

Economic Policy and Public Choice
Sub-Tutorial WT 2013/14

Question 1

In what respect can economics be considered as a science? What are positive issues in economics? What are normative issues? Give an example of each! Explain the term “economic man”! Name and fully describe the behavioural assumption made by economists in order to explain individual and collective decision making!

Question 2

What is the Edgeworth box? How is it constructed? What is a Pareto optimal allocation? Please explain IN DETAIL the allocation at point W! Is it a Pareto optimal allocation? If yes, why? If no please explain in detail how to move to a Pareto optimal one. What is a contract curve? Please show graphically how the contract curve is derived!

Question 3

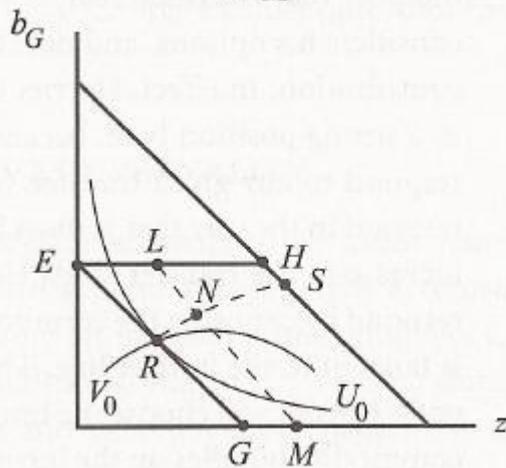
What are interdependent preferences? Please give an example! Give an example of an interdependent utility function! Suppose there are two individuals, the utility of individual A and B depend on the consumption of private good b and public good y . Using the Shibata box, show an initial endowment where both individuals do not consume the public good! What is an income expansion path? Please show graphically how the income expansion path is derived! What is a Nash equilibrium? When does the Nash equilibrium solution occur? Describe in detail how the individuals move from their initial allocation to the Nash equilibrium! Is the Nash equilibrium a Pareto optimal solution? If yes, why? If no, where would a Pareto optimal solution be?

Question 4

The utilities of Allan and Barbara depend upon their consumption of a public good i and a private good d . Please show the budget lines of Allan when Barbara does not contribute for the production of the public good? How would this budget line change when Barbara starts contributing for the production of the public good? Where is the Nash Equilibrium solution? Please compare the Nash equilibrium solution with the Lindahl solution. Please show the Lindahl solution in the graph. Which solution will be stable? Explain your answer.

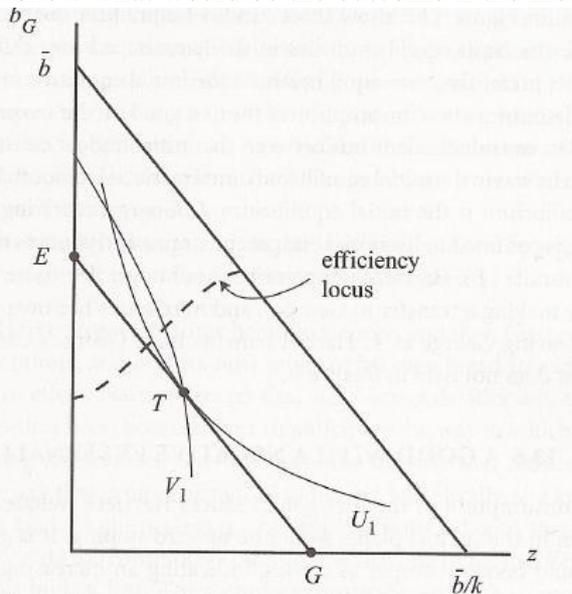
Question 5

What is an externality? What is Pareto relevant externality? Please give an example of a positive externality. Please explain point R in the graph below. Please describe the Nash equilibrium and explain how it is to be achieved. How the positions of both agents have



changed?

Please give an example of a negative externality. Please explain Point T in the graph below and show what would be the outcome if the individuals engage in a process of bargaining.



