http://www.nber.org/papers/w18722>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
January 2013

Paper prepared for the 2013 ASSA meetings in San Diego, California. Session: “Culture, Institutions, and Historical Persistence”, with Azim Essaji presiding; Nico Voigtlaender and Joachim Voth, Paola Giuliano and Nathan Nunn, Marianna Belloc and Samuel Bowles presenting; and Gregory Clark, Marianna Belloc, and Quamrul Ashraf discussing. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2013 by Paola Giuliano and Nathan Nunn. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

The Transmission of Democracy: From the Village to the Nation-State
Paola Giuliano and Nathan Nunn
NBER Working Paper No. 18722
January 2013
JEL No. N30,P0,Z1

ABSTRACT

We provide 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.

Paola Giuliano
Anderson School of Management
UCLA
110 Westwood Plaza
C517 Entrepreneurs Hall
Los Angeles, CA 90095-1481
and IZA
and also NBER
paola.giuliano@anderson.ucla.edu

Nathan Nunn
Department of Economics
Harvard University
1805 Cambridge St
Cambridge, Ma 02138
and NBER
nunn@fas.harvard.edu

I. Introduction

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 (Voigtlaender 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 pre-industrial 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. 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, 2012). 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.

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.

II. 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 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 16th edition of the *Ethnologue* and the *Landscan 2000* dataset.¹ While information on the characteristics of populations' ancestors are available at many levels of observation – e.g., country, district, grid-cell, etc – for this analysis, we only use 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.

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 only code formal consensus (i.e., elections) as being democratic. All of the results we present are robust to this alternative coding.

¹ 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.

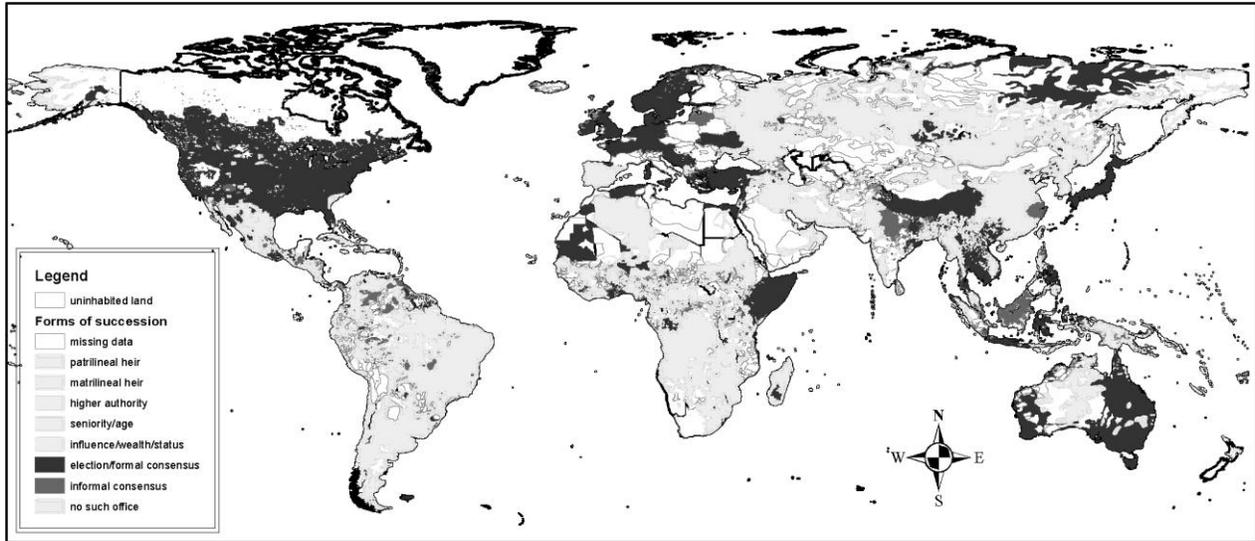


Figure 1. Succession to the office of the local headman or clan chief.

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 1km by 1km 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, taken from Nunn and Puga (2011).² 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.

III. Estimation Results

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

² The authors use Putnam and Weil's (2010) *World Migration Matrix* to construct this variable.

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 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 overtime, the importance of European ancestry is increasing over time.

Table 1. The determinants of democracy: Country-level OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent variable:							
	Polity2, 1850-1899	Polity2, 1900-1949	Polity2, 1950-1999	Polity2, 1850-1999	Polity2, 1850-1899	Polity2, 1900-1949	Polity2, 1950-1999	Polity2, 1850-1999
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-squared	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. ***, **, and * indicate significance at the 1, 5 and 10% levels.

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 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.³

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:

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

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

³ The integrated data file has five waves, conducted in 1981-1984, 1989-1993, 1994-1999, 1999-2004, 2005-2008. The countries included in the survey vary by wave.

individual-level controls: a quadratic in age, gender, marital status, education attainment and income.⁴ α_t indicate 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.

Table 2. Self-reported attitudes towards democracy: Individual-level OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable:					
	Democracy better	Democratic political system	Democracy important	Democracy better	Democratic political system	Democracy important
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-squared	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. ***, **, and * indicate significance at the 1, 5 and 10% levels.

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.

⁴ 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 eleven categories. We include ten indicator variables, excluding the lowest income category.

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 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.⁵

Table 3. Institutional quality and income: Country-level OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable:					
	Rule of law	Control of corruption	Log (income)	Rule of law	Control of corruption	Log (income)
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-squared	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. ***, **, and * indicate significance at the 1, 5 and 10% levels.

⁵ The years available are: 1996, 1998, 2000, 2002, 2003, 2004, and 2005. Real per capita GDP is taken from the *World Development Indicators*.

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.

IV. 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, Paola Giuliano and Nathan Nunn, "On the Origins of Gender Roles: Women and the Plough," *Quarterly Journal of Economics*, forthcoming.
- Bockstette, Valeri, Areendam Chanda and Louis Putternam, "States and Markets: The Advantage of an Early Start," *Journal of Economic Growth*, 2002, 7, 347-369.
- Comin, Diego, William Easterly and Erik Gong, 2010, "Was the Wealth of Nations Determined in 1000 B.C.?" *American Economic Journal: Macroeconomics*, 2010, 2(3), 65-97.

Easterly, William and Ross Levine, 2012, "The European Origins of Economic Development,"
NBER Working Paper 18162.

Gennaioli, Nicola and Ilia Rainer, "The Modern Impact of Precolonial Centralization in Africa,"
Journal of Economic Growth, 2007, 12(3), 185-234.

Giuliano, Paola and Nathan Nunn, "Ancestral Characteristics of Modern Populations," 2013,
Mimeo, Harvard University.

Michalopoulos, Stelios Elias Papaioannou, "Pre-Colonial Ethnic Institutions and Contemporary
African Development," *Econometrica*, forthcoming.

Nunn, Nathan, "The Long-Term Effects of Africa's Slave Trades," *Quarterly Journal of
Economics*, 2008, 123 (1), 139-176.

Nunn, Nathan and Diego Puga, "Ruggedness: The Blessing of Bad Geography in Africa," *Review
of Economics and Statistics*, 2011, 94 (1), 20-36.

Persson, Torsten and Guido Tabellini, "Democratic Capital: The Nexus of Political and Economic
Change," *American Economic Journal: Macroeconomics*, 2009, 1, 88-126.

Voigtlaender, Nico and Hans-Joachim Voth, "Persecution Perpetuated: The Medieval Origins of
Anti-Semitic Violence in Nazi Germany," *Quarterly Journal of Economics*, 2012, 127 (3),
1339-1392.