The Agricultural Origins of Time Preference
Online Appendix

By ODED GALOR AND ÖMER ÖZAK*

This research explores the origins of observed differences in time preference across countries and regions. Exploiting a natural experiment associated with the expansion of suitable crops for cultivation in the course of the Columbian Exchange, the research establishes that pre-industrial agro-climatic characteristics that were conducive to higher return to agricultural investment, triggered selection, adaptation and learning processes that generated a persistent positive effect on the prevalence of long-term orientation in the contemporary era. Furthermore, the research establishes that these agro-climatic characteristics have had a culturally embodied impact on economic behavior such as technological adoption, education, saving, and smoking.
JEL: D14, D90, E21, I12, I25, J24, O10, O33, Z10

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Appendix (Online Publication Only)

A. Supplementary Material

Table A.1—: Crops and their Variants: Caloric Content

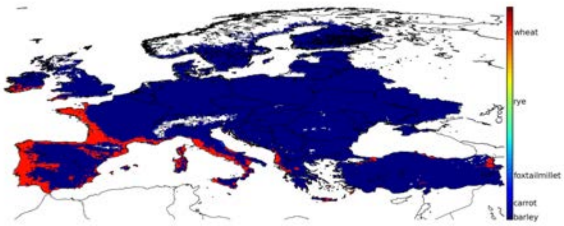
Crop	Energy†	Crop	Energy†
Alfalfa	0.23	Palm Heart	1.15
Banana	0.89	Pearl Millet	3.78
Barley	3.52	Phaseolus Bean	3.41
Buckwheat	3.43	Pigeon Pea	3.43
Cabbage	0.25	Rye	3.38
Cacao	5.98	Sorghum	3.39
Carrot	0.41	Soybean	4.46
Cassava	1.6	Sunflower	5.84
Chick Pea	3.64	Sweet Potato	0.86
Citrus	0.47	Tea	0.01
Coconut	3.54	Tomato	0.18
Coffee	0.01	Wetland Rice	3.7
Cotton	5.06	Wheat	3.42
Cowpea	1.17	Wheat Hard Red Spring	3.29
Dry Pea	0.81	Wheat Hard Red Winter	3.27
Flax	5.34	Wheat Hard White	3.42
Foxtail Millet	3.78	Wheat Soft Red Winter	3.31
Greengram	3.47	Wheat Soft White	3.4
Groundnuts	5.67	White Potato	0.77
Indigo Rice	3.7	Yams	1.18
Maize	3.65	Giant Yams	1.18
Oat	2.46	Sorghum (Subtropical)	3.39
Oilpalm	8.84	Sorghum (Tropical Highland)	3.39
Olive	1.45	Sorghum (Tropical Lowland)	3.39
Onion	0.4	White Yams	1.18

Source: USDA Nutrient Database for Standard Reference (R25). † kilo calories per 1g.

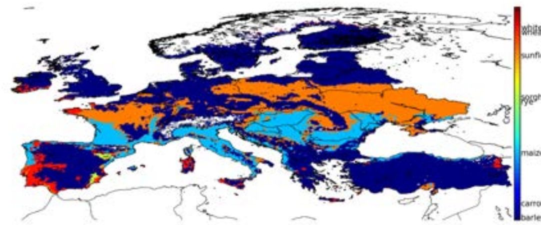
Table A.2—: Crops and their Variants: Continental Distribution pre-1500CE

Crop	Continent	Crop	Continent
Alfalfa	Asia, Europe	Palm Heart	North Africa, Subsahara
Banana	Asia, Oceania, North Africa	Pearl Millet	Asia, North Africa, Subsahara
Barley	Asia, Europe, North Africa	Phaseolus Bean	America
Buckwheat	Asia	Pigeon Pea	Asia, Subsahara
Cabbage	Europe	Rye	Europe
Cacao	America	Sorghum	North Africa, Subsahara
Carrot	Asia, Europe	Soybean	Asia
Cassava	America	Sunflower	America
Chick Pea	Europe	Sweet Potato	America
Citrus	Asia, Europe	Tea	Asia
Coconut	America, Oceania	Tomato	America
Coffee	North Africa	Wetland Rice	Asia, Subsahara
Cotton	America, Asia, Europe, North Africa, Subsahara	Wheat	Asia, Europe, North Africa
Cowpea	Asia, North Africa, Subsahara	Wheat Hard Red Spring	Asia, Europe, North Africa
Dry Pea	Europe, North Africa	Wheat Hard Red Winter	Asia, Europe, North Africa
Flax	Asia, Europe, North Africa	Wheat Hard White	Asia, Europe, North Africa
Foxtail Millet	Asia, Europe, North Africa	Wheat Soft Red Winter	Asia, Europe, North Africa
Greengram	Asia, Subsahara	Wheat Soft White	Asia, Europe, North Africa
Groundnuts	America	White Potato	America
Indigo Rice	Asia, Subsahara	Yams	Asia, Subsahara
Maize	America	Giant Yams	Asia, Subsahara
Oat	Europe, North Africa	Sorghum (Subtropical)	North Africa, Subsahara
Oilpalm	North Africa, Subsahara	Sorghum (Tropical Highland)	North Africa, Subsahara
Olive	Europe, North Africa	Sorghum (Tropical Lowland)	North Africa, Subsahara
Onion	America, Asia, Europe, North Africa, Subsahara, Oceania	White Yams	North Africa, Subsahara

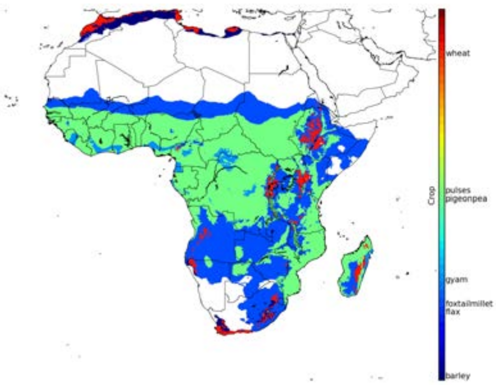
Notes: Based on various sources, including Crosby (1972) and Diamond (1997).



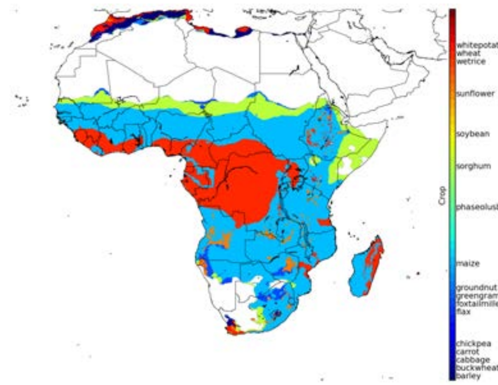
(a) Europe pre-1500CE Crops



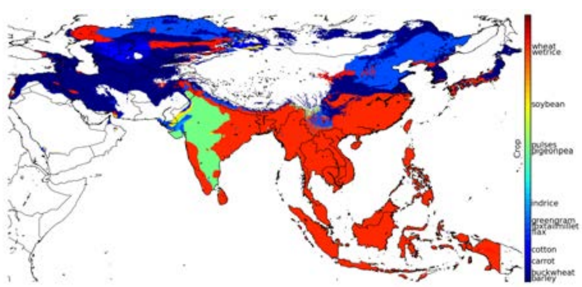
(b) Europe post-1500CE Crops



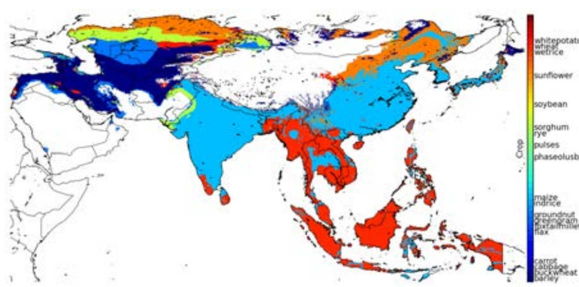
(c) Africa pre-1500CE Crops



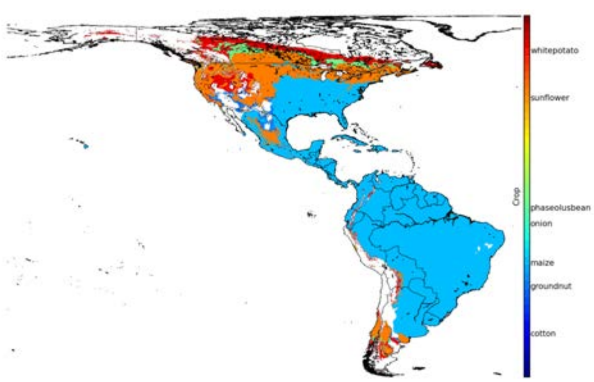
(d) Africa post-1500CE Crops



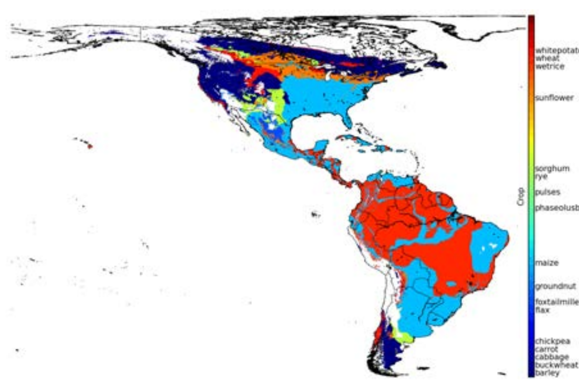
(e) Asia pre-1500CE Crops



(f) Asia post-1500CE Crops



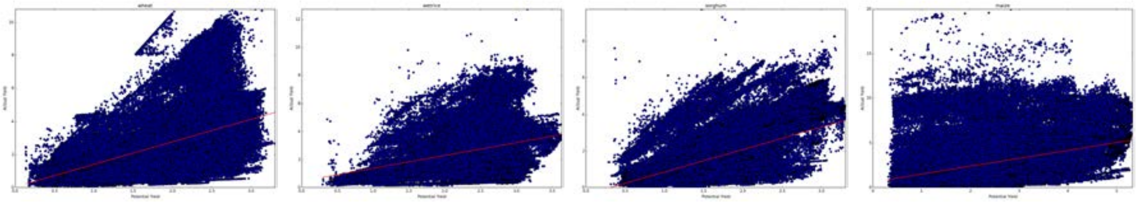
(g) America pre-1500CE Crops



(h) America post-1500CE Crops

Figure A.1. : Potential Crop by Region and Period

Notes: Figure A.1 shows for each cell in the world the highest caloric yield producing crop in the pre- and the post-1500CE era. It is apparent that: (i) few crops dominated each continent in pre-1500CE era, (ii) in the post-1500 era the number of crops within each region expanded dramatically, and (iii) the expansion in available crops changes the highest caloric yield producing crop in most regions of the world.



(a) Wheat (b) Wetland Rice (c) Sorghum (d) Maize

Figure A.2. : Potential and Actual Crop Yields: Correlations

(a) GDP per capita in 2010 and LTO (b) Schooling in 2010 and LTO (c) GDP per capita growth between 1980 and 2010 and LTO

Figure A.3. : Hofstede's Long-Term Orientation and Development Outcomes

B. Additional Results

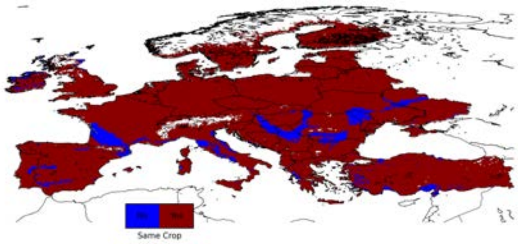
1. *Crop Return, Crop Choices, Multi-Cropping and Long-Term Orientation*

The analysis in section III focuses on the effect of crop yield and crop growth cycle on Long-Term Orientation. This specification captures the testable implications of the proposed theory as described in section I.H. Alternative modeling, could suggests however that the formation of Long-Term Orientation is affected by the daily crop return (e.g., the ratio of crop yield to crop growth cycle).

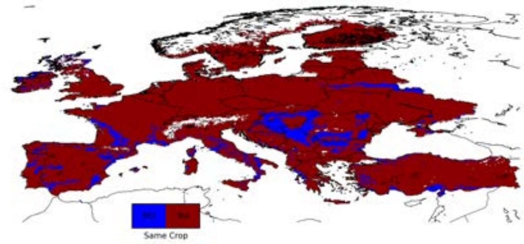
As depicted in Figure B.1, in most cells across the globe, crops the maximize caloric yield are the ones that generate the highest daily return. Hence, a-priori this alternative specification is unlikely to affect the qualitative analysis. Indeed, as established in Table B.1, the qualitative analysis reported in Table 1, is unaffected if potential caloric daily return, rather than potential caloric yield (for the set of crops that are selected based on their highest caloric yield) is used as the main independent variable

Moreover, as established in Tables B.2 and B.3, the effect of either crop yield or daily crop return on Long-Term Orientation is robust for the selection of crops in each cell based on either their highest caloric yield or highest daily return. Furthermore, as reported in Tables B.4 and B.5, the results are robust the use of the average caloric yield or the average daily crop return across all crops in the cell.

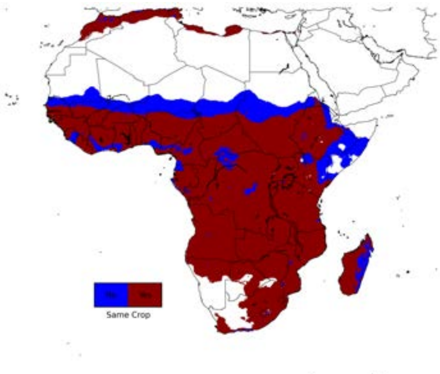
Finally, while multi-cropping within a year (of either the same crop or various crops) is not feasible across most cell across the globe, the results are robust to the feasibility of multi-cropping. First, if the same crop is used for multi-cropping, the daily crop return in each location will remain unchanged and the effect of daily crop return on Long-Term Orientation, as reported in Table B.3, captures the feasibility of multi-cropping of the same crop. Second, if multi-cropping is associated with various crops, daily crop return under multi-cropping can be approximated by the average daily crop return across all crops in a cell, and the effect of average daily crop return (across all crops in the cell) on Long-Term Orientation as reported in Table B.5 captures the feasibility of multi-cropping of different crops.



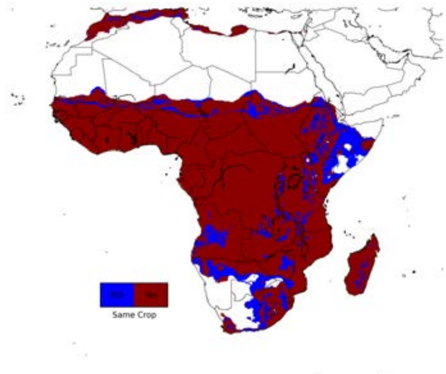
(a) Europe pre-1500CE Crops



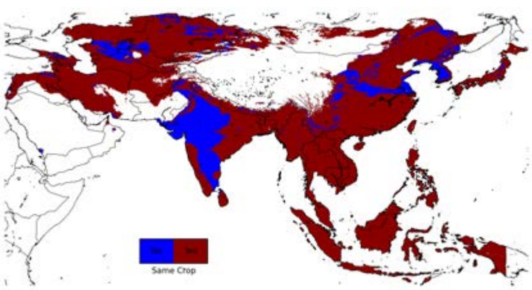
(b) Europe post-1500CE Crops



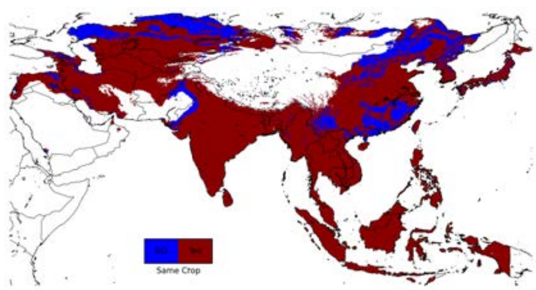
(c) Africa pre-1500CE Crops



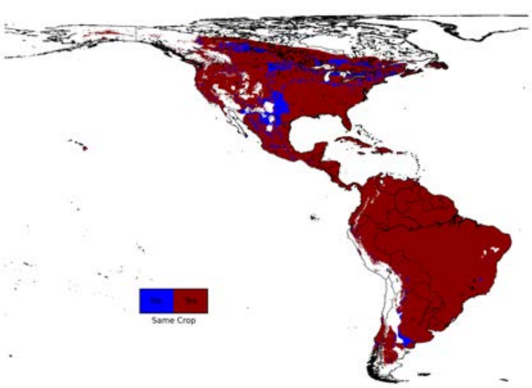
(d) Africa post-1500CE Crops



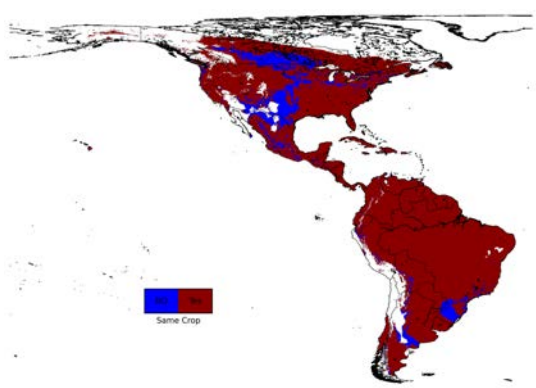
(e) Asia pre-1500CE Crops



(f) Asia post-1500CE Crops



(g) America pre-1500CE Crops



(h) America post-1500CE Crops

Figure B.1. : Crop Selection under Crop Yield and Daily Return

Table B.1—: Daily Crop Return, Crop Growth Cycle, and Long-Term Orientation

	Long-Term Orientation							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Daily Crop Return	5.71**	9.40***	8.39***	7.00***			10.83***	9.28***
	(2.39)	(2.57)	(2.44)	(2.59)			(2.69)	(2.82)
Crop Growth Cycle				4.04				4.57
				(3.58)				(3.85)
Daily Crop Return (Ancestors)					9.00***	7.57***		
					(2.41)	(2.63)		
Crop Growth Cycle (Ancestors)						4.23		
						(3.79)		
Absolute latitude		3.07	2.07	3.32	2.58	4.08	3.40	5.22
		(4.10)	(3.82)	(4.32)	(3.78)	(4.24)	(4.59)	(5.31)
Mean elevation		6.44*	7.19**	6.39*	6.78*	6.07*	5.98	5.32
		(3.38)	(3.47)	(3.42)	(3.42)	(3.26)	(4.11)	(3.84)
Terrain Roughness		-6.66**	-6.09**	-6.10**	-7.05**	-7.08**	-6.15*	-6.46*
		(2.67)	(2.94)	(2.95)	(3.01)	(3.01)	(3.31)	(3.26)
Neolithic Transition Timing			-6.13*	-6.83**			-5.14*	-5.78*
			(3.11)	(3.18)			(2.93)	(2.94)
Neolithic Transition Timing (Ancestors)					-4.87*	-5.41**		
					(2.62)	(2.66)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.51	0.58	0.59	0.60	0.59	0.60	0.55	0.56
Observations	87	87	87	87	87	87	72	72

