

How to get a good grade

History of Economic Growth and Crises
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January 26, 2022

A harsh fact of life is that very few people care about what you have to say. There are exceptions, of course, but you will have to earn the privilege to be heard for most of your adult life. The best way to accomplish it is (a) to have something important to say and (b) to say it efficiently. My grading criteria are designed to provide you incentives to cultivate these skills. The primary goal of this course is to help you with part (a). To fully benefit from the course, you will have to distinguish the critical points from less relevant material. Thus your grade will heavily depend on whether you can demonstrate an understanding of what is important. As I discuss in more detail below, you should not include irrelevant material in your assignments and exam answers.

My secondary objective is to help you improve your skills in *concise* writing.

¹ A challenge one often faces in advanced courses is that students may be accustomed to teachers rewarding superficial proxies of effort, such as producing at least x pages long essays. I am not one of those teachers. I do not object to effort: it is the price we have to pay to get things done. However, once you leave school, no one will read your memo of x pages unless they consider it worth their time. If you are to flourish in your career, you should expect time to be the scarcest resource available to people around you.

Thus, I ask you to write *little*, but *well*. It is essential to understand that “little” rarely implies little effort. Unless you have a truly exceptional mind, you will write many (many!) words before finding the chosen few to include in your final answer. By writing “well,” I mean clarity, focus, and efficiency. We will note elegance, correct grammar, and other features of good writing, but they have a minimal effect on your grade as long as your message is clear. I strongly encourage using bullet points, bolding the key sentences, and other ways to save my and my teaching assistant’s time. I care about you showing an understanding of what is important in the papers and lectures and that you answer the questions actually asked (i.e., not the ones you wish were asked).

1 Assignments

I include an example assignment answer at the end of this note. It is written about the paper we discussed in lecture 6 and another one we will not discuss (which is not required

¹Concise means “*giving a lot of information clearly and in a few words; brief but comprehensive*”.

reading for the course). Please note that you can write essays *only* on papers marked with (+) in the syllabus

For this example assignment, I chose the simplest and most common type of papers discussed in this course.

² Both attempt to estimate a causal effect, and thus the key assumptions are relatively easy to detect and discuss. If you choose to write an essay on theoretical papers, spotting the key assumptions may be substantially harder. We will take this into account in grading. On the other hand, a few of the empirical papers available for essays are descriptive. Here, you should explain that it is a descriptive paper and thus does not have identifying assumptions (nor claims about causal effects).

2 Exam

We will use Aalto's standard four hours exam slot, which should be far more time than what you actually need. The exam will most likely have three questions and you have to answer all of them. Part of the questions will refer to the "narrative" part of the lectures and others will be about the main papers. The required readings are the lecture slides, but I would expect that taking a look at the underlying papers helps you to make sense of the slides (particularly if you missed lectures). I particularly encourage you to read the introductions of the main papers as they typically contain most of the information you need to do well in the exam. You should be able to find all journal articles online.³ However, some of the books I've used as background material may be harder to get, though copies should be available of at least the most important ones in your university's library.

My philosophy in grading exams is similar to that used in the essays: I want to see that you understand what is *important*. Thus I don't expect you to memorize details (e.g. exact years, point estimates, names of the inventors or banks etc.). Indeed, if your answers include tons of irrelevant material, I interpret this as a failure to distinguish between what is important and what is not—and this will lead to a lower grade even if your answer also happens to include all the important parts.

I realize that it may be difficult to figure out what is important and what is not—but that is precisely the point. However, to make this task easier, let me give some further guidance about what I expect you to know in the exam:

1. For the narrative parts of the lectures, you should know the basic facts and to be able to discuss the "big picture" of the topic discussed in each lecture. For example, I will expect you to be able to place the first Industrial Revolution to mid-18th to early 19th century Britain and to know, e.g., that major innovations were made in the textile

²The papers are Dittmar, Jeremiah (2011): Information Technology and Economic Change: The Impact of the Printing Press, *Quarterly Journal of Economics*, 126 (3): 1133–1172; and Cagé, Julia, and Valeria Rueda (2016): The Long-Term Effects of the Printing Press in Sub-Saharan Africa." *American Economic Journal: Applied Economics* 8 (3): 69–99.

