The Persistent Effect of State History on Macroeconomic Volatility

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and

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Abstract

We present cross-country evidence that a country's macroeconomic volatility, measured either by the standard deviation of output growth or the occurrence of trend-growth breaks, is significantly affected by the country's historical variables. In particular, countries with longer histories of state-level political institutions experience less macroeconomic volatility in post-war periods. Yet, maintaining a democratic institution helps reduce macroeconomic volatility for countries without long histories of nationhood. In addition, we show that trust, political instability, discretionary fiscal policy, financial underdevelopment, and a lack of foreign direct investment are the main mechanisms by which state history affects the macroeconomic volatility of modern states.

JEL classification: E60, N00, O10, O30, O43

Keywords: Macroeconomic volatility, State history, Democratic institution, History of agriculture, Technology adoption.

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1. Introduction

Certain historical variables, dating back to more than 10,000 B.C.E, are found to exert a persistent effect on the current income level in the growth literature. These key historical variables include the biogeographic conditions that determined the timing of the Neolithic Revolution (Diamond, 1997; Hibbs and Olsson, 2004; Olsson and Hibbs, 2005), the history of state-level political institutions (Bockstette, Chanda and Putterman, 2002; Putterman and Weil, 2010), the history of agriculture (Putterman and Weil, 2010), the history of technology adoption (Comin, Easterly and Gong, 2010), genetic distance from the frontier (Spolaore and Wacziarg, 2009), and genetic diversity of the population (Ashraf and Galor, 2013).[1] Studies of these historical variables have not only provided stimulating insights on the fundamental determinants of growth, but also have made available rich datasets of historical variables. However, they have remained silent on the questions of whether historical variables are linked to current macroeconomic volatility, and it is puzzling that why macroeconomic volatility is being neglected in this literature?

There are two main possible reasons for the failure of the literature on historical determinants of growth to consider macroeconomic volatility. First, a common belief is that growth volatility is unimportant compared to growth itself. Robert Lucas (1987), for example, suggests that the possible returns from understanding business cycle volatility are trivial compared to those from understanding growth. However, despite Lucas's suggestion, it has been shown convincingly that macroeconomic volatility is important in its own right because not only it can affect growth (Ramey and Ramey, 1995), but also can undermine measures of subjective well-being for risk-averse individuals, including self-reported happiness and life satisfaction (Wolfers, 2003). Second, if growth volatility and growth are jointly determined, then there is little reason for studying macroeconomic volatility separately

[1] See Spolaore and Wacziarg (2013) for a summary of this growing body of literature. Nunn (2009) provides a survey of the literature on the importance of history to economic development.

from growth. Yet, there have been a large number of previous studies focusing on macroeconomic volatility alone.[2] Some of these studies are concerned with the fundamental factors of macroeconomic volatility, especially in developing countries (Rodrik, 1999; Acemoglu, Johnson, Robinson and Thaicharoen, 2003; Fata´s and Mihov, 2003; Klomp and Haan, 2009). By explicitly controlling for the level of income per capita in their analysis, these studies show that distortionary or discretionary policies that cause high macroeconomic volatility and economic crises are themselves the "symptoms" of weak institutional quality or less democratic political systems. The implicit assumption underlying these studies is that there are powerful factors that can affect both growth and macroeconomic volatility independently.

This paper sits on a strand of the literature which studies the fundamental factors of macroeconomic volatility. Among others, Rodrik (1999) argues that divided societies and weak conflict management at the institutional level amplify external shocks, causing volatile growth and crises. Acemoglu, Johnson, Robinson and Thaicharoen (2003) (henceforth AJRT, 2003) show that countries that inherited more "extractive" institutions from their former European colonizers are more likely to experience high volatility and economic crises during post-war periods. Fatás and Mihov (2003) find that institutional environments that impose few constraints on governance via checks and balances experience greater discretion in fiscal policy, which causes macroeconomic instability. Malik and Temple (2009) provide evidence that remote countries with poor market access are more likely to have undiversified exports and to experience greater volatility in output growth. There is also substantial evidence that less democratic countries experience more macroeconomic volatility. For instance, Mobarak (2005) and Klomp and Haan (2009) find that democracy reduces economic volatility. Our work is closely related to research on the fundamental factors shaping macroeconomic

[2] See Loayza, Ranciere, Serven, and Ventura (2007) for a summary of this literature.

volatility. However, we look much more deeply into history to determine whether and how human evolution in the last 10,000 years continues to influence macroeconomic volatility today.

