Political Economics

January 25, 2021
(3-hour open book exam)

Answers only in English.

The paper must be uploaded as <u>one PDF document</u>. The PDF document must be named with exam number only (e.g. '127.pdf') and uploaded to Digital Exam.

This exam question consists of 6 pages in total

This exam has been changed from a written Peter Bangsvej exam to a take-home exam with helping aids. Please read the following text carefully in order to avoid exam cheating.

Be careful not to cheat at exams!
You cheat at an exam, if you during the exam:

• Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text. This also applies to text from old grading instructions.
• Make your exam answers available for other students to use during the exam
• Communicate with or otherwise receive help from other people
• Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
• Use parts of a paper/exam answer that you have submitted before and received a passed grade for without making use of source referencing (self plagiarism)

You can read more about the rules on exam cheating on the study information pages in KUnet and in the common part of the curriculum section 4.12.

Exam cheating is always sanctioned with a warning and dispelling from the exam. In most cases, the student is also expelled from the university for one semester.

Instructions

This exam set consists of three problems with one or more questions. Answer all problems and questions. Each question has a suggested length, written in parentheses at the end the question. You may use these suggestions as a guide on how to prioritize your time; there is no penalty for writing more than indicated in the suggestions. But shorter answers may also suffice.

Problem 1

The imaginary country of Deconomica has a population that consists of three equally sized groups called group P, M, and R. Let citizens in the country be indexed by i and let groups be indexed by j with $j = \{P, M, R\}$. Each group has size $N_j = 1$. Citizens have different income levels depending on which group they belong to. We let y_j be the income level for the citizens in group j. Let y denote average income for all citizens in the population.

There is a proportional tax, τ, on income which is used to finance spending on some public good. Citizens get utility from private consumption and the public good. Preferences for individual i, belonging to group j, are described by the utility function:

$$u_{ij} = c_i + 2g^{\frac{1}{2}}$$

where c_i denotes private consumption of individual i, and g denotes per capita level of spending on the public good.

The tax rate and level of government spending in the economy is decided by representative democracy. There are two candidates, candidate A and candidate B, engaging in electoral competition. The candidates are purely office-motived and care only about winning the election. The timing is as follows: 1) Candidates announce their policy platforms, 2) Citizens observe the platforms and vote for the candidate that they prefer (if they are indifferent between the platforms, they flip a coin), 3) The elected candidate implements his/her announced policy.

1A. Write down the individual budget constraint in terms of c_i, y_j and τ. Write down the government budget constraint in terms of τ, y and g. Use these to write down the indirect utility function as a function of g. Then derive the preferred level of government spending for each individual, $g_{ij}{}^*$. How does the preferred level of government spending depend on an individual's income? Explain the intuition behind this result. *(Suggested length: 10-15 lines)*

1B. What is the equilibrium level of spending on the public good? Explain the intuition behind the equilibrium policy. Which electoral forces are at play? *(Suggested length: 5-10 lines)*

1C. Assume that the groups in the population have the following incomes: $y_P = 2, y_M = 4, y_R = 12$. What does the income distribution look like: Is there income equality, and what is the position of the mean relative to the median? What is the equilibrium level of government spending given these group incomes? *(Suggested length: 5 lines)*

1D. Assume that income in group P declines by 50%. How does this affect the income distribution? What is the new equilibrium level of government spending? How does this compare to the result in 1C and why? Briefly explain how your results here match with the empirical literature on inequality and levels of redistribution. Give examples from the empirical literature or the real world if possible. *(Suggested length: 15-20 lines)*

1E. Assume that the income of group P is back to the previous level of $y_P = 2$. Assume that there is a group of young people in Deconomica who have not been allowed to work or allowed to vote until now, but are now allowed to both work and vote. Call this group $j = K$ and assume that they are

slightly larger in size than each of the three other groups (i.e., slightly larger than 1) and that they have the same income as group P, that is $y_K = 2, y_P = 2, y_M = 4, y_R = 12$. What is the new equilibrium level of government spending in the economy? How does it compare to the levels in 1C and 1D and why? Briefly explain how your results here match with existing empirical evidence on redistributive politics. Give examples from the empirical literature if possible. *(Suggested length: 15-20 lines)*

Assume now that voters in each group care not only about policy but also about identity of the candidates. Identity is not something that the candidates can change. While candidates know voters' policy preferences, there is uncertainty about what the exact identity preferences of voters are. An individual i of group j will vote for candidate A if

$$u_{ij}(g_A) > u_{ij}(g_B) + \sigma_{ij}$$

where σ_{ij} captures the individual's preference for one candidate's identity relative to the other candidate's identity. This parameter allows individuals to differ with respect to identity preferences within their group and is uniformly distributed on $\left[-\frac{1}{2\phi_j}, \frac{1}{2\phi_j} \right]$.