³A good starting point for finding a journal article or a working paper is to check an author's personal website—most researchers want their work to be read and make it easily available. If this does not work out, the next step is to use Google Scholar. If you're still not finding the paper, you can try JSTOR or go directly to the journal's website while being logged into your university's network.

industry and to be able to give examples of some of the main innovations. I also, and most importantly, expect you to be able to discuss the various explanations put forth to answer why the Industrial Revolution started in mid-18th century Britain. I do *not* expect you to know that Richard Arkwright patented the water frame in 1769.

2. You need to be able to discuss the main take-aways of the main papers (i.e. those marked with (*) in the syllabus) and to explain their key identifying assumptions at non-technical level (regarding papers that attempt to identify causal relationships).

In order to make these requirements more concrete, here is an example question and a model answer:

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1. In our third lecture, we discussed the role that culture may have in determining economic outcomes. Based on that discussion, please answer the following:
 - (a) How do modern economists typically define culture? What are some of the possible reasons why culture may persist over long periods of time?
 - (b) Table 1 presents one set of results from the paper by Alesina, Giuliano and Nunn discussed in the lecture. What is the hypothesis they are attempting to test? What do the estimates for “Traditional plough use” measure? Under what conditions do these estimates reveal a causal relationship?
 - (c) Continuing with the AGN paper, discuss briefly *one* additional approach they use to examine the robustness of their results and how they examine the possible underlying mechanisms giving rise to their main results.

I would be very happy to see an answer like this (particularly, if you’d follow my example to underline the key sentences):

a) In economics, culture is typically defined as beliefs (or priors) and values (or preferences) that ethnic, religious or social groups transmit fairly unchanged from generation to generation. These priors and preferences may have originally resulted from society-wide optimization, but given their persistence, they may not have been updated to take into account changes in circumstances. Such persistence could be due to at least three mechanisms:

1. Inherent stickiness of cultural beliefs, e.g. parents may have a natural tendency to teach their children what they learned from their own parents.
2. Institutions may be created to reinforce cultural beliefs and values, e.g. men who benefit from the exclusion of women from the formal labor market have an incentive to uphold religious and educational institutions that maintain the belief that the appropriate place for women is at home.
3. Industrial structure may be complementary to culture, e.g. initial gender roles restricting the participation of women to the formal labor market may lead the society

to also later specialize in industries where men have a comparative advantage. Such specialization would then reinforce the belief that women should not work outside of home.

b) AGN examine the hypothesis that historical agricultural technology choices had long-lasting impact on the beliefs on the proper role of women in society. According to this hypothesis, men have a comparative advantage in plough cultivation (as opposed to shifting cultivation), because using a plough requires upper-body strength. Thus societies that historically used the plough generated a belief that a natural place for women is within home. This belief then persisted to modern times even when these economies moved out of agriculture.

The estimates reported in Table III show that women have lower labor force participation and are less likely to own firms in countries that have a tradition to use the plough (the association is not statistically significant for political participation). The magnitudes are also economically significant: moving from 0 to 100 percent of the population having ancestors using the plough is associated with roughly a 15 percentage points lower female labor force participation and 16–17 percentage points lower female firm ownership today.

These estimates measure a causal effect if countries with a tradition of plough use are otherwise comparable to countries that historically practiced shifting cultivation (after controlling for differences in observable characteristics). In other words, the identifying assumption is that if the ancestors of the people living in “plough-countries” had not historically used the plough, the outcomes examined in Table III would be the same, on average, in the “plough-countries” and “non-plough-countries” (conditional on other observable characteristics).

c) One robustness check used by AGN is to show that people whose ancestors lived in locations better suited for cultivating crops that require the use of plough have less equal gender roles today. This shows that the explanation for their main results is unlikely to be that these societies chose to use the plough due to pre-existing gender roles (rather than the choice of technology affecting gender roles).