What does the Coase theorem postulate? In which cases there would be efficiency gains if bargaining is possible? When should the government intervene in the bargaining process? Please explain your answer.

Question 6

What real world considerations may forestall the workings of the Coase Theorem by making property rights ambiguous or uncertain? By raising the costs of negotiating and enforcing contracts?

Question 7

Welfare economics asks how public economics should be evaluated. Such evaluation depends on goals of the chosen policy, especially on the balance between several goals. Please name and discuss briefly two main goals of economic policy. Please explain the criteria Pareto-preferred and Pareto-efficient. How valid is Pareto optimality as a criterion for social optimality? Name some possible criteria for judging fairness.

Question 8

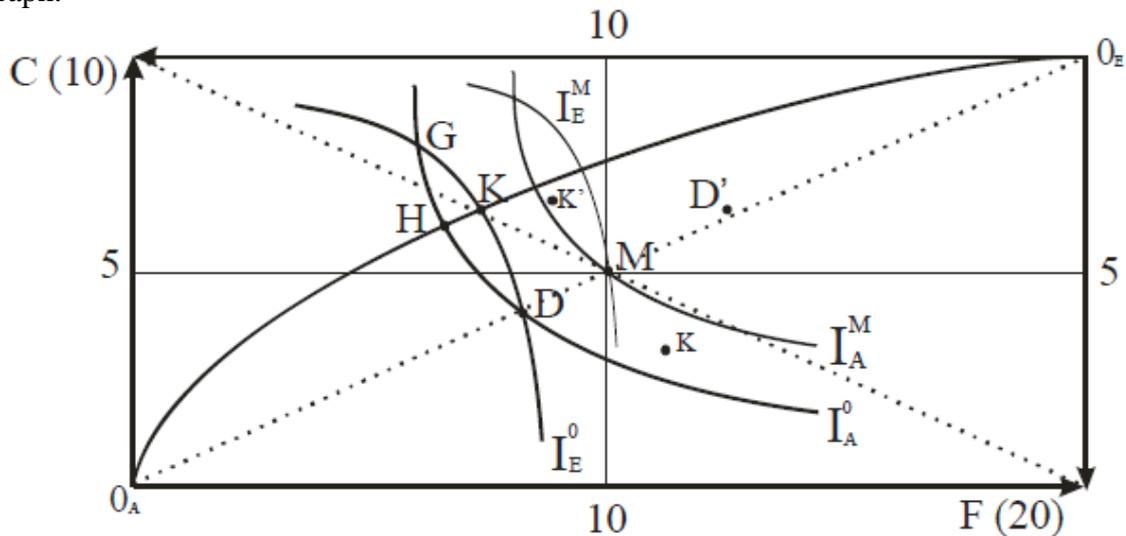
One possible meaning of fairness is *envy-free*. When can we say that a distribution between two individuals is *envy-free*? Please give an example. John endowment is $(x_j, y_j) = (50, 10)$ and Kathy's is $(x_k, y_k) = (20, 30)$. The utility function of John is $U_j = (x_j^2 y_j)$ and Kathy's $U_k = (x_k y_k^2)$. Is the endowed allocation *envy-free*?

Question 9

When divorcing couples split up material poverty, they face a problem of fair division. For simplicity, please think of dividing a cake. The cake is not uniform; part is chocolate, part vanilla. If Abigail has to divide the cake, following her own interest, will she rationally cut the cake in a way that is both efficient and *envy-free*. (Consider the extreme case: Abigail has perfect knowledge of Bill's preferences)

Question 10

Seeing fairness as the absence of envy, please give the criterion for a fair distribution. Using the Edgeworth-box below please describe in detail allocation B and compare it to allocation M. Are these points Pareto-efficient? Equitable? Are there any (other) Pareto-efficient points in the graph, if yes, where? Please explain the difference between Pareto-efficient and Pareto optimal allocations. Is there any potential for redistributive government? Explain your answer. When are *envy-free* allocations accessible? Please show your solution in the graph.



