2738 Development Economics I
T3 2024-2025
Nova School of Business and Economics - Universidade Nova de Lisboa
Instructor: Brais Álvarez Pereira
Final Exam (1h30m)

Please answer (only) 3 out of the following 5 questions (all questions are equally weighted). Each answer should not exceed roughly one page, with the limit at 600 words.

Question 1
Acemoglu, Johnson, and Robinson (2001) used settler mortality as an instrumental variable (IV) to establish a causal relationship between economic development and the quality of institutions.

(a) Explain the relationship between these three variables as analyzed in their study and describe the empirical approach used. In particular, outline how the IV strategy is implemented, including the first-stage and second-stage regressions. If possible, specify the precise variables and their units of measurement.

(b) Discuss the motivation and hypothesis behind this relationship. How does the historical context of colonialism support the argument that institutions play a key role in shaping economic outcomes?

(c) Summarize the main findings of the study.

(d) Critically assess the validity of settler mortality as an instrumental variable, addressing concerns related to instrument exogeneity and relevance.

Question 2
How could Official Development Assistance (ODA) or foreign aid theoretically help break the poverty trap? Briefly discuss the key mechanisms through which aid is expected to influence economic development and poverty reduction.

What does the empirical literature say about the effectiveness of foreign aid in reducing poverty? While you might briefly introduce the concept of aid and relevant debates, focus your response primarily on empirical findings from scientific studies. Where possible, refer to specific research and evidence.

Question 3
Imagine you are working for Transparency International and tasked with designing a randomized controlled trial (RCT) to address the political resource curse in a resource-rich but low-income rural region affected by conflict. Your goal is to develop and test an intervention aimed at reducing the intensity of conflict.

Using the findings from Armand, Coutts, Vicente, and Vilela (2020) and incorporating insights from research on in-group vs. out-group behavior (e.g., Dunia, de la Sierra, and Yu (2025); Posner (2004)), propose an RCT with the following elements:

(a) Theory of Change – Explain the mechanisms through which your intervention is expected to reduce conflict intensity. How does it address the political resource curse?

(b) RCT Design – Define the treatment and control groups, specify the randomization strategy, and outline key outcome variables to measure impact.

(c) Implementation Considerations – Discuss potential challenges in conducting the experiment, including ethical concerns in such a conflict-affected area

Question 4

Describe Vicente (2010)'s research question, empirical strategy, and study design. Use the table below to summarize and interpret the main findings.

How do these results indicate that oil discoveries in São Tomé and Príncipe led to increased corruption in the national public sector? Discuss at least one mechanism through which resource discoveries may influence corruption, referencing both the study's evidence and broader findings on the resource curse.

Difference-in-difference estimates — with controls.

		Courts	Customs	Education — scholarships	Education — schools	Health care	Infrastructures	Licenses	Police	State jobs	State subsidies/ procurement	Vote buying
Oil	Coef.	−1.645**	−1.584**	−1.824***	−0.451	−0.134	−0.854	−1.081*	−1.445**	−1.045***	−0.952*	−0.247
	St.err.	0.689	0.660	0.448	0.296	0.371	0.917	0.657	0.566	0.379	0.575	0.350
STP	Coef.	1.734***	−0.023	1.552***	0.466***	−0.275	−3.691***	2.637***	1.292***	−0.430	2.367***	
	St.err.	0.305	0.831	0.482	0.301	0.150	1.336	0.914	0.534	0.151	0.518	0.471
Oil*STP	Coef.	0.383**	0.653***	0.220	0.413***	0.345***	−0.672***	0.099	0.221	0.300**	0.431***	0.543***
	St.err.	0.157	0.131	0.154	0.090	0.108	0.250	0.254	0.152	0.137	0.158	0.092
Constant	Coef.	6.165***	5.807***	6.612***	3.548***	2.348***	5.386**	11.269***	4.307***	4.056***	5.532***	4.001***
	St.err.	0.991	1.378	0.886	0.476	0.582	2.484	1.529	1.279	0.562	1.323	0.836
Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations		983	942	2118	2702	2863	238	419	1185	1887	633	2841
Adjusted R^2		0.109	0.112	0.105	0.400	0.135	0.314	0.153	0.124	0.166	0.139	0.316

Notes: ***$p<0.01$, **$p<0.05$, *$p<0.1$. All regressions control for district fixed effects. Standard errors are clustered at the enumeration area level.
Controls are the same for all regressions (see Section 5.1 for all categories used).

Question 5

Explain how Banerjee and Iyer (2005) use colonial land revenue institutions established by the British to analyze the role of institutions in shaping long-term economic development. Describe their empirical strategy, including the research design, data sources, and identification strategy used to establish causality. Summarize the main findings and discuss the mechanisms through which historical land revenue systems influenced modern economic outcomes. Finally, identify any potential limitations of the study, such as concerns about identification, external validity, or alternative explanations. Use the figure below as a reference to support your discussion.
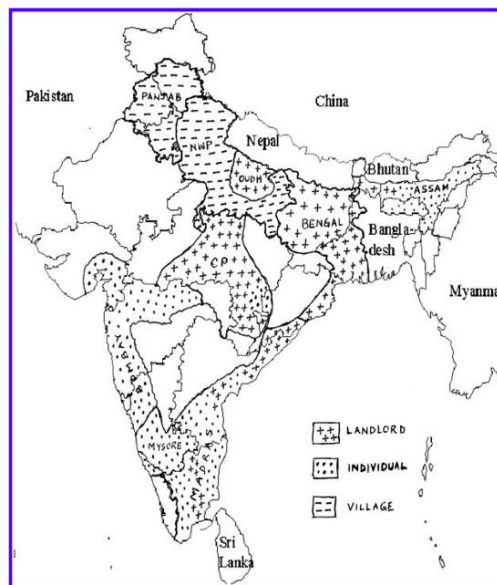