Historical plough use may affect gender norms through institutions, industry structure and cultural beliefs/values (see my answer to part a). In order to isolate the impact due cultural beliefs/values, AGN compare the offspring of immigrants living in the US and Europe. The idea is that these immigrants face the same formal institutions and industry structure—because they are living in the same country—but differ in the cultural norms their parents have taught them. AGN find that children of immigrants whose parents come from a country with a tradition of plough use do indeed have less equal gender norms.

Table 1: A table from Alesina, Giuliano, Nunn (2013, QJE)

TABLE III
COUNTRY-LEVEL OLS ESTIMATES WITH HISTORICAL CONTROLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent variable:							
	Female labor force participation in 2000		Share of firms with female ownership, 2003–2010		Share of political positions held by women in 2000		Average effect size (AES)	
Mean of dep. var.	51.03		34.77	12.11				2.31
Traditional plough use	-14.895*** (3.318)	-15.962*** (3.881)	-16.243*** (3.854)	-17.806*** (4.475)	-2.522 (1.967)	-2.303 (2.353)	-0.736*** (0.084)	-0.920*** (0.100)
<i>Historical controls:</i>								
Agricultural suitability	9.407** (3.885)	9.017** (4.236)	1.514 (5.358)	4.619 (5.836)	1.009 (2.799)	-0.687 (2.925)	0.312** (0.129)	0.325** (0.133)
Tropical climate	-8.644*** (2.698)	-12.389*** (3.302)	-11.091*** (3.608)	-3.974 (5.542)	-7.671*** (2.370)	-5.618** (2.265)	-0.322*** (0.083)	-0.004 (0.102)
Presence of large animals	10.903** (5.032)	2.35 (5.956)	-0.649 (9.130)	4.475 (10.034)	-9.152*** (4.052)	-7.338 (4.774)	0.174 (0.111)	0.296** (0.145)
Political hierarchies	-0.787 (1.622)	0.447 (1.624)	1.502 (1.845)	0.52 (1.773)	0.906 (0.740)	0.699 (0.777)	0.080** (0.040)	0.062 (0.043)
Economic complexity	0.170 (0.849)	1.157 (0.859)	1.810* (1.023)	0.517 (1.351)	1.082** (0.491)	0.727 (0.510)	0.048** (0.021)	0.018 (0.026)
Continent fixed effects	no	yes	no	yes	no	yes	no	yes
Observations	177	177	128	128	153	153	153	153
Adjusted R-squared	0.20	0.24	0.14	0.16	0.14	0.14	0.24	0.27
R-squared	0.22	0.28	0.18	0.23	0.17	0.20	0.25	0.30

Notes. OLS estimates are reported with robust standard errors in brackets. The unit of observation is a country. “Traditional plough use” is the estimated proportion of citizens with ancestors that used the plough in pre-industrial agriculture. The variable ranges from 0 to 1. The mean (and standard deviation) for this variable is 0.522 (0.473); this corresponds to the sample from columns 1 and 2. “Female labor force participation” is the percentage of women in the labor force, measured in 2000. The variable ranges from 0 to 100. “Share of firms with female ownership” is the percentage of firms in the World Bank Enterprise Surveys with some female ownership. The surveys were conducted between 2003 and 2010, depending on the country. The variable ranges from 0 to 100. “Share of political positions held by women” is the proportion of seats in parliament held by women, measured in 2000. The variable ranges from 0 to 100. The number of observations reported for the AES is the average number of observations in the regressions for the three outcomes. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Long-term effects of the printing press

An example assignment, History of Economic Growth and Crises
[name here], [student number here]

1000 words

Take-aways. Both papers argue that adopting the printing press had important long-term consequences.

- Dittmar (2011) shows that European cities where printing presses were established between 1450 and 1500 grew substantially faster between 1500 and 1600 than similar cities, which were not early adopters.
- Cagé and Rueda (2016) find that Sub-Saharan African locations close to historical Protestant missionaries that had established a printing press by 1903 have higher measures of social capital today than locations close to historical Protestant missionaries that did not have a printing press.

Significance. The printing press is considered a transformational innovation but measuring its economic impact has proved elusive. In fact, many economic historians have argued that its economic impact was limited. Dittmar (2011) presents some of the first quantitative evidence suggesting that the printing press *did* substantially increase economic growth. Cagé and Rueda (2016) find that it was also important for the development of Sub-Saharan Africa and present evidence on the potential mechanisms through which these effects may occur.

