

Homework 1

Budget Sets

Intermediate Microeconomics, W&L Econ 210
Professor Guse

1. Draw the budget set for the following parameters. $m = 20$, $p_{beer} = 1$, $p_{pizza} = 5$. The units for the two goods are pints and pies respectively.
 - (a) From any *interior* (= not intercept point) consumption bundle on the *budget line* how many beers must be forgone for each additional pizza?
 - (b) How many pizzas must be given up for each additional beer?
 - (c) Show in a new picture how the budget set changes when the price of beer increases to 2.
 - (d) Show in a new picture how the budget set changes when this consumer's income decreases to 15
2. Suppose that there is uniform inflation by which I mean all prices increase by the same rate r , so that the new prices (p'_1, p'_2) after the inflation are given by $p'_1 = p_1(1 + r)$ and $p'_2 = p_2(1 + r)$. Show how the budget set changes. If you wanted to restore the consumers budget set to what it was before the inflation without changes the prices, what could you do?
3. Malcom eats roast beef and smokes Camels. Roast beef is \$4 per pound and Camels are \$3 per pack. He currently chooses to consume 5 pounds of beef and 5 packs of cigarettes per week.
 - (a) Draw Malcom's budget set. What is Malcom's weekly income?
 - (b) If Malcom wanted to smoke more cigarettes at what rate would have to give up beef?
 - (c) Suppose that Malcom's income increases to \$45 and the price of cigarettes simultaneously increases to \$5 per pack.
 - (d) Draw his new budget set. Not know anything about Malcom's preferences except what was revealed by his original choice, is it possible to say whether Malcom is better off or worse off with the new budget set? Explain.

4. Consider a set of prices and income given by (p_1, p_2, m) and fix a consumption bundle (x_1, x_2) on the resulting budget line. Suppose that the price of good one increases from p_1 to p'_1 . Write down expression for a new level of income m' so that the resulting new budget line goes through (x_1, x_2) . (Hint this is what occurred in the previous problem.)
5. *Bulk Pricing* Suppose a consumer has an income of \$100 to spend on chocolate bars and ice-cream cones. She faces a constant price of \$1 for chocolate bars. However, the price of ice cream depends on how much you buy. The first 10 ice cream cones cost the consumer \$2 each, but every cone after that is \$0.50 each. Draw the budget set.
6. *Food Stamps*. William has \$250 to spend on food and a composite good. The price of food is \$1 per unit. The price of the composite good is \$1 per unit.
 - (a) Draw William's budget set.
 - (b) Suppose that the government gives William \$100 in food stamps and strictly enforces a rule which prohibits Will from using his food stamps for any purchases other than food. Draw the new budget set. Describe the MRT of food for other goods along the budget line.
 - (c) Suppose that the rule prohibiting non-food purchases is difficult to enforce and William can sell his food stamp for \$0.50 on the dollar. Draw his budget set.
7. *Additional Practice From Workbook* (Optional) 2.2, 2.5, 2.8, 2.11, 2.12