FIGURE 1. MAP OF INDIA

Guide for grading

Most importantly, students should:

1. **Base their answers on scientific literature, not personal opinions.** Any response that lacks multiple references to academic papers should not receive a high grade. If such a response is well-structured, it may merit a passing grade (10–12), but strong arguments must be backed by citations. This expectation should be clear, as it was repeatedly emphasized during the course and students had access to a PDF listing the required papers.

2. **Demonstrate an intuitive understanding of methodologies.** A key reason why the studies covered in the course are important is their identification of causal relationships. Although the course does not focus on technical methodological details, students should be able to explain—when relevant and asked—at least the basic intuition behind the methodology used and its implications for causal inference.

3. **Answer the question that was actually asked.** Students sometimes write broadly about a topic without addressing the specific question. While it is good to link studies to broader literature, they must also provide a direct and relevant answer to the specific question—typically focused on a particular study.

Well-structured answers that show a solid grasp of core concepts, but lack sufficient references, fail to convey an understanding of causality or methodology, or do not directly address the question, should not receive a grade above 15. Responses that meet all three criteria should generally receive between 15 and 18, depending on their overall quality. Only responses that cite multiple studies thoughtfully, demonstrate a clear and accurate understanding of methodology (when relevant), and directly and precisely answer the question should be awarded top marks (19 or 20).

Question 1

I was a bit demanding when writing this question, as it's a very central paper that I expected them to read. My logic was to put forward a more demanding question on a very well-known (and well-covered) topic. However, we did not cover the methodology in much precision or detail, in terms of the first stage, second stage, etc. Hence, you can give students a good grade if they show a qualitative understanding of the relationship between settler mortality, institutional quality (as proxied by expropriation risk), and GDP per capita. The main point is that they understand that using settler mortality as an IV was the key element that allowed the authors to claim that institutional quality explains economic development — not the other way around. Regarding the validity of the instrument, any reflection on the fact that settler mortality centuries ago could be directly correlated with factors that still affect development today (such as the historical prevalence of infectious diseases) should be considered sufficient. (I didn't realize that putting this as the first question on the exam might have scared some students — maybe not many chose it?)

Question 2

The response to this question should be relatively easy, as they had the list of papers and the course narrative was: foreign aid should, in principle, work, but there is little evidence of a positive aggregate impact — so many development economists focus instead on program-level evaluations. Students should be able to construct this argument without difficulty. The distinction between grades should mostly come from: a) the extent to which they base their response on scientific references (at least the relevant ones from the list), and b) attention to important points beyond the main argument — for example, that aid is often driven by donor countries' national interests, or that it has been found to create certain Dutch disease–like effects. Still, a good response without these extra elements could get between 16 and 18. I have not yet covered studies showing that development programs solve poverty traps at the micro or household level, so they will only mention this if they researched it themselves (unlikely, but should be positively valued if they did).

Question 3

This question requires more creativity, and students did not necessarily receive all the "blocks" needed to build the answer directly during the course. My objective was for them to connect: the idea that providing information to communities in resource-rich settings can reduce violence (Armand et al. 2020), that in-group vs. out-group behavioral differences are critical to understanding violence (Dunia et al. 2025), and that ethnic identity becomes more salient when there is inter-group competition (Posner 2004). From this, I hoped they would come up with the idea that an intervention bringing people from different ethnic groups to collaborate together could reduce tensions. If they make that link, the response is already very good. The top 1–2 points should depend on how reasonable their proposed intervention is. They might suggest itinerant theatre performances or videos promoting interethnic collaboration, mixed-ethnicity football teams, or other ideas along these lines. The ethical concern is that the intervention itself could provoke conflict or confrontation.

Question 4

They should know the basic elements of the paper: that it uses oil discovery in São Tomé and Príncipe, and Cabo Verde as a control, to implement surveys showing how perceptions of corruption in the two countries diverged after the discovery of oil, while they were comparable beforehand. Importantly, they should be able to link this to resource curse theory — the idea that the prospect of higher extractive rents increases politicians' incentives to stay in power. Methodologically, they should know that the survey conducted after the discovery asked about perceived corruption both for the past (before discovery) and the present (after discovery). While this is a very interesting study, it is effectively a two-country comparison, which raises questions about robustness. Students should ideally link it to other studies on the political resource curse at more granular levels — e.g., across districts within a country or comparing outcomes based on different types of commodities (oil vs. agricultural goods). A more detailed discussion of the results — such as identifying which sectors showed the largest changes and how those relate to clientelism or efforts by politicians to retain power — should increase the grade.

Question 5

This is, to some extent, comparable to Question 1. Students will only be able to understand the methodology in detail if they read (or presented) the paper. The key difference is that Acemoglu, Johnson, and Robinson (2001) was presented by me, while Banerjee and Iyer (2005) was presented by students. This is the only question included to check whether they studied the papers presented in class, as they were expected to. The same grading guidance as for Question 1 applies. Let me know if you want to discuss this in more detail.