Notes: The table establishes the positive, statistically, and economically significant effect of a country's potential daily crop return (measured in calories per hectare per day) on its level of Long-Term Orientation (measured on a scale of 0 to 100), accounting for continental fixed effects and other geographical characteristics. In particular, columns (1)-(3) show the effect of daily crop return, accounting for the country's absolute latitude, mean elevation above sea level, terrain roughness, distance to a coast or river, being landlocked or an island, and the time since it transitioned to agriculture. Columns (4)-(6) establish the robustness of the effect for the inclusion of crop growth cycle and the effects of migration. Columns (7)-(8) show that restricting the analysis to the Old World, where intercontinental migration played a smaller role, does not alter the qualitative results. Additional geographical controls include distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.2—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to Crop Choice

	Long-Term Orientation					
	Highest Yield			Highest Return		
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (Ancestors)	8.20***	11.58***	13.31***	5.32**	9.56***	8.61***
	(2.44)	(2.15)	(2.94)	(2.52)	(2.44)	(3.17)
Crop Growth Cycle (Anc.)			-3.15			1.86
			(3.52)			(4.36)
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	Yes	Yes	No	Yes	Yes
Neolithic	No	Yes	Yes	No	Yes	Yes
Adjusted-R^2	0.56	0.66	0.66	0.51	0.61	0.60
Observations	87	87	87	87	87	87

Notes: The table establishes that the effect of a country's potential crop yield on its level of Long-Term Orientation is robust for the selection of crops in each cell based on either their highest caloric yield or highest daily return. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.3—: Crop Return, Growth Cycle, and Long-Term Orientation: Robustness to Crop Choice and Multi-Cropping of the Same Crop

	Long-Term Orientation					
	Highest Yield			Highest Return		
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Return (Ancestors)	5.39**	9.00***	7.57***	9.35***	11.49***	10.36***
	(2.44)	(2.41)	(2.63)	(2.34)	(2.31)	(2.60)
Crop Growth Cycle (Anc.)			4.23			3.06
			(3.79)			(3.50)
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	Yes	Yes	No	Yes	Yes
Neolithic	No	Yes	Yes	No	Yes	Yes
Adjusted-R^2	0.51	0.59	0.60	0.57	0.65	0.65
Observations	87	87	87	87	87	87

Notes: The table establishes that the effect of a country's potential daily crop return on its level of Long-Term Orientation is robust for the selection of crops in each cell based on either their highest caloric yield or highest daily return. Moreover, it establishes the robustness of the results for the feasibility of multi-cropping of the same crop. In particular, if the same crop is used for multi-cropping, the daily crop return in each location will remain unchanged and the effect of daily crop return on Long-Term Orientation captures the feasibility of multi-cropping of the same crop. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.4—: Average Crop Yield, Average Growth Cycle, and Long-Term Orientation

	Long-Term Orientation							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Avg. Crop Yield	8.72***	11.33***	10.83***	12.00***			12.52***	15.50***
	(2.59)	(2.75)	(2.47)	(3.56)			(2.59)	(3.98)
Avg. Crop Growth Cycle				-2.96				-7.07
				(5.85)				(6.65)
Avg. Crop Yield (Anc.)					11.96***	14.55***		
					(2.42)	(3.30)		
Avg. Crop Growth Cycle (Anc.)						-6.52		
						(5.06)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Neolithic	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.55	0.61	0.64	0.63	0.65	0.66	0.60	0.60
Observations	87	87	87	87	87	87	72	72

Notes: The table establishes the positive and significant effect of a country's average potential crop yield on its level of Long-Term Orientation, accounting for continental fixed effects, geographical characteristics, the time elapsed since the transition to agriculture, as well as the average growth cycle. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.5—: Average Crop Return, Average Growth Cycle, and Long-Term Orientation: Robustness to Crop Choice and Multi-Cropping of Different Crops

	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Avg. Crop Return	10.17***	12.57***	11.68***	10.91***			13.59***	13.59***
	(2.60)	(2.81)	(2.58)	(3.04)			(2.74)	(3.42)
Avg. Crop Growth Cycle				1.69				-0.01
				(3.41)				(3.88)
Avg. Crop Return					12.47***	12.43***		
					(2.55)	(2.82)		
Avg. Crop Growth Cycle						0.09		
						(2.74)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Neolithic	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.58	0.62	0.64	0.64	0.66	0.65	0.61	0.60
Observations	87	87	87	87	87	87	72	72

Notes: The table establishes the positive and significant effect of the average potential crop return on its level of Long-Term Orientation, accounting for continental fixed effects, geographical characteristics, the time elapsed since the transition to agriculture, as well as the average growth cycle. Moreover, it establishes the robustness of the results for the feasibility of multi-cropping of different crop, where the daily crop return under multi-cropping is approximated by the average daily crop return across all crops in a cell. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

2. *The Natural Experiment Generated by the Columbian Exchange*

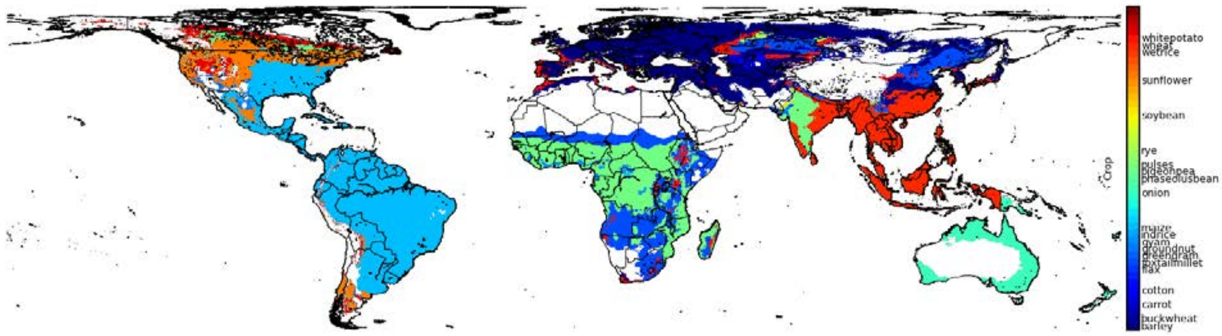
Roots of the Natural Experiment

The expansion of suitable crops for cultivation in the post-1500 period, and its impact on caloric yield (depicted in Figures B.2 and B.3) is an important element in the identification strategy developed in this paper. The Columbian Exchange brought about an increase in potential crop yield in a given grid if and only if the potential yield of a newly introduced crop is larger than the potential yield of the originally dominating crop. Hence, a priori, by construction, conditional on the potential pre-1500CE crop yield, the potential assignment of crops associated with this natural experiment ought to be independent of any other attributes of the grid, and the estimated causal effect of the change in potential crop yield is unlikely to be driven by omitted characteristics of the region.

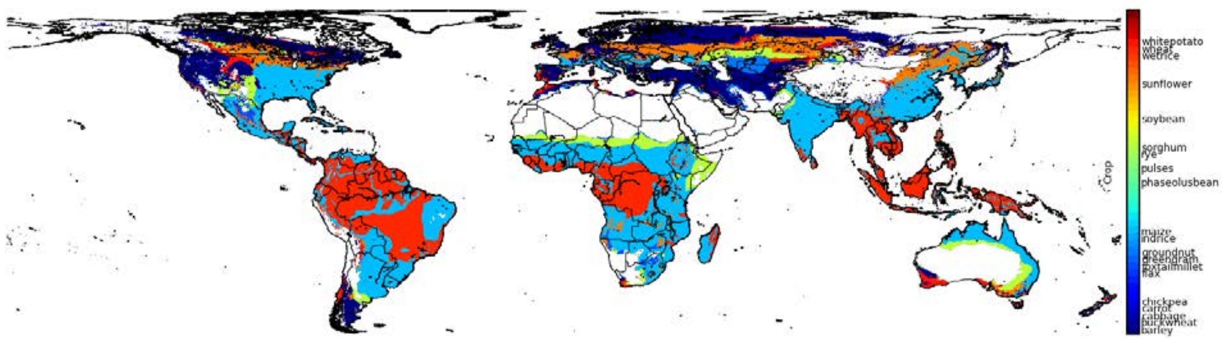
Table B.6 explores a range of geographical characteristics that may be associated with the change in potential yield and growth cycles. Indeed, changes in potential yield are negatively correlated crop yield in the pre-1500 period, but is largely uncorrelated with other geographical characteristics (except for the crop growth cycle that is highly correlated with crop yield). Moreover, changes in potential growth cycle are largely uncorrelated with other geographical characteristics. Similar patterns are present in the extended sample of 162 countries for which all geographical controls are available (Table B.7). Thus, the results based on the Columbian Exchange are unlikely to be biased by other omitted regional characteristics.

Independence of Selection on Unobservables

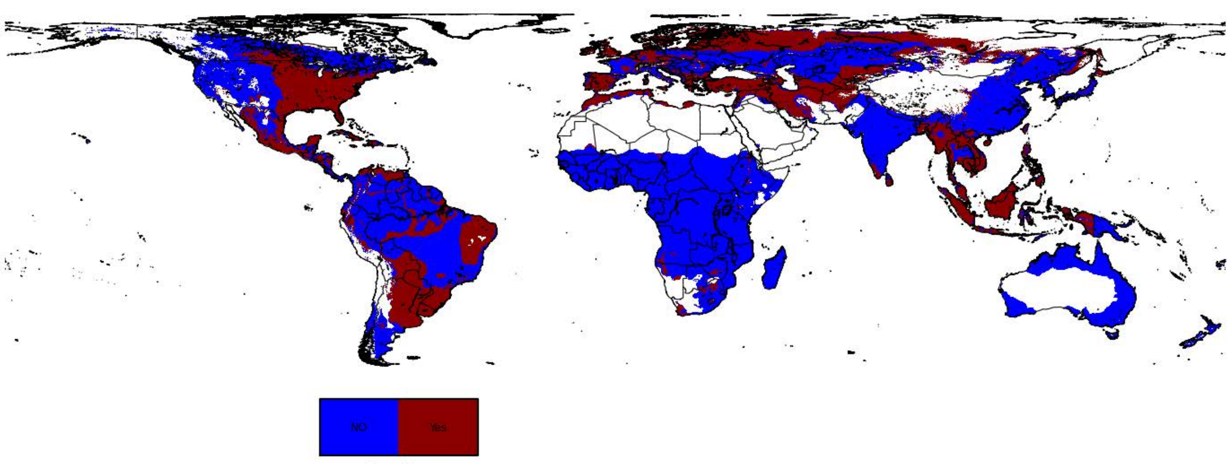
This subsection further establishes that the changes in crop yield and growth cycle are unaffected by selection on unobservables and spatial correlation. As established in Table B.8, following Altonji, Elder and Taber (2005) and Bellows and Miguel (2009), selection on unobservables would have to be significantly larger than selection on observables in order to account for the effect of crop yield on Long-Term Orientation. Furthermore, following Oster (2014), assuming that unobservables are equally strongly correlated as observables, and that all the variation in Long-Term Orientation can be explained, the estimated coefficient on the change of crop yield remains strictly positive and economically significant and thus one can reject the hypothesis that the value of the coefficient is driven exclusively by unobservables.



(a) World pre-1500CE Crops

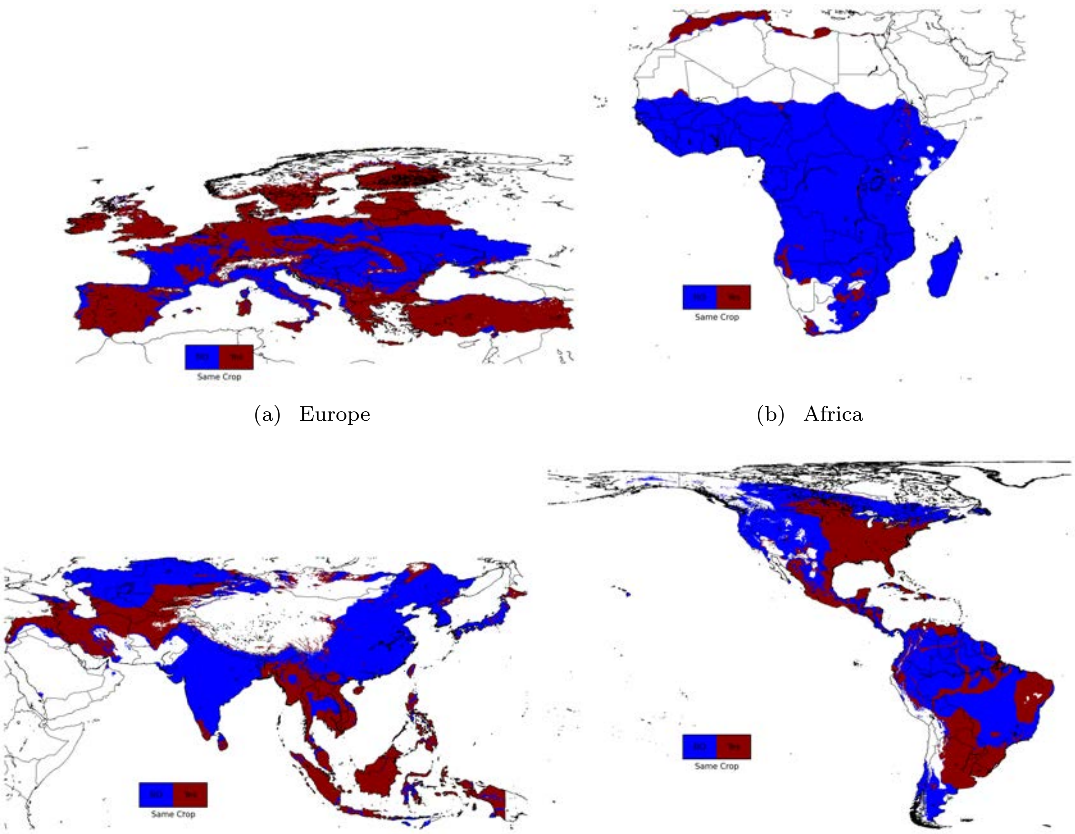


(b) World post-1500CE Crops



(c) Same Crop pre- and post1500CE

Figure B.2. : Crops that Maximize Potential Crop Yield: pre- and post-1500CE



(a) Europe (b) Africa

(c) Asia (d) America

Figure B.3. : Changes in Crops (that Maximize Potential Crop Yield) after the Columbian Exchange

Table B.6—: Correlates of Post-1500 Changes in Crop Yield and Growth Cycle

	Change in Caloric Yield					Change in Crop Growth Cycle				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crop Yield (pre-1500)	-0.27*	-0.52***	-0.22*	-0.54***	-0.30**	0.11	0.22*	0.27	0.29	0.32
	(0.14)	(0.11)	(0.12)	(0.13)	(0.13)	(0.11)	(0.13)	(0.18)	(0.19)	(0.23)
Crop Growth Cycle (pre-1500)		0.77***	0.40**	0.77***	0.51**		-0.35*	-0.35	-0.54**	-0.45
		(0.14)	(0.16)	(0.19)	(0.21)		(0.19)	(0.25)	(0.22)	(0.33)
Absolute Latitude				-0.43	-0.30				-0.63	-0.96*
				(0.39)	(0.33)				(0.48)	(0.57)
Mean Elevation				0.08	-0.12				0.52	0.39
				(0.21)	(0.22)				(0.32)	(0.32)
Terrain Roughness				-0.13	0.05				-0.11	-0.08
				(0.14)	(0.14)				(0.16)	(0.15)
Distance to Coast or River				0.03	-0.01				-0.07	-0.09
				(0.10)	(0.08)				(0.14)	(0.14)
Landlocked				0.07	-0.04				-0.21	-0.26
				(0.08)	(0.07)				(0.13)	(0.17)
Island				-0.01	-0.13				0.13	0.13
				(0.15)	(0.12)				(0.10)	(0.12)
Pct. Land in Tropics				-0.89**	-0.70**				-0.76	-0.74
				(0.34)	(0.30)				(0.52)	(0.48)
Pct. Land in Temperate Zone				0.20	0.09				0.47	0.31
				(0.19)	(0.19)				(0.30)	(0.32)
Pct. Land in Tropics and Subtropics				1.04***	0.71*				0.50	0.43
				(0.37)	(0.40)				(0.47)	(0.50)
Precipitation				-0.16	-0.10				0.02	-0.04
				(0.17)	(0.18)				(0.18)	(0.28)
Temperature				-0.27	-0.33				-0.03	-0.41
				(0.30)	(0.33)				(0.43)	(0.56)
Continental FE	No	No	Yes	No	Yes	No	No	Yes	No	Yes
Adjusted-R^2	0.05	0.33	0.61	0.46	0.63	-0.00	0.05	0.03	0.19	0.16
Observations	87	87	87	87	87	87	87	87	87	87

Notes: The table establishes that change in potential yield is negatively correlated crop yield in the pre-1500 period but is largely uncorrelated with other geographical characteristics, except for the crop growth cycle, whereas changes in crop growth cycle are largely uncorrelated with other geographical characteristics. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.7—: Correlates of Post 1500 Changes in Crop Yield and Growth Cycle: Extended Sample

	Change in Crop Yield					Change in Crop Growth Cycle				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crop Yield (pre-1500)	-0.13*	-0.49***	-0.25***	-0.62***	-0.42***	-0.09	0.12	0.22	0.35*	0.40
	(0.08)	(0.09)	(0.08)	(0.11)	(0.09)	(0.09)	(0.15)	(0.21)	(0.21)	(0.24)
Crop Growth Cycle (pre-1500)		0.49***	0.32***	0.43***	0.35***		-0.29*	-0.36*	-0.38**	-0.41**
		(0.08)	(0.07)	(0.07)	(0.07)		(0.17)	(0.21)	(0.17)	(0.19)
Absolute Latitude				-0.27	0.13				-0.93**	-0.95*
				(0.25)	(0.25)				(0.46)	(0.49)
Mean Elevation				0.29**	0.15				0.20	0.07
				(0.13)	(0.13)				(0.20)	(0.22)
Terrain Roughness				-0.25***	-0.06				-0.01	0.06
				(0.09)	(0.08)				(0.12)	(0.12)
Distance to Coast or River				-0.02	-0.08				0.14	0.13
				(0.07)	(0.07)				(0.17)	(0.17)
Landlocked				0.03	-0.01				-0.01	-0.04
				(0.07)	(0.06)				(0.11)	(0.12)
Island				0.11	-0.02				0.05	0.08
				(0.09)	(0.07)				(0.08)	(0.07)
Pct. Land in Tropics				-0.68***	-0.61***				-0.85***	-0.88***
				(0.20)	(0.18)				(0.29)	(0.30)
Pct. Land in Temperate Zone				0.43***	0.23				0.31	0.19
				(0.14)	(0.14)				(0.21)	(0.27)
Pct. Land in Tropics and Subtropics				0.92***	0.80***				0.02	-0.02
				(0.22)	(0.22)				(0.30)	(0.30)
Precipitation				-0.04	-0.07				0.22	0.26
				(0.12)	(0.10)				(0.19)	(0.19)
Temperature				0.02	0.07				-0.11	-0.43
				(0.23)	(0.25)				(0.36)	(0.40)
Continental FE	No	No	Yes	No	Yes	No	No	Yes	No	Yes
Adjusted-R^2	0.01	0.26	0.51	0.42	0.58	0.00	0.05	0.06	0.24	0.24
Observations	162	162	162	162	162	162	162	162	162	162