The idea that the history of state-level political institutions exerts a persistent effect on macroeconomic volatility today is inspired by the theory of the origin of constitutionalism and its effect on economic prosperity proposed by Greif (2008). A key element of this theory is that the ruler (policymaker) relies on administrators to implement policy choices, and that the administrators can sanction the ruler if they process a certain degree of administrative power. In a state where the administrators are powerful, it is expected that the level of intra-state violence is high. In contrast, a high level of inter-state violence is expected in a state where the administrators are weak and the ruler has the power to initiate violence against other states. The levels of intra-state and inter-state violence can be reduced when the ruler and administrators cooperate to establish equilibria where the power of the administrators is at the midlevel. In the long run, such equilibria of midlevel administrative power are more likely to reduce violence and yield economic prosperity. An implication derived from this theory is that countries with a longer history of state-level political institutions are more likely to have reached equilibria of midlevel administrative power that reduce violence and reward cooperation. In the words of Greif (2008), "Administrative equilibria influence the growth of the state- whether it disintegrates or consolidates- and whether violence prevails within or between states (p. 20)." Although this paper does not study the level of administrative power and its effect on the evolution of constitutionalism, it examines an observable outcome of such administrative equilibria that countries with a longer history of state-level political institutions are more likely to be less volatile.

Why does the history of state-level political institutions have such a strong influence on macroeconomic volatility and its proximate factors today? Diamond (1997) argues that

people living in countries with long histories of nationhood are more likely to have a sense of common identity and a common language.[3] Sharing an identity and a language fosters trust and social interaction, which are important components of social capital (Temple, 1998). Putterman and Weil (2010) show that trust, control, respect, obedience and thriftiness are all positively affected by state history.[4] In this paper, we show that a country's state history has a significant positive effect on the extent the citizens of that country trust one another, which in turn is highly correlated with the proximate factors of macroeconomic volatility.[5] Our finding is consistent with the idea that a unified state with a common national identity and language is less likely to experience the devastating effects of civil war and other forms of political instability (Easterly and Levine, 1997). Moreover, Bockstette, Chanda and Putterman (2002) argue that through learning by doing, public administration is more effective in long-standing states. Also, long-standing states may develop better bureaucratic discipline and hierarchical control. Hence, countries with longer histories of nationhood are likely to be more stable because they may have accumulated more social capital, experience fewer civil wars and other forms of political instability, and function with more effective administration, greater bureaucratic discipline and hierarchical control.

[3] A common language also reinforces national identity. Clots-Figueras and Masella (2013) show that teaching Catalan in Catalonian schools instils greater loyalty to the Catalan identity, and affects political preferences and attitudes toward the organization of the state.

[4] Becker et al. (2011) find that communities in Eastern Europe that were affiliated with the historical Hapsburg Empire have a higher citizens' trust in local public services and lower corruption in courts and police.

[5] Sangnier (2013) also finds that higher trust is associated with lower macroeconomic volatility in a cross section of countries. More discussion on that line of research will be presented in a later section.

A preview of the results First, we show that countries with longer histories of state-level political institutions experience less macroeconomic volatility in post-war periods.[6] The effect of this historical variable is manifested not only in (relatively) high-frequency volatility, measured by the standard deviation of annual output growth, but in medium-term volatility, measured by the occurrence of trend-growth breaks.[7] In addition, robustness checks conducted in later sections and in the appendix reveal that state history does not affect current macroeconomic volatility through the growth channel but through other independent channels, and that the effect of state history on volatility remains significant and substantial after controlling for a host of structural variables investigated in previous studies.[8]

It is important to stress that state history *does not completely dictate* the level of macroeconomic volatility of a country. For instance, results of our 0.75 quantile regression of the interaction model indicate that macroeconomic volatility can be reduced for the relatively volatile countries if they maintain a democratic political system, regardless of their histories of state-level political institutions. On the contrary, countries with long histories of nationhood may suffer from volatile growth if they maintain an autocratic regime. Democratic reforms have already been found to have positive effects on economic growth and development (See, among others, Persson and Tabellini, 2006). Our research further shows that maintaining a democratic political system can mitigate the destabilizing effects of historical constraints imposed on a country.

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[6] We acknowledge the work of Bockstette, Chanda and Putterman (2002) who study the history of state-level political institutions and how it affects a country's current political stability and economic growth. This paper extends their research beyond political stability and growth.

[7] A country's history of state-level political institutions is measured by the extent to which the country was controlled by a government above tribal level from 1 to 1950 C.E. This historical variable is adjusted for the proportion of the territory of the modern country ruled by the government during this period, and also for whether its government was foreign or locally based. See Section 2 for a detailed description of this historical variable. See also Acemoglu et al. (2013) for a related analysis of "weak states."

[8] The terms "state history" and "the history of state-level political institutions" are used interchangeably throughout the paper.