Key assumptions. Dittmar (2011) has three complementary approaches that each has different identifying assumptions:

- Cross-sectional estimates (table IV): cities adopting the printing press (treatment cities) would have grown at the same rate as other cities with similar observable characteristics that did not adopt the printing press (control cities), if they had not adopted a printing press. There are no unobserved factors (omitted variables) between the treatment and control cities that affect city growth.
- Diff-in-diff panel data estimates (table V): had they not adopted a printing press, print cities would have grown at the same rate as non-print cities with similar observable characteristics. There are no time-varying unobservable characteristics that affect city growth differentially in treatment and control cities (city fixed-effects control for the unobserved characteristics that are fixed over time).
- IV estimates (table VII): conditional on observable characteristics, distance from Mainz is independent from any unobservable characteristics of cities that also affect city growth (exogeneity) and affects city growth *only* through a higher likelihood of adopting the printing press (the exclusion restriction).

A limitation of the cross-sectional and diff-in-diff estimates is that printers may have selected cities that were already bound to grow quickly. That is, causality may run from city growth to getting a printing press rather than the other way around. Dittmar seems to accept this as a plausible possibility and stresses the IV strategy.

The threat for the validity of the IV approach is that distance to Mainz may be correlated with other factors that affected city growth. For example, being close to *any* large city may have been beneficial. Dittmar examines this possibility using a “placebo test” where he shows that replacing distance to Mainz with distance to other cities as the instrumental variable does not yield statistically significant estimates (table VIII). Distance to Mainz may also predict the likelihood of a city becoming Protestant during the Reformation, which may have an independent effect on city growth. Dittmar argues that this is unlikely to be a concern because the Reformation starts only in 1517 and the results are robust to controlling for distance to Wittenberg (table IX). Finally, he shows that there is no statistically significant association between city growth and distance to Mainz before the introduction of movable type printing press (table VI).

In my view, Dittmar’s argumentation is quite compelling. However, I remain concerned by the fact that the lack of statistical significance in some of his falsification exercises is due to the estimates being very imprecise. For example, the point estimate for distance to Mainz for log city growth in 1400-1500 is *larger* (-0.05) than for 1500-1600 (-0.03); see table VI. While it is true that only the latter is statistically significant, this is because the former is so imprecise that we cannot rule out large positive nor negative associations.

Cagé and Rueda (2016) regress contemporary measures of newspaper readership, trust and political participation on the log distance from a historical printing press and a large set of control variables. These cross-sectional estimates capture the causal impact of the printing press if

- people living close to a historical printing press would have similar outcomes today as people living in otherwise similar locations (in terms of observable characteristics) in the counterfactual world where the 19th century missionaries did not establish a printing press close to them. There are no unobservable factors that affect outcomes today differentially in the places that did get a printing press and those that did not.

This identifying assumption would be violated if the missionaries chose to establish printing presses in locations where people would have different outcomes in any case. For example, living in a more prosperous area may make people more prone to reading newspapers, to trusting others or to being politically active. If the missionaries established the printing presses in locations that had better prospects for economic growth, the estimates reported in tables 5 and 6 would be biased upwards.

For these reasons, Cagé and Rueda (2016) restrict their estimation sample to

locations that are close to *some* historical mission settlement and control for distance to a Protestant missionary and other control variables. Thus their identifying assumption boils down to which Protestant missionary ended up having a printing press to be as good as randomly allocated (conditional on other observable characteristics). Cagé and Rueda (2016) present a large number of robustness checks supporting this assumption. To me, these robustness checks appear quite compelling. In particular, I like their application of Oster's (2013) approach where they use the extent of selection on observables to argue that it is very unlikely that selection on unobservables would fully explain their results.

Comparison of the papers. The broad conclusion of both papers is that historical printing presses had a large impact on economic development. However, they reach this conclusion using different identification strategies, data from different continents and time periods, and different outcome variables. In my view, these two papers strongly complement each other and, together, provide compelling evidence on the historical importance of the printing press.