Problem Set 6.5

Overview: In this problem set you will examine vouchers and brush up on indifference curves and budget lines.

Due Date: Monday, March 22nd at the beginning of class.

Step 1:

a. Make a tall graph with the title; “Graph 1”. Make it tall. Use the long side of your graph paper or spreadsheet printout for the vertical axis (i.e. make it landscape, not portrait).

b. Assume the following is true for all individuals in society.
   - Public and private education cannot be combined. One must either go to a public school or a private school.
   - Private education costs $20/hour
   - All kids must, by law, receive at least 500 hours of education per year. If parents chose to go with private education, they can chose any number of hours they cannot afford, as long as it is greater than or equal to 500.
   - The local government provides 500 hours per year of “free” public education. A parent can only use one of either public education or private education, not both.

c. In Blue, draw a budget line for someone with an (after tax) income of $60,000. Label this curve $B_{Rich}$.

d. In Red, draw a budget line for someone with an (after tax) income of $20,000. Label this curve $B_{Poor}$.

e. Get out (or type up) a sheet of paper and title it “Answers for Part 1”. Explain who is more likely to go with public education and who is more likely to go with private and why this is so. Explain in technical (graphical) terms (ex. this curve has a major “kink”) and in more intuitive terms.

f. Illustrate this on your graph 1. Hint. You might wish to draw indifference curves for 2 rich individuals; one who takes the public education and one who doesn’t. Then draw indifference curves for 2 poor individuals; one who takes the public education and one who doesn’t. In which case is it easier to draw individuals going with private education? In which case is it easier to draw individuals going with private education?
Step 2:

a. Make a tall graph with the title; “Graph 2”. Make it tall. Keep it the same size and scale as graph 1. Use the long side of your graph paper or spreadsheet printout for the vertical axis (i.e. make it landscape, not portrait).

b. Assume the following is true for all individuals in society.
   
   - Public and private education cannot be combined. One must either go to a public school or a private school.
   - Private education costs $20/hour
   - All kids must, by law, receive at least 500 hours of education per year. If parents chose to go with private education, they can chose any number of hours they cannot afford, as long as it is greater than or equal to 500.
   - The local government provides 500 hours per year of “free” public education or a $5,000 voucher for education. A parent can only use one of either public education or the voucher, not both.

c. In Blue, draw a budget line for someone with an (after tax) income of $60,000. Label this curve $B_{Rich}$.

d. In Red, draw a budget line for someone with an (after tax) income of $20,000. Label this curve $B_{Poor}$.

e. Get out (or type up) a sheet of paper and title it “Answers for Part 2”. Explain who is more likely to go with public education and who is more likely to use the voucher and go with private education. Explain why this is so. Explain in technical (graphical) terms (ex. this curve has a major “kink”) and in more intuitive terms.

f. Illustrate this on your graph 2. Hint. You might wish to draw indifference curves for 2 rich individuals; one who takes the public education and one who doesn’t. Then draw indifference curves for 2 poor individuals; one who takes the public education and one who doesn’t. In which case is it easier to draw individuals going with private education? In which case is it easier to draw individuals going with private education?

g. Briefly discuss your conclusion about which group is most likely to take the voucher. Would this likely be considered a good feature or a bad feature of vouchers? If it’s a bad feature, what can be done to alleviate the problem?
Step 3:

a. Consider the following before and after situation in Telly-Tubby land.

Before vouchers
- The school district collects $40,000 ($10,000 per child) for public education.
- Tinky-Winkie goes to public school.
- Dipsie goes to public school.
- La-la goes to public school.
- Po goes to private school.

After a $5,000 voucher per child, funded with school district funds, is offered
- The school district collects $40,000 ($10,000 per child) for public education.
- Tinky-Winkie goes to public school.
- Dipsie goes to public school.
- La-la goes to public school.
- Po takes the voucher and goes to private school.

b. Get out (or type up) a sheet of paper and title it “Answers for Part 3”. Explain how Po taking the voucher affects the remaining public school goers. How (if at all) does Po’s use of the voucher hurt them? How (if at all) does it help them?

Step 4:

a. Consider the following before and after situation in Telly-Tubby land.

Before vouchers
- The school district collects $40,000 ($10,000 per child) for public education.
- Tinky-Winkie goes to public school.
- Dipsie goes to public school.
- La-la goes to public school.
- Po goes to public school ... not private school.

After a $5,000 voucher per child, funded with school district funds, is offered
- The school district collects $40,000 ($10,000 per child) for public education.
- Tinky-Winkie goes to public school.
- Dipsie goes to public school.
- La-la goes to public school.
- Po takes the voucher and goes to private school.

b. Get out (or type up) a sheet of paper and title it “Answers for Part 4”. Explain how Po taking the voucher affects the remaining public school goers. How (if at all) does Po’s use of the voucher hurt them? How (if at all) does it help them?