Our second contribution to the literature is the confirmation that the effects of state history are *multi-dimensional*, and principally affect output volatility through political and financial frameworks. A long history of state-level political institutions reduces the degree of political risk and enhances political constraints on fiscal-policy discretion. It also facilitates financial development and attracts foreign direct investment (FDI). The results of previous studies show that political stability (AJRT, 2003; Klomp and Haan, 2009), discretionary fiscal policy (Fatás and Mihov, 2003), financial development (Ferreira da Silva, 2002; Raddatz, 2006), and FDI inflow (Lensink and Morrissey, 2006) are important covariates of output volatility. We add to the literature by showing that the history of state-level political institutions has a significant effect on all of these important "proximate" factors of output volatility. We also show that once the effect of state history on these proximate factors is accounted for, there is little left in explaining output volatility, suggesting that these proximate factors are the main drivers through which state history affects macroeconomic volatility.[9]

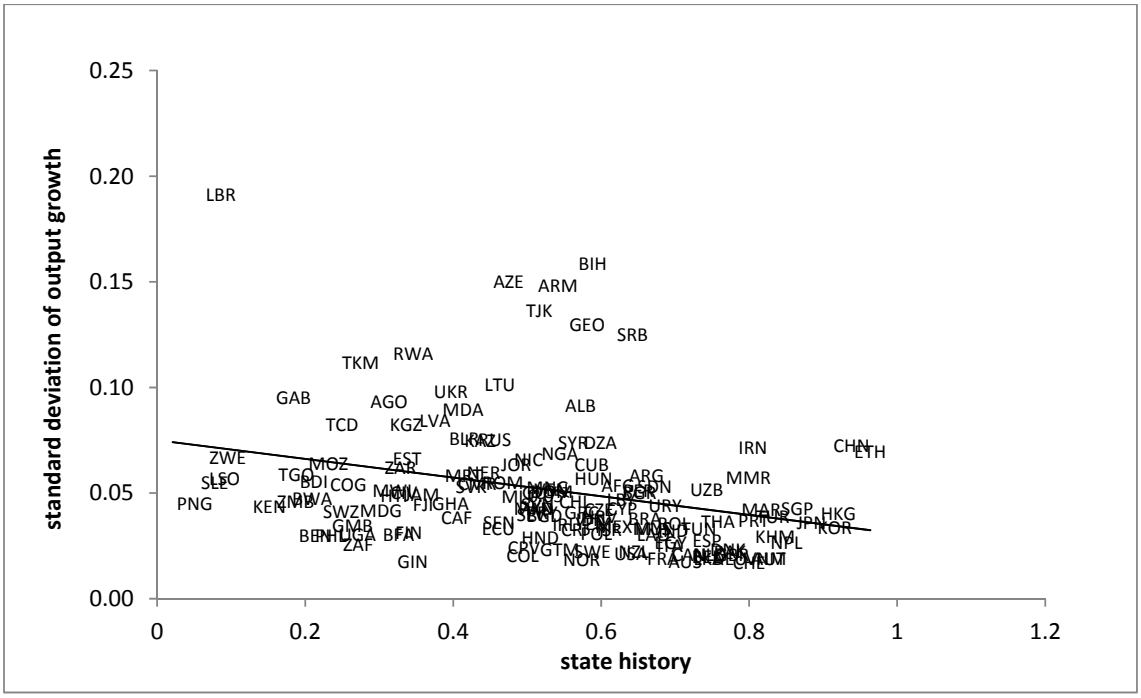
The remainder of this paper is divided into four sections. Section 2 presents the definitions and constructions of the two measures of macroeconomic volatility and the historical variables used in the regressions. Section 3 presents empirical evidence for linking historical variables to macroeconomic volatility. In particular, we show that the history of state-level political institutions has an important role in explaining macroeconomic volatility today. Furthermore, we demonstrate that state history and democracy are *both important* for

[9] Clearly, this is related to the discussion of whether institutions are endogenous or exogenous, and how institutions affect economic performance. It is beyond the scope of this paper to survey that literature. See Engerman and Sokoloff (2008), among others, for a review of that literature.

macroeconomic volatility in the most volatile countries.[10] Section 4 investigates the channels through which state history may affect output volatility, and provides evidence that political instability, discretionary fiscal policy, financial underdevelopment and a lack of FDI inflow channel the effects of state history on output volatility. We also present evidence that the above-mentioned channels are both causal and insensitive to further robustness checks. In addition, the section shows that trust plays a crucial role in linking state history and the proximate factors of macroeconomic volatility. In the last section, we summarize our findings and conclude the paper.

