

What Does Economics Have to Say About Culture?

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EXCERPT

In this lecture I examine the relationship between economics and the humanities. The fields generally pursue different questions using different methodologies, and in some cases have not trusted the questions and methods of the other. However, the fields have grown closer together as economics has learned to discuss culture and the humanities have begun to use quantitative methods. While economists of the past were reluctant to study culture, economists today embrace the study of culture. Economists have examined how gender roles affect behavior and how a society's gender roles are themselves the result of past economic incentives. Culture influences behavior far in the future, though it does not determine what we will do.

The LaFollette Lecture Series was established by the Wabash College Board of Trustees to honor Charles D. LaFollette, their longtime colleague on the Board. The lecture is given each year by a Wabash College Faculty member who is charged to address the relation of his or her special discipline to the humanities broadly conceived.

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The Charles D. LaFollette Lecture Series

What Does Economics Have to Say About Culture?

Joyce Burnette
Department of Economics

I am pleased and honored to be chosen as the 39th LaFollette lecturer. I am particularly honored to be the first economist to give this lecture, given the many excellent economists who have preceded me and are currently at Wabash. Perhaps the fact that I am the first economist to be chosen has something to do with the subject of this lecture, the somewhat rocky relationship between economics and the humanities.

The LaFollette lecturer is charged to "address the relationship of his or her special discipline to the humanities broadly conceived."¹ As I reflected on this charge, I had to admit that the relationship between economics and the humanities has not always been good. However, I think the relationship has improved substantially since I was in graduate school. We are at least going in the right direction.

As an economic historian, I have spent my academic career at the border of two very different disciplines, and even within the field of economic history there is a clear divide between economics and history. The Economic History Association is dominated by economists; maybe ten percent of attendees are from history departments. The Social Science History Association is supposed to bridge these divides by bringing different disciplines to the same conference, but in fact economists and historians rarely attend the same sessions.

What is the origin of this rift, and can it be mended? I will focus on the divide between economics and history, because that is where I have spent my career. I think the rift is broader, but I want to focus on my own experience. I will examine the origins of the divide and recent developments that have brought the two closer together. Then I will examine how culture and economics are inseparable.

A. Origins of the Rift

I will discuss two reasons for the rift between economics and history, each of which is probably sufficient in itself: differences in subject and differences in method. Turning first to differences in subject.

¹ <https://www.wabash.edu/academics/lafollette>

1. Subject

Even when studying what seems like the same topic, such as women's work in the past, economists and historians tend to ask different questions. Economists usually ask: What do people do, and why do they act that way? Historians are more likely to ask: How do people think, and why do they think that way? The first question is about what people are actually doing. What work do they do, what are they paid, how many children do they have? The second question is more about how we understand what we do, and how we represent it to ourselves and others.

For example, we can identify Davidoff and Hall (1987) as historians when they note that "The suitability of field work, indeed any outdoor work for women, was almost always discussed in moral terms" (p. 274). Their book focuses on how people thought about work, rather than the work itself. My own research does the opposite; I focus on what people did, and not how they thought about it. What we do and how we think about what we do are not the same thing. Sometimes people act in a way that contradicts their expressed values. Here's an example: in 1876 an English employer, Frederick Carver, was being questioned by a parliamentary committee about women's employment. He claimed that

we have as a rule an objection to employing married women, because we think that every man ought to maintain his wife without the necessity of her going to work

but at the same time he told the committee

As to married women, in one particular department of our establishment we have forty-nine married women and we wish that the present state of things as regards married women should not be disturbed. (quoted in Rose, 1992, p. 32)

Frederick seemed to have no problem saying one thing and then doing the opposite. Historians know this. In a classic paper, Amanda Vickery, noted we should not try to infer behavior from what we read in advice manuals:

Just because a volume of domestic advice set on a woman's desk, it does not follow that she took its strictures to heart or whatever her intentions managed to live her life according to its precepts. (Vickery, 1993, p. 391)

Thus economics and history simply pursue different paths of study. Neither question is better or worse, they're just different questions. That's why we have different disciplines, because we are asking different questions about our world.

Unfortunately, economists have contributed to the rift between the disciplines by downplaying the importance of the second question, and saying that culture matters less than actions. Marx

dismissed culture as "superstructure" that simply provided excuses for actions that were driven by greed. Very non-Marxist economists generally had the same attitude towards culture: It's secondary.

When I was in graduate school, relying on culture as an explanation for behavior was seen as admitting failure. If you can't figure out the explanation for why a group of people act a certain way, then you call it "culture." Generally, the assumption was that there is always an economic explanation, so if you call something cultural it's because you failed to find the real reason. Economists assume that behavior is determined by utility maximization. While sometimes this is taken to mean that people always act in a self-interested manner, that is not what it means. Utility maximization is perfectly consistent with altruism. Mother Teresa was no threat to our assumption. (Recent studies have shown that human behavior is actually not always rational, but I will not venture down that side-path.)

A generation ago, economists combined utility maximization with the assumption that utility, or what people want, was fundamentally the same across cultures. Differences in behavior, then, were the result of different constraints and opportunities that people faced. Prices drive behavior. For a statement of this position, I turn to a 1977 paper from two Nobel-prize winning economists, George Stigler and Gary Becker. Their position is that all differences in behavior can be explained by constraints people face. They contrast this with other economists who think that some differences in behavior can be explained by culture.

On the traditional view, an explanation of economic phenomenon that reaches a difference in tastes between people or times is the terminus of the argument: the problem is abandoned at this point to whoever studies and explains tastes (psychologists? anthropologists? phrenologists? sociobiologists?).

Notice that they admit the possibility that other disciplines might study the formation of tastes, but mock such study by linking it to phrenologists and sociobiologists. Instead of this traditional view, Stigler and Becker urge economists to push further and explain all phenomena without appealing to differences in tastes.

On our preferred interpretation, one never reaches this impasse: the economist continues to search for differences in prices or incomes to explain any differences or changes in behavior.

Stigler and Becker propose that

widespread and/or persistent human behavior can be explained by a generalized calculus of utility-maximizing behavior, without introducing the qualification "tastes remaining the same." (Stigler and Becker, 1977, p. 76)

In other words, they suggest that tastes don't matter at all. People are fundamentally the same, and there is no room for culture as an explanation. Culture only seems to matter because people in different countries face different institutions, and different prices. Unsurprisingly, this view did not endear economists to scholars in the humanities who are primarily interested in why people think the way they do.