Notes: The table demonstrates the robustness of the result in Table B.6 for an extended sample of 162 countries for which the entire set of geographical controls are available. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.8—: Crop Yield, Crop Growth Cycle, and Long-Term Orientation: Selection on Unobservables

	Long-Term Orientation					
	Whole World				Old World	
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield Change (post-1500)	11.28***	9.51***				
	(2.92)	(2.92)				
Crop Growth Cycle Change (post-1500)	-0.67	-1.51				
	(1.84)	(1.81)				
Crop Yield Change (Anc., post-1500)			10.20***	8.83***	11.25***	8.39***
			(2.50)	(2.36)	(2.72)	(2.88)
Crop Growth Cycle Change (Anc., post-1500)			0.79	-0.73	0.16	-1.45
			(1.75)	(1.78)	(1.87)	(1.93)
Crop Yield (Ancestors, pre-1500)	10.03***	10.74***	9.90***	11.31***	10.46***	12.18***
	(2.31)	(2.76)	(2.30)	(2.70)	(2.43)	(3.05)
Crop Growth Cycle (Ancestors, pre-1500)	-11.29***	-6.47	-11.59***	-6.85*	-12.27***	-5.69
	(3.22)	(3.90)	(3.23)	(3.65)	(3.38)	(4.24)
	Change Crop Yield					
AET		5.38		6.43		2.93
δ		2.13		2.51		1.45
β^*		6.21		6.25		3.32
	Change Crop Growth Cycle					
AET		-1.81		-0.48		-0.90
δ		-0.94		-0.25		-0.49
β^*		-3.06		-3.58		-4.29
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	No	Yes	No	Yes	No	Yes
Old World Subsample	No	No	No	No	Yes	Yes
R^2	0.65	0.77	0.67	0.78	0.62	0.76
Adjusted-R^2	0.61	0.70	0.62	0.71	0.58	0.67
Observations	87	87	87	87	72	72

Notes: The table shows the robustness of the results of Table 2 to selection by unobservables. It presents the Altonji, Elder and Taber (2005) AET ratio as extended by Bellows and Miguel (2009). Additionally, it presents the δ and $\beta^*(1,1)$ statistics suggested by Oster (2014). All statistics suggest that the results are not driven by unobservables. Heteroskedasticity robust standard errors in round parenthesis. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Robustness to Grids that Experienced a Change in Crops

Table B.9 establishes that the results presented in Table 2 do not change qualitatively if only grids that experienced a change in the dominating crop in the course of the Columbian exchange are included in the analysis. Moreover, the table expands the set of geographical controls and includes precipitation and the shares of land in tropical, subtropical, and temperate climate zones.

Table B.9—: Crop Yield, Growth Cycle, and Long-Term Orientation: Grids that Experienced a Post-1500 Change in Yield

	Long-Term Orientation							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	4.97**	7.91***	6.75***	6.36**			6.26**	7.20**
	(2.28)	(2.22)	(2.48)	(2.75)			(2.65)	(3.23)
Crop Yield Change (post-1500)			4.47*	6.28**			6.29**	8.94***
			(2.35)	(2.39)			(2.79)	(2.83)
Crop Growth Cycle (pre-1500)				-0.90				-3.29
				(2.51)				(3.73)
Crop Growth Cycle Change (post-1500)				-4.57**				-4.91**
				(1.99)				(2.12)
Crop Yield (Anc., pre-1500)					7.17***	7.06**		
					(2.33)	(3.02)		
Crop Yield Change (Anc., post-1500)					6.04***	7.67***		
					(1.91)	(2.00)		
Crop Growth Cycle (Anc., pre-1500)						-1.99		
						(2.96)		
Crop Growth Cycle Change (Anc., post-1500)						-3.93*		
						(2.04)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.51	0.64	0.64	0.66	0.67	0.69	0.58	0.61
Observations	87	87	87	87	87	87	72	72

Notes: The table establishes that the results presented in Table 2 do not change qualitatively if only grids that experienced a change in the dominating crop in the course of the Columbian exchange are included in the analysis. Moreover, the table expands the set of geographical controls and includes precipitation and the shares of land in tropical, subtropical, and temperate climate zones. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, landlocked and island dummies, mean temperature, precipitation, and shares of land in tropical, subtropical and in temperate climate zones. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Robustness to Exclusion of Asian Crop Varieties from Sub-Saharan Africa pre-1500

This subsection establishes the robustness of analysis in able 2 to the exclusion of Asian crop varieties from the set of available crops in Sub-Saharan Africa in the pre-1500 period. In particular, the assignment of Asian varieties of rice to Sub-Saharan Africa prior to 1500CE is debatable. Thus, the analysis constructs an alternative set of measures of crop yield and crop growth cycles that excludes wetland (Oryza japonica) and indica (Oryza indica) rice, as well as green gram, from the set of crops available for cultivation in Sub-Saharan Africa in the pre-1500CE era. As established in Table B.10, the effect of pre-1500CE crop yield and its change in the course of the Columbian Exchange on Long-term Orientation is even larger if Asian crop varieties are excluded from Sub-Saharan Africa in the pre-1500 period.

Table B.10—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to Exclusion of Asian Crop Varieties from Sub-Saharan Africa

	Long-Term Orientation							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	6.28**	6.05***	7.07***	9.66**			12.59***	18.80***
	(2.64)	(2.22)	(2.48)	(3.68)			(3.41)	(4.22)
Crop Yield Change (post-1500)		9.95**	11.97***	13.34***			10.27**	14.17***
		(4.27)	(3.97)	(4.22)			(4.11)	(4.50)
Crop Growth Cycle (pre-1500)				-6.58				-14.53**
				(5.86)				(6.32)
Crop Growth Cycle Change (post-1500)				0.43				0.04
				(3.05)				(2.58)
Crop Yield (Anc., pre-1500)					9.65***	13.49***		
					(2.36)	(2.80)		
Crop Yield Change (Anc., post-1500)					9.86***	14.27***		
					(3.02)	(3.03)		
Crop Growth Cycle (Anc., pre-1500)						-14.77***		
						(4.87)		
Crop Growth Cycle Change (Anc., post-1500)						0.58		
						(2.61)		
Neolithic Transition Timing			-7.01**	-5.81*			-5.02*	-2.41
			(2.90)	(3.00)			(2.78)	(2.82)
Neolithic Transition Timing (Anc.)					-4.97**	-3.52		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.51	0.55	0.63	0.63	0.66	0.70	0.61	0.64
Observations	87	87	87	87	87	87	72	72

Notes: The table establishes the robustness of the results in Table 2 to the exclusion of Asian crop varieties from the set of available crops in Sub-Saharan Africa in the pre-1500 period. Geographical controls include absolute latitude, mean elevation, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Sorting vs. Cultural Evolution

This subsection further explores the role of sorting vs cultural evolution in the established relationship in Table 2. In particular, it establishes the robustness of the results in Table 2 to constraining the sample to countries where at least 90% of the population are descendants of their indigenous populations, mitigating the potential effect of sorting on Long-Term Orientation in the post-1500 era. As established in Table B.11, the positive and significant effect of changes in crop yield on Long-Term orientation is maintained reinforcing the interpretation that this effect captures the forces of cultural evolution, rather than sorting.

Table B.11—: Crop Yield, Growth Cycle, and Long-Term Orientation: Countries with High Share of Natives

	Long-Term Orientation			
	Old World			
	(1)	(2)	(3)	(4)
Crop Yield (pre-1500)	8.49**	8.58***	13.95***	17.55***
	(3.44)	(3.05)	(3.49)	(3.94)
Crop Yield Change (post-1500)		9.62***	10.00***	13.27***
		(3.53)	(3.20)	(3.74)
Crop Growth Cycle (pre-1500)				-8.64*
				(5.08)
Crop Growth Cycle Change (post-1500)				1.04
				(2.12)
Neolithic Transition Timing			-2.57	-1.04
			(4.46)	(4.39)
Continent FE	Yes	Yes	Yes	Yes
Geographical Controls	No	No	Yes	Yes
Adjusted-R^2	0.43	0.52	0.58	0.60
Observations	46	46	46	46

Notes: The table establishes the robustness of the results in Table 2 to constraining the sample to countries where at least 90% of the population are descendants of their indigenous populations, mitigating the potential effect of sorting on Long-Term Orientation in the post-1500 era. Geographical controls include absolute latitude, mean elevation, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Cultural Transmission

This subsection provides additional evidence that reinforces the interpretation that the effect of crop yield captures the forces of cultural evolution. In particular, Table B.12 establishes that in a horse race between the unadjusted measures of crop yield and growth cycle and the ancestry adjusted (and thus culturally embodied) ones, only the ancestry adjusted, culturally embodied measures remain statistically and economically significant.

3. Robustness to Spatial Autocorrelation and Selection on Unobservables

This subsection establishes that the qualitative results are unaffected by selection on unobservables and spatial correlation. As established in Tables B.13 and B.14, following Altonji, Elder and Taber (2005) and Bellows and Miguel (2009), selection on unobservables would have to be significantly larger than selection on observables in order to account for the effect of crop yield on Long-Term Orientation. Furthermore, following Oster (2014), assuming that unobservables are equally strongly correlated as observables, and that all the variation in Long-Term Orientation can be explained, the estimated coefficient on the change of crop yield remains strictly positive and economically significant

Table B.12—: Crop Yield, Growth Cycle, and Long-Term Orientation: Ancestry Adjusted vs. Unadjusted

	Long-Term Orientation				
	(1)	(2)	(3)	(4)	(5)
Crop Yield (Anc., pre-1500)	12.24***	10.10***	8.65**	10.50***	15.14***
	(3.79)	(3.69)	(3.35)	(3.37)	(4.78)
Crop Yield Ch. (Anc., post-1500)				12.65**	7.04
				(5.80)	(5.80)
Crop Growth Cycle (Anc., pre-1500)					-16.42*
					(8.54)
Crop Growth Cycle Ch. (Anc., post-1500)					6.51
					(4.56)
Crop Yield (pre-1500)	-3.69	-0.49	0.35	-2.17	-5.68
	(3.77)	(2.88)	(2.54)	(2.75)	(4.45)
Crop Yield Change (post-1500)				-5.69	4.01
				(6.64)	(7.44)
Crop Growth Cycle Change (post-1500)					-6.48
					(5.23)
Crop Growth Cycle (pre-1500)					9.02
					(7.67)
Continental FE	No	Yes	Yes	Yes	Yes
Geographical Controls	No	Yes	Yes	Yes	Yes
Neolithic	No	No	Yes	Yes	Yes
Adjusted-R^2	0.12	0.58	0.59	0.66	0.68
Observations	87	87	87	87	87

Notes: The table establishes that in a horse race between the unadjusted measures of crop yield and growth cycle and the ancestry adjusted ones, only the ancestry adjusted, culturally embodied, measures remain statistically and economically significant. Geographical controls include absolute latitude, mean elevation, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

and thus one can reject the hypothesis that the value of the coefficient is driven exclusively by unobservables.

Moreover, the corrected standard errors based on Conley (1999) in the square brackets, and those based on the maximum likelihood estimates suggested by Cliff and Ord (1973, 1981) in the curly brackets, indicate that the effect of crop yield on Long-Term Orientation remains highly significant once spatial autocorrelations are accounted for.

Table B.13—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to Spatial Autocorrelation and Selection on Unobservables

	Long-Term Orientation					
	Whole World				Old World	
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield	10.23***	10.70***			14.36***	15.26***
	(2.75)	(2.92)			(3.18)	(3.43)
	[3.19]	[2.67]			[3.19]	[2.52]
	{2.60}	{2.54}			{3.05}	{2.97}
Crop Growth Cycle	-4.91	-3.16			-6.83**	-4.00
	(3.20)	(3.50)			(3.39)	(3.55)
	[3.14]	[2.87]			[3.13]	[2.65]
	{3.03}	{3.05}			{3.25}	{3.08}
Crop Yield (Anc.)			12.15***	13.64***		
			(2.74)	(2.87)		
			[2.79]	[2.23]		
			{2.60}	{2.50}		
Crop Growth Cycle (Anc.)			-6.84**	-4.86		
			(3.26)	(3.36)		
			[3.22]	[2.61]		
			{3.09}	{2.93}		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	No	Yes	No	Yes	No	Yes
Old World Subsample	No	No	No	No	Yes	Yes
AET		-22.63		-4.00		-17.05
δ		-8.06		-0.90		-4.77
β^*		11.39		17.66		16.31
R^2	0.59	0.76	0.61	0.78	0.56	0.76
Adjusted-R^2	0.55	0.68	0.57	0.71	0.52	0.69
Observations	87	87	87	87	72	72

Notes: The table shows the robustness of the result in Table 2 to spatial autocorrelation and selection on unobservables. The spatial auto-correlation corrected standard errors based on (Conley, 1999) in the square brackets, and those based on the maximum likelihood estimates suggested by Cliff and Ord (1973, 1981) in the curly brackets. Moreover, it reports the Altonji, Elder and Taber (2005) AET ratio and the δ and $\beta^*(1,1)$ statistics suggested by Oster (2014). Heteroskedasticity robust standard errors in round parenthesis. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.14—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to Spatial Autocorrelation and Selection on Unobservables

	Long-Term Orientation					
	Whole World				Old World	
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (Anc., pre-1500)	8.43***	8.15***	9.90***	11.31***	10.46***	12.18***
	(2.37)	(2.74)	(2.30)	(2.70)	(2.43)	(3.05)
	[2.63]	[2.21]	[1.94]	[2.06]	[1.93]	
	{2.24}	{2.39}	{2.15}	{2.31}	{2.29}	{2.59}
Crop Yield Change (Anc., post-1500)			10.20***	8.83***	11.25***	8.39***
			(2.50)	(2.36)	(2.72)	(2.88)
			[2.80]	[1.78]	[2.87]	
			{2.33}	{2.02}	{2.56}	{2.44}
Crop Growth Cycle (Anc., pre-1500)	-6.12**	0.29	-11.59***	-6.85*	-12.27***	-5.69
	(3.04)	(3.45)	(3.23)	(3.65)	(3.38)	(4.24)
	[2.91]	[3.24]	[3.17]	[2.86]	[3.25]	
	{2.88}	{3.01}	{3.02}	{3.13}	{3.19}	{3.61}
Crop Growth Cycle Change (Anc., post-1500)			0.79	-0.73	0.16	-1.45
			(1.75)	(1.78)	(1.87)	(1.93)
			[1.40]	[1.26]	[1.34]	
			{1.64}	{1.53}	{1.76}	{1.64}
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	No	Yes	No	Yes	No	Yes
Old World Subsample	No	No	No	No	Yes	Yes
AET		28.48		-8.04		-7.07
δ		12.23		-1.65		-1.46
β^*		7.67		13.95		15.23
R^2	0.58	0.74	0.67	0.78	0.62	0.76
Adjusted-R^2	0.53	0.66	0.62	0.71	0.58	0.67
Observations	87	87	87	87	72	72

Notes: The table shows the robustness of the result in Table 2 to spatial autocorrelation and selection on unobservables. The spatial auto-correlation corrected standard errors based on (Conley, 1999) in the square brackets, and those based on the maximum likelihood estimates suggested by Cliff and Ord (1973, 1981) in the curly brackets. Moreover, it reports the Altonji, Elder and Taber (2005) AET ratio and the δ and $\beta^*(1,1)$ statistics suggested by Oster (2014). Heteroskedasticity robust standard errors in round parenthesis. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

4. Accounting for Other Pre-Industrial Channels

This section presents further evidence that mitigates potential concerns about the role of alternative pre-industrial channels in the relationship between crop yield and Long-Term-Orientation.

Table B.15 establishes that the persistence of pre-industrial development, as captured by historical levels of population density, urbanization and income per capita, has no qualitative impact of the effect of crop yield on Long-Term Orientation. In particular, it augments the results presented in Table 3 and shows the limited fraction of the variation in Long-Term Orientation that is captured by pre-industrial development (as measured by the partial and semi-partial R^2).

Table B.16 establishes that the results presented in Table 2 are robust to controls for agricultural attributes that were shown to have a persistent effect on cultural attributes: average agricultural suitability (Ramankutty et al., 2002) and the use of the plow (Alesina, Giuliano and Nunn, 2013). Moreover, it establishes that the results are unaffected by accounting for the presence of a linguistic future time reference (FTR), which was shown to be correlated with individual's savings behavior (Chen, 2013).

Table B.17 analyzes the potential confounding effects of pre-industrial trade on the evolution of Long-Term Orientation. The analysis addresses potential concerns that the feasibility of intertemporal trade might have mitigated the importance of long-term orientation in undertaking profitable investment decisions, provided that liquidity constraints were insignificant. The table establishes the robustness of the results in Table 2 to the inclusion of controls for trade potential. In particular, accounting for the effect of variation in agricultural suitability, the existence of a means of exchange, the levels of transportation technologies, and proximity to pre-industrial trade routes (Özak, 2012) does not affect the qualitative results.

Table B.18 explores the potential confounding effects of climatic volatility and its effect on the return to agricultural investment on the evolution of long-term orientation. Moreover, the analysis addresses differential feasibility of diversification within countries, which might have mitigated the adverse effect of climatic volatility on the evolution of long-term orientation. The table establishes the robustness of the results in Table 2 to the potentially confounding effects of climatic volatility and scale. In particular, accounting for area, average monthly standard deviation of precipitation or temperature, as well as spatial autocorrelation with climatic conditions in adjacent cells does not alter the results.