Question 11

Consider the traditional Edgeworth-box. Assume that Adam and Eve use their resources to produce food and clothing. *Where are the potential gains of trade for both agents?* Now assume that Adam can produce only food and Eve only clothing and both individuals can transform some or all of their resources and fight over the goods that are produced. How do their initial endowments change? Now assume that only Eve has weapons. Which is the best attainable allocation for Eve in this case? Assume that both individuals are equally strong and both might receive the half of the economy's gross output. Show this allocation graphically. Now assume that mutually beneficial trade can take place. Which allocation would be achieved? Please compare your result with your answer of the first question (*in italic*).

Question 12

Please name and explain the defining characteristic of conflict economics. Consider two players A and B. These two players must divide a disputed resource amongst themselves. Assume that each player begins by diverting a part of their secure resources into arms. Then they decide whether to divide the disputed resources peacefully, or to engage in conflict. How can you explain the economic incentive of the individuals not to fight? Assume that the individuals have egoistic preferences, rivalrous peaceful opportunities and optimistic beliefs. Is there any potential settlement region? Explain your answer verbally and graphically. How does this result change when:

- the preferences of the individuals are benevolent?
- both individuals possess complete information about the appropriation of the other one?
- the opportunity set is highly complementary?

Question 13

Suppose there are 10 people, 20 locations, 3 of the people are pirates and 4 searches per pirate. What is the probability that any given pirate visits any given location on any given search? What is the probability of missing that location in all searches? What is the probability of the fisherman to retain his catch? What is the pirate expected income? Please give the condition for the equilibrium number of pirates? Please explain all your answers analytically and verbally. Please explain the results in the table below

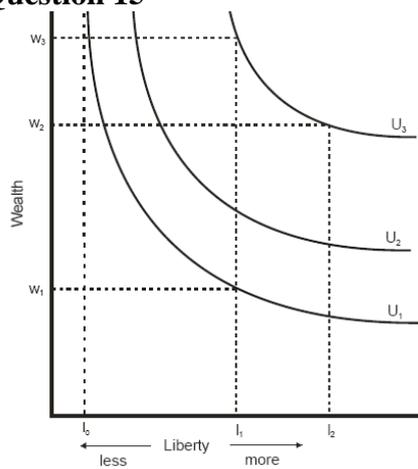
Number of pirates (m)	Income of fishermen (y_f , tons per head)	Income of pirates (y_p , tons per head)	Average income per head $(N - m)/N$
0	1	—	1
1	0.8145	1.6695	0.9
2	0.6634	1.3464	0.8
3	0.5403	1.0725	0.7
4	0.4401	0.8399	0.6
5	0.3585	0.6415	0.5
6	0.2920	0.4720	0.4
7*	0.2378	0.3267	0.3
8	0.1937	0.2016	0.2
9	0.1578	0.0936	0.1
10	0.1285	0	0

Please show these outcomes graphically. (Hint: work approximately, show simply the main characteristics of the curves)

Question 14

Please discuss “rights” as multipurpose tool of legal concepts. In particular, please explain the difference between day-to-day rights and individual rights in constitutions. Explain in detail the concept of liberty as protected permissions and discuss its costs. Please give an example.

