

Econometrics. TEST.

Rules

- This is a closed-book, closed-notes test.
- You are allowed to consult the paper “Working during School and Academic Performance” by Ralph Stinebrickner and Todd R. Stinebrickner (Journal of Labor Economics, Vol. 21, No. 2 (April 2003), pp. 473-491).
- Internet connections and cell phone use are not allowed.
- The test has 3 pages, including this cover page.
- You have 2,5 hours to complete the test.
- The total number of points for the test is 120 (including 20 bonus points).
- The weight of each question (points) is indicated at the beginning, so that you can divide your time accordingly.
- Please indicate a letter and a number of question before writing an answer (e.g. **A6**, **B2** etc.).
- You can give your answers in English as well as and in Russian.

Good luck!

Questions

A (points: 30). Basics. Data description.

1. What is the main research question in the paper? Why is it important?
2. What is the main measure of working during school used in the paper? What does labor economics literature tell about effects of working in on-campus and off-campus jobs? Is work in high school associated with increased future earnings?
3. What is the type of data used in the paper (cross-section, time-series, panel, repeated cross-section, etc)?
4. What is the average family income for dependent students who entered Berea in 1989–1997?
5. How many hours a week is each student required to work in the school’s labor program in order to get additional financial aid?
6. Please explain the reason of the variation of weekly work hours.
7. Why the students work more than mandatory minimum of weekly work hours?
8. What are the mean and standard deviation of hours worked in the first semester?
9. Please explain the tendency of the average weekly work hours from the first to the eighth semester.
10. What is the share of males among first- and second-semester students? What are the mean and standard deviation for math ACT and verbal ACT?

B (points: 24). Motivation. Methodology

1. What hypothesis do authors test?
2. Why do the authors use IV-method in their research?
3. Why is the variable “weekly work hours” endogenous?
4. Why is it difficult to say that working during school is beneficial, harmful, or unimportant from the standpoint of academic performance?
5. Which instrument do the authors use?
6. What features of data allow to get correct estimates under chosen instruments?
7. What features of the dataset allow to avoid measurement errors?
8. What features of the dataset allow to get more consistent estimates?

C (points: 30). Consider the regression specification in Table 1.

1. Write down the estimated equation for this specification.
2. What method is used for estimation?
3. Please interpret the coefficient at the main independent variable (weekly work hours) in the above specification for the first semester. Please explain the same for the second semester.
4. Please compare confident intervals for estimates from the previous item. Are the estimates significantly different?
5. Whose grades are higher: girls’ or boys’? Please explain your answer.
6. Why are the estimates of β biased?
7. Additionally, the authors use FE estimator. Why?
8. How many semesters are considered for FE estimation? Please explain your answer.

9. Please write down the FE point estimate of β . Is this result significantly different from the OLS estimate of β ?
10. Please explain why β might be biased. What is the sign of bias?

D (points: 24). Validity of instruments.

1. Write down the specification of the estimated in Table 3 equation.
2. Please consider the second column of Table 3. Is the hypothesis “The coefficients on the job indicators are jointly zeros” rejected? Why?
3. Please write down the first condition in order to use an entering students’ job assignment as an instrument. Which estimated regressions do approve this condition?
4. Please write down the second condition in order to use an entering students’ job assignment as an instrument. How do the authors argue that the second condition holds?
5. Please write down the third condition in order to use an entering students’ job assignment as an instrument.
6. What regression is estimated by authors for testing that the third condition holds?
7. Please consider Table 4. Why estimate of weekly work hours coefficient is negative? Please use results of estimates in columns 2 and 3 from Table 3.
8. Please report the statistic of overidentification test for the validity of the instruments. Please explain what it means.

E (points: 12). Conclusion.

1. Do the authors conclude that working during the first semester increases academic performance?
2. Why should the researchers be cautious developing policy conclusions dealing with youth employment, according to the authors?
3. What information might help to decrease the bias of the OLS estimator?
4. Should work hours be restricted for youth? Why?