

AP/ECON 4380 & GS/ECON 5950 : Midterm Exam

Thursday July 12 2012
11:30 am – 12:30 pm

Do all 3 questions. All questions count equally.

1. Suppose that there are 9 voters of type #1, 10 voters of type #2, 11 voters of type #3, 12 voters of type #4 and 13 voters of type #5, with the following preference orderings over 4 candidates

	[9 people]	[10 people]	[11 people]	[12 people]	[13 people]
first choice	x	x	w	w	v
second choice	y	y	y	v	y
third choice	v	w	x	y	w
fourth choice	w	v	v	x	x

Which candidate would be elected if the election procedure were “plurality with multiple run-offs”, in which there is a sequence of ballots, with the candidate with the fewest first-place votes on each ballot being eliminated, until one candidate gets a majority of the first-place votes?

2. Which of the axioms of Arrow’s Impossibility Theorem would the following rule for a social ordering violate? Explain briefly.

rule : “Order the alternatives in **reverse** order of the number of last-place votes they have. (That is, the alternative which is ranked as worst by the smallest number of voters will be ranked first overall, followed by the alternative which is ranked as worst by the second-smallest number of voters, and so on. If 2 alternatives are tied, look at the number of 2nd-last place votes, and so on.)”

3. Suppose that all people in a jurisdiction had the same preferences, which could be represented by a utility function

$$u(c, g) = \ln c + g$$

where c is private consumption expenditure, and g is government expenditure per person. People differ in their income y^i . (So there is some distribution of income, with median y^m , and mean \bar{y} .)

In this jurisdiction, any public expenditure must be financed by a **head tax** : the cost of the public sector is divided equally among all people, regardless of their income.

If two parties compete for votes by committing to provide some level of government expenditure g per person, what level will be chosen by the winning party? Explain briefly.