Table B.15—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for the Persistence of Pre-Industrial Development

	Long-Term Orientation							
	Population Density		Urbanization				GDP per capita	
	1500CE		1500CE		1800CE		1870CE	1913CE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (Anc., pre-1500)	11.05***	11.52***	10.01***	11.08***	11.54***	11.54***	14.19***	12.66**
	(2.53)	(2.33)	(3.68)	(3.68)	(3.18)	(3.22)	(5.08)	(5.02)
Crop Yield Change (post-1500)	10.76***	10.40***	8.77**	9.96***	10.05***	10.22***	15.55***	14.92***
	(2.89)	(2.78)	(3.35)	(3.35)	(3.23)	(3.37)	(3.22)	(3.29)
Crop Growth Cycle (Anc., pre-1500)	-8.06*	-10.43***	-5.06	-7.30	-8.60*	-8.75*	-12.58*	-10.28
	(4.06)	(3.63)	(5.28)	(5.37)	(4.68)	(4.84)	(6.44)	(6.46)
Crop Growth Cycle Ch. (post-1500)	-0.46	-1.06	1.06	0.55	0.07	0.03	2.14	3.31
	(1.72)	(1.84)	(2.91)	(2.95)	(2.37)	(2.41)	(3.38)	(3.35)
Population density in 1500 CE		3.76**						
		(1.86)						
Urbanization rate in 1500 CE				1.90				
				(2.24)				
Urbanization rate in 1800 CE						-0.57		
						(1.22)		
GDP per capita 1870							10.57***	
							(3.65)	
GDP per capita 1913								10.99***
								(3.53)
	Partial R^2							
Crop Yield (Anc., pre-1500)	0.23***	0.25***	0.11***	0.12***	0.20***	0.20***	0.25***	0.21**
Crop Yield Change (post-1500)	0.16***	0.16***	0.08**	0.09***	0.12***	0.12***	0.27***	0.26***
Crop Growth Cycle (Anc., pre-1500)	0.06*	0.09***	0.02	0.03	0.06*	0.06*	0.12*	0.09
Crop Growth Cycle Ch. (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
Population density in 1500 CE		0.05**						
Urbanization rate in 1500 CE				0.01				
Urbanization rate in 1800 CE						0.00		
GDPpc 1870							0.16***	
GDPpc 1913								0.17***
	Semi-Partial R^2							
Crop Yield (Anc., pre-1500)	0.08***	0.09***	0.04***	0.04***	0.07***	0.07***	0.09***	0.07**
Crop Yield Change (post-1500)	0.05***	0.05***	0.03**	0.03***	0.04***	0.04***	0.10***	0.09***
Crop Growth Cycle (Anc., pre-1500)	0.02*	0.03***	0.00	0.01	0.02*	0.02*	0.04*	0.03
Crop Growth Cycle Ch. (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Population density in 1500 CE		0.01**						
Urbanization rate in 1500 CE				0.00				
Urbanization rate in 1800 CE						0.00		
GDPpc 1870							0.05***	
GDPpc 1913								0.05***
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.65	0.67	0.60	0.60	0.63	0.62	0.59	0.59
Observations	87	87	65	65	79	79	50	50

Notes: The table establishes that the persistence of pre-industrial development, as captured by historical levels of population density, urbanization and income per capita, has no qualitative impact of the effect of crop yield on Long-Term Orientation. In particular, it augments the results presented in Table 3 and shows the limited fraction of the variation in Long-Term orientation that is captured by pre-industrial development (as measured by the partial and semi-partial R^2). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.16—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Agriculture, the use of the Plow, and Language Structures

	Long-Term Orientation								
	Agricultural Suitability			Plow			Future Time Reference		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crop Yield (Anc., pre-1500)	10.31***	9.37***	8.12**	11.05***	10.86***	10.68***	10.79***	12.01***	11.79***
	(2.51)	(2.84)	(3.24)	(2.53)	(2.61)	(2.61)	(2.80)	(2.57)	(2.80)
Crop Yield Change (post-1500)	10.41***	10.14***	9.65***	10.76***	10.75***	10.93***	9.93***	9.90***	9.89***
	(2.69)	(2.66)	(2.71)	(2.89)	(2.90)	(2.90)	(3.31)	(2.76)	(3.05)
Crop Growth Cycle (Anc., pre-1500)	-5.73	-5.89	-6.44	-8.06*	-8.19**	-8.74**	-8.19*	-8.03**	-7.84*
	(3.80)	(3.90)	(4.05)	(4.06)	(4.09)	(4.15)	(4.22)	(3.69)	(3.96)
Crop Growth Cycle Change (post-1500)	-0.06	-0.17	-0.42	-0.46	-0.58	-0.88	-0.34	-0.13	-0.22
	(1.59)	(1.67)	(1.73)	(1.72)	(1.72)	(1.69)	(1.75)	(1.79)	(1.77)
Land Suitability		1.38							
		(2.02)							
Land Suitability (Anc.)			3.23						
			(3.45)						
Plow					1.76				
					(3.30)				
Plow (Anc.)						3.89			
						(3.72)			
Strong FTR								-4.42**	
								(1.67)	
Strong FTR (Anc.)									-3.33*
									(1.85)
	Partial R^2								
Crop Yield (Anc., pre-1500)	0.21***	0.13***	0.08**	0.23***	0.22***	0.21***	0.23***	0.28***	0.26***
Crop Yield Change (post-1500)	0.16***	0.15***	0.14***	0.16***	0.16***	0.17***	0.13***	0.15***	0.14***
Crop Growth Cycle (Anc., pre-1500)	0.03	0.03	0.04	0.06*	0.06**	0.07**	0.06*	0.06**	0.06*
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land Suitability		0.00							
Land Suitability (Anc.)			0.01						
Plow					0.00				
Plow (Anc.)						0.02			
Strong FTR								0.11**	
Strong FTR (Anc.)									0.06*
	Semi-Partial R^2								
Crop Yield (Anc., pre-1500)	0.07***	0.04***	0.02**	0.08***	0.08***	0.07***	0.07***	0.09***	0.08***
Crop Yield Change (post-1500)	0.05***	0.05***	0.04***	0.05***	0.05***	0.06***	0.04***	0.04***	0.04***
Crop Growth Cycle (Anc., pre-1500)	0.01	0.01	0.01	0.02*	0.02**	0.02**	0.02*	0.01**	0.01*
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land Suitability		0.00							
Land Suitability (Anc.)			0.00						
Plow					0.00				
Plow (Anc.)						0.00			
Strong FTR								0.03**	
Strong FTR (Anc.)									0.02*
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.67	0.67	0.67	0.65	0.65	0.65	0.67	0.70	0.68
Observations	85	85	85	87	87	87	71	71	71

Notes: The table establishes the robustness of the results in Table 2 to controls for average agricultural suitability (Ramankutty et al., 2002), the employment of the plow (Alesina, Giuliano and Nunn, 2013), and the use of future time reference (FTR). Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.17—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Trade Potential

	Long-Term Orientation								
	Suitability		Money			Transportation			Routes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crop Yield (Ancestors, pre-1500)	9.00***	9.84***	11.48***	12.03***	11.27***	11.61***	12.37***	11.17***	11.73***
	(2.85)	(2.45)	(2.73)	(3.33)	(2.61)	(2.67)	(3.35)	(2.66)	(2.76)
Crop Yield Change (post-1500)	10.03***	10.84***	11.08***	11.48***	11.11***	10.98***	11.32***	11.13***	11.81***
	(2.97)	(2.72)	(3.16)	(3.42)	(3.09)	(3.16)	(3.17)	(3.14)	(3.42)
Crop Growth Cycle (Ancestors, pre-1500)	-5.35	-7.71*	-8.36*	-8.96*	-8.79**	-8.33*	-9.28**	-8.56*	-9.73**
	(4.23)	(4.29)	(4.28)	(4.66)	(4.38)	(4.30)	(4.61)	(4.42)	(4.51)
Crop Growth Cycle Change (post-1500)	-0.12	0.27	-0.07	-0.02	-0.10	0.02	0.10	-0.34	0.02
	(1.70)	(1.52)	(1.82)	(1.79)	(1.76)	(1.85)	(1.77)	(1.75)	(1.83)
Land Suitability (Gini)	-2.11								
	(2.02)								
Land Suitability (Range)		2.46							
		(1.65)							
Exchange Medium 1000BCE			0.05						
			(2.43)						
Exchange Medium 1CE				1.15					
				(3.12)					
Exchange Medium 1000CE					4.60				
					(4.32)				
Transportation Medium 1000BCE						0.84			
						(3.18)			
Transportation Medium 1CE							2.40		
							(4.36)		
Transportation Medium 1000CE								1.50	
								(4.39)	
Pre-Industrial Distance to Trade Route									0.16
									(5.98)
	Partial R^2								
Crop Yield (Ancestors, pre-1500)	0.13***	0.20***	0.23***	0.22***	0.23***	0.24***	0.22***	0.22***	0.24***
Crop Yield Change (post-1500)	0.15***	0.17***	0.17***	0.17***	0.16***	0.17***	0.18***	0.16***	0.18***
Crop Growth Cycle (Ancestors, pre-1500)	0.03	0.05*	0.07*	0.07*	0.07**	0.07*	0.07**	0.07*	0.09**
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land Suitability (Gini)	0.01								
Land Suitability (Range)		0.02							
Exchange Medium 1000BCE			0.00						
Exchange Medium 1CE				0.00					
Exchange Medium 1000CE					0.01				
Transportation Medium 1000BCE						0.00			
Transportation Medium 1CE							0.01		
Transportation Medium 1000CE								0.00	
Pre-Industrial Distance to Trade Route									0.00
	Semi-Partial R^2								
Crop Yield (Ancestors, pre-1500)	0.04***	0.06***	0.08***	0.08***	0.09***	0.09***	0.08***	0.08***	0.10***
Crop Yield Change (post-1500)	0.05***	0.05***	0.06***	0.06***	0.06***	0.06***	0.06***	0.06***	0.07***
Crop Growth Cycle (Ancestors, pre-1500)	0.01	0.01*	0.02*	0.02*	0.02**	0.02*	0.02**	0.02*	0.03**
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land Suitability (Gini)	0.00								
Land Suitability (Range)		0.01							
Exchange Medium 1000BCE			0.00						
Exchange Medium 1CE				0.00					
Exchange Medium 1000CE					0.00				
Transportation Medium 1000BCE						0.00			
Transportation Medium 1CE							0.00		
Transportation Medium 1000CE								0.00	
Pre-Industrial Distance to Trade Route									0.00
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.66	0.67	0.63	0.64	0.63	0.63	0.64	0.62	0.61
Observations	84	84	81	81	81	81	81	81	71

Notes: The table establishes the robustness of the results in Table 2 to the potentially confounding effect of trade potential as captured by: (i) variation in agricultural suitability; (ii) the existence of a mean of exchange; (iii) the levels of transportation technologies; (iv) proximity to pre-industrial trade routes. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.18—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Risk

	Long-Term Orientation									
	Scale		Risk							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crop Yield (Ancestors, pre-1500)	10.62***	9.28***	10.88***	11.56***	10.19***	9.58***	11.06***	11.08***	10.98***	11.04***
	(2.62)	(2.49)	(2.68)	(2.70)	(2.97)	(2.81)	(2.58)	(2.62)	(2.58)	(2.64)
Crop Yield Change (post-1500)	10.23***	8.85***	10.75***	10.72***	10.23***	9.85***	10.77***	10.84***	10.74***	10.74***
	(2.95)	(2.93)	(2.92)	(2.88)	(3.00)	(2.93)	(2.92)	(3.14)	(2.92)	(3.12)
Crop Growth Cycle (Ancestors, pre-1500)	-7.45*	-3.79	-8.14*	-7.22*	-6.31	-4.59	-8.07*	-8.16*	-8.02*	-8.05*
	(4.30)	(4.10)	(4.18)	(4.32)	(4.83)	(4.71)	(4.09)	(4.33)	(4.11)	(4.33)
Crop Growth Cycle Change (post-1500)	-0.60	0.15	-0.47	-0.31	-0.12	0.19	-0.46	-0.48	-0.44	-0.45
	(1.68)	(1.65)	(1.73)	(1.75)	(1.87)	(1.82)	(1.75)	(1.78)	(1.74)	(1.77)
Total land area	3.04									
	(2.17)									
Total land area (Ancestors)		7.31***								
		(2.08)								
Precipitation Volatility			0.69							
			(3.05)							
Precipitation Volatility (Ancestors)				-2.26						
				(3.02)						
Temperature Volatility					4.37					
					(6.44)					
Temperature Volatility (Ancestors)						6.70				
						(5.07)				
Precipitation Diversification							-0.22			
							(2.95)			
Precipitation Diversification (Ancestors)								-0.28		
								(2.85)		
Temperature Diversification									0.78	
									(3.05)	
Temperature Diversification (Ancestors)										0.05
										(2.97)
	Partial R^2									
Crop Yield (Ancestors, pre-1500)	0.21***	0.18***	0.21***	0.23***	0.18***	0.16***	0.22***	0.22***	0.22***	0.22***
Crop Yield Change (post-1500)	0.15***	0.13***	0.16***	0.16***	0.15***	0.14***	0.16***	0.16***	0.16***	0.16***
Crop Growth Cycle (Ancestors, pre-1500)	0.05*	0.01	0.06*	0.05*	0.03	0.02	0.06*	0.06*	0.06*	0.06*
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total land area	0.02									
Total land area (Ancestors)		0.14***								
Precipitation Volatility			0.00							
Precipitation Volatility (Ancestors)				0.01						
Temperature Volatility					0.01					
Temperature Volatility (Ancestors)						0.03				
Precipitation Diversification							0.00			
Precipitation Diversification (Ancestors)								0.00		
Temperature Diversification									0.00	
Temperature Diversification (Ancestors)										0.00
	Semi-Partial R^2									
Crop Yield (Ancestors, pre-1500)	0.07***	0.05***	0.07***	0.08***	0.06***	0.05***	0.08***	0.08***	0.08***	0.08***
Crop Yield Change (post-1500)	0.05***	0.04***	0.05***	0.05***	0.05***	0.04***	0.05***	0.05***	0.05***	0.05***
Crop Growth Cycle (Ancestors, pre-1500)	0.02*	0.00	0.02*	0.01*	0.01	0.00	0.02*	0.02*	0.02*	0.02*
Crop Growth Cycle Change (post-1500)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total land area	0.01									
Total land area (Ancestors)		0.04***								
Precipitation Volatility			0.00							
Precipitation Volatility (Ancestors)				0.00						
Temperature Volatility					0.00					
Temperature Volatility (Ancestors)						0.01				
Precipitation Diversification							0.00			
Precipitation Diversification (Ancestors)								0.00		
Temperature Diversification									0.00	
Temperature Diversification (Ancestors)										0.00
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.65	0.70	0.65	0.65	0.65	0.66	0.65	0.65	0.65	0.65
Observations	87	87	87	87	87	87	87	87	87	87

Notes: The table establishes the robustness of the results in Table 2 to the potentially confounding effects of (i) area; (ii) average monthly standard deviation of precipitation or temperature; (iii) spatial autocorrelation with climatic conditions in adjacent cells. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

5. *Robustness to Life Expectancy, Age Dependency Ratio and Income per Capita*

Table B.19 explores the potentially confounding effects of the country's age dependency ratio, life-expectancy, and income per capita on long-term orientation. In particular, individuals' age and life expectancy are likely to affect their future orientation and the age composition of the population, as captured partly by the age dependency ratio, may affect the average rate of time preference. Moreover, economic development, as may be captured by the level of income per capita, is associated with the development of institutions such as social security, which may affect long-term orientation. The table establishes that the qualitative results reported in Table 2 are unaffected by of these variables.

Table B.19—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Life Expectancy, Age Dependency Ratio and Income per Capita

	Long-Term Orientation							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	10.76***	10.38***	11.85***	11.44***				
	(3.13)	(3.17)	(3.27)	(3.28)				
Crop Yield Change (post-1500)	9.33***	9.14***	10.02***	9.66***				
	(2.38)	(2.43)	(2.26)	(2.35)				
Crop Growth Cycle (pre-1500)	-5.49	-5.35	-6.00	-5.39				
	(3.77)	(3.86)	(3.72)	(3.78)				
Crop Growth Cycle Change (post-1500)	-1.11	-1.39	-1.12	-1.24				
	(1.96)	(1.77)	(1.90)	(1.88)				
Crop Yield (Anc., pre-1500)					11.31***	11.08***	11.96***	11.67***
					(2.63)	(2.71)	(2.74)	(2.85)
Crop Yield Change (Anc., post-1500)					8.83***	8.64***	9.23***	8.90***
					(1.98)	(2.13)	(1.88)	(1.98)
Crop Growth Cycle (Anc., pre-1500)					-6.85*	-6.75*	-7.30**	-6.79*
					(3.46)	(3.54)	(3.40)	(3.47)
Crop Growth Cycle Change (Anc., post-1500)					-0.73	-0.88	-0.77	-0.80
					(1.61)	(1.50)	(1.58)	(1.58)
Age Dependency Ratio		-2.70				-1.43		
		(3.14)				(3.03)		
Life Expectancy at Birth			5.02				3.83	
			(3.85)				(3.81)	
Ln[GPD per capita]				2.04				1.21
				(2.71)				(2.64)
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.69	0.69	0.69	0.69	0.71	0.71	0.71	0.71
Observations	87	87	87	87	87	87	87	87

Notes: The table establishes the robustness of the results in Table 2 to the potentially confounding effects of (i) life expectancy at birth; (ii) the age dependency ratio; (iii) income per capita. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, mean precipitation and temperature, percentages of land in tropical, subtropical and temperate zones, landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

6. Accounting for Income Inequality

This section explores the potentially confounding effect of the degree of inequality , on long-term orientation, capturing the notion that patience may differ across income group. As established in Table B.20, the qualitative results presented in Table 2 are unaffected by various measures in inequality.

Table B.20—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Income Inequality

	Long-Term Orientation							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	10.73***	10.67***	10.47***	10.85***				
	(3.24)	(3.30)	(3.55)	(3.27)				
Crop Yield Change (post-1500)	9.29***	9.21***	9.10***	9.60***				
	(2.47)	(2.45)	(2.50)	(2.60)				
Crop Growth Cycle (pre-1500)	-5.43	-5.37	-5.32	-5.55				
	(4.14)	(4.25)	(4.28)	(4.22)				
Crop Growth Cycle Change (post-1500)	-1.02	-1.00	-0.95	-1.12				
	(2.00)	(1.98)	(1.98)	(1.89)				
Crop Yield (Anc., pre-1500)					11.40***	11.43***	11.31***	11.46***
					(2.77)	(2.79)	(3.09)	(2.78)
Crop Yield Change (Anc., post-1500)					8.85***	8.88***	8.77***	9.04***
					(2.06)	(2.10)	(2.12)	(2.17)
Crop Growth Cycle (Anc., pre-1500)					-6.66*	-6.68*	-6.61*	-6.71*
					(3.70)	(3.77)	(3.80)	(3.71)
Crop Growth Cycle Change (Anc., post-1500)					-0.70	-0.71	-0.67	-0.79
					(1.67)	(1.60)	(1.64)	(1.54)
Net Inequality 2000		-0.42				0.18		
		(3.06)				(2.95)		
Market Inequality 2000			-0.48				-0.19	
			(1.85)				(1.86)	
Average Inequality (80-09)				0.75				0.55
				(3.34)				(3.16)
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.68	0.68	0.68	0.68	0.70	0.70	0.70	0.70
Observations	84	84	84	84	84	84	84	84

Notes: The table establishes the robustness of the results in Table 2 to the potentially confounding effects of various measures in inequality. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, mean precipitation and temperature, percentages of land in tropical, subtropical and temperate zones, landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

7. Crop Yield, Population Density and Education

The model suggests that during the Malthusian era one should expect that individuals with higher long-term orientation (at least temporarily) have higher fertility rates. Thus, regions with higher crop yield, and thus higher representation of individuals with higher Long-Term Orientation, should be expected to have higher population density. Reassuringly, Table B.21 demonstrates that indeed higher crop yield is associated with higher population density in the year 1500. However, in the post-Malthusian era when reproductive success is no longer correlated with income, higher crop yield and thus higher Long-Term Orientation would be expected to be correlated with investment in the education of children rather than their number. Indeed, as established in Table B.22 education is positively correlated with crop yield in the contemporary period.

