

i Candidate information

ECON4624 – Empirical Public Economics

This is some important information about the written exam in ECON4624. Please read this carefully before you start answering the exam.

Date of exam: Wednesday, December 5, 2018

Time for exam: 09.00 a.m. – 12.00 noon

The problem set: The problem set consists of 5 problems. They will be given equal weight in the evaluation.

Sketches: You may use sketches on all questions. You are to use the sketching sheets handed to you. You can use more than one sketching sheet per question. See instructions for filling out sketching sheets on your desk. It is very important that you make sure to allocate time to fill in the headings (the code for each problem, candidate number, course code, date etc.) on the sheets that you will use to add to your answer. You will find the code for each problem under the problem text. You will NOT be given extra time to fill out the "general information" on the sketching sheets (task codes, candidate number etc.).

Access: You will not have access to your exam right after submission. The reason is that the sketches with equations and graphs must be scanned in to your exam. You will get access to your exam within 2-3 days.

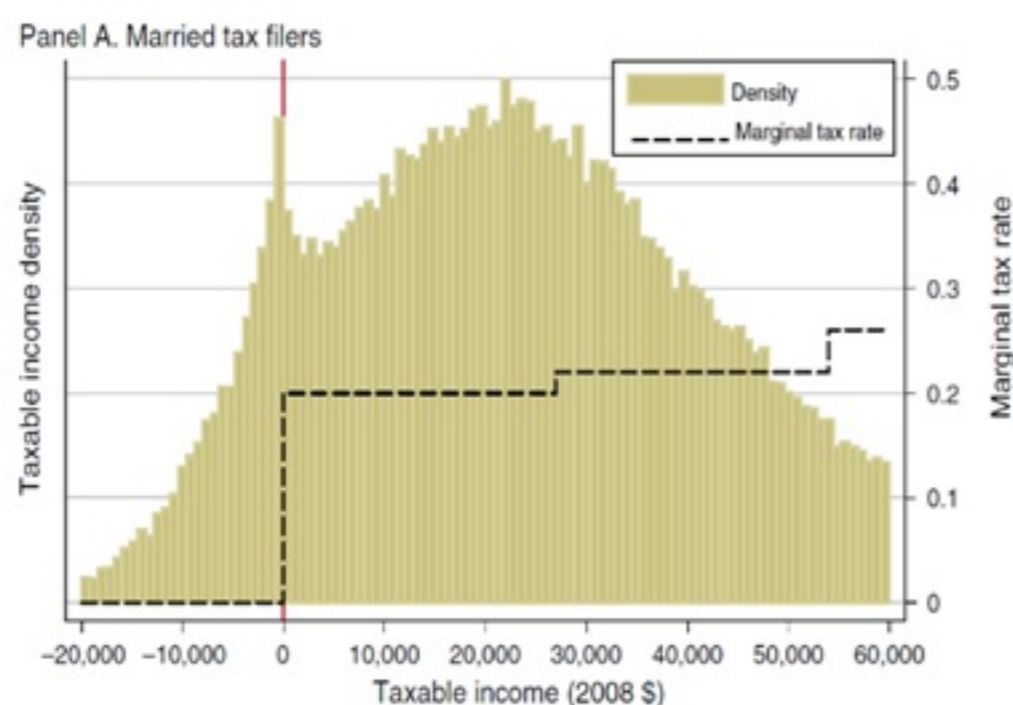
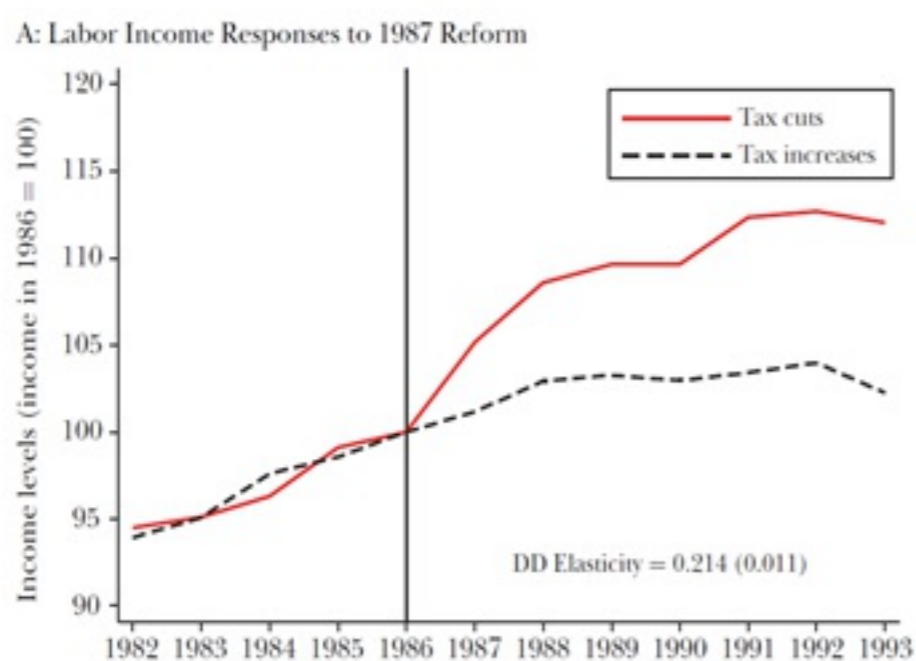
Resources allowed: No written or printed resources - or calculator - is allowed (except if you have been granted use of a dictionary from the Faculty of Social Sciences).

Grading: The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Grades are given: Thursday 20 December 2018.

i Description

The elasticity of taxable income (the ETI) has developed to become a key concept of public economics. Here are two diagrams that may define the starting points of empirical identification of the ETI by using the *difference-in-differences* (left) and *bunching at kink points* (right) techniques, respectively:



1(a) Question 1

Define the ETI, and describe how you would proceed in order to obtain estimates of the ETI using *both* these methodological frameworks. The descriptions should include the type of data that are used and the main identifying assumptions. Make sure that you in the discussion of each method clarify what is meant by the *counterfactual*. Graphical descriptions may be used in the explanation.

Fill in your answer here and/or on sketching paper

Maximum marks: 0

- 2 More specifically, mean reversion and optimization frictions refer to empirical challenges belonging to the two methods of deriving ETI estimates.

(a) **Question 2a)**

a. Explain why *mean reversion* often is considered to be a problem in the case of using the conventional difference-in-differences estimation technique and how the practitioners may proceed to control for this problem

Fill in your answer here and/or on sketching paper

Maximum marks: 0

(b) **Question 2b)**

b. Discuss implications of *optimization frictions* in the case of the bunching estimator.

Fill in your answer here and/or on sketching paper

Maximum marks: 0

3 **Question 3**

What does it mean that ETI estimated obtained by the two techniques are referred to as measures of "sufficient statistics"?

Fill in your answer here and/or on sketching paper

Maximum marks: 0

- 4 Elaborate on how Norwegian policy-makers can use ETI estimates (by the two methods) in the tax policy discussion.

(a) **Question 4a)**

- a. Are there limitations to the ETI estimates derived from the two estimation techniques?

Fill in your answer here and/or on sketching paper

Maximum marks: 0

(b) **Question 4b)**

- b. Are there other types of information you would like to add (to the estimates of the ETI) to provide a broader picture of the effect of tax policies?

Fill in your answer here and/or on sketching paper

Maximum marks: 0

5 **Question 5**

Do you think that the ETI is lower in Norway than in some other countries, say the U.S.?

Fill in your answer here and/or on sketching paper

Maximum marks: 0