1F. It turns out that people in the middle-income group, M, primarily care about which policy platform gets implemented, while identity of the candidates is largely irrelevant to them. The recently enfranchised group of young voters, on the other hand, have strong and opposing opinions about identity of the candidates – for instance their looks, age, and gender – and this is important to them when choosing between candidates. Explain intuitively (no formal derivations required) what this information tells you about the size of ϕ_M and ϕ_K. Do they differ in magnitude and how? With the information about how much M and K care about identity of the candidates, and with your knowledge from class about this type of model and type of voter preferences, explain whether each group's influence on the equilibrium policy differs from the situation in 1A-E where voters cared only about policy. Do identity preferences of voters affect their influence on the equilibrium policy and why? *(Suggested length: 15-20 lines)*

Problem 2

Predictions from the income-based model of redistributive preferences have turned out to not always be true empirically. This has led scholars to come up with alternative or supplemental hypotheses about determinants of preferences for redistribution. Below is a list of different hypotheses about what determines the level of redistribution in society:

1. *Expected future income of the median voter*
2. *Reciprocal altruism and beliefs about the importance of luck vs effort*
3. *Racial heterogeneity*
4. *Information about inequality in society*
5. *Beliefs about intergenerational income mobility in society*

2A. Based on the readings from class, briefly describe each of the five alternative hypotheses listed above. Explain each hypothesis and how it can explain differences between the size of the welfare state in the U.S. and the size of the welfare state in Europe. You do not need to comment on whether there is empirical evidence in support of the hypothesis. *(Suggested length: 5-10 lines for each hypothesis)*

The paper by Kuziemko et al. (2015) in the American Economic Review is an example of a paper with an alternative theory (beyond the income-based model) of what might explain the demand for redistribution in society. Below are Table 4 and Table 5 from the paper showing some of the main results.

TABLE 4—EFFECT OF OMNIBUS TREATMENT ON OPINIONS ABOUT INEQUALITY
(*"First-Stage" outcomes*)

	Inequality very serious		Inequality increased		Rich deserving	
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.102***	0.104***	0.119***	0.120***	−0.0500***	−0.0526***
	[0.0154]	[0.0144]	[0.0130]	[0.0128]	[0.0119]	[0.0114]
Control mean	0.285	0.285	0.738	0.738	0.180	0.180
Scaled effect	0.357	0.365	0.539	0.540	0.173	0.182
Covariates?	No	Yes	No	Yes	No	Yes
Observations	3,703	3,703	3,704	3,704	3,690	3,690

Notes: The three outcome variables are binary indicator variables, coded as one if the respondent says that "inequality is a very serious problem," "inequality has increased," and "the rich are deserving of their income," respectively. All regressions have round fixed effects, even those labeled as including "no" covariates. Controls for covariates further include all variables in the randomization table (Table 3), plus state-of-residence fixed effects. "Scaled effect" is the coefficient on *Treated* divided by the difference between control group liberals and conservatives. The row "Control mean" reports the mean of the outcome variable for the entire control group.
   ***Significant at the 1 percent level.
   **Significant at the 5 percent level.
   *Significant at the 10 percent level.

TABLE 5—EFFECT OF OMNIBUS TREATMENT ON POLICY PREFERENCES

	Top rate (1)	$1M tax (2)	Estate (3)	Petition (4)	Min. wage (5)	Trust (6)	Scope (7)	Dem 2012 (8)
Treated	0.931*	0.0502**	0.357***	0.0648***	0.0325**	−0.0292**	0.132***	0.0152
	[0.549]	[0.0126]	[0.0140]	[0.0156]	[0.0141]	[0.0115]	[0.0339]	[0.0125]
Control mean	30.21	0.740	0.171	0.234	0.690	0.158	3.076	0.529
Scaled effect	0.0914	0.111	2.043	0.394	0.0995	1.250	0.110	0.0246
Observations	3,741	3,704	3,673	3,060	3,690	3,702	3,704	3,703

Notes: "Top rate" is continuous (respondents' preferred average tax rate (in percent) on the richest 1 percent). "Scope" is also continuous (a 1–5 variable, increasing in the preferred scope of government activities). All other variables are binary. "$1M tax" and "Estate" indicate the respondent wants income taxes on millionaires and the estate tax to increase, respectively. "Petition" indicates she would write her Senator to increase the estate tax. "Min. wage" indicates support for increasing the minimum wage. "Trust" indicates trust in government and "Dem 2012" indicates the respondent plans to vote for the Democrat (Obama) in the 2012 presidential election. "Covariates" and "scaled effects" are as specified in the notes to Table 4. The row "Control mean" reports the mean of the outcome variable in the control group. All regressions in this and subsequent tables include control variables as defined in Table 4.
   ***Significant at the 1 percent level.
   **Significant at the 5 percent level.
   *Significant at the 10 percent level.