2. Methodology

But that was not the only reason for the rift. Economists and historians have also been divided by their methods. Economists, who want to study what people do, have little interest in what they say, for reasons just given, and instead measure what they do. Since one action might be atypical, we need many observations of action, which are called data.

Historians who want to study how people think, are very interested in what they say, and need to devote a great amount of time to close reading to understand one text. This difference in methods ought to be fine, since we are pursuing different questions, but generally we don't trust each other's methods.

Economists don't trust individual examples, which we call anecdotes. In graduate school I saw papers criticized for using anecdotes as evidence. Senior economists noted that "The economist always asks, how typical? how often?" My advisor was quick to point out that the plural of anecdote is data, but that's sort of the point: you need more than one observation to have reliable evidence.

Some people, however, don't like numbers, and claim that they are too cold to tell a human story. In fact, there is evidence that many people feel this way. Behavioral economists have studied how much you are willing to give to charity by paying subjects \$5 in dollar bills, and then giving them the opportunity to give any number of those dollars to a charity addressing the food crisis in Ethiopia (Small, Loewenstein and Slovic, 2007). Subjects who were given a story of one individual, with a picture (the identifiable victim), gave more than subjects who were given statistics about the crisis (the statistical victim). So for most people statistics do not have the immediacy of stories. This study also found that telling people ahead of time about this tendency makes us less generous not more generous; it reduces the response to the identifiable victim but does not increase the response to the statistical victim.

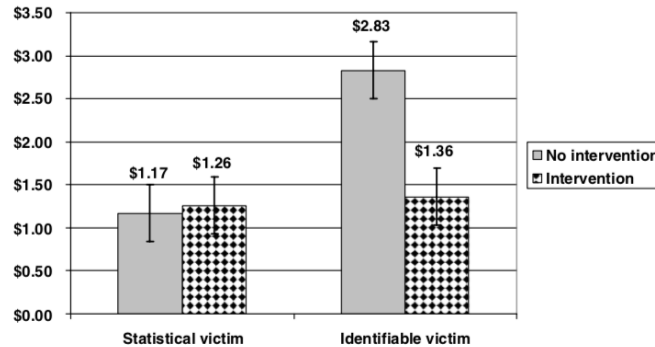


Fig. 1. Effects of teaching about identifiability on donations in Study 1.

Source: Small, Loewenstein and Slovic, 2007.

But I still think that this response results from a failure of imagination. If numbers are cold and lifeless to you, perhaps this reflects a lack of imagination on your part. Let's take the number 10. Devoid of context, it means nothing. Is it the perfect 10, the age of your dog, or the volume at which you like to listen to music? But statistics are not in fact devoid of context. Suppose I give this number some context and tell you that the unemployment rate in October 2009 was 10%. Now that has meaning. That is a story of human tragedy.

Does it still seem cold and lifeless to you? You might have to bring some knowledge of your own to see the meaning. Knowing the definition of unemployment, we know that this means one in every ten people who wanted to work was not able to find work. Knowledge that, in American society, your social identity and status are connected to your occupation tells you that those without an occupation feel they have no value. We might also add the knowledge that for every 1 percentage point increase in the unemployment rate, 214 people commit suicide.² Or that each one percentage point increase in the unemployment rate is associated with a 0.7 percentage point increase in the poverty rate, so that, compared to a normal unemployment rate like 5%, at 10% unemployment an additional 3.5% of the population lived in poverty.³ Suddenly, it's not just a number, but a story. If you spend enough time with numbers, they are stories.

A more fundamental objection to quantitative analysis is that data is not objective, but is itself a cultural product. A good example of this is census data from the past. If you are looking for evidence of women's work in the past, the censuses *seem* like a good place to look for data, but it turns out they are not. Occupational designations in the census tell us how people thought about work, not about what they actually did. The cultural expectation was that women didn't work, so the censuses generally did not record them as working. The instructions to the 1841 British census

² Walli Leff and Marilyn Haft, 1983, *Time Without Work*, p. 12.

³ Alan Blinder, 1987, *Hard Heads, Soft Hearts*, p. 36.

state that women working in the family business but not receiving wages should not be listed as having an occupation.⁴ Numerous historical studies have demonstrated that women who were paid for work, as evidenced by payments in the employer's accounts, are listed in the census as having no occupation.

Clearly census data are not an accurate measure of women's work. I've seen a number of economic historians, usually ones trained as economists, tempted into using census data to measure female labor force participation, only to be shot down at conferences by people who pay attention to the data and know better. But this is no reason to abandon data, any more than it is a reason to abandon textual evidence, which also sometimes lies to us. It just means that we need to handle data with care, and understand its biases. Quantitative evidence can be good or bad, just as close readings can be good or bad.

Another reason that some historians don't like numbers is that some questions cannot be answered with statistics. Statistics can't tell you anything about individuals, only about averages. Individuals have free will, and individual behavior cannot be predicted, but if we have a large enough sample the law of large numbers kicks in and we can do a pretty good job of predicting the average. For example, if the Federal Reserve raises interest rates I know that fewer Americans will buy a new car this year, but that tells me nothing about whether or not you will buy a new car this year.

Some historical questions are about individual behavior, and where statistics are not helpful. For example: "Why did John Wilkes Booth shoot Abraham Lincoln?" Since this event happened only once, I can't use statistics to study it. Other questions are about groups. For example: "How does fertility change when female education goes up?" Here statistics can help because we can rely on the law of large numbers. So again it comes back to the question being asked. Economists are more likely to use statistics because they are more likely to ask questions that are well suited to statistical evidence.

So economists usually use statistics and historians are more likely to use close reading and thick description. Which is better? Sometimes the choice of methodology is set up like that. For example, this book: *Which Road to the Past? Two Views of History*, by the economist Robert Fogel and the historian Geoffrey Elton. While in fact both authors acknowledge the value of the other approach, the book is set up like a debate, as if you had to pick. Which road will you take? Do they really expect us to pick one? To me, that's like asking: "Which utensil would you like to use for dinner tonight, a fork or a spoon?" How would you answer that? "I don't know—what are we having? Soup? Steak? Hey, why do I have to choose anyway, can't I have both?" So we have the obvious answer: I

⁴ The instructions to the 1841 British census state that "The professions &c. of wives, or of sons or daughters living with and assisting their parents but not apprenticed or receiving wages, need not be inserted." (Higgs, 1989, p. 81).

would like to use both, or at least to have the option to use whichever one I want depending on the question I'm researching. Both are valuable tools in the toolkit, and which is better depends on the situation.

