Practice Exam 2018

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An ECON - 8010 Practice Exam

October 4, 2024

Question 1

Problem

(25 Points) Bob consumes two goods: bagels x_1 and donuts x_2. These goods are sold in **discrete units**, and so the quantity of each that Bob consumes must be a whole number. Hence, Bob's collection of budget sets is given by

$$\mathcal{B} = \{\hat{B}_{p,w} | (p, w) \in \mathbb{R}^3_+\} \text{ where } \hat{B}_{p,w} \equiv \{x \in \mathbb{N}^2 | p \cdot x \leq w\},$$

where represents the natural numbers $\{0, 1, 2, ...\}$. Note that $\hat{B}_{p,w}$ **is not** the same as the Walrasian budget set $B_{p,w}$. Bob's choices from the budget sets corresponding to wealth $w = 10$ and price vectors $(p_1, p_2) \in \{(6, 4), (4, 8)\}$ are given by

$$C(\hat{B}_{(6,4),10}) = (1, 1);$$
$$C(\hat{B}_{(4,8),10}) = (0, 1)$$

(a) Given these choices, what restrictions, if any, does the weak axiom place on Bob's choice $C(\hat{B}_{(4,4),8})$ when $w = 8$ and $p_1 = p_2 = 4$? Explain your answer.

(b) Given these choices, what restrictions, if any, does the weak axiom place on Bob's choices $C(\hat{B}_{(4,3),10})$ when $w = 10, p_1 = 4, p_2 = 3$? Explain your answer.

Solution