Applied microeconomics introduction assignment

Economics, Microeconomics

Axiomatic foundations of expected utility theory; (b)Non EX. theories: basic models Applications: (a) Consumption CAMP; (b) Inequality indices and income distribution 4. Topics in applied microeconomics 5. General Equilibrium Theory: The basic model Applications: Computability and some applications Background 1. I expect you to be familiar with the material covered by a standard undergraduate course in microeconomics, plus some basic math (differentiation, simple integration) and some basic statistics (distributions, mean, variance etc). Some obvious pieces to advice: a. You should do your best to attend lectures: though I shall post my slides, these re no substitute for the real thing and you are going to have problems if you Just drop in occasionally; b. If you experience any difficulty, you should come to my office hrs. Do not wait until it is too late. Assessment 1. There are 6 dates at which you can sit your exam in each academic year, the first one being at the end of the course. 2. The exam consists of a set of 6 open questions, each worth up to 5 points (min pass grade: 18, Max 30) 3.

Regular student option: a. Upon arrangement with the class teacher, students can undertake a mid-term class presentation on an assigned paper, which is graded and worth up to 10 points (I. E. , 1/3 of the final marks). Organizational details in due course. B. Students taking the RSI are expected to answer 4 out of the 6 questions of the final exam. This arrangement is held good Just for the academic year. General introduction Introductory remarks Theory and modeling Applied representation and causality An example Some Measurement Issues 1 . Emphasis on the link between theory and – indeed, thoughtful applications require theory: theoretical model ??+ applied model – note that in applied analysis there is a third link (which we shall touch upon only occasionally) applied model ??+ econometric model 2. Emphasis on consumption and related subjects. This is because consumption comes in handy as a well understood theory and rich in applications. 3. Some methodological provisos: applications as a Justification for theory itself understanding making predictions ….. which of course brings us to the distinction between positive economics: setting up a model accounting for what we observe, use that model to make predictions,… And normative economics: (a) theory provides a framework (Parent efficiency or lack of it); (b) models bring out trade-offs applied models possibly allow some estimates thereof) this formal approach (from theoretical model to applied model) means rigorous analysis (we know what we are talking about) testable propositions (we can put numbers in it) clear framework for practical conclusions (policy options) … which of course however constrains how far we can go (strong hypotheses, much left out of the model) 1. Well known procedure: (I) agents with their objective function (utility, profit, welfare) choice aggregation through market equilibrium (iii) equilibrium properties and efficiency test (of course, efficiency at stage (I) does not entail efficiency at stage (it)) 2. (I) plus (it) plus (iii) as " building blocks", in order to have clear hypotheses and clear theories (what do we mean by rational choice? , what do we mean by price reacting to demand? ; to check formal consistency; to have sensible empirical specifications. 3. Example: step (I): Max ii Pop, MIM step (it): cop, ml , xi Pop, m I 0 n cop, m 1 , , m n = SOP, w, 0 4 p * step (I"): efficiency? What would happen if mm 1 , , MN underwent such and such change?.. Etc 1 . Simple supply and demand: Sq= Sq pop, you, Dip Sq O equilibrium (Q * , p *) clearly depend on y (some index of aggregate income, say). To implement a testable representation we should give it a form (e. G. , linear): Sq= a-ʯp+y Sq= a+BP Can we test it directly?

We actually can work out p x 21 x 22 which relates Q and p toy (effect to cause). 2. Notice: c Q and p Jointly determined endogenous vs. exogenous variables structural form vs. reduced form identification problem and causality 3. Causality vs. correlation O Many examples of correlation (income and education, heart problems and diet, etc): given data, simple analysis (if linear, R 2) O Causality as a one-way link: much more difficult and requires an explanation a model): e. G. , what happens to income if the level of education is increased (and can we measure this effect? ? O Causal links are characterized by at least two dimensions: time dimension: x t e 00, 10 t+l e Y (this is a model). Observers= l and yet+l = yet+l . CB: if x t = O (which is not the case), y t+l ? Relative dimension: if measure is required, a CB alternative needed: Ay due to x is yet+l lax= l -yet+l lax= O 4. Assessing causality: simple framework: iii= wily Notice: 0 this is a model: we expect that x y ix we observe ye e Ay ii , y IL C] 0 effect is at the individual level, interest in aggregates. Causal effect: c I= wily -yet (e. G. X = O no change in min wage, x = 1 increase in min w, y I employment; x = O no treatment, x = 1 treatment, y I health status) Problem: C I cannot be observed Why? Time/individual: we observe where x I = 1, O as the case may be Solutions: A. Cause reversibility and time irrelevance (e. G. , remote control) B. Population homogeneity: y is = y Jazz for all I, J where identity is irrelevant (molecules). C. Statistical solutions (1 & 2 for expects only) 0 some proxy for -y too Notice: individual values y IL -y ii cannot be calculated. If it is known that x is a cause (an increase n min w affects employment, people treated with drug are k, not treated are ill) we could try conditional expectations lax= o (we know who has been treated). But CE]Ye lax= 10-EYE lax= 10+ + ii lax= 10 – lax= o = DECO + bias 0 Why the bias? Example: y I : some measure of xi's ability in solving math exercises, y IL : good, y ii : bad x = O : student I did not take up math at University x = 1 : student I did take up math at University. We expect c= Iii but choice of taking up math is endogenous: people good at math tend to pick it up at University, that is ii lax= 10 – lax= o (which implies bias > O).

If that were not true (people choose courses randomly), then ii lax= 10 – lax= o -O but then bias = O (control group). 0 This clarifies why the statistical procedure is all right if we can set up a control group (egg drug testing), but not for student (people do not choose randomly). In the latter case we have " quasi" experiments. 0 Quasi experiments A simple framework: before after treatment x = Y ii, t y Ally Y JOY, t y JOY, t+1 control 0 structural stability over t, t + 1 0 theory testing: Ay ??+ TAP * , AS * 0 policy relevance Example: Card and Krueger (1994) 1.

The problem: effect off rise in minimum wage. Model 1: Perfect Competition Awe m > O ??+ AL Formally, we define x y -z to hold whenever both x 0 y 0 z and z Ox 0 y hold. Thus in this case (b) Quantitative assessment. In the example above, we would say, e. G. , that x is heavier than y, since x weighs one pound and y Just half a pound. 0 But of course " since" is unwarranted: we deed to translate our qualitative Judgments into numbers. It turns out that such translation is heavily conditioned by the features of our R I ' s.

Is there some representation of X which in some precise sense preserves its main features but allows to use numbers? 0 More precisely, we look for a structure " similar" to X, call it R, with its domain and relations defined over numbers. Example: Quantitative Judgment " heavier An obvious candidate is where and + have their usual meaning on the set of nonnegative real R + . Indeed, the set R of the representations of X in our example consists of all functions cap : X * R +