When I entered the profession, the relationship between economics and history was not very good. Economists ignored or disparaged culture, casting culture as the explanation used by people who can't figure out the real explanation, and historians ignored or disparaged numbers, casting economic analysis as a celebration of selfishness. Each side distrusted the other's questions and methods.

Can this rift be mended? Yes, and in fact, it already has been, at least to some extent. Over my career I have seen convergence in both subject and method.

B. Convergence

In terms of subject matter, culture has become an acceptable topic of inquiry in economics, if still not the favored explanation for behavior. In methodology, the humanities have discovered the value of statistics.

1. Subject

It has been four decades since Stigler and Becker asserted that everything can be explained by utility-maximization, without reference to differences in tastes. Twenty years later, economists were questioning these claims. In 1997 Peter Temin used his presidential address at the Economic History Association to broach the topic. The title of his talk, "Is it Kosher to Talk about Culture?", is phrased as a question, suggesting some uncertainty about the answer. Temin discussed the economic implications of British, American, and Japanese cultures for growth, and cited three papers discussing culture that had appeared in the previous three years. Neither Stigler nor Becker show up to scold him, but it still seemed risky and innovative at the time.

Today there is no question that culture is an acceptable topic in economics and economists no longer apologize for talking about it. In 2015 the American Economic Review contained three articles using the word "culture" and three more including "values" or "beliefs". Here are some examples of economics papers that take culture seriously:

- Gorodnichenko and Roland, 2017, "Culture Institutions and the Wealth of Nations." *Review of Economics and Statistics*, 99:402-416
- Alesina and Giuliano, 2015, "Culture and Institutions." *Journal of Economic Literature*
- Christopoulou and Lillard, 2015 "Is smoking behavior culturally determined?" *Journal of Economic Behavior and Organization*, 110:78

Some papers have even studied—yes—what people say. Here's an example, which we'll come back to later. Alberto Alesina, Paola Giuliano and Nathan Nunn (2013) examine the determinants, not only of female labor force participation, but also of whether people say they agree with the statements "When jobs are scarce, men should have more right to a job than women" and "On the whole, men make better political leaders than women do." Economics has changed a lot during the 29 years I've been a part of it.

TABLE V
INDIVIDUAL-LEVEL OLS ESTIMATES USING WVS DATA

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable:					
	Female labor force participation, 1995–2007		When jobs are scarce, 1995–2007		Men better political leaders, 1995–2007	
Mean of dep. var.	0.55	0.55	0.46	0.47	2.62	2.64
Traditional plough use	−0.177*** (0.035)	−0.002 (0.031)	0.193*** (0.033)	0.100* (0.059)	0.224*** (0.069)	0.304*** (0.117)
Individual & district controls	yes	yes	yes	yes	yes	yes
Contemporary country controls	yes	n/a	yes	n/a	yes	n/a
Fixed effects	continent	country	continent	country	continent	country
Number of countries	73	78	74	79	50	55
Number of districts	672	698	674	700	453	479
Observations	43,801	47,587	80,303	87,528	64,215	72,152
Adjusted R-squared	0.17	0.27	0.21	0.28	0.19	0.26
R-squared	0.17	0.27	0.21	0.28	0.19	0.26

Source: Alesina, Giuliano and Nunn 2013.

2. Method

In terms of methods, there has definitely been an increase in the use of statistics, not only in history but also in the humanities more broadly. Some historians are using quantitative methods. Examples are Anne McCants at MIT and Jane Whittle at the University of Exeter. The field of "digital humanities" has brought us, among other things, the statistical analysis of texts.

In what is said to be the first paper in the field, Frederick Mosteller and David Wallace, in 1963, used word counts to determine the authorship of 12 disputed Federalist papers. Using texts known to be authored by Hamilton or Madison, they identified words which were used more commonly by one author. For example, Madison used "by" more often than Hamilton, and Hamilton used "upon" more often than Madison.

Mosteller and Wallace identified 20 words used differently by the two authors and assigned them weights. Summing the words in the paper multiplied by the weights, they obtain scores for each paper. Positive weights mean Hamilton used the word more. Since most of the scores are negative, they conclude that the disputed papers were written by Madison (with the possible exception of #55).

TABLE 2.1. FREQUENCY DISTRIBUTION OF RATE PER THOUSAND WORDS FOR THE 48 HAMILTON AND 50 MADISON PAPERS FOR *by*, *from*, AND *to*. THE UPPER LIMIT OF A CLASS INTERVAL IS NOT INCLUDED IN THE CLASS

Rate	<i>by</i>		Rate	<i>from</i>		Rate	<i>to</i>	
	H	M		H	M		H	M
1- 3	2		1- 3	3	3	20-25		3
3- 5	7		3- 5	15	19	25-30	2	5
5- 7	12	5	5- 7	21	17	30-35	6	19
7- 9	18	7	7- 9	9	6	35-40	14	12
9-11	4	8	9-11		1	40-45	15	9
11-13	5	16	11-13		3	45-50	8	2
13-15		6	13-15		1	50-55		2
15-17		5		—	—	55-60		1
17-19		3	Totals	48	50	Totals	48	50
Totals	48	50						

TABLE 2.3. FREQUENCY DISTRIBUTION FOR *upon*

Rate/1000	H	M
0 (exactly)	—	41
0+-1	1	7
1 -2	10	2
2 -3	11	
3 -4	11	
4 -5	10	
5 -6	3	
6 -7	1	
7 -8	1	
Totals	48	50

is Madison's 40,000 word paper on *Neutral Trade* which we chopped into 20 pieces of approximately 2000 words each and gave the code numbers 201-220.

