ECO206 Microeconomic Theory
Lecture Notes

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1.1 Budget Constraint

- Exogenous income
- Endogenous income:

Bundle Combination of goods. If we have n goods, then x_1^A represents a quantity (x) of good 1 in bundle A.

$$A = (x_1^A, x_2^A, \ldots, x_n^A)$$

1.1.1 Types of Income

Exogenous income Cash(i.e. \$) in your pocket to spend.

Endogenous income Bundle fo goods you can sell to get money. e.g. *Assets*, *Skills*, *Time*, etc.

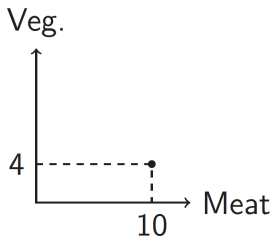

Figure 1: Consumption bundle

1.1.2 Exogenous Income

Consumer walk into market with a fixed amount of **cash**, budget constraint.

$$\vec{x} \cdot \vec{p} \leq I$$

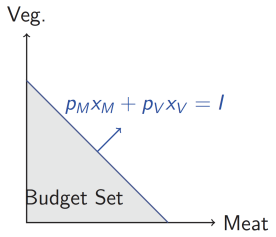

Figure 2: Budget constraint

1.1.3 Endogenous Income

Framework Consumer walks into a market **without cash**, but with **endowment** (ω_M, ω_V). And consumer can sell the endowment at market prices, the value of the endowment is

$$p_M \omega_M + p_V \omega_V$$

Hypothetical income Income/Cash from selling the *entire* bundle endowed