

BSM946 Workshop 4: IV

Important Information:

The workshops provided in this module are designed to help you in the practical application of the work covered in the lectures, and to support you through this step. The tutorials should ideally be attempted in advance of the session, allowing you to raise any questions or issues in the workshop. The questions outlined below are likely to take more time than the workshops run for, so attempting the questions before the sessions will allow you to receive the most greatest benefit from these sessions.

No answers will be provided for the workshop questions. Guidance will be given in the workshops, and the staff associated with the module will happily assist in office hours etc. The aim is for you to gain experience of the practical application of the methods and to start thinking about the key questions identified in the material. I would encourage you to make notes as you complete the workshop so you can reflect on these notes and raise any issues for clarification.

Instrumental Variables

- 1) Load the angristandkruger.dta file into STATA.
- 2) Run a linear regression to test if the log weekly wage (LWKLYWGE) of an individual is determined by the age (AGE), age squared (TO BE CREATED), education (EDUC), marital status (MARRIED) and race of the individual (RACE).
- 3) Interpret the results.
- 4) Why might the above results not be accurate?
- 5) How could the quarter of birth (QOB) of the individual be used as an instrument? (Hint: check the work by Angrist and Krueger 1991 if you are not sure)
- 6) Complete a manual IV regression using QOB as an instrument (check the lecture if you are not sure of the steps).
- 7) Complete an IV regression using STATA's inbuilt command.
- 8) Do your results differ?
- 9) What do the results suggest about the original regression?
- 10) Can you think of a better instrument than QOB?
- 11) What do we mean by the issue of weak instruments? How could we test for this here?