TABLE 3.1. WEIGHT-RATE ANALYSIS: WORDS, WEIGHTS, AND IMPORTANCES (TIMES 10^4)

Weight Importance			Weight Importance			Weight Importance		
<i>Group 1</i>			<i>Group 3</i>			<i>Group 5</i>		
upon	1394	3847	as	-0140	0339	innovation	-1681	0336
			at	0247	0318	language	-1448	0304
<i>Group 2</i>			by	-0146	0542	vigor	2174	0543
although	-1754	0351	of	0037	0281	voice	-2159	0410
commonly	1333	0267	on	-0271	0796			
consequently	-1311	0459	there	0463	0972	<i>Group 6</i>		
considerable	0784	0251				destruction	1709	0342
enough	0683	0403	<i>Group 4</i>					
while	2708	0704	would	0085	0428			
whilst	-2206	0993						

TABLE 3.4. RESULTS FOR JOINT AND DISPUTED PAPERS

Joint papers	Word group						Total
	1	2	3	4	5	6	
18	.07	-.04	-.17	.02	0	.08	-.03
19	0	-.04	-.15	.02	0	0	-.18
20	.10	.05	-.09	.01	.15	0	.22
\bar{x}	.05	-.01	-.14	.02	.05	.03	.00
Disputed papers							
49	0	-.22	-.22	.12	-.14	0	-.46
50	0	-.16	-.18	.08	0	0	-.26
51	0	-.37	-.31	.04	-.11	0	-.76
52	0	0	-.27	.04	0	0	-.23
53	0	-.18	-.17	.02	-.16	0	-.48
54	.14	-.18	-.44	.02	0	0	-.46
55	0	.04	.24	.04	0	0	.32
56	0	-.09	.05	.02	0	0	-.01
57	0	-.30	-.15	.02	-.08	0	-.50
58	0	-.15	-.24	.05	0	0	-.33
62	0	-.13	-.21	.02	-.09	0	-.41
63	0	-.03	-.13	.03	0	0	-.13
\bar{x}	.01	-.15	-.17	.04	-.05	0	-.31

Source: Mosteller and Wallace 1963.

Since this beginning, statistical analysis of text has grown and is now used fairly widely.

Historians have used statistics to analyze texts. In a project led by Maria Agren at Uppsala University, Swedish historians read documents from the period 1550 to 1800, including court records and diaries, and pulled out the verb phrases describing what people did. They created a data set of 16,182 verb phrases. Each verb phrase is linked to an individual, so they can compare what work men and women did. They find that both men and women were engaged in a broad range of economic activity in and out of the home, and yes, men even provided childcare. Out of this work has come the idea of the two-supporter model, which they think is a better description of pre-industrial families than the male breadwinner model.

Last year, analysis of text was used to reveal sexism in the economics profession. Alice Wu (2017), who was then still a graduate student, took posts from the American Economic Association website Economics Job Market Rumors. Using computer analysis, she identified whether the post was discussing a man or a woman by looking for words such as "he" and "she" and then looked for the most common words associated with men and women. Here's what she found:

Table 1: Words with the strongest predictive power for gender

Most “female”		Most “male”	
Word	Marginal Effect	Word	Marginal Effect
hotter	0.388	homosexual	-0.237
hot	0.285	homo	-0.228
attractive	0.260	philosopher	-0.204
pregnant	0.252	keen	-0.182
gorgeous	0.251	motivated	-0.171
beautiful	0.249	fieckers	-0.164
tits	0.247	slides	-0.160
lesbian	0.242	nordic	-0.156
bang	0.229	filling	-0.152
horny	0.224	textbook	-0.148

Notes: the marginal effect of word w is the change in probability of a post being classified as *female*, i.e. 1 if it is discussing women, when it contains one more word w .

Source: Wu 2017.

This table caused a stir in the economics profession. In an effort to reign in the sexism in our profession, Michael Reich and Heidi Hartmann circulated a petition asking for the American Economic Association to create an alternative website for sharing job market data that is not anonymous.

So it turns out that statistics can help us analyze, not only what people do, but also how they think. If Alice Wu had tried to survey people, asking whether they treated male and female candidates equally, everyone would have said: "Yes, of course we do." Statistics helped her get a better answer to that question. If we can just learn to trust each others' methodology, perhaps economic historians from both disciplines can feel more like co-workers with different specialties and less like rivals.

I think we can mend the rift between economics and history if we do two things:

1. Respect each other's methods. Maybe use them or maybe not. I'm not asking anyone to eat their soup with a fork. But respect them.
2. Recognize that our questions are more closely linked than we thought. To illustrate this last point, I will look more closely at the links between economics and culture.

C. Culture in Economics

In spite of the rejection of culture by George Stigler and Gary Becker, it turns out that culture and economics aren't actually separable. They are too closely entwined for us to be able to ignore either one when examining the other. How people think affects what they do, *and* what they do affects

how they think. In the second half of this lecture I will look at some recent research on two questions:

1. Does culture affect what we do?
2. Where do cultural norms come from?

1. Does culture affect what we do?

First, Does culture affect that we do? Yes it does. Using quantitative methods, economists have demonstrated that culture often does affect action. I'll give three examples.

The first example asks, do the gender norms of your culture affect your actions? Marianne Bertrand, Emir Kamenica and Jessica Pan (2015) examined the cultural expectation that a husband earns more than his wife. In 1995, 38% of US respondents agreed with the statement "If a woman earns more money than her husband, it's almost certain to cause problems" (p. 572). That's a minority, but it's still enough to affect action. Of course we know that many couples do not follow the norm; in 27% of couples, the wife actually earns more. However, women are still affected by the cultural norm. Wives whose earning potential is more than their husbands' avoid this situation by working less; they are less likely to be in the labor market than wives whose earnings potential is lower, and if they are in the labor force, they are more likely to work part-time. Couples where the wife earns more are more likely to get a divorce. Women who earn more than their husbands do more housework. The authors conclude that "once a wife earns more than her husband she starts to compensate for it by spending more time on chores and childcare" (p. 606). Gender norms are not deterministic, but they do change some people's behavior.

The second example asks: Do the gender roles that your parents teach you affect your actions? We can study this question separately from the culture in which you live by examining the actions of women born in the US who are children of immigrants. Raquel Fernandez and Alessandra Fogli (2009) do exactly this: they use the 1970 census to examine the work and fertility behavior of US-born women who had immigrant fathers. Since all the women in their study were born in the US, they all live in the same culture and to a large extent have the same opportunities. However, what they learn at home may differ. Fernandez and Fogli find that the behavior of these women was correlated with the 1950 labor force participation and fertility rates in the father's country of birth. Higher labor force participation in the father's country of origin (labeled in the table Female LFP 1950) was positively correlated with higher hours worked per week among their daughters. Higher fertility rates in the father's country of origin (labeled TFR 1950) were associated with higher fertility among their US-born daughters. Evidently US-born women are influenced by what they learn from their fathers.