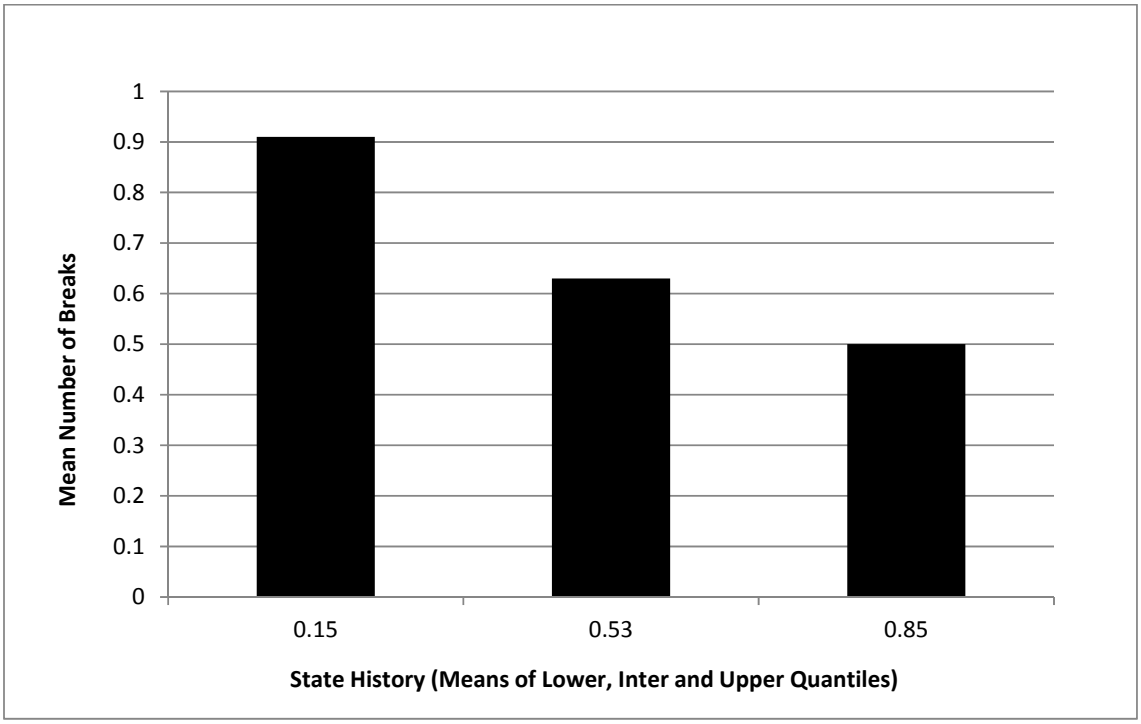
[10] To save space, we present and discuss the results of further robustness checks of the baseline estimates in the appendix. These results show that the baseline estimates are unaffected by using an alternative measure of output volatility (growth-filtered output volatility) and by adding more structural variables that are well known to be related to macroeconomic volatility.

Figure 1: Scatterplot of State History and Output Volatility



Notes: See Section 2 in text for discussions of state history and output volatility.

Figure 2: State History and Frequency of Trend-Growth Breaks



Notes: See Section 2 in text for discussions of state history and trend-growth breaks.

Figure 3: The Marginal Effect of State History on Democracy

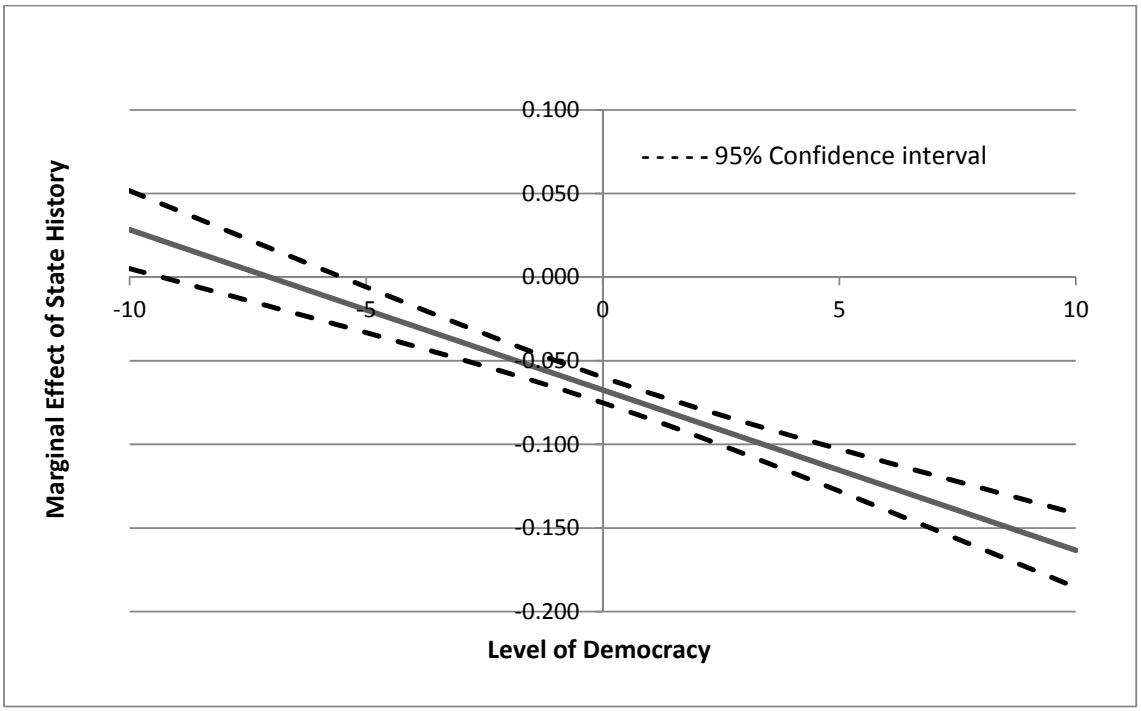


Table 1: Baseline Results (OLS)