Table B.21—: Crop Yield, Growth Cycle, and Population Density in 1500CE

	All World				Old World	
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (pre-1500)	0.50***	0.71***	0.55***	0.42***	0.75***	0.42***
	(0.12)	(0.12)	(0.11)	(0.14)	(0.10)	(0.14)
Crop Growth Cycle (pre-1500)				0.18*		0.22**
				(0.10)		(0.11)
Neolithic Transition Timing			0.60***	0.59***		0.58***
			(0.14)	(0.15)		(0.14)
Continent FE	No	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	No	Yes	Yes	No	Yes
Adjusted-R^2	0.10	0.47	0.59	0.60	0.40	0.55
Observations	145	145	145	145	124	124

Notes: Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.22—: Crop Yield, Growth Cycle, and Education

	Years of Schooling						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crop Yield (Anc., pre-1500)	0.47**	0.71***	0.74***	0.74***	0.75***	0.75***	0.63**
	(0.21)	(0.25)	(0.22)	(0.22)	(0.23)	(0.25)	(0.29)
Crop Yield Change (post-1500)						-0.00	-0.12
						(0.24)	(0.29)
Crop Growth Cycle (Anc., pre-1500)							0.20
							(0.28)
Crop Growth Cycle Change (post-1500)							0.10
							(0.15)
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
Continental FE	No	No	Yes	Yes	Yes	Yes	Yes
OPEC FE	No	No	Yes	Yes	Yes	Yes	Yes
Timing of Neolithic	No	No	No	No	Yes	Yes	Yes
Adjusted-R^2	0.03	0.60	0.65	0.65	0.65	0.64	0.64
Observations	130	130	130	130	130	130	130

Notes: Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

8. Accounting for Alternative Cultural Characteristics

This section establishes that the effect of potential crop yield on Long-Term Orientation does not capture the effect of potential crop yield on a wide range of other cultural characteristics. In particular, Table B.23 establishes the robustness of the results in Table 2 to the inclusion of various cultural traits, whereas Table B.24 demonstrates that Long-Term Orientation is significantly statistically correlated with the measure of Restraint vs. Indulgence, but is uncorrelated with all other cultural characteristics proposed by Hofstede, Hofstede and Minkov (2010), as well as with with levels of generalized trust.

Table B.23—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Other (Cultural) Traits

	Long-Term Orientation					
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (Anc., pre-1500)	10.56***	10.59***	11.29**	10.61**	10.07**	9.30*
	(2.35)	(2.85)	(4.55)	(5.14)	(4.47)	(4.66)
Crop Yield Change (Anc., post-1500)	9.86***	9.06***	8.10***	7.73***	7.78***	8.07***
	(2.28)	(2.29)	(2.38)	(2.66)	(2.63)	(2.49)
Crop Growth Cycle (Anc., pre-1500)	-7.31**	-7.62**	-7.03	-6.15	-7.09	-6.74
	(3.59)	(3.57)	(5.24)	(5.55)	(5.82)	(5.15)
Crop Growth Cycle Change (Anc., post-1500)	0.77	1.40	3.85	3.24	2.96	2.75
	(1.60)	(1.59)	(2.72)	(2.70)	(2.82)	(2.62)
Trust		-0.77				
		(2.75)				
Individualism			4.28			
			(3.76)			
Power Distance				-0.63		
				(3.29)		
Masculinity					1.77	
					(3.22)	
Uncertainty Avoidance						2.86
						(3.55)
Neolithic Transition Timing (Anc.)	-4.27*	-4.47*	-5.85*	-5.44*	-5.65*	-5.96*
	(2.23)	(2.39)	(3.09)	(3.07)	(3.10)	(3.30)
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.68	0.67	0.57	0.56	0.56	0.57
Observations	87	85	62	62	62	62

Notes: The table establishes the robustness of the results in Table 2 to the inclusion of various cultural traits. All columns account for continental fied effects, geographical controls, and the timing of transition to agriculture experienced by the country's ancestral populations. Geographical controls include absolute latitude, mean elevation above sea level, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation in the independent variable. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.24—: Long-Term Orientation and Other Societal Preferences

	Correlation Among Cultural Indices						
	(LTO)	(RVI)	(Trust)	(Ind)	(PDI)	(Coop)	(UAI)
Long-Term Orientation (LTO)	1.00						
Restraint vs. Indulgence (RIV)	0.53***	1.00					
Trust	0.19	-0.07	1.00				
Individualism (Ind)	0.12	-0.18	0.45***	1.00			
Power Distance (PDI)	0.05	0.34**	-0.50***	-0.66***	1.00		
Cooperation	0.01	-0.09	-0.21	0.05	0.16	1.00	
Uncertainty Avoidance (UAI)	-0.04	0.07	-0.50***	-0.23	0.27*	-0.00	1.00

Notes: The table shows the correlations between Long-Term Orientation and various measures of societal preferences proposed by Hofstede (1991) and the conventional measure of interpersonal trust based on the World Values Survey. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Restraint vs Indulgence

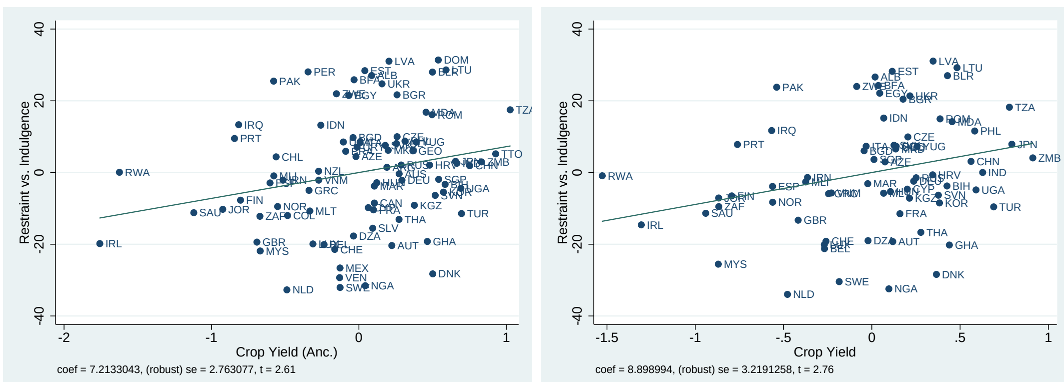
Hofstede (1991) presents a second measure -Restraint vs. Indulgence- that capture some elements of time preference but appear to be partly driven by institutional and religious constraints. Restraint vs. "Indulgence *is characterized by a perception that one can act as one pleases, spend money, and indulge in leisurely and fun-related activities with friends or alone. All this predicts relatively high happiness. At the opposite pole we find a perception that one's actions are restrained by various social norms and prohibitions and a feeling that enjoyment of leisurely activities, spending, and other similar types of indulgence are somewhat wrong.*" (Hofstede, Hofstede and Minkov, 2010, p.281) Hence, the analysis focuses on Long-Term Orientation rather than on Restraint vs. Indulgence (RIV).

Table B.25 establishes that if Restraint vs. Indulgence is used as the dependent variable, the results are similar although somewhat weaker to those obtain in Table 1, reflecting the noisiness of RIV as a measure of future orientation. Moreover, B.4 depicts the partial correlation between crop yield and RIV for the specifications in columns (6) and (8).

Table B.25—: Crop Yield, Growth Cycle, and Restraints vs. Indulgence

	Restraints vs. Indulgence							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield	6.16***	7.95***	8.26***	7.66**			9.28***	8.90***
	(1.78)	(1.80)	(1.77)	(2.90)			(1.86)	(3.22)
Crop Growth Cycle				1.05				0.60
				(4.07)				(4.46)
Crop Yield (Ancestors)					7.38***	7.21**		
					(1.71)	(2.76)		
Crop Growth Cycle (Ancestors)						0.30		
						(4.22)		
Absolute latitude		0.83	1.40	1.67	3.00	3.06	0.97	1.12
		(3.16)	(3.19)	(3.13)	(3.40)	(3.30)	(3.60)	(3.49)
Mean elevation		0.37	-0.18	-0.39	-0.60	-0.64	-2.39	-2.46
		(2.96)	(3.13)	(3.18)	(3.12)	(3.16)	(2.87)	(2.90)
Terrain Roughness		-2.35	-2.55	-2.54	-2.53	-2.53	-2.49	-2.50
		(2.15)	(2.18)	(2.18)	(2.26)	(2.27)	(2.25)	(2.26)
Neolithic Transition Timing			2.89	2.72			3.79	3.69
			(3.38)	(3.29)			(3.39)	(3.34)
Neolithic Transition Timing (Ancestors)					2.58	2.54		
					(2.70)	(2.66)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.37	0.42	0.41	0.41	0.39	0.38	0.23	0.22
Observations	86	86	86	86	86	86	71	71

Notes: The table establishes that the results obtained in Table 1 is robust to the use of Restraint vs. Indulgence rather than Long-Term Orientation as the dependent variable. Additional geographical controls include distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on a country's restraint vs. indulgence measure. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.



(a) Ancestry adjusted (b) Old World

Figure B.4. : Crop Yield and Restraint vs. Indulgence

9. Other Robustness Tests for the Country-Level Analysis

Alternative Measure of Long-Term Orientation

Table B.26 establishes the robustness of the results in Tables 1, 2, and B.9 to the use of an alternative country-level measure of Long-Term Orientation based on the World Value Survey.

Table B.26—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to the Use of an Alternative Measure of LTO

	Whole World				Old World			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield	9.04**				13.74***			
	(3.90)				(4.63)			
Crop Growth Cycle	-2.23				-3.39			
	(4.44)				(4.40)			
Crop Yield (Anc.)		11.05***				12.12***		
		(4.00)				(4.48)		
Crop Growth Cycle (Anc.)		-3.16				-3.50		
		(4.31)				(4.46)		
Crop Yield (Anc., pre-1500)			7.74**				9.33**	
			(3.62)				(3.99)	
Crop Yield Change (Anc., post-1500)			9.00**				9.04**	
			(3.47)				(4.35)	
Crop Growth Cycle (Anc., pre-1500)			-4.32				-5.04	
			(4.64)				(5.33)	
Crop Growth Cycle Change (Anc., post-1500)			-1.17				-1.00	
			(2.52)				(2.51)	
Crop Yield (Anc., pre-1500)				6.88**				8.16**
				(3.19)				(3.53)
Crop Yield Change (Anc., post-1500)				6.48**				7.08*
				(3.24)				(3.63)
Crop Growth Cycle (Anc., pre-1500)				-3.00				-3.56
				(3.59)				(3.98)
Crop Growth Cycle Change (Anc., post-1500)				0.94				1.45
				(2.73)				(2.78)
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
All Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.25	0.27	0.26	0.26	0.22	0.21	0.19	0.19
Observations	91	91	91	91	74	74	74	74

Notes: The table establishes the robustness of the results in Tables 1, 2, and B.9 to the use of an alternative country-level measure of Long-Term Orientation based on the World Value Survey. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Inclusion of Cells with Zero Caloric Yield

Table B.27 establishes the robustness of the results in Table 1 to the inclusion of cells with zero potential caloric yield. Since ancestral populations were unlikely to inhabit locations where crop yields were zero, the inclusion of these cells generates measurement errors that bias the estimate downward.

Table B.27—: Crop Yield, Crop Growth Cycle, and Long-Term Orientation: Robustness to the Inclusion of Grids with Zero Caloric Yield

	Long-Term Orientation							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield	5.26**	9.01***	8.21***	7.11**			11.59***	10.79***
	(2.43)	(2.86)	(2.61)	(3.06)			(2.84)	(3.51)
Crop Growth Cycle				2.18				1.47
				(4.00)				(4.25)
Crop Yield (Ancestors)					9.38***	8.62***		
					(2.43)	(3.11)		
Crop Growth Cycle (Ancestors)						1.52		
						(4.23)		
Absolute Latitude		3.56	2.46	3.01	3.66	4.05	4.98	5.37
		(4.21)	(3.94)	(4.35)	(3.79)	(4.16)	(4.62)	(5.14)
Mean Elevation		6.20*	7.14**	6.63*	6.73**	6.44*	5.86	5.64
		(3.26)	(3.41)	(3.44)	(3.35)	(3.25)	(3.92)	(3.84)
Terrain Roughness		-6.76**	-6.16**	-6.09**	-7.29**	-7.24**	-6.55**	-6.59**
		(2.68)	(2.95)	(2.98)	(3.00)	(3.00)	(3.25)	(3.28)
Neolithic Transition Timing			-6.81**	-7.21**			-5.58*	-5.84*
			(3.05)	(3.20)			(2.84)	(2.94)
Neolithic Transition Timing (Ancestors)					-5.20**	-5.41**		
					(2.53)	(2.63)		
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.50	0.57	0.60	0.59	0.60	0.60	0.56	0.56
Observations	87	87	87	87	87	87	72	72

Notes: The Table establishes the robustness of the results in table 1 to the Inclusion of Grids with Zero Caloric Yield in the country's measures of calories per hectare per year. Additional geographical controls include distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Religious Composition and Exclusion of Africa

Table B.28 establishes the robustness of the results to the inclusion of the share of population of each major religious denomination in a country, to splitting the sample between Muslim and Non-Muslim countries, and to the exclusion of Africa or Sub-Saharan Africa.

Table B.28—: Crop Yield, Growth Cycle, and Long-Term Orientation: Robustness to the Religious Composition and the Exclusion of Africa

	Long-Term Orientation					
	Religion Shares		Muslim - Non-Muslim		Excluding Africa	
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (Ancestors)	13.31***	10.76***	9.29**	12.09*	14.62***	14.70***
	(2.94)	(3.11)	(3.77)	(6.60)	(3.74)	(3.67)
Crop Growth Cycle (Ancestors)	-3.15	-2.58	-1.39	-6.33	-4.00	-4.71
	(3.52)	(3.43)	(3.26)	(6.79)	(5.15)	(4.86)
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes
Religious Shares	No	Yes	Yes	Yes	No	No
Only Sub-Saharan Excluded	No	No	No	No	No	Yes
Adjusted-R^2	0.66	0.67	0.67	0.64	0.60	0.63
Observations	87	87	49	38	74	77

Notes: The Table establishes the robustness of the results in table 1 to the Religious Composition of each country and to the Exclusion of Africa. Geographical controls include absolute latitude, average elevation above sea level, terrain roughness, distance to coast or river, and landlocked and island dummies. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

10. Potential Crop Yield, Growth Cycle and the Prevalent Mode of Production

Table B.29—: Crop Yield, Growth Cycle, and Subsistence across Ethnic Groups

	Subsistence Dependence on								
	Agriculture					Gathering	Hunting	Fishing	Animal Husbandry
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crop Yield (pre-1500)	0.17*	0.26***	0.29***	0.23***	0.19***	-0.15*	-0.01	-0.11***	-0.06
	(0.10)	(0.08)	(0.07)	(0.06)	(0.06)	(0.08)	(0.04)	(0.04)	(0.08)
Crop Yield Ch. (post-1500)			0.23***	0.12***	0.09**	0.03	-0.04	0.10	-0.20***
			(0.05)	(0.05)	(0.04)	(0.05)	(0.05)	(0.06)	(0.07)
Crop Cycle (pre-1500)					0.02	0.06	0.01	-0.08	-0.02
					(0.05)	(0.07)	(0.05)	(0.06)	(0.05)
Crop Growth Cycle Ch. (post-1500)					-0.11*	0.04	-0.04	-0.01	0.16*
					(0.06)	(0.04)	(0.03)	(0.05)	(0.09)
Continental FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.03	0.41	0.44	0.49	0.50	0.43	0.50	0.47	0.52
Observations	1193	1193	1193	1193	1193	1193	1193	1193	1193

Notes: The table establishes that pre-1500 potential crop yield and its change is positively associated with the use agricultural as the main subsistence mode. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Standardized coefficients. Heteroskedasticity robust standard error estimates clustered at the language genus level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.30—: Crop Yield, Growth Cycle, and Agricultural Intensity across Ethnic Groups

	Intensive Agriculture				
	(1)	(2)	(3)	(4)	(5)
Crop Yield (pre-1500)	0.33***	0.34***	0.33***	0.31***	0.26***
	(0.12)	(0.08)	(0.07)	(0.08)	(0.07)
Crop Yield Ch. (post-1500)			-0.01	-0.02	-0.06
			(0.06)	(0.04)	(0.04)
Crop Cycle (pre-1500)					0.03
					(0.06)
Crop Growth Cycle Ch. (post-1500)					-0.12***
					(0.04)
Continental FE	No	Yes	Yes	Yes	Yes
Geographical Controls	No	No	No	Yes	Yes
Adjusted-R^2	0.11	0.48	0.48	0.50	0.51
Observations	1153	1153	1153	1153	1153

Notes: The table establishes the positive association between pre-1500 potential crop yield and agricultural intensity. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Standardized coefficients. Heteroskedasticity robust standard error estimates clustered at the language genus level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.31—: Crop Yield, Growth Cycle, and Subsistence on Agriculture

	Agriculture Contributes Most to Subsistence				
	(1)	(2)	(3)	(4)	(5)
Crop Yield (pre-1500)	0.17*	0.25***	0.29***	0.23***	0.19***
	(0.10)	(0.08)	(0.07)	(0.07)	(0.06)
Crop Yield Ch. (post-1500)			0.27***	0.16***	0.12**
			(0.07)	(0.06)	(0.05)
Crop Cycle (pre-1500)					0.03
					(0.06)
Crop Growth Cycle Ch. (post-1500)					-0.10
					(0.07)
Continental FE	No	Yes	Yes	Yes	Yes
Geographical Controls	No	No	No	Yes	Yes
Adjusted-R^2	0.03	0.32	0.36	0.39	0.40
Observations	1193	1193	1193	1193	1193

Notes: The table establishes the positive association between pre-1500 potential crop yield and its change and the contribution of agriculture to subsistence. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Standardized coefficients. Heteroskedasticity robust standard error estimates clustered at the language genus level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

11. Potential Crop Yield and Long-Term Orientation in Second-Generation Migrants

Plausibility of the ESS Measure of Long-Term Orientation

This subsection establishes that the measure of Long-Term Orientation derived from the ESS is indeed a plausible one, as reflected by its positive association with education and income (Tables B.32 and B.33).