TABLE 2—CULTURE, WORK, AND FERTILITY

	Dependent variable is hours worked					Dependent variable is children			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female	0.047***	0.041**	0.072***	0.045***	0.053***				−0.010
LFP 1950	(0.012)	(0.016)	(0.015)	(0.014)	(0.016)				(0.008)
TFR 1950					−0.225**	0.250***	0.219***	0.219***	0.194***
					(0.103)	(0.056)	(0.041)	(0.041)	(0.051)
High school		0.490	2.136***	2.114***	2.059***	−0.415**	−0.393***	−0.378**	
		(0.520)	(0.575)	(0.511)	(0.572)	(0.181)	(0.151)	(0.147)	
Some college		−0.147	3.205***	3.336***	3.160***	−0.503**	−0.485***	−0.457**	
		(1.078)	(1.034)	(0.963)	(1.024)	(0.213)	(0.185)	(0.179)	
College +		0.815*	6.032***	6.744***	5.968***	−0.869***	−0.865***	−0.838***	
		(0.492)	(0.494)	(0.448)	(0.480)	(0.214)	(0.204)	(0.195)	
Husband high school			−1.737**	−1.826***	−1.789**		−0.218*	−0.210*	
			(0.730)	(0.694)	(0.716)		(0.116)	(0.113)	
Husband some college			−1.329	−1.312*	−1.370*		−0.184*	−0.177*	
			(0.829)	(0.786)	(0.822)		(0.103)	(0.103)	
Husband college +			−5.003***	−4.467***	−5.054***		−0.194***	−0.185***	
			(0.452)	(0.493)	(0.459)		(0.050)	(0.049)	
Husband total income			−2.844***	−2.806***	−2.862***		0.116**	0.118**	
			(0.308)	(0.258)	(0.303)		(0.049)	(0.049)	
Child < 5				−7.536***					
				(0.554)					
Observations	6,774	6,774	6,774	6,774	6,774	6,774	6,774	6,774	6,774
Adjusted R ²	0.018	0.024	0.053	0.053	0.098	0.059	0.098	0.105	0.106

Notes: SMSA fixed effects in all specifications. Age and age squared for wife and age range dummies for husband in all specifications with demographics. Robust standard errors in parentheses account for clustering at country level. Income is measured in units of \$10,000. All specifications include a constant.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Source: Fernandez and Fogli 2009.

The third example gets to the heart of Stigler and Becker's claim. Are preferences universal, or are they learned behavior that differs by culture? Specifically, we ask: Are gender differences in competitiveness cultural or biological? First, we need a bit of context. Studies of the US population have determined that men are more likely to choose competition than women. Muriel Neiderle and Lise Vesterlund (2007) paid subjects for adding columns of numbers by hand. They then gave subjects a choice of whether they wanted to be paid by piece-rate, 50 cents for every sum they got correct, or by tournament, that is, \$2.00 for each correct sum, but only if they had more correct answers than the other three people in their row. This is a measure of competitiveness, as people who like competition will choose the tournament. They found that 73% of men chose the tournament, compared to 35% of women. The paper concludes that they don't know whether this gender difference was due to cultural training or to biological differences.

So are differences in competitiveness caused by nature or nurture? A different group of behavioral economists did a similar study with people from two very different cultures. Gneezy, Leonard, and

List (2009) paid subjects for tossing tennis balls in a basket, and let them choose whether to be paid a fixed fee for each ball they got into the basket, or as a tournament, in which case they were paid three times as much, but only if they outperformed a peer. The authors did this experiment in two societies, one patriarchal society, the Maasai in Tanzania, and one matriarchal society, the Khasi in India. In the patriarchal society, men were more likely to choose the tournament; 50 percent of men and only 26 percent of women choose the tournament. In the matriarchal society, on the other hand, 54 percent of the women and only 39 percent of the men choose the tournament. Thus it seems the relationship between gender and competitiveness is a function of the culture in which you grew up.

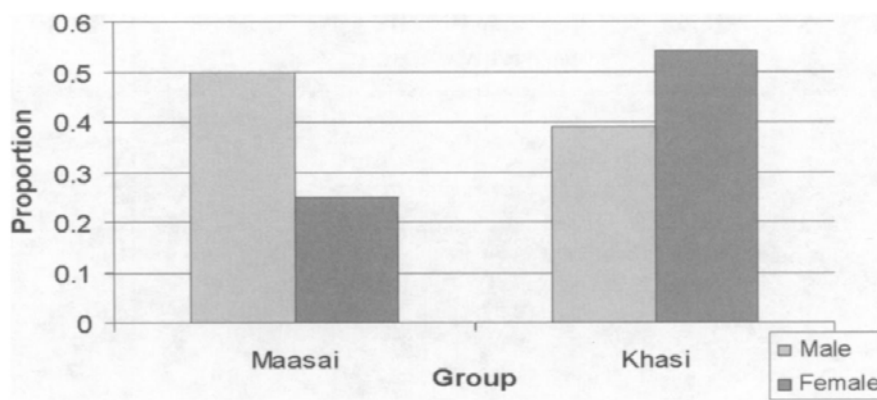


FIGURE 1.—A summary of competitive choices across gender in the two societies.

Source: Gneezy, Leonard, and List 2009.

So we have quantitative evidence that culture affects your behavior, and even your preferences. Economists have fairly well rejected the claim by Stigler and Becker that we can safely ignore differences in tastes.

But economists have not left it there. They have also asked another question: Where do cultural gender norms come from?

2. Where do cultural gender norms come from?

In the past, economists had nothing to say about where culture comes from. Discussing gender discrimination in 1976, Kenneth Arrow wrote that:

It may not be totally surprising that economic theories have nothing to say about the causes of sexual, racial, or national differences. It is true that economic theories can say something about the effects, given that you have sexual discrimination or national identity. They are not in a position to explain why the phenomenon occurred in the first place.⁵

⁵ Arrow, 1976, p. 236).

So economists of the previous generation expressed no opinion on where gender discrimination came from. Generally, they didn't care, anyway. In the past few decades this has changed. A number of papers have tried to demonstrate that gender roles have their roots in economic reality.

In their exploration of the origins of cultural norms, economists have shown two things.

1. Economic incentives help shape social preferences.
2. Social preferences are persistent.

To illustrate this, we will look at the extent of son preference in China. First, the metric. As Amartya Sen pointed out many years ago, there are about 100 million "missing women." The number of girls born is approximately equal to the number of boys born. Not exactly equal. As students who have taken Div3 252 know, approximately 105 boys are born for every 100 girls. However, population censuses reveal that, in some countries, boys are more overrepresented than this. Among children under 15, China has 1.17 boys for every girl, while in the US there are only 1.04 boys for every girl.⁶

Country	Sex Ratio age 0-14 (Males/Females)
US	1.04
France	1.05
Sweden	1.06
China	1.17
India	1.13
Vietnam	1.11

What happened to the missing girls? Today, differential abortion explains some of the skewed sex ratio, but it is only recently that sex could be determined before birth. Before the ultrasound, a skewed sex ratio was due to differences in attention paid to baby boys and girls. Where boys were considered more important than girls, they got more care and more resources, and were more likely to survive. Thus the sex ratio is a measure of how much a society values boys relative to girls.