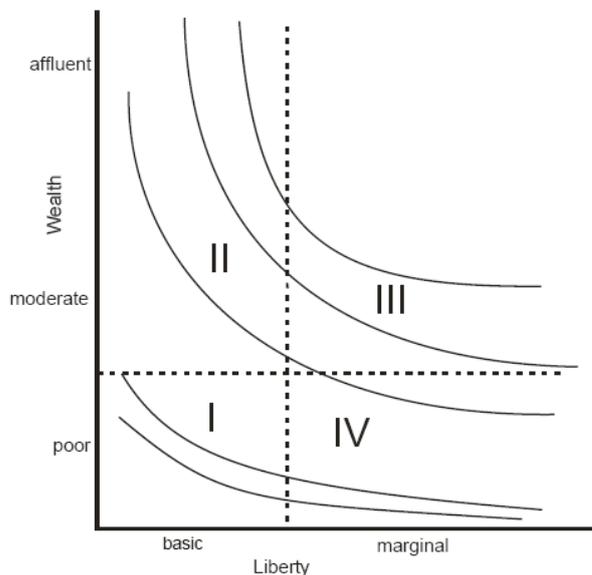
Question 15



Using the graph above please explain the term “value of liberty”. What do the indifference curves represent? Please give an example. Please show the optimal amount of liberty as private good applying standard cost benefit analysis and explain your answer. Apply your analysis to the case of liberty as a public good. Now apply the analysis of welfare weights to figure out the optimal amount of liberty. Compare your answers.

Question 16

Please discuss the connection between wealth and liberty in the graph below. Explain in detail the 4 zones divided by the dashed boundaries.



Question 17

Please explain the term “individual failure”. Discuss the distinction between *homo economicus* and *homo realitus*. In this context, please describe behavioral *anomalies* with respect to past, present and future. Is there a need for government intervention? If yes, in what form?

Question 18

Describe and explain the *endowment effect*. How this effect can be applied to differences between *willingness to pay* and *willingness to accept*? Please name other possible explanations for these differences. Which consequences can be derived for the economic policy design?

Question 19

Please discuss the difference between hard paternalism and soft paternalism. How do paternalistic policies apply when you consider an endowment effect? Please describe the prospect theory and consider the insight that it offers for analysis of public sector economics. What policy implications can be derived from the analysis of framing effects?

Question 20

Describe the model of Leviathan? Why the Leviathan government must be constrained? What kind of constraints should be imposed? Discuss how an optimal tax constitution would restrain a revenue maximizing government.

Question 21

Define the characteristics of a dictator. Please discuss the bottom up and top down solutions of collective action problems. Using the public choice model of autocracy please define the objective function of a dictator and the objective function of the citizens. What conclusions can be made about the quantity of public goods under a dictator and when maximizing community's utility? Please give examples of autocratic economic policies used to maximize government's own consumption. What policy implications would prevent such behavior?

Question 22

Please describe the term "paternalistic public policies"? Name some cases of paternalism and explain them! Why are paternalistic policies considered to be necessary? What is hyperbolic discounting? Should government use paternalistic public policy to change behaviour of hyperbolic discounters?

Question 23

Please explain liberty as a merit good. Using the analysis of merit show graphically the optimal supply of liberty and explain your answer. How can you define liberty, dictatorship and anarchy as concepts of protections and permissions? Please explain your answer.

Please explain the Allais Paradox. Give a brief example. What is framing and how is it related with bounded rationality?

Question 24

Please explain the Leviathan type of government and show graphically how alternative strategies for taxing leisure and income will affect government's revenue and individuals' utility. How would Leviathan government behave in this case? What kind of restrictions are supposed to constrain Leviathan's behaviour?

Question 25

Please show formally using the basic public choice model of autocracy the relative advantage of democracy to dictatorship. Explain your answer. When does this advantage occur? Given the disincentive effects of taxation how does the objective function of a majoritarian coalition change when the government considers two tax different rates. Please give a brief review of the empirical results of studies testing the impact of economic and political freedoms on economic performance. Outline several basic significant differences between democracies and dictatorships.

Question 26

What is the difference between the top down and the bottom up solution to collective action problems? What is the idea behind Olson's stationary bandit? In what way are the interests of a dictator and the citizens partially aligned? What levels of a public good will an autocrat supply? Why does that level differ from the amount that would be supplied in a democracy? What policy implications can be derived from this?

Question 27

What is the constitutional difference between an dictatorship and a democracy? What conditions need to be fulfilled for that difference to remain stable?

Question 28

Given this distribution of voters' ideal points, what would be the result of simple majority voting? What additional assumptions are needed for that result? If we model voters as rational agents, will they vote?