Table B.32—: Long-Term Orientation and Education of Second Generation Migrants

	Years of Schooling							
	Second-Generation Migrants				All Individuals			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Long-Term Orientation	0.35***	0.37***	0.36**	0.32**	0.79***	0.88***	0.70***	0.63***
	(0.13)	(0.14)	(0.14)	(0.13)	(0.05)	(0.05)	(0.05)	(0.04)
Country FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Sex & Age	No	No	Yes	Yes	No	No	Yes	Yes
Pray & Health	No	No	No	Yes	No	No	No	Yes
Adjusted-R^2	0.01	0.10	0.10	0.11	0.04	0.15	0.19	0.21
R^2	0.01	0.13	0.13	0.16	0.04	0.15	0.20	0.21
Observations	705	705	705	705	42016	42016	42016	42016

Notes: The table establishes the positive correlation between Long-Term Orientation and individual education levels for respondents in the third wave of the European Social Survey. Long-term orientation is measured on a scale of 0 to 100 by the answer to the question "Do you generally plan for your future or do you just take each day as it comes?". The data is taken from the third wave of the European Social Survey (2006). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the country of origin level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.33—: Long-Term Orientation and Income of Second Generation Migrants

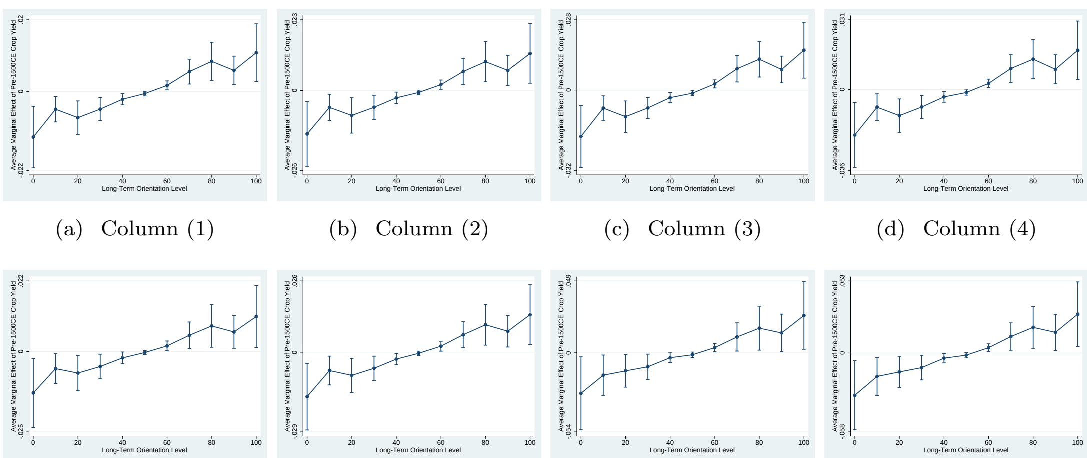
	Total Household Income							
	Second-Generation Migrants				All Individuals			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Long-Term Orientation	0.33**	0.22*	0.22**	0.23**	0.35***	0.45***	0.36***	0.32***
	(0.14)	(0.12)	(0.10)	(0.11)	(0.08)	(0.04)	(0.04)	(0.04)
Country FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Sex & Age	No	No	Yes	Yes	No	No	Yes	Yes
Pray & Health	No	No	No	Yes	No	No	No	Yes
Adjusted-R^2	0.01	0.40	0.40	0.41	0.01	0.50	0.52	0.53
R^2	0.01	0.43	0.43	0.47	0.01	0.50	0.52	0.53
Observations	383	383	383	383	29323	29323	29323	29323

Notes: The table establishes the positive correlation between Long-Term Orientation and individual income levels for respondents in the third wave of the European Social Survey. Long-term orientation is measured on a scale of 0 to 100 by the answer to the question "Do you generally plan for your future or do you just take each day as it comes?". The data is taken from the third wave of the European Social Survey (2006). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the country of origin level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Alternative Estimation Method: Ordered Probit

This section establishes that the effect of crop yield on Long-Term Orientation among second-generation migrants is robust for the estimation methodology. In particular, Table B.34 establishes that the qualitative results derived in Table 5 remains intact if ordered probit is employed.

Figure B.5 depicts the estimated average marginal effects of crop yield on Long-Term Orientation, capturing the change in the probability of observing each level of Long-Term Orientation due to a one standard deviation increase in pre-1500CE crop yield. Each figure depicts Long-Term Orientation on the horizontal axis and the average marginal effect of crop yield with its 95% confidence interval on the vertical axis. As depicted, the average marginal effect of crop yield is negative for low values of Long-Term Orientation and it increases monotonically and becomes positive for high values of Long-Term Orientation. Thus, increasing crop yield increases the probability of observing higher values of Long-Term Orientation (i.e., as crop yield increases, the probability distribution of Long-Term Orientation shifts rightwards).



(a) Column (1) (b) Column (2) (c) Column (3) (d) Column (4)

(e) Column (5) (f) Column (6) (g) Column (7) (h) Column (8)

Figure B.5. : Average Marginal Effects of Pre-1500CE Crop Yield on Long-Term Orientation of Second-Generation Migrants

Accounting for Various Weighting Schemes

As established in Table B.35, the results presented in Table 5 are robust to the use of various weighting schemes: (i) survey design weights; (ii) weights that ensure an equal share of migrants of each country of origin within each host country; (iii) weights that ensure an equal share of migrants (regardless of their origins) within each host country; weights that ensure an equal share of migrants of each country of origin across all host countries. To facilitate the construction of these (non-survey based) weighting schemes, the analysis is inevitably restricted to second-generation migrants whose parents are both migrants.

Crop Yield, Long-Term Orientation and Education

This subsection further explores the relationship between crop yield, Long-Term Orientation and economic behavior. It examines the effect of crop yield on tertiary education of second-generation

Table B.34—: Crop Yield and Long-Term Orientation of Second-Generation Migrants: Ordered Probit

	Long-Term Orientation							
	Either Parent		Mother		Father		Both	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (Ancestors, pre-1500)	0.09***	0.09***	0.12***	0.14***	0.08**	0.11***	0.19**	0.21**
	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.08)	(0.08)
Crop Yield Change (post-1500)	0.02	0.02	0.01	0.03	0.02	0.02	0.06	0.08
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)
Crop Growth Cycle (Ancestors, pre-1500)		-0.02		-0.04		-0.06		-0.09
		(0.03)		(0.05)		(0.05)		(0.09)
Crop Growth Cycle Change (post-1500)		-0.01		-0.04		0.02		-0.01
		(0.02)		(0.02)		(0.03)		(0.04)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls& Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo-R^2	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Observations	2584	2584	1596	1596	1686	1686	568	568

Notes: Heteroskedasticity robust standard error estimates clustered at the country of origin of parents level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

migrants.[35]. In particular, as established in Table B.36, crop yield in the pre-1500CE era has a positive effect on the likelihood of obtaining at least some tertiary education. Moreover, it suggests that the effect is partially mediated by long-term orientation.

[35]For comparability the analysis is performed on the only wave of the ESS for which data on saving and Long-Term Orientation is available. The effect of crop yield on tertiary education is fragile in other surveys of the ESS

Table B.35—: Crop Yield and Long-Term Orientation of Second-Generation Migrants: Accounting for Various Weighting Schemes

	Long-Term Orientation (weighted OLS)											
	All crops				All cells				Changing cells/crops			
	(Survey)	(N_c)	(N)	(N_m)	(Survey)	(N_c)	(N)	(N_m)	(Survey)	(N_c)	(N)	(N_m)
Crop Yield (Ancestors)	7.10***	15.24***	12.16***	9.29***								
	(2.48)	(3.25)	(2.83)	(3.42)								
Crop Growth Cycle (Anc.)	-4.72*	1.46	0.05	4.58								
	(2.43)	(3.78)	(3.25)	(4.43)								
Crop Yield (Anc., pre-1500)					7.03***	15.24***	12.29***	11.88***				
					(2.39)	(2.54)	(2.21)	(2.86)				
Crop Yield Change (post-1500)					0.87	0.50	0.33	-1.75				
					(1.55)	(2.61)	(2.20)	(1.94)				
Crop Growth Cycle (Anc., pre-1500)					-3.28	2.98	1.61	4.23				
					(2.77)	(4.25)	(3.90)	(4.93)				
Crop Growth Cycle Ch. (post-1500)					-1.70*	1.11	-0.04	1.34				
					(0.98)	(1.69)	(1.41)	(1.39)				
Crop Yield (Anc., pre-1500)									6.38***	9.39***	8.18***	8.25***
									(1.97)	(2.68)	(2.25)	(2.24)
Crop Yield Change (post-1500)									-1.46	0.92	0.38	-0.73
									(1.66)	(2.74)	(2.43)	(2.27)
Crop Growth Cycle (Anc., pre-1500)									-0.96	1.26	1.32	-0.45
									(2.27)	(2.49)	(2.31)	(2.45)
Crop Growth Cycle Ch. (post-1500)									2.49	0.78	-0.70	-2.60
									(1.59)	(1.97)	(1.95)	(1.95)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sex & Age	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Education & Marital Status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pray & Health	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.05	0.20	0.23	0.27	0.05	0.21	0.24	0.28	0.05	0.17	0.22	0.27
R^2	0.13	0.26	0.29	0.32	0.13	0.27	0.30	0.34	0.13	0.24	0.28	0.33
Observations	705	705	705	705	705	705	705	705	705	705	705	705

Notes: The table establishes the robust of the results in Table 5 to various weighting schemes: (i) survey design weights (Survey); (ii) weights that ensure an equal share of migrants of each country of origin within each host country (N_c); (iii) weights that ensure an equal share of migrants (regardless of their origins) within each host country (N); weights that ensure an equal share of migrants of each country of origin across all host countries (N_m). Crop yield, crop growth cycle, and all other geographical controls reflect these attributes in the mother's country of origin. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the region of interview and individual characteristics level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.36—: Crop Yield and Tertiary Education of Second-Generation Migrants

	Tertiary Education							
	Either Parent		Mother		Father		Both	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (Ancestors, pre-1500)	0.06**	0.04*	0.05	0.04	0.08**	0.06**	0.12**	0.11*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)
Crop Yield Change (post-1500)	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.04)
Crop Growth Cycle (Ancestors, pre-1500)	-0.08***	-0.07**	-0.08**	-0.07*	-0.12***	-0.10***	-0.18***	-0.16**
	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.06)	(0.06)
Crop Growth Cycle Change (post-1500)	-0.02**	-0.02**	-0.04***	-0.04***	-0.02	-0.02	-0.03	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.03)	(0.03)
Long-Term Orientation		0.02		0.01		0.03**		0.03
		(0.02)		(0.02)		(0.02)		(0.04)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geography & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted-R^2	0.11	0.11	0.11	0.11	0.11	0.11	0.09	0.09
Observations	2376	2376	1464	1464	1532	1532	521	521

Notes: Heteroskedasticity robust standard error estimates clustered at the country of origin of parents level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

12. Potential Crop Yield, Growth Cycle, and Long-Term Orientation: World Values Survey

Alternative Estimation Method: Probit

This section establishes that the effect of crop yield on Long-Term Orientation is robust to the estimation methodology. In particular, Table B.37 establishes that the qualitative results derived in Table 8 remain intact if probit is employed.

Accounting for Various Weighting Schemes

As established in Table B.38, the results presented in Table 8 are robust to the use of various weighting schemes: (i) unweighted OLS; (ii) survey design weights; (iii) an equal weight for each country; (iv) weights that reflect differences in population across countries.

Accounting for Country Fixed-Effects

This subsection explores the effect of crop yield on Long-Term Orientation across individuals within each region of a given country, accounting for country fixed-effects (Table B.39). Furthermore, it examines the effect of crop yield and its change on the share of individuals within each region that are characterized by Long-Term Orientation, accounting for various weighting schemes (Table B.40).

Table B.37—: Crop Yield, Growth Cycle, and Long-Term Orientation (WVS Country Analysis)

	Long-Term Orientation (Probit)							
	Whole World							Old World
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	0.025***	0.040***	0.036***	0.032***	0.032***	0.031***		0.066***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)		(0.003)
Crop Yield Change (post-1500)					0.051***	0.053***		0.054***
					(0.002)	(0.002)		(0.003)
Crop Growth Cycle (pre-1500)						-0.008***		-0.018***
						(0.003)		(0.003)
Crop Growth Cycle Change (post-1500)						0.025***		0.026***
						(0.002)		(0.002)
Crop Yield (Ancestors, pre-1500)							0.042***	
							(0.002)	
Crop Yield Change (Anc., post-1500)							0.040***	
							(0.002)	
Crop Growth Cycle (Ancestors, pre-1500)							-0.005*	
							(0.003)	
Crop Growth Cycle Change (Anc., post-1500)							0.018***	
							(0.002)	
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Characteristics	No	No	No	Yes	Yes	Yes	Yes	Yes
Old World Subsample	No	No	No	No	No	No	No	Yes
Pseudo-R^2	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.04
Observations	217953	217953	217953	217953	217953	217953	217953	176489

Notes: The table establishes the positive, statistically, and economically significant effect of potential crop yield on the probability an individual has Long-Term Orientation. Shown are the average marginal effects of probit regressions. Individuals have Long-Term Orientation if they consider thrift as an especially important child quality in the World Values Survey. All columns include fixed effects for the wave the interview was conducted. Potential crop yield, potential crop growth cycle, and all other geographical controls refer to the country where the interview was conducted. Additional geographical controls include distance to coast or river, and landlocked and island dummies. Individual Characteristics include age, sex, education, and income. Columns (1)-(7) show the results for the whole world sample, while column (8) shows the results for the Old World sample. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the region of interview and individual characteristics level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.38—: Crop Yield, Growth Cycle, and Long-Term Orientation: Accounting for Various Weighting Schemes

	Long-Term Orientation (Weighted OLS)											
	All crops				All cells				Changing cells/crops			
	(No)	(Survey)	(Same N)	(Pop)	(No)	(Survey)	(Same N)	(Pop)	(No)	(Survey)	(Same N)	(Pop)
Crop Yield (Ancestors)	0.048***	0.047***	0.056***	0.027***								
	(0.003)	(0.003)	(0.003)	(0.008)								
Crop Growth Cycle (Ancestors)	0.017***	0.018***	0.010***	0.033***								
	(0.003)	(0.003)	(0.003)	(0.007)								
Crop Yield (Ancestors, pre-1500)					0.046***	0.044***	0.048***	0.024***				
					(0.002)	(0.002)	(0.002)	(0.006)				
Crop Growth Cycle (Ancestors, pre-1500)					-0.012***	-0.010***	-0.019***	0.009				
					(0.003)	(0.003)	(0.003)	(0.007)				
Crop Yield Change (post-1500)					0.052***	0.051***	0.062***	0.023***				
					(0.003)	(0.003)	(0.003)	(0.009)				
Crop Growth Cycle Change (post-1500)					0.021***	0.020***	0.014***	0.027***				
					(0.002)	(0.002)	(0.002)	(0.005)				
Crop Yield (Ancestors, pre-1500)									0.033***	0.032***	0.028***	0.035***
									(0.002)	(0.002)	(0.002)	(0.005)
Crop Growth Cycle (Ancestors, pre-1500)									0.010***	0.016***	0.014***	0.013
									(0.002)	(0.002)	(0.002)	(0.008)
Crop Yield Change (post-1500)									0.032***	0.031***	0.041***	0.014***
									(0.002)	(0.002)	(0.002)	(0.005)
Crop Growth Cycle Change (post-1500)									-0.006***	-0.005***	-0.007***	-0.009
									(0.001)	(0.001)	(0.001)	(0.008)
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Chars	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographical Controls & Neolithic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.04	0.05	0.05	0.09	0.05	0.05	0.05	0.09	0.04	0.05	0.05	0.09
Adjusted-R^2	0.04	0.05	0.05	0.09	0.05	0.05	0.05	0.09	0.04	0.05	0.05	0.09
Observations	217953	217953	217953	217953	217953	217953	217953	217953	217953	217953	217953	217953

Notes: The table establishes the robustness of results in Table 8 to various weighting schemes: (i) unweighted OLS (No); (ii) survey design weights (Survey); (iii) an equal weight for each country (Same N); (iv) weights that reflect differences in population across countries (Pop). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the region of interview and individual characteristics level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.39—: Crop Yield, Growth Cycle, and Long-Term Orientation: WVS Regional Analysis

	Long-Term Orientation (OLS)							
	Whole World						Old World	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crop Yield (pre-1500)	0.019***	0.020***	0.019***	0.022***	0.027***	0.003	0.054***	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)
Crop Yield Change (post-1500)				0.044***	0.049***	0.006**	0.045***	0.007**
				(0.002)	(0.002)	(0.003)	(0.002)	(0.003)
Crop Growth Cycle (pre-1500)					-0.018***	-0.010**	-0.013***	-0.008
					(0.003)	(0.004)	(0.004)	(0.005)
Crop Growth Cycle Change (post-1500)					0.001	-0.007***	0.003	-0.006**
					(0.002)	(0.002)	(0.002)	(0.003)
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent FE	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Chars	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	No	No	No	No	Yes	No	Yes
Old World Subsample	No	No	No	No	No	No	Yes	Yes
Adjusted-R^2	0.02	0.03	0.04	0.05	0.05	0.09	0.05	0.09
Observations	190327	190327	190327	190327	190327	190327	151342	151342

Notes: The table establishes the positive, statistically, and economically significant effect of potential crop yield on the probability an individual has Long-Term Orientation across regions, accounting of country fixed effects. Geographical controls include absolute latitude, elevation above sea level, terrain roughness, percentage of land within 100 km of sea, landlocked dummy, and area suitable for agriculture. Individual Characteristics include age, sex, education, and income. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust clustered standard error estimates are reported in parentheses; clustering at the region of interview and individual characteristics level; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.40—: Crop Yield, Growth Cycle, and Long-Term Orientation in WVS Regions

	Share of Individuals in WVS Region with Long-Term Orientation											
	Whole World										Old World	
	Unweighted				Weighted: Area				Weighted: Area Share		Area	Share
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Crop Yield (pre-1500)	0.033***	0.032***	0.040***		0.074***		0.019		0.017**		0.027	0.019*
	(0.010)	(0.010)	(0.014)		(0.027)		(0.013)		(0.008)		(0.019)	(0.010)
Crop Yield Change (post-1500)	0.055***	0.049***	0.054***		0.079***		0.001		0.012**		0.001	0.012**
	(0.013)	(0.014)	(0.016)		(0.028)		(0.010)		(0.005)		(0.010)	(0.005)
Crop Growth Cycle (pre-1500)			-0.012		-0.038*		-0.014		-0.026***		-0.018*	-0.027***
			(0.013)		(0.020)		(0.008)		(0.005)		(0.009)	(0.006)
Crop Growth Cycle Change (post-1500)			-0.004		-0.031***		-0.026***		-0.028***		-0.026***	-0.027***
			(0.008)		(0.007)		(0.007)		(0.002)		(0.008)	(0.002)
Crop Yield (Anc., pre-1500)				0.056***		0.109***		0.022		0.019**		
				(0.017)		(0.036)		(0.018)		(0.009)		
Crop Yield Change (Anc., post-1500)				0.043***		0.060***		-0.000		0.011**		
				(0.013)		(0.017)		(0.010)		(0.005)		
Crop Growth Cycle (Anc., pre-1500)				-0.014		-0.045**		-0.015*		-0.025***		
				(0.013)		(0.019)		(0.008)		(0.005)		
Crop Growth Cycle Change (Anc., post-1500)				-0.001		-0.029***		-0.026***		-0.028***		
				(0.008)		(0.010)		(0.008)		(0.002)		
Continental FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Country FE	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Additional Geographical Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Old World Sample	No	No	No	No	No	No	No	No	No	No	Yes	Yes
Weighted by Region Area	No	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No
Weighted by Region's Share of Area	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
Adjusted-R^2	0.24	0.26	0.26	0.29	0.29	0.37	0.72	0.72	0.86	0.86	0.72	0.86
Observations	1356	1356	1356	1356	1356	1356	1356	1356	1356	1356	1143	1143

Notes: The table establishes the positive, statistically, and economically significant effect of potential crop yield on the share of individual's with Long-Term Orientation across regions, accounting of country fixed effects. Additional geographical controls are percentage of land within 100 km of sea, landlocked dummy, and area suitable for agriculture. Columns (1)-(4) show the unweighted results; columns (5)-(8) weight observations according to the region's area; columns (9)-(10) weight observations according to the region's area as a share of the country's area; and columns (11)-(12) conduct the analysis for the Old World Sample. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation increase in the independent variable on Long-Term Orientation. Heteroskedasticity robust standard error estimates clustered at the country level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

13. Crop Yield and Technological Adoption

This section further explores the effect of crop yield on technological adoption.