So what does that have to do with the price of tea in China? Quite a lot, it turns out. In 1978 to 1980 China introduced reforms that increased the income a family would receive from cash crops like tea and fruit. Since tea is usually picked by women an increase in the price of tea makes women more valuable than does an increase in the price of fruit. Nancy Qian (2008) measured changes in

⁶ CIA World Factbook.

the sex ratio in tea-growing and fruit-growing areas when reforms were introduced. In tea-growing areas, but not in fruit-growing areas, the sex ratio improved, meaning that more girls survived. Qian showed that tea-growing areas had fewer boys after the reform, while fruit-growing areas did not.

TABLE III
OLS AND 2SLS ESTIMATES OF THE EFFECT OF PLANTING TEA AND ORCHARDS ON SEX RATIOS CONTROLLING FOR COUNTY LEVEL LINEAR COHORT TRENDS

	Dependent variables					
	Fraction of males			Tea × post	Fraction of males	
	(1) OLS	(2) OLS	(3) OLS	(4) 1st	(5) IV	(6) IV
Tea × post	-0.012 (0.007)	-0.013 (0.006)	-0.012 (0.005)		-0.072 (0.031)	-0.011 (0.007)
Orchard × post	0.005 (0.002)					
Slope × post	-0.002 (0.002)			0.26 (0.057)		
Linear trend	No	No	Yes	Yes	No	Yes
Observations	28,349	37,756	37,756	37,756	37,756	37,756

Source: Qian 2008.

In this graph we see that the two regions were similar before the reform, but after the reform fruit-growing regions continued to have more boys, while the excess of boys declined in tea-growing regions.

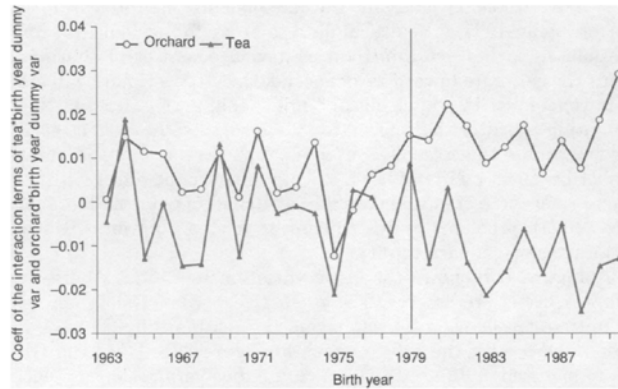


FIGURE V
The Effect of Planting Tea and Orchards on Sex Ratios
Coefficients of the interactions of birth year × amount of tea planted and birth year × amount of orchards planted controlling for year and county of birth FEs.

Source: Qian 2008.

Such preferences are also persistent, outlasting the economic incentives on which they were based. To demonstrate this, we switch to another paper which also uses sex ratio in China to measure preferences. The economic incentive is different, though. This time we examine textile production, which had a high demand for female labor. Melanie Xue (2016) identified areas of China that had more cotton weaving in the preindustrial period and showed that these regions have more equal sex ratios today.

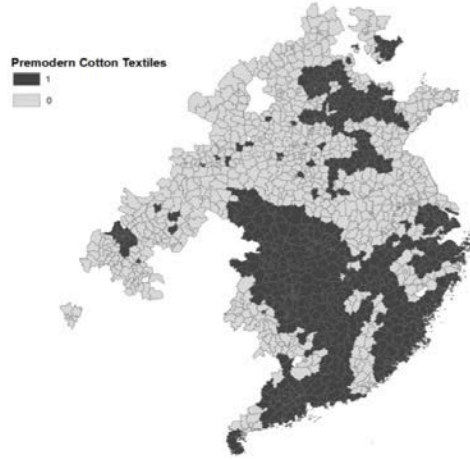


Figure I: Premodern Cotton Textile Production (1368-1840)

Table I: Premodern Cotton Textiles and Sex Ratio Imbalances: OLS Results

	Dependent variable: sex ratio at birth					
	(1)	(2)	(3)	(4)	(5)	(6)
Mean of Dep. Var.	118.3	118.3	118.6	118.6	118.6	118.6
Premodern cotton textiles	-3.008*** (0.668)	-3.225*** (0.713)	-3.753*** (0.731)	-4.049*** (0.775)	-3.887*** (0.777)	-4.066*** (0.773)
Log per capita GDP			-2.941*** (0.479)			
% in agriculture			0.245 (0.379)			
% in service			-0.538 (1.302)			
Years of schooling (men)			-2.485*** (0.724)			
% ethnic population			-0.718*** (0.249)	-1.118*** (0.253)		
Provincial capital			3.091*** (1.006)	0.0496 (0.958)	-0.221 (0.954)	
Self-governed			-2.882** (1.364)	4.586*** (0.890)	5.484*** (0.861)	
Governed by province			-2.363* (1.249)	3.436*** (1.065)	4.110*** (1.063)	
Historical controls	No	No	Yes	Yes	Yes	Yes
Geographic controls	No	No	Yes	Yes	Yes	Yes
Province FE	No	Yes	Yes	Yes	Yes	Yes
Socioeconomic Macroregion FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.150	0.231	0.368	0.314	0.306	0.288
Observations	1622	1622	1489	1489	1489	1489

Source: Xue 2016

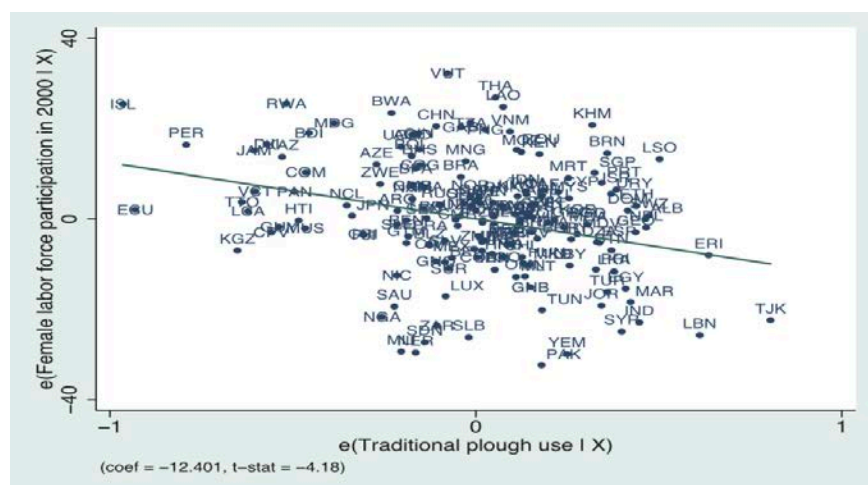
In the table we see a negative correlation between the presence of a premodern cotton textile industry and the current sex ratio, meaning that those regions have relatively more girls today. In regions of historical textile production, residents today are less likely to express opinions of male superiority. They also have fewer widow suicides and more female household heads. This in spite of the fact that cotton weaving is no longer an important determinant of the demand for female labor.