Dependent variable is the standard deviation of annual output growth (1960-2011)							
	1	2	3	4	5	6	7
State history	-0.044*** (0.013)	-0.022* (0.011)	-0.037*** (0.014)	-0.032*** (0.011)	-0.026* (0.013)	-0.024* (0.013)	-0.033** (0.016)
Log GDP per capita		-0.004** (0.002)	-0.006*** (0.002)	-0.008*** (0.003)	-0.011*** (0.004)	-0.002 (0.003)	-0.010** (0.004)
Agriculture history			1.93e-6 (1.65e-6)				1.64e-6 (2.03e-6)
Technology history@1500			0.009 (0.014)				0.038** (0.017)
Genetic distance			-1.88e-6 (5.50e-6)				1.66e-5** (7.31e-6)
Former British colony				-0.024*** (0.006)			-0.024** (0.010)
Former French colony				-0.023*** (0.009)			-0.019** (0.009)
Former Spanish colony				-0.018*** (0.006)			-0.006 (0.009)
Former colony of other power				-0.017** (0.009)			-0.003 (0.010)
Absolute latitude					0.000 (0.000)		0.000 (0.000)
Tropics					-0.007 (0.008)		-0.007 (0.010)
Log of arable land					-0.001 (0.001)		-0.002 (0.002)
Landlocked					-0.003 (0.005)		-0.008 (0.005)
Island					-0.005 (0.005)		-0.002 (0.007)
Africa					-0.006 (0.006)		0.007 (0.008)
Ethnic fractionalization						0.006 (0.023)	0.018 (0.015)
Cultural fractionalization						-0.004 (0.022)	0.004 (0.016)
Islamic						0.006 (0.005)	0.006 (0.006)
Excluding Neo-Europe						Yes	Yes
Observations	142	120	106	120	111	113	93
R^2	0.09	0.12	0.15	0.27	0.26	0.11	0.36

Table 2: Alternative Estimators and Measures of State History and Macroeconomic Volatility

Dependent variable	Standard deviation of annual output growth				Dummy variable for trend-growth break	
Estimator	WLS		LAD		LOGIT	
	(1)	(2)	(3)	(4)	(5)	(6)
State history	-0.042**		-0.034*		0.002***	
	(0.017)		(0.020)		(0.004)	
State history w/o migration		-0.035**		-0.033***		0.026**
		(0.015)		(0.011)		(0.044)
Log GDP per capita	-0.008*	-0.009**	-0.008*	-0.008**	3.228**	2.896*
	(0.004)	(0.004)	(0.005)	(0.003)	(1.924)	(1.769)
Agriculture history	8.06e-7	8.38e-7	1.50e-6	2.49e-6	1.000	1.000
	(2.17e-6)	(2.12e-6)	(2.04e-6)	(2.17e-6)	(0.000)	(0.000)
Technology history@1500	0.042**	0.040**	0.053***	0.045***	1.071	0.549
	(0.020)	(0.020)	(0.022)	(0.016)	(2.509)	(1.170)
Genetic distance	1.56e-5*	1.9e-5**	2.55e-5***	2.47e-5***	0.998**	0.998*
	(8.31e-6)	(8.44e-6)	(8.56e-6)	(7.06e-6)	(0.001)	(0.001)
Former British colony	-0.033***	-0.034***	-0.021*	-0.021*	0.043***	0.064**
	(0.010)	(0.010)	(0.012)	(0.012)	(0.049)	(0.086)
Former French colony	-0.023**	-0.023**	-0.018	-0.015	0.022**	0.026**
	(0.010)	(0.010)	(0.011)	(0.012)	(0.033)	(0.043)
Former Spanish colony	-0.014	-0.0187*	-0.001	-0.009	0.283	0.234
	(0.010)	(0.011)	(0.010)	(0.010)	(0.309)	(0.265)
Former colony of other power	-0.009	-0.010	-0.009	-0.011	1.208	2.116
	(0.010)	(0.011)	(0.023)	(0.023)	(2.274)	(4.341)
Absolute latitude	0.000	0.000	0.001	0.001	0.919	0.941
	(0.001)	(0.001)	(0.001)	(0.000)	(0.052)	(0.055)
Tropics	-0.010	-0.010	0.004	0.004	0.829	0.858
	(0.011)	(0.012)	(0.015)	(0.011)	(1.236)	(1.388)
Log of arable land	-0.001	-0.001	-0.000	-0.001	1.823**	1.641*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.539)	(0.494)
Landlocked	-0.009	-0.009	-0.004	-0.001	1.172	0.960
	(0.006)	(0.006)	(0.010)	(0.004)	(0.977)	(0.811)
Island	-0.006	-0.007	-0.001	0.002	0.375	0.398
	(0.008)	(0.007)	(0.010)	(0.007)	(0.631)	(0.538)
Africa	0.005	0.005	0.001	0.004	10.008	12.065
	(0.009)	(0.009)	(0.008)	(0.011)	(15.626)	(19.326)
Ethnic fractionalization	0.033**	0.033*	0.022	0.008	0.019	0.006
	(0.017)	(0.018)	(0.023)	(0.025)	(0.047)	(0.018)
Cultural fractionalization	-0.005	-0.006	-0.015	0.005	57.948	401.016
	(0.017)	(0.020)	(0.027)	(0.027)	(190.563)	(1869.305)
Islamic	0.006	0.008	0.016*	0.010*	2.154	2.078
	(0.007)	(0.007)	(0.009)	(0.006)	(1.952)	(1.739)
Excluding Neo-Europe	Yes	Yes	Yes	Yes	Yes	Yes
Observations	93	90	93	90	81	80
[Pseudo] R^2	0.43	0.45	[0.22]	[0.25]	[0.24]	[0.22]