First, it examines the robustness of the results in Table 10 to the inclusion of the potential use of Asian varieties of crops in sub-Saharan Africa (Table B.41).

Second, using the SCCS, the analysis establishes that crop yield in pre-1500CE era and its change in the post-1500 period have a positive and significant effect on the aggregate number of technological changes across ethnic groups (Table B.42 for the 86 ethnicities included in Table 10; Table B.43 for an extended sample of 133 ethnicities).

Third, Figure B.6 depicts that the region of Emilia-Romagna, which is characterized by the highest crop yield among all Italian regions, is the location of production processes that are notorious for their lengthy production cycles: Modena and Reggio Emilia balsamic Vinegar (cycles of 12 and 20 years) and Parmigiano-Reggiano cheese (cycles of 12 to 36 months). The Modena commune is depicted within the white the boundaries of the Modena province, the Reggio Emilia commune within the yellow the boundaries of the Reggio Emilia province, and the Parma commune within the green boundaries of the Parma province.

Table B.41—: Crop Yield, Growth Cycle, and Technological Adoption (SCCS)

	Major Technological Changes Industrialization, Factories, etc.					
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (pre-1500)	0.05	0.08*	0.12**	0.05	0.07	0.10
	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.08)
Crop Yield Ch. (post-1500)			0.06	0.06	0.10*	0.19**
			(0.05)	(0.06)	(0.05)	(0.08)
Crop Cycle (pre-1500)				0.02	0.09	0.05
				(0.07)	(0.07)	(0.10)
Crop Growth Cycle Ch. (post-1500)				-0.10	-0.15***	-0.11*
				(0.06)	(0.05)	(0.06)
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes
Language Family FE	No	No	No	No	Yes	Yes
Continental FE	No	No	No	No	No	Yes
Pseudo-R^2	0.01	0.10	0.11	0.13	0.33	0.36
Observations	86	86	86	86	86	86

Notes: The table establishes the effect of pre-1500CE crop yield, growth cycle and their changes on technological progress as reflected in the adoption of industrialization, factories, mining, large machinery, etc.. The table reports the average marginal effects of Probit regressions. All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation in the independent variable. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Heteroskedasticity robust standard error estimates are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

14. Correlations between the various Long-Term Orientation Measures

This section shows the correlations between the different Long-Term Orientation measures at the country level. For the ESS and WVS the country-level measure is the average of the individual

Table B.42—: Crop Yield, Growth Cycle, and Technological Change (SCCS)

	Sum of Technological Changes (Poisson Regression)					
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (pre-1500)	0.20***	0.25***	0.21**	0.33**	0.36**	0.30**
	(0.08)	(0.09)	(0.09)	(0.14)	(0.14)	(0.13)
Crop Yield Ch. (post-1500)			-0.12	-0.10	-0.19	-0.06
			(0.11)	(0.12)	(0.14)	(0.19)
Crop Cycle (pre-1500)				-0.12	-0.16	-0.22
				(0.14)	(0.16)	(0.16)
Crop Growth Cycle Ch. (post-1500)				0.09	0.26**	0.25*
				(0.10)	(0.12)	(0.13)
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes
Language Family FE	No	No	No	No	Yes	Yes
Continental FE	No	No	No	No	No	Yes
Pseudo-R^2	0.02	0.05	0.05	0.06	0.12	0.13
Observations	86	86	86	86	86	86

Notes: The table establishes the effect of pre-1500CE crop yield, growth cycle and their changes on the number of technological changes in an ethnicity. Technological changes include introduction of foreign goods (weapons, etc.), minor technological changes (wheels, carts, plough, changes in house construction) and major technological changes (industrialization, factories, mining, large machinery). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation in the independent variable. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Heteroskedasticity robust standard error estimates clustered at the language family level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

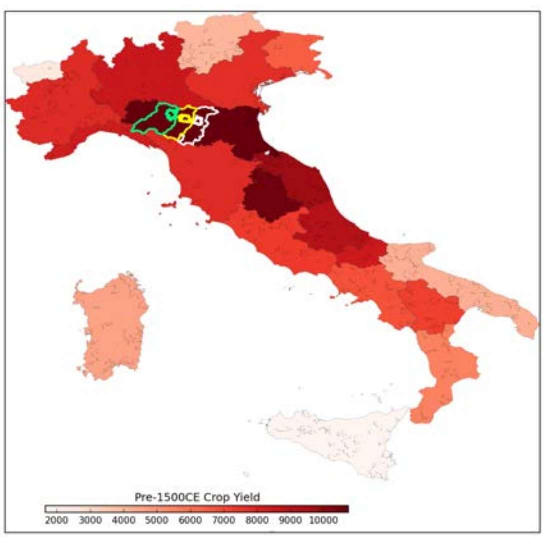


Figure B.6. : Crop Yield and the Adoption of Lengthy Production Processes: Aceto Balsamico and Parmigiano Reggiano

responses in the data. As Tables B.44 and B.45 show, the three measures are highly correlated,

Table B.43—: Crop Yield, Growth Cycle, and Technological Change (SCCS)

	Sum of Technological Changes (Poisson Regression)					
	(1)	(2)	(3)	(4)	(5)	(6)
Crop Yield (pre-1500)	0.11**	0.14**	0.15**	0.18**	0.30**	0.16
	(0.05)	(0.06)	(0.06)	(0.09)	(0.13)	(0.12)
Crop Yield Ch. (post-1500)			0.01	0.03	0.11	0.22**
			(0.08)	(0.08)	(0.08)	(0.10)
Crop Cycle (pre-1500)				-0.11	-0.29**	-0.33**
				(0.10)	(0.14)	(0.14)
Crop Growth Cycle Ch. (post-1500)				-0.11	-0.12	-0.08
				(0.07)	(0.10)	(0.09)
Geographical Controls	No	Yes	Yes	Yes	Yes	Yes
Language Family FE	No	No	No	No	Yes	Yes
Continental FE	No	No	No	No	No	Yes
Pseudo-R^2	0.01	0.03	0.03	0.03	0.13	0.15
Observations	133	133	133	133	133	133

Notes: The table establishes the effect of pre-1500CE crop yield, growth cycle and their changes on the number of technological changes in an ethnicity. Technological changes include introduction of foreign goods (weapons, etc.), minor technological changes (wheels, carts, plough, changes in house construction) and major technological changes (industrialization, factories, mining, large machinery). All independent variables have been normalized by subtracting their mean and dividing by their standard deviation. Thus, all coefficients can be compared and show the effect of a one standard deviation in the independent variable. Geographical controls include absolute latitude, area of ethnic homeland, mean elevation, mean precipitation and temperature levels, terrain ruggedness, share of land within 100km of sea, length of coastline, and malaria ecology. Heteroskedasticity robust standard error estimates clustered at the language family level are reported in parentheses; *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

which suggests they are indeed measuring the same phenomenon.

C. Variable Definitions, Sources and Summary Statistics

1. *Outcome Variables*

Measures of Long-Term Orientation

- **Long-Term Orientation (Country-level analysis)**: Taken from Hofstede, Hofstede and Minkov (2010) available at `http://www.geerthofstede.nl/dimension-data-matrix`. Accessed on February 17, 2014. Scale between 0 (short term-orientation) and 100 (Long-Term Orientation)
- **Long-Term Orientation (Second-generation analysis)**: Based on the answer to the question “Do you generally plan for your future or do you just take each day as it comes?” taken from the “Timing of Life” module in the third wave of the European Social Survey. Scale between 0 (short term-orientation) and 100 (Long-Term Orientation)
- **Long-Term Orientation (Individual-level analysis)**: Based on the following question taken from the integrated file for waves 1-5 of the WVS: “Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?” An individual is considered to have Long-Term Orientation if she answered “Thrift, saving money and things” as an especially important quality children should learn at home. Coded 1 if individual has LTO, and 0 otherwise.

Table B.44—: Correlation of Long-Term Orientation Measures

	Long-Term Orientation Measures	
	Hofstede	WVS
Hofstede	1.00	
WVS	0.58***	1.00
Observations	87	

Notes: The table shows the strong positive correlation between the country level measure of Long-Term Orientation (LTO) from Hofstede and the country level average of the LTO measure from the WVS for the sample in section III. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

Table B.45—: Correlation of Long-Term Orientation Measures

	Long-Term Orientation Measures		
	ESS	Hofstede	WVS
ESS	1.00		
Hofstede	0.37*	1.00	
WVS	0.44**	0.59***	1.00
Observations	22		

Notes: The table shows the strong positive correlation between the country level measure of Long-Term Orientation (LTO) from Hofstede and the country level average of the LTO measure from the WVS and from the ESS for the sample in section IV. *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level, all for two-sided hypothesis tests.

- **Restraint vs. Indulgence**: This is a renormalization of the Indulgence vs. Restraint variable of Hofstede, Hofstede and Minkov (2010). Scale between 0 (short term-orientation) and 100 (Long-Term Orientation). This variable by construction captures certain aspects of LTO.

Measures of Education, Saving and Smoking Behavior

- Education (country-level): Years of Schooling from World Development Indicators
- Tertiary Education (2nd-generation migrants): Based on the highest level of education obtained by the individual (edulvla). Tertiary education=1 if highest level of education = Post-secondary non-tertiary education or Tertiary education completed (i.e., edulvla = 4 or 5)
- Saving Behavior: Based on the answer to the question "Please think about all types of savings such as bank accounts, investments, private and company pensions as well as property. Are you currently saving or have you saved in the past specifically in order to live comfortably in your old age?". Original answers have been recoded so that "Yes=1" and "No=0".
- Smoking (Habit): Based on GSS answer to the question "Does respondent smoke?"
- Smoking (Ever): Based on GSS answer to the question "Has respondent ever smoked?"

Measures of Technology and Agricultural Intensity

- Dependence on Agriculture: Taken from Ethnographic Atlas (v5)
- Dependence on Animal Husbandry: Taken from Ethnographic Atlas (v4)
- Dependence on Fishing: Taken from Ethnographic Atlas (v3)
- Dependence on Hunting: Taken from Ethnographic Atlas (v2)
- Dependence on Gathering: Taken from Ethnographic Atlas (v1)
- Agricultural Intensity: Based on "Intensity of Agriculture" from Ethnographic Atlas (v28). Defined as "Agricultural Intensity"=1 if "Intensity of Agriculture" is "extensive or shifting agriculture", "intensive agriculture", or "intensive irrigated agriculture" (i.e., if v28=3 or 5 or 6) and "Agricultural Intensity"=0 otherwise.
- Subsistence on Agriculture: Based on "Subsistence Economy" in Ethnographic Atlas (v42). Defined as "Subsistence on Agriculture" = 1 if "Subsistence Economy" is "agriculture contributes most, type unknown", "extensive agriculture contributes most", or "intensive agriculture contributes most" (i.e., v42=6 or 1 or 2), and "Subsistence on Agriculture" = 0 otherwise.
- Major Technological Changes: Based on "Major Technological Changes" in Standard Cross-Cultural Sample (SCCS v1811). Defined as "Major Technological Changes"=1 if 1 or more changes are present (i.e., v1811$>$ 1)
- Sum of Technological Changes: Based on "Sum of Technological Changes" in Standard Cross-Cultural Sample (SCCS v1845). Recoded to start at 0.

2. Main Independent Variables: Crop Yield and Growth Cycle

The Global Agro-Ecological Zones (GAEZ) project of the Food and Agriculture Organization (FAO) presents data on the following crops: alfalfa, banana, barley, buckwheat, cabbage, cacao, carrot, cassava, chickpea, citrus, coconut, coffee, cotton, cowpea, dry pea, flax, foxtail millet, greengram, groundnuts, indigo rice, maize, oat, oilpalm, olive, onion, palm heart, pearl millet, phaseolus bean, pigeon pea, rye, sorghum, soybean, sunflower, sweet potato, tea, tomato, wetland rice, wheat, spring wheat, winter wheat, white potato, yams, giant yams, subtropical sorghum, tropical highland sorghum, tropical lowland, sorghum, white yams. For each crop GAEZ provides a grid with cells of size $5' \times 5'$ (i.e., approximately 100 km^2). The analysis uses the following two measures:

- **Crop yield (tons)**: agro-climatic yield under low input settings in tons per hectare per year, taken from FAO's GAEZ project available at `gaez.fao.org`.
- **Crop growth cycle (days)**: growth cycle in days under low input settings and agro-climatic conditions, taken from FAO's GAEZ project available at `gaez.fao.org`.[36]

The analysis converts the yield in tons for each crop into yield in calories, by multiplying the caloric content in each ton of the crop by the crop yield in tons. Table A.1 shows the caloric content for 100mg of each crop. The source is

- **Caloric content of crops**: United States Department of Agriculture Nutrient Database for Standard Reference. This paper uses revision 25 accessed on October 29, 2013. Data can be accessed at `http://www.ars.usda.gov/Services/docs.htm?docid=23635`.

Given the constructed grids of caloric yield per crop, the analysis selects for each $5' \times 5'$ cell the crop that maximizes caloric content across all crops or the crops available in the cell's region before the Columbian Exchange as shown in table A.2. So, the main independent variables are

- **(Modern, post-1500CE) Crop Yield**: Maximum caloric yield produced across all crops for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.
- **(Modern, post-1500CE) Crop Growth Cycle**: Growth cycle of the crop that maximizes caloric yield across all crops for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.
- **(Pre-1500CE) Crop Yield**: Maximum caloric yield produced across crops available pre-1500CE for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.
- **(Pre-1500CE) Crop Growth Cycle**: Growth cycle of the crop that maximizes caloric yield across crops available pre-1500CE for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.
- **(Post-1500CE) Crop Yield Change**: Change in maximum caloric yield produced by expansion in crops post-1500CE for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.
- **(Post-1500CE) Crop Growth Cycle Change**: Change in growth cycle produced by expansion in crops post-1500CE for a $5' \times 5'$ cell under agro-climatic conditions and low inputs.

More information and data is available at the Caloric Suitability Index Site (`http://ozak.github.io/Caloric-Suitability-Index/`).

3. Controls

- **Absolute latitude**: The absolute value of the latitude of a country's approximate geodesic centroid, as reported by the CIA's World Factbook.
- **Mean Elevation**: The mean elevation of a country in km above sea level, calculated using geospatial elevation data reported by the G-ECON project (Nordhaus et al., 2006) at a 1-degree resolution. The interested reader is referred to the G-ECON project web site for additional details.

[36]Growth cycle for hibernating crops are the days elapsed from onset of post-dormancy period to full maturity.

- **Terrain roughness**: The degree of terrain roughness of a country, calculated using geospatial surface undulation data reported by the G-ECON project (Nordhaus et al., 2006) at a 1-degree resolution. The interested reader is referred to the G-ECON project web site for additional details.

- **Mean distance to nearest waterway**: The distance, in thousands of km, from a GIS grid cell to the nearest ice-free coastline or sea-navigable river, averaged across the grid cells of a country. This variable was originally constructed by Gallup, Sachs and Mellinger (1999) and is part of Harvard University's CID Research Datasets on General Measures of Geography.

- **Percentage of population living in tropical, subtropical and temperate zones**: The percentage of a country's population in 1995 that resided in areas classified as tropical by the Köppen-Geiger climate classification system. This variable was originally constructed by Gallup, Sachs and Mellinger (1999) and is part of Harvard University's CID Research Datasets on General Measures of Geography.

- **Land Suitability**: Average probability within a region that a particular grid cell will be cultivated as computed by Ramankutty et al. (2002).

- **Land Suitability (Range)**: Range of probabilities within a region that a particular grid cell will be cultivated as computed by Ramankutty et al. (2002).

- **Land Suitability (Gini**: Gini of probabilities within a region that a particular grid cell will be cultivated as computed by Ramankutty et al. (2002).

- **Land Suitability (Std.)**: Standard deviation of probabilities within a region that a particular grid cell will be cultivated as computed by Ramankutty et al. (2002).

- **Island nation dummy**: An indicator for whether or not a country shares a land border with any other country, as reported by the CIA's World Factbook online.

- **Landlocked dummy**: An indicator for whether or not a country is landlocked, as reported by the CIA's World Factbook online.

- **Neolithic Transition Timing**: The number of thousand years elapsed (as of the year 2000) since the majority of the population residing within a country's modern national borders began practicing sedentary agriculture as the primary mode of subsistence (Putterman, 2008). See the Agricultural Transition Data Set website `http://www.econ.brown.edu/fac/louis_putterman/agricultural%20data%20page.htm` for additional details on primary data sources and methodological assumptions.

- **Total land area**: The total land area of a country, in millions of square kilometers, as reported for the year 2000 by the World Bank's World Development Indicators online.