Table VI: Gender Bias in Contemporary China:
Evidence from CGSS

	Men naturally more capable			Women focus on family			Daughter preference		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		OLS			OLS			Logit	
Mean of Dep. Var.	3.006	3.006	3.006	3.659	3.659	3.658	0.0975	0.0974	0.0975
Premodern cotton textiles	-0.244***	-0.243***	-0.239***	-0.195***	-0.191***	-0.183***	0.182 ⁺	0.180 ⁺	0.200*
Age group	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Female	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Education	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Female × Education	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Individual controls	No	No	Yes	No	No	Yes	No	No	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2 /Pseudo R^2	0.0287	0.0952	0.102	0.0535	0.119	0.127	0.014	0.025	0.030
Observations	6161	6156	6146	6168	6162	6152	6105	6100	6084

Source: Xue 2016.

Here's another example of persistence: In agricultural societies using the plow women have generally participated less in agriculture than in regions using the hoe. This makes economic sense because the plow requires more strength. Alesina, Giuliano and Nunn (2013) show that regions of the world more suitable for the plow not only had lower female participation in agriculture in the past, but also today have lower female labor force participation and lower female business ownership.



Source: Alesina, Giuliano and Nunn 2013.

These different actions are accompanied by different thoughts as well; in surveys, people from plow regions are more likely to agree to the statement "When jobs are scarce, men should have more right to a job than women". Since hardly anyone uses the plough today, the economic rationale for

the difference has disappeared. Why the persistence? The authors suggest that the effects are persistent because gender roles are passed down from parents to children.

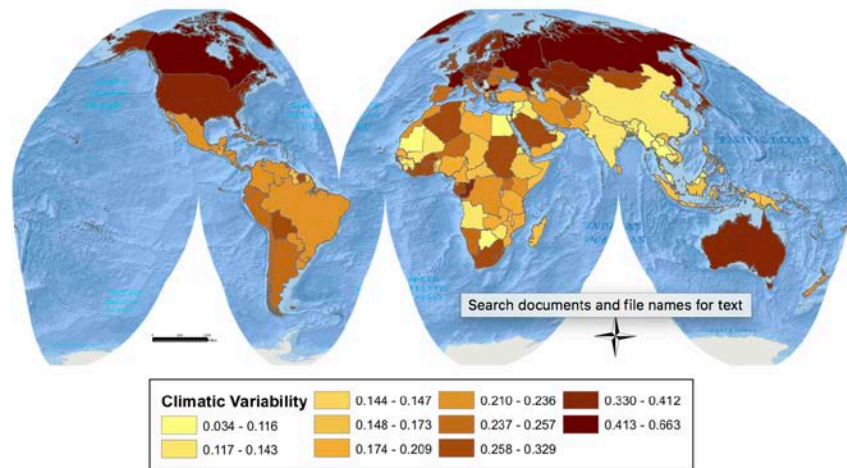
TABLE V
INDIVIDUAL-LEVEL OLS ESTIMATES USING WVS DATA

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable:					
	Female labor force participation, 1995–2007		When jobs are scarce, 1995–2007		Men better political leaders, 1995–2007	
Mean of dep. var.	0.55	0.55	0.46	0.47	2.62	2.64
Traditional plough use	−0.177*** (0.035)	−0.002 (0.031)	0.193*** (0.033)	0.100* (0.059)	0.224*** (0.069)	0.304*** (0.117)
Individual & district controls	yes	yes	yes	yes	yes	yes
Contemporary country controls	yes	n/a	yes	n/a	yes	n/a
Fixed effects	continent	country	continent	country	continent	country
Number of countries	73	78	74	79	50	55
Number of districts	672	698	674	700	453	479
Observations	43,801	47,587	80,303	87,528	64,215	72,152
Adjusted R-squared	0.17	0.27	0.21	0.28	0.19	0.26
R-squared	0.17	0.27	0.21	0.28	0.19	0.26

Source: Alesina, Giuliano and Nunn 2013.

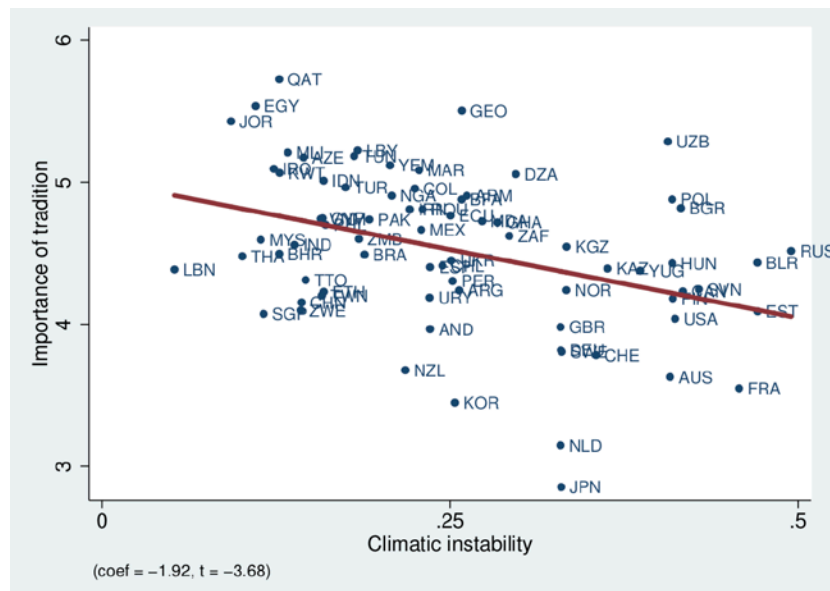
Exploring this persistence more deeply, Giuliano and Nunn (2017) ask if persistence varies across cultures. They hypothesize that culture should be more persistent in societies where circumstances change less from generation to generation, and less persistent in cultures where circumstances change more. If your parents actually know what they are talking about, then it pays to listen to them. To test this, Giuliano and Nunn examine the relationship between stable environments and persistence of behavior.

