THE UNIVERSITY OF SYDNEY

ECOS3002 – Development Economics

Mid-Semester Exam
Semester 2 – 2021

Section 1. Draw, calculate, interpret

1. (15 points) Poverty analysis. Suppose a village has 5 households, with expenditure levels 1, 3, 4, 7 and 10. Suppose the poverty line is 4.
   a. (5 points) Draw the poverty profile for this village, including the poverty line.
   b. (5 points) Calculate P0, P1, and P2 for this village.
   c. (5 points) Suppose you have a budget of 3 to spend on reducing poverty in this village. How you would allocate this budget if your objective was to most reduce P0, P1, or P2, respectively?

Section 2. Interpret a quasi-experiment

2. (10 points) Interpret a regression discontinuity (RD) quasi-experiment. Suppose that the government of Jakarta, Indonesia, wants to increase women's workforce participation. Prior research suggests that lack of access to affordable childcare is one of main barriers to workforce participation of mothers, particularly for women from lower-income households. Suppose that the government offers a 50% childcare subsidy for approved childcare facilities, to households below a poverty threshold of 200,000 Rupiah per capita, per month. Two years after the subsidy is implemented, you are asked to evaluate the subsidy program. Suppose that you decide to use an RD design, collecting representative data from households just falling above and below the cutoff, and decide to study the effect of the subsidy on hours worked per week.
   a. (5 points) Interpret the results of the RD from the following figure, including providing the RD estimate of the impact of the subsidy.

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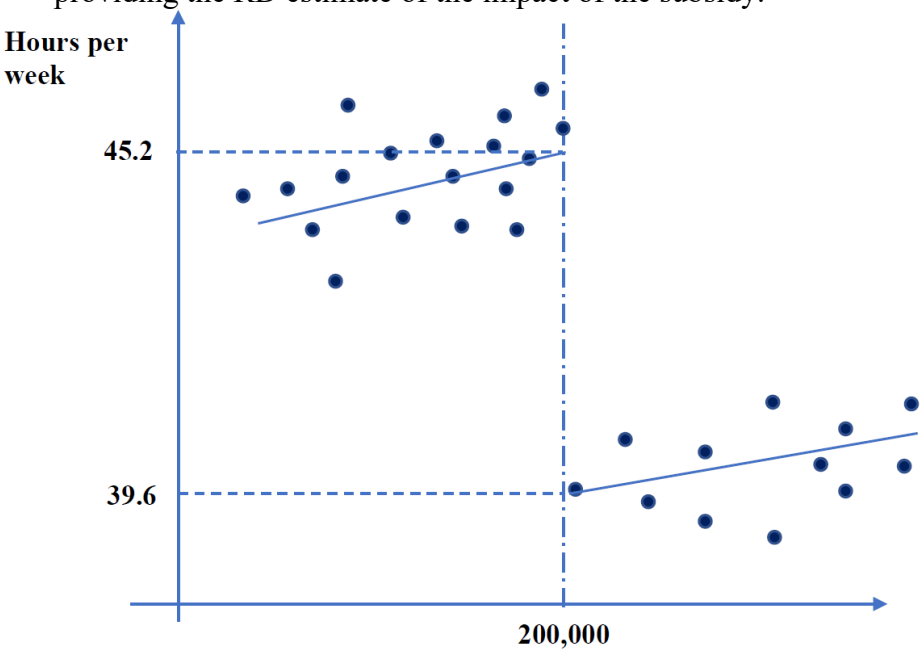

b. (5 points) Name one potential threat to the validity of this RD design, and what you would do to test for it.

3. (5 points) Risk coping and risk management. Suppose that a household in a rural area of inland Papua New Guinea has a hectare of land that it uses to grow cassava, and a pond that it uses to produce fish as a source of protein and its main cash crop. It uses this cash income to buy other necessities – food, clothing, mobile phone coverage, etc. Suppose that there are many fish ponds in the area, and diseases can be transmitted between the ponds by birds and rodents, which can occasionally kill all the fish. Name one risk coping strategy and one risk management strategy the household might use to address this risk.

4. (5 points) Evaluate a randomized control trial (RCT). The World Bank is working with the International Rice Research Institute office in Cambodia to study the effectiveness of the System of Rice Intensification (SRI), using an RCT. In 100 villages in the northern part of the country, they will randomly sample 20 farm households in each village, from a list of all households in the village. In each village, 10 of the 20 households will be randomly selected into the Treatment group, receiving SRI training and a set of inputs (e.g., fertilizer, seeds, tools) at a heavily discounted price, and the other 10 households will be the control. Comment on the internal validity and the external validity of this RCT design.

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5. (15 points) Short essay. Suppose you are talking with a government agricultural extension worker who is working with maize farmers in a set of remote villages in Ghana. The extension worker points out that the international price of maize has been steadily rising over the last year, yet the farmers she works with have barely changed their production choices over maize. Explain why this may not necessarily be inconsistent with rational economic behavior, giving at least three reasons, making precise use of concepts from ECOS3002 to illustrate your arguments.

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