- **Population Density in 1500CE**: Population density (in persons per square km) in 1500CE as reported by McEvedy and Jones (1978), divided by total land area, as reported by the World Bank's World Development Indicators.

- **Urbanization Rate in 1500CE and 1800CE**: Share of population living in cities as reported in Acemoglu, Johnson and Robinson (2005).

- **GDP per capita in 1870CE, 1913CE**: Income per capita as reported by Maddison (2003). The data is available at `http://www.ggdc.net/maddison/Historical_Statistics/horizontal-file_02-2010.xls`.

- **Years of Schooling**: Average number of years of schooling in 2005 as measured by Barro and Lee (2013).
- **Major religion shares**: Share of major religion in each country as reported in La Porta et al. (1999).
- **Legal Origins**: Dummy variables for origin of legal system as identified in La Porta et al. (1999).
- **Historical Plough Use**: Share of country's ancestral populations that had experience with the plough as reported in Alesina, Giuliano and Nunn (2013).
- **Strong Future Time Reference**: Share of individuals in country that speak a language with strong future time reference as reported in Chen (2013). A language has a strong future time reference if the future tense is grammatically different from the present tense and it is obligatory to make the distinction. See Chen (2013) for additional details.
- **Exchange Medium in 1000BCE, 1CE and 1000CE**: Level of sophistication of medium of exchange as reported in Comin, Easterly and Gong (2010).
- **Transportation Medium in 1000BCE, 1CE and 1000CE**: Level of sophistication of medium of exchange as reported in Comin, Easterly and Gong (2010).
- **Pre-Industrial Distance to Trade Route**: Number of weeks of travel from a country's capital to the closest trade route as reported in Özak (2012).
- **Volatility (temperature and precipitation)**: Volatility of temperature and precipitation constructed using v3.2 of the Climatic Research Unit (CRU) database following the method of Durante (2010).
- **Diversification (temperature and precipitation)**: Spatial Correlation of temperature and precipitation shocks constructed using v3.2 of the Climatic Research Unit (CRU) database following the method of Durante (2010).
- **Age Dependency Ratio in 2005**: Ratio of dependents–people younger than 15 or older than 64–to the working-age population–those ages 15-64 for the year 2005 from the World Bank's World Development Indicators.
- **Life Expectancy at Birth**: Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Data for the year 2005 from the World Bank's World Development Indicators.
- **GDP per capita**: GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2005 U.S. dollars for the year 2005 from the World Bank's World Development Indicators and for 2005 from Penn World Table v8 Alan Heston and Aten (2011).
- **Average Inequality 1980-2009**: Average Gini for the period 1980-2009 from the World Bank's World Development Indicators. Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution.

- **Net and Market inequality 2000**: Net and market Inequality are taken from version 5 of the Standardized World Income Inequality Database (Solt, 2009). Net inequality measures inequality after taxes and market inequality before taxes.
- **Savings**: Gross domestic saving rate in 2005 from the World Bank's World Development Indicators.
- **OPEC**: Dummy variable that shows if a country belongs to the OPEC, as reported by the CIA's World Factbook.
- **Institutions**: Democracy index from Polity IV project.
- **Trust**: Share of population that have generalized trust. Based on the following question taken from the integrated file for waves 1-5 of the WVS: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?". An individual has trust if she answered "Most people can be trusted".
- **Power Distance**: Dimension of national culture identified by Hofstede (2001), which measures the degree to which there exists a preference for hierarchical power structures or inequality in economic, political or other societal dimensions. Scale between 0 (Horizontal) to 100 (Vertical).[37]
- **Individualism**: Dimension of national culture identified by Hofstede (2001), which measures the degree to which a society is individualistic as opposed to collectivistic. Scale between 0 (Collectivistic) to 100 (Individualistic).[38]
- **Cooperation**: Dimension of national culture identified by Hofstede (2001), which measures the degree to which a society is cooperative. Scale between 0 (Non-cooperative) to 100 (Cooperative).[39]
- **Uncertainty Avoidance**: Dimension of national culture identified by Hofstede (2001), which measures the degree to which a society is tolerant of the ambiguous and the unpredictable. Scale between 0 (Intolerant) to 100 (Tolerant).[40]
- **Ancestry Adjusment**: Original data is adjusted by ancestry using the method and data from Putterman and Weil (2010).
- **Regional Data**: For regions within a country, data is computed using GIS software to compute the area of each region's polygon in the corresponding shape file of the Seamless Digital Chart of the World. Whenever possible, the same primary data sources as the ones used in the sources for the country level data is used. E.g. regional agricultural suitability is constructed using the data from Ramankutty et al. (2002).
- **Individual level controls**: Age, Gender, Education level, Health condition, Religiosity, Income for each individual in the ESS and WVS data sets.

[37]Hofstede, Hofstede and Minkov (2010, p.61) defines it as "Power distance can therefore be defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. Institutions are the basic elements of society, such as the family, the school, and the community; organizations are the places where people work."

[38]Hofstede, Hofstede and Minkov (2010, p.92) defines it as follows: "Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty."

[39]Hofstede, Hofstede and Minkov (2010, p.140) defines this dimension as Masculinity vs Femeninity, since he found gender based differences in the answers to the questions that defined this value.

[40]According to Hofstede, Hofstede and Minkov (2010, p.191) "Uncertainty avoidance can therefore be defined as the extent to which the members of a culture feel threatened by ambiguous or unknown situations."

Table C.1—: Summary Statistics (Country-level Sample)

	Mean	Std.	Min	Max	N
Long-Term Orientation	45.61	(23.36)	4.00	100.00	87
Thrift important in children	57.51	(21.70)	13.04	100.00	87
Crop Yield	8.57	(2.73)	1.33	17.99	87
Crop Growth Cycle	135.81	(17.13)	89.91	189.29	87
Crop Yield (Anc.)	8.42	(2.26)	1.83	13.90	87
Crop Growth Cycle (Anc.)	135.87	(15.58)	89.91	188.31	87
Crop Yield (pre-1500)	7.45	(2.68)	0.87	17.99	87
Crop Growth Cycle (pre-1500)	132.22	(16.33)	82.90	169.50	87
Crop Yield (Anc., pre-1500)	7.35	(1.92)	1.25	10.12	87
Crop Growth Cycle (Anc., pre-1500)	131.43	(14.33)	86.74	161.41	87
Crop Yield Change (post-1500)	1.13	(1.54)	-0.47	6.16	87
Crop Growth Cycle Change (post-1500)	3.59	(8.94)	-23.00	34.79	87
Crop Yield Change (Anc., post-1500)	1.07	(1.29)	-0.12	5.69	87
Crop Growth Cycle Change (Anc., post-1500)	4.43	(8.34)	-23.00	34.17	87
Crop Yield (pre-1500)	6.11	(3.57)	0.00	10.69	87
Crop Growth Cycle (pre-1500)	98.04	(55.81)	0.00	169.50	87
Crop Yield (pre-1500)	6.11	(3.57)	0.00	10.69	87
Crop Growth Cycle (Anc., pre-1500)	99.26	(48.88)	0.00	159.23	87
Crop Yield Change (post-1500)	1.70	(1.61)	0.00	6.49	87
Crop Growth Cycle Change (post-1500)	29.89	(18.94)	0.00	90.00	87
Crop Yield Change (Anc., post-1500)	1.69	(1.38)	0.01	5.69	87
Crop Growth Cycle Change (Anc., post-1500)	30.15	(17.14)	0.15	84.50	87
Absolute Latitude	34.27	(17.19)	1.00	64.00	87
Mean Elevation	0.52	(0.44)	0.02	2.43	87
Terrain Roughness	0.19	(0.13)	0.02	0.60	87
Distance to Coast or River	282.25	(408.02)	7.95	2385.58	87
Landlocked	0.18	(0.39)	0.00	1.00	87
Island	0.13	(0.33)	0.00	1.00	87
Pct. Land in Tropics and Subtropics	0.23	(0.38)	0.00	1.00	87
Pct. Land in Tropics	0.19	(0.35)	0.00	1.00	87
Pct. Land in Temperate Zone	0.48	(0.45)	0.00	1.00	87
Precipitation	81.20	(51.63)	2.91	233.93	87
Temperature	14.67	(8.39)	-7.93	28.64	87
Total land area	1.12	(2.63)	0.00	16.38	87
Total land area (Ancestors)	1.14	(2.18)	0.02	15.74	87
Temperature Volatility	13.16	(5.46)	3.70	27.38	87
Temperature Volatility (Ancestors)	13.55	(5.03)	3.85	27.11	87
Precipitation Volatility	368.58	(194.28)	27.90	943.01	87
Precipitation Volatility (Ancestors)	352.51	(161.17)	34.91	943.01	87
Temperature Diversification	0.85	(0.20)	0.00	1.00	87
Temperature Diversification (Ancestors)	0.86	(0.16)	0.03	1.00	87
Precipitation Diversification	0.80	(0.19)	0.00	0.98	87
Precipitation Diversification (Ancestors)	0.80	(0.15)	0.03	0.97	87
Neolithic Transition Timing	5422.99	(2356.96)	400.00	10500.00	87
Neolithic Transition Timing (Anc.)	5996.87	(1886.92)	1480.00	10400.00	87
Land Suitability	0.42	(0.24)	0.00	0.96	85
Land Suitability (Anc.)	0.43	(0.21)	0.02	0.81	85
Land Suitability (Gini)	0.37	(0.23)	0.03	0.87	84

Table C.1—: Summary Statistics (continued)

	Mean	Std.	Min	Max	N
Land Suitability (Range)	0.78	(0.23)	0.03	1.00	84
Land Suitability	0.70	(0.31)	0.01	1.00	85
Land Suitability (Anc.)	0.71	(0.27)	0.02	1.00	85
Population density in 1500 CE	9.32	(11.85)	0.02	62.50	87
Urbanization rate in 1500 CE	7.36	(5.43)	0.00	28.00	65
Urbanization rate in 1800 CE	0.15	(0.39)	0.00	3.50	84
GDPpc 1870 (Maddison updated)	1247.75	(805.91)	337.00	3273.00	52
GDPpc 1913 (Maddison updated)	2191.88	(1590.90)	485.00	7093.00	51
2005 yr_sch	8.82	(2.37)	1.71	12.91	80
Savings (2005)	21.76	(14.52)	-17.91	56.98	86
Plow	0.71	(0.43)	0.00	1.00	87
Plow (Anc.)	0.78	(0.34)	0.00	1.00	87
Strong FTR	0.81	(0.37)	0.00	1.00	71
Strong FTR (Anc.)	0.77	(0.35)	0.00	1.00	71
British legal origin dummy	0.25	(0.44)	0.00	1.00	87
French legal origin dummy	0.36	(0.48)	0.00	1.00	87
Socialist legal origin dummy	0.29	(0.46)	0.00	1.00	87
German legal origin dummy	0.06	(0.23)	0.00	1.00	87
Scandinavian legal origin dummy	0.05	(0.21)	0.00	1.00	87
Share of Roman Catholics in the population	33.22	(37.47)	0.00	97.30	87
Share of Muslims in the population	18.98	(32.84)	0.00	99.40	87
Share of Protestants in the population	11.74	(21.85)	0.00	97.80	87
Share of other religions in the population	36.07	(33.87)	0.00	100.00	87
Exchange Medium 1000BCE	0.24	(0.37)	0.00	1.00	81
Exchange Medium 1CE	0.53	(0.42)	0.00	1.00	81
Exchange Medium 1000CE	0.75	(0.41)	0.00	1.00	81
Transportation Medium 1000BCE	0.48	(0.39)	0.00	1.00	81
Transportation Medium 1CE	0.63	(0.37)	0.00	1.00	81
Transportation Medium 1000CE	0.75	(0.40)	0.00	1.00	81
Pre-Industrial Distance to Trade Route	0.41	(1.17)	0.00	8.82	71
Age Dependency Ratio	55.04	(14.26)	39.02	108.10	87
Life Expectancy at Birth	71.40	(9.30)	41.47	81.93	87
Ln[GPD per capita]	9.08	(1.20)	5.78	11.20	87
Net Inequality 2000	36.22	(8.52)	22.04	57.17	85
Market Inequality 2000	44.52	(7.02)	27.88	66.35	85
Average Inequality (80-09)	37.08	(8.34)	23.94	60.85	85
Population density in 1500 CE	9.32	(11.85)	0.02	62.50	87
Log[Pop. Dens (1500)]	1.36	(1.68)	-3.91	4.15	82

Table C.2—: List of countries included in different analyses

Sample	Countries
Country-level Analysis	Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Belarus, Canada, Chile, China, Colombia, Croatia, Czech Republic, Denmark, Dominican Republic, Egypt, El Salvador, Estonia, Finland, France, Georgia, Germany, Ghana, Greece, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Jordan, Republic of Korea, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malaysia, Mali, Malta, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russia, Rwanda, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, United Republic of Tanzania, Thailand, Trinidad, Turkey, Uganda, Ukraine, United Kingdom, United States, Uruguay, Venezuela, Vietnam, Zambia, Zimbabwe
Second-Generation Migrant Analysis	Country of Interview
	Austria, Belgium, Bulgaria, Switzerland, Cyprus, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Russian Federation, Sweden, Slovenia, Slovakia, Ukraine
	Country of Origin Mother
	Angola, Albania, Argentina, Armenia, Austria, Azerbaijan, Belgium, Bangladesh, Bosnia, Belarus, Canada, Switzerland, Chile, China, Colombia, Czech Republic, Germany, Algeria, Egypt, Spain, Estonia, Finland, France, United Kingdom, Georgia, Ghana, Guinea, Guinea Bissau, Greece, Croatia, Hungary, India, Indonesia, Ireland, Italy, Jamaica, Kazakhstan, Kenya, Kyrgyzstan, Cambodia, Laos, Lebanon, Sri Lanka, Luxembourg, Latvia, Morocco, Madagascar, Macedonia, Mozambique, Malaysia, Nigeria, Netherlands, Norway, Pakistan, Poland, Portugal, Puerto Rico, Russian Federation, Slovakia, Sweden, Syria, Tunisia, Turkey, Uganda, Ukraine, Uzbekistan, Vietnam
Individual-Level and Regional Analyses	Countries
	Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Belarus, Belgium,Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cyprus, Czech Republic, Denmark, Dominican Republic, Egypt, El Salvador, Estonia, Ethiopia, Finland, France, Georgia, Germany, Ghana, Greece, Guatemala, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Japan, Jordan, Korea, South, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malaysia, Mali, Malta, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Romania, Russia, Rwanda, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Tanzania, Thailand, Trinidad and Tobago, Turkey, Uganda, Ukraine, United Kingdom, United States, Uruguay, Venezuela, Vietnam, Zambia, Zimbabwe

Appendix References

Acemoglu, Daron, Simon Johnson, and James A Robinson. 2005. "Institutions as a fundamental cause of long-run growth." *Handbook of economic growth*, 1: 385–472.

Alan Heston, Robert Summers, and Bettina Aten. 2011. "Penn World Table Version 7.0." Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Alesina, Alberto, Paola Giuliano, and Nathan Nunn. 2013. "On the origins of gender roles: Women and the plough." *The Quarterly Journal of Economics*, 128(2): 469–530.

Altonji, Joseph G, Todd E Elder, and Christopher R Taber. 2005. "Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools." *Journal of Political Economy*, 113(1): 151–184.

Barro, Robert J, and Jong Wha Lee. 2013. "A new data set of educational attainment in the world, 1950–2010." *Journal of development economics*, 104: 184–198.

Bellows, John, and Edward Miguel. 2009. "War and local collective action in Sierra Leone." *Journal of Public Economics*, 93(11): 1144–1157.

Chen, M Keith. 2013. "The effect of language on economic behavior: Evidence from savings rates, health behaviors, and retirement assets." *The American Economic Review*, 103(2): 690–731.

Cliff, A. D, and J. K. Ord. 1973. *Spatial autocorrelation.* Vol. 5, London:Pion.

Cliff, A. D, and J. K. Ord. 1981. *Spatial processes: models & applications.* London:Pion.

Comin, Diego, William Easterly, and Erick Gong. 2010. "Was the Wealth of Nations Determined in 1000 BC?" *American Economic Journal: Macroeconomics*, 65–97.

Conley, Timothy G. 1999. "GMM estimation with cross sectional dependence." *Journal of econometrics*, 92(1): 1–45.

Crosby, Alfred W. 1972. *The Columbian exchange: biological and cultural consequences of 1492. Contributions in American studies, no. 2*, Westport, Conn.:Greenwood Pub. Co.

Diamond, Jared M. 1997. *Guns, germs, and steel: the fates of human societies.* . 1st ed ed., New York:W.W. Norton & Co.

Durante, Ruben. 2010. "Risk, cooperation and the economic origins of social trust: an empirical investigation."

Gallup, John Luke, Jeffrey D Sachs, and Andrew D Mellinger. 1999. "Geography and economic development." *International regional science review*, 22(2): 179–232.

Hofstede, Geert H. 1991. *Cultures and organizations: software of the mind.* London:McGraw-Hill.

Hofstede, Geert H. 2001. *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations.* Sage.

Hofstede, Geert H, Gert Jan Hofstede, and Michael Minkov. 2010. *Cultures and organizations: software of the mind : intercultural cooperation and its importance for survival.* . 3rd ed ed., New York:McGraw-Hill.

La Porta, Rafael, Florencio Lopez-de Silanes, Andrei Shleifer, and Robert Vishny. 1999. "The quality of government." *Journal of Law, Economics, and organization*, 15(1): 222–279.

Maddison, Angus. 2003. *The world economy: historical statistics.* Paris, France:Development Centre of the Organisation for Economic Co-operation and Development.

McEvedy, Colin, and Richard Jones. 1978. *Atlas of world population history.* London:A. Lane.

Nordhaus, William, Quazi Azam, David Corderi, Kyle Hood, Nadejda Makarova Victor, Mukhtar Mohammed, Alexandra Miltner, and Jyldyz Weiss. 2006. "The G-Econ database on gridded output: methods and data." *Unpublished manuscript, Yale University*, 12.

Oster, Emily. 2014. "Unobservable Selection and Coefficient Stability: Theory and Validation."

Özak, Ömer. 2012. "Distance to the Technological Frontier and Economic Development." *Southern Methodist University Working Paper Series.*

Putterman, Louis. 2008. "Agriculture, diffusion and development: ripple effects of the Neolithic Revolution." *Economica*, 75(300): 729–748.

Putterman, Louis, and David N Weil. 2010. "Post-1500 Population Flows and The Long-Run Determinants of Economic Growth and Inequality*." *The Quarterly journal of economics*, 125(4): 1627–1682.

Ramankutty, Navin, Jonathan A Foley, John Norman, and Kevin McSweeney. 2002. "The global distribution of cultivable lands: current patterns and sensitivity to possible climate change." *Global Ecology and Biogeography*, 11(5): 377–392.

Solt, Frederick. 2009. "Standardizing the world income inequality database*." *Social Science Quarterly*, 90(2): 231–242.