To measure the stability of the environment they used temperature variability. Specifically, using data on temperatures between the years 500 and 1900 for various regions they calculate average temperatures over 20-year periods, and then look at the variability of these averages over the whole period 500 to 1900. Some regions have more temperature variability than others. On the map the dark regions have more temperature variability.



Source: Giuliano and Nunn 2017.

To measure cultural persistence, they looked at changes over time in three measurable variables: female labor-force participation, polygamy, and consanguineous marriage. They then related changes over time in these behaviors to the region where your ancestors came from. They find that people from regions with stable climates have more persistence over time in their behavior, while people from regions with less stable climates have less persistence in behavior.



Source: Giuliano and Nunn 2017.

Table 4: Differential persistence of FLFP, traditionally and today

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent variable: Female labor-force participation 2012							
Traditional female participation in agriculture	0.248*** (0.072)	0.642*** (0.168)	0.654*** (0.168)	0.696** (0.307)	0.697*** (0.222)	1.013* (0.577)	0.833** (0.360)	1.409* (0.771)
Trad female part in agric * Climatic instability		-1.703*** (0.598)	-1.626** (0.735)	-1.686*** (0.616)	-1.667** (0.645)	-1.582** (0.651)	-1.671*** (0.605)	-1.528** (0.769)
Country-level controls:								
Climatic instability		69.112*** (21.545)	65.861** (27.709)	67.967*** (22.740)	67.474*** (23.583)	63.248** (24.715)	66.664*** (22.818)	58.842* (31.004)
Distance from equator	-0.059 (0.110)	-0.150 (0.116)	-0.105 (0.234)	-0.150 (0.116)	-0.145 (0.119)	-0.154 (0.117)	-0.155 (0.115)	-0.186 (0.272)
Economic complexity	0.964 (1.196)	0.717 (1.259)	0.724 (1.261)	0.986 (2.023)	0.683 (1.216)	0.754 (1.257)	0.786 (1.310)	1.067 (1.986)
Political hierarchies	-0.985 (1.844)	-0.633 (1.883)	-0.546 (1.908)	-0.735 (1.841)	0.132 (3.252)	-0.778 (1.945)	-0.559 (1.882)	-0.285 (3.683)
Ln (per-capita GDP)	-70.613*** (14.214)	-58.820*** (14.349)	-58.612*** (14.515)	-58.533*** (14.593)	-58.947*** (14.432)	-51.566*** (18.705)	-59.999*** (14.519)	-52.354*** (19.166)
Ln (per-capita GDP) squared	3.777*** (0.772)	3.102*** (0.779)	3.087*** (0.790)	3.088*** (0.791)	3.107*** (0.783)	2.791*** (0.929)	3.173*** (0.791)	2.857*** (0.945)
Year ethnicity sampled	2.631 (1.592)	0.292 (1.858)	0.399 (1.941)	0.415 (1.879)	0.401 (1.907)	1.015 (2.261)	0.638 (1.919)	1.717 (2.394)
Female part in agric * Distance from equator			-0.001 (0.005)					0.001 (0.007)
Female part in agric * Economic complexity				-0.010 (0.047)				-0.009 (0.047)
Female part in agric * Political hierarchies					-0.019 (0.065)			-0.014 (0.083)
Female part in agric * Ln (per-capita GDP)						-0.045 (0.068)		-0.050 (0.076)
Female part in agric * Year ethnicity sampled							-0.105 (0.172)	-0.150 (0.187)
Continent fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Mean (st. dev.) of dep. var.	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)	53.2 (15.4)
Observations	165	165	165	165	165	165	165	165
R-squared	0.342	0.379	0.379	0.379	0.379	0.382	0.379	0.384
	Effect of "Trad female part in agriculture" for mean values of controls & "Climatic instability"=0							
		0.642 (0.168)	0.620 (0.204)	0.632 (0.177)	0.629 (0.182)	0.601 (0.182)	0.647 (0.169)	0.598 (0.209)

Notes: OLS estimates are reported with robust standard errors in parentheses. The unit of observation is a country. Female labor-force participation is the percentage of women in the labor force, measured in 2012 and from the *Ethnographic Atlas*. Historical controls are defined in the appendix. Climatic instability ranges from 0.034 to 0.495 in the sample. Its mean (and standard deviation) is: 0.24 (0.10). ***, ** and * indicate significance at the 10, 5 and 1% levels.

Source: Giuliano and Nunn 2017.

Their conclusion? You pay more attention to what your parents tell you if you live in a stable environment.

So I've told you that cultural roles have economic origins, but that culture is persistent and affects behavior. Doesn't this make things circular? If culture determines behavior, then how do actions change and create new cultures? The answer, of course, is that none of these relationships are deterministic. Yes, your culture affects the probability that you will work for pay, or will choose competition. But so do your individual circumstances, and your own choices.

Culture influences what you do, but does not determine it. When economists do find persistent effects, those effects are quite small. While use of the plow in the past matters, it explains only 6 percent of the variation in female labor force participation today. In China, premodern cotton production explains only 15 percent of the variation in sex ratio in 2000 and only 3 to 5 percent of the variation in stated gender values. That leaves the vast majority of actions and attitudes to be determined by other factors, which could be other cultural influences, current economic incentives, or simply individual choice. We can identify some situations where culture has less effect than normal. In another study of persistence, Nico Voigtlander and Hans-Joachim Voth (2012) found that, in general, regional variation in anti-Semitism is persistent over the 600 years between the

Black Death and the Nazis; towns that had pogroms in 1349 had higher votes for the Nazi party in 1928. However, exposure to trade made the relationship weaker. In cities where the Hanseatic league engaged in international trade, anti-Semitism is less persistent. Exposure to people from other cultures breaks down prejudice.

Conclusion

So that's good news: while culture influences your behavior, it does not entirely determine it. There is also good news for economics and the humanities. While in the past economics and the humanities have not gotten along very well, separated by their differences in subject and method, more recently the rift is healing. There has been some convergence in subject and method. Of course convergence will never be complete. Different disciplines will always ask different questions and use different methods. However, there need be no rift if the humanities and economics can see each other as complementary methods of understanding human nature, not as substitutes. We all have the same over-arching goal, to understand human behavior. All that remains is to respect each other's specific focus and methods.

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