Table 3: Baseline Results of Instrumental Variable Estimations (2SLS and LIML)

Second-stage results: dependent variable is standard deviation of annual output growth				
	Instrumenting for state history only		Instrumenting for state history & LGDP pc	
	2SLS (1)	LIML (2)	2SLS (3)	LIML (4)
State history	-0.059**	-0.061**	-0.068***	-0.075**
	(0.023)	(0.025)	(0.026)	(0.032)
Log GDP per capita (LGDP pc)	-0.010***	-0.010***	-0.016**	-0.019**
	(0.004)	(0.004)	(0.007)	(0.009)
Former British colony	-0.042***	-0.042***	-0.047***	-0.050***
	(0.012)	(0.012)	(0.012)	(0.013)
Former French colony	-0.025**	-0.025**	-0.031***	-0.034***
	(0.012)	(0.012)	(0.011)	(0.013)
Former Spanish colony	-0.027***	-0.028***	-0.031***	-0.033***
	(0.009)	(0.010)	(0.009)	(0.010)
Former colony of other power	-0.022*	-0.022*	-0.028**	-0.030**
	(0.012)	(0.012)	(0.012)	(0.013)
Landlocked	-0.014***	-0.013**	-0.015**	-0.015**
	(0.005)	(0.005)	(0.006)	(0.006)
$\sum_1^3 History_i$	Yes	Yes	Yes	Yes
$\sum_1^3 Climate\ \&\ soil_i$	Yes	Yes	Yes	Yes
$\sum_1^2 Fractionalization_i$	Yes	Yes	Yes	Yes
Excluding Neo-Europe	Yes	Yes	Yes	Yes
LM test (p-value)	0.001	0.001	0.028	0.023
Hansen J-test (p-value)	0.377	0.383	0.405	0.347
Observations	85	85	85	85
R^2 (Centered)	0.40	0.39	0.36	0.35
First-stage results: dependent variable is				
	State history		State history	Log GDP pc
Log population 1CE	0.047***		0.049***	0.023
	(0.011)		(0.012)	(0.067)
Urbanization index 1CE	0.036		0.046**	0.184
	(0.023)		(0.022)	(0.121)
Island	-0.044		-0.001	0.774***
	(0.047)		(0.042)	(0.276)
Africa	0.190*		0.150	-0.719*
	(0.115)		(0.115)	(0.375)
Asia	0.297***		0.249***	-0.853***
	(0.074)		(0.080)	(0.242)
+ N control variables	Yes		Yes	Yes
Shea Partial R^2	0.41		0.33	0.16
R^2 (Centered)	0.75		0.73	0.78
F-test excl. instruments	7.70		5.91	4.60

Notes:

Table 4: Using the Frequency of Sign Changes for Growth to Measure Macro Volatility