2B. Briefly explain the main hypothesis in Kuziemko et al. (AER, 2015) about determinants of demand for redistribution in the U.S. and explain the main experiment that they use to test this hypothesis. Explain what the results in table 4 and 5 from the paper (copied above) show. What are the main conclusions from the two tables? What do we learn from the results about determinants of redistribution in the U.S.? *(Suggested length: 10-15 lines)*

2C. The authors hypothesize that trust in government might matter for their results. Explain their hypothesis about trust in government. In particular, how might trust in government explain what they find in Table 4 and 5? Looking at the results in Table 9 from the paper (copied below), what do you conclude about the importance of trust in government for how people form preferences for redistribution? *(Suggested length: 5-10 lines)*

TABLE 9—EFFECT OF NEGATIVE TRUST PRIME ON OUTCOME VARIABLES

	$1M tax (1)	Estate tax (2)	Petition (3)	Min. wage (4)	Aid poor (5)	Food stamps (6)	Housing (7)	Private charity (8)
Treated	−0.0421 [0.0275]	−0.00168 [0.0266]	−0.0602* [0.0236]	−0.00428 [0.0902]	−0.139** [0.0616]	−0.153** [0.0673]	−0.163*** [0.0614]	0.187** [0.0791]
Control mean	0.722	0.204	0.174	2.673	2.675	2.454	2.581	1.800
Scaled trust effect	0.0949	0.00728	0.580	0.00531	0.128	0.119	0.133	0.169
Observations	899	895	899	899	899	899	899	850

Notes: The negative trust prime treatment consists of several multiple-choice questions that made respondents reflect on aspects of government they dislike. Outcome variables are defined as follows. "Min. wage" is a 0–4 categorical variable increasing in support for the minimum wage (0 indicates most opposition and 4 indicates most support). "Food stamps" is a 0–4 categorical variable increasing in support for food stamps. "Aid poor" is a 0–4 categorical variable increasing in support for programs that aid poor households. "Housing" is a 0–4 categorical variable increasing in support for funding public housing programs. "Private charity" is an indicator of where (among a list of five policy approaches) the respondent puts "private charity" as a preferred method for addressing inequality (the variable increases with relative support for private charity). All other outcomes are as defined previously.
  ***Significant at the 1 percent level.
  **Significant at the 5 percent level.
  *Significant at the 10 percent level.

2D. Social media (like Facebook, Twitter, etc.) is an increasingly important source of information for many people. Some argue that this leads voters to consume more news and information that is targeted towards them and is politically biased, and that this might increase political polarization. Imagine that there is a new law saying that all information shown on social media must be the same for everyone and must be only true facts. Imagine as well that people using social media vary fundamentally with respect to their trust in government and that this is something that cannot be changed. Looking at the results from Kuziemko et al. (AER, 2015) and related studies that we covered in class, would you expect this law to eliminate polarization over political issues such as the level of redistribution? Are there reasons to believe that the same information might have different political effects on different people, and why? *(Suggested length: 5-10 lines)*

Problem 3

The imaginary country of Sweconomica is concerned about the low representation of women in politics. They have therefore decided to make female representation in positions as head of local government mandatory in a number of municipalities. They are trying to figure out how to pick the places with mandated female representation. As a scholar of political economics, you are interested in using this mandate policy to investigate the effect of female representation in politics on the level of government spending on public schools. To be able to get a causal estimate of the effect, you want to use Regression Discontinuity Design (RDD). The lawmakers of Sweconomica presents three proposals to you for how they might design the policy. In particular, each proposal is an idea for how to pick the municipalities that will be required to have female heads of local government.

3A. For each of the policy proposals below, explain why this would or would not be a good design in order for you to be able to do a valid RDD after the policy has been implemented. Pick one policy that you would recommend to the lawmakers, which would enable you to do your study and get a causal estimate of female representation in politics on public school spending. *(Suggested length: 5-10 lines for each proposal)*

Proposal 1: All municipalities that never had a female head of local government must now adopt the policy of mandated female representation.

Proposal 2: All municipalities with more than 12,000 women residing in the municipality last year must now adopt the policy of mandated female representation.

Proposal 3: All municipalities where a hospital or a university is located must now adopt the policy of mandated female representation.

3B. Lawmakers in Sweconomica appreciate your inputs, but they come up with a fourth method for how to pick the municipalities with mandated female representation, which they decide to use. They decide that all municipalities with a geographical area of more than 350 km^2, are now required to have a female head of local government. Given this design of the mandate policy, describe how you would carry out your RDD study to find the effect of a female head of local government on public school spending. Assume that you have data on anything that you would need for your study. Also, explain what analyses you would do to convince readers of your study that your empirical design (the RDD) is valid. *(Suggested length: 10-15 lines)*

3C. Assume that you carry out your study and find that a female head of local government leads to more spending on public schools. Assume also that you do a survey on voter policy preferences and find that women, relative to men, on average care more about school policy and have a higher demand for spending on public schools. Do results from you RDD study support the idea that voters elect policies or the idea that voters affect policies at elections? If the lawmakers of Sweconomica ask you whether there are any reasons for them to care about underrepresentation of certain groups in politics, what would you tell them based on the results from your study? *(Suggested length: 10-15 lines)*