Second-stage results: dependent variable is an index of the frequency of sign changes for growth				
	Instrumenting for state history only		Instrumenting for both state history & log GDP pc	
	2SLS (1)	LIML (2)	2SLS (3)	LIML (4)
State history	-0.223** (0.108)	-0.254** (0.125)	-0.233** (0.119)	-0.289* (0.171)
Log GDP per capita	-0.010 (0.019)	-0.009 (0.019)	-0.016 (0.035)	-0.030 (0.062)
Former British colony	-0.128** (0.052)	-0.133** (0.054)	-0.134** (0.065)	-0.155* (0.091)
Former French colony	-0.008 (0.052)	-0.012 (0.053)	-0.015 (0.069)	-0.037 (0.099)
Former Spanish colony	-0.018 (0.038)	-0.022 (0.039)	-0.023 (0.046)	-0.037 (0.063)
Former colony of other power	-0.064 (0.048)	-0.064 (0.049)	-0.069 (0.058)	-0.082 (0.074)
Landlocked	-0.014 (0.038)	-0.011 (0.038)	-0.015 (0.039)	-0.016 (0.043)
Agriculture history (x100000)	-1.410 (0.993)	-1.310 (1.020)	-1.410 (0.996)	-1.290 (1.040)
Technology history	-0.118 (0.088)	-0.113 (0.089)	-0.109 (0.097)	-0.083 (0.124)
Genetic distance (x100000)	-7.530** (3.470)	-7.640** (3.540)	-7.710** (3.620)	-8.240** (4.100)
$\sum_1^3 Climate\ \&\ soil_i$	Yes	Yes	Yes	Yes
$\sum_1^2 Fractionalization_i$	Yes	Yes	Yes	Yes
Excluding Neo-Europe	Yes	Yes	Yes	Yes
LM test (p-value)	0.002	0.002	0.027	0.027
Hansen J-test (p-value)	0.489	0.488	0.360	0.387
Observations	80	80	80	80
F-test	6.892	6.892	2.843	2.843
R^2 (Centered)	0.45	0.44	0.45	0.42

Table 5: Using Alternative Country Samples

	Dependent variable is standard deviation of annual output growth					
	Excludes high-Y countries (1)	Excludes low-Y countries (2)	Excludes European countries (3)	Excludes Asian countries (4)	Excludes African countries (5)	Excludes former colonies (6)
State history	-0.065*	-0.042*	-0.064**	-0.112*	-0.174***	-0.114***
	(0.034)	(0.025)	(0.032)	(0.059)	(0.066)	(0.042)
Log GDP per capita	-0.018***	-0.010	-0.010**	-0.014	-0.017*	-0.047**
	(0.006)	(0.007)	(0.004)	(0.011)	(0.010)	(0.021)
Former British colony	-0.027**	-0.015**	-0.042***	-0.035**	-0.026**	
	(0.011)	(0.006)	(0.011)	(0.014)	(0.010)	
Former French colony	-0.008	0.007	-0.026**	-0.019	-0.043**	
	(0.012)	(0.011)	(0.010)	(0.017)	(0.020)	
Former Spanish colony	-0.020*	-0.012	-0.032***	-0.023**	-0.038**	
	(0.010)	(0.008)	(0.012)	(0.011)	(0.015)	
Former colony of other power	-0.002	0.003	-0.022*	-0.012	-0.035**	
	(0.014)	(0.011)	(0.013)	(0.023)	(0.015)	
Landlocked	-0.009	0.001	-0.014**	-0.007	-0.002	0.004
	(0.006)	(0.004)	(0.007)	(0.008)	(0.010)	(0.014)
Agriculture history (x100000)	0.100	0.193	-0.146	0.325	0.601*	0.003
	(0.202)	(0.162)	(0.252)	(0.408)	(0.351)	(0.290)
Technology history	0.048**	0.027*	0.036*	0.039	0.0392*	0.101**
	(0.020)	(0.015)	(0.021)	(0.026)	(0.023)	(0.046)
Genetic distance (x100000)	0.718	1.160*	-0.070	-0.385	1.300	0.332
	(0.592)	(0.610)	(0.706)	(1.450)	(1.000)	(1.310)
$\sum_1^3 Climate\ \&\ soil_i$	Yes	Yes	Yes	Yes	Yes	Yes
$\sum_1^2 Fractionalizat$	Yes	Yes	Yes	Yes	Yes	Yes
LM test (*p*-value)	0.099	0.028	0.004	0.034	0.034	0.034
Hansen *J*-test (*p*-value)	0.979	0.445	0.285	0.858	0.258	0.453
Observations	70	58	61	70	63	36
F-test	1.59	2.18	5.34	2.69	2.56	5.391
R^2 (Centered)	0.21	0.52	0.21	0.25	0.27	0.39

Table 6: History of State Political Institutions and Democratic Institutions

Second-stage results: dependent variable is standard deviation of annual output growth				
	Instrumenting for state history & log GDP per capita		Instrumenting for state history, log GDP pc & democracy	
	(1)	(2)	(3)	(4)
State history	-0.065***	-0.065***	-0.072***	-0.068**
	(0.021)	(0.022)	(0.023)	(0.033)
Log GDP per capita	-0.010	-0.010	-0.005	0.004
	(0.008)	(0.009)	(0.008)	(0.010)
Democracy	-0.002**	-0.001	-0.003**	0.003
	(0.001)	(0.002)	(0.001)	(0.007)
Interaction: state history and democracy		-0.001		-0.010
		(0.003)		(0.009)
Former British colony	-0.036***	-0.035***	-0.032***	-0.026*
	(0.011)	(0.012)	(0.011)	(0.015)
Former French colony	-0.027***	-0.026**	-0.031***	-0.021
	(0.009)	(0.011)	(0.010)	(0.018)
Former Spanish colony	-0.020**	-0.020**	-0.017**	-0.016
	(0.008)	(0.008)	(0.008)	(0.010)
Former colony of other power	-0.015	-0.014	-0.013	-0.003
	(0.011)	(0.013)	(0.010)	(0.015)
Landlocked	-0.011**	-0.010*	-0.008	-0.004
	(0.005)	(0.005)	(0.006)	(0.007)
Agriculture history (x100000)	-0.044	-0.044	-0.102	-0.096
	(0.173)	(0.170)	(0.163)	(0.220)
Technology history	0.040**	0.039**	0.047***	0.029
	(0.016)	(0.017)	(0.017)	(0.021)
Genetic distance (x100000)	0.653	0.642	0.535	0.354
	(0.427)	(0.418)	(0.459)	(0.877)
$\sum_1^3 Climate\ \&\ soil_i$	Yes	Yes	Yes	Yes
$\sum_1^2 Fractionalization_i$	Yes	Yes	Yes	Yes
LM test (*p*-value)	0.028	0.092	0.017	0.060
F-test	3.199	2.068	3.454	1.272
Hansen *J*-test (*p*-value)	0.790	0.788	0.898	0.544
Observations	84	84	84	80
R^2 (Centered)	0.45	0.46	0.42	0.28

Table 7: History of State Political Institutions and Macroeconomic Policies

Second-stage results: dependent variable is standard deviation of annual output growth					
	(1)	(2)	(3)	(4)	(5)
State history	-0.061***	-0.073***	-0.002	-0.013	-0.006
	(0.023)	(0.025)	(0.033)	(0.028)	(0.026)
Log GDP per capita (LGDP)	-0.012*	-0.016***	-0.005	-0.013**	0.001
	(0.007)	(0.006)	(0.009)	(0.006)	(0.007)
Discretionary fiscal policy (x100000)	7.340				
	(6.740)				
Inflation (x100000)		6.460			
		(4.610)			
Size of government			0.003***		
			(0.001)		
Exchange rate overvaluation (x1000)				0.178*	
				(0.109)	
Trade openness (x10000)					4.227**
					(1.824)
Former British colony	-0.029**	-0.042***	-0.005	-0.015	-0.025**
	(0.013)	(0.012)	(0.020)	(0.014)	(0.013)
Former French colony	-0.002	-0.026**	-0.005	0.003	-0.004
	(0.014)	(0.012)	(0.016)	(0.012)	(0.013)
Former Spanish colony	-0.015*	-0.030***	-0.014	-0.013	-0.011
	(0.008)	(0.008)	(0.011)	(0.010)	(0.009)
Former colony of other power	-0.021	-0.038***	-0.030**	-0.002	-0.001
	(0.016)	(0.015)	(0.014)	(0.010)	(0.011)
Landlocked	-0.004	-0.013**	-0.027***	-0.009	-0.011**
	(0.005)	(0.005)	(0.010)	(0.007)	(0.005)
Agriculture history (x100000)	0.282*	0.132	-0.014	0.109	-0.004
	(0.171)	(0.226)	(0.239)	(0.189)	(0.171)
Technology history	0.042**	0.038*	-0.003	0.028**	0.005
	(0.019)	(0.020)	(0.022)	(0.013)	(0.016)
Genetic distance (x100000)	1.210**	0.961	0.147	0.874	0.904
	(0.562)	(0.641)	(0.745)	(0.629)	(0.609)
$\sum_1^3 Climate\ \&\ soil_i$	Yes	Yes	Yes	Yes	Yes
$\sum_1^2 Fractionalization_i$	No	No	Yes	No	Yes
Excluding Neo-Europe	Yes	Yes	Yes	Yes	Yes
LM test (*p*-value)	0.012	0.080	0.037	0.051	0.038
Hansen *J*-test (*p*-value)	0.228	0.842	0.218	0.728	0.349
Observations	70	83	80	62	80
F-test	1.93	3.27	2.84	2.41	1.55
R^2 (Centered)	0.35	0.31	0.05	0.40	0.27

$$MV_i = \beta_0 + \beta_1 Y_i + \beta_2 StateHist_i + \beta_3 ColonialHist_i + \beta_4 OtherHist_i + \beta_5 Geo_i + \beta_6 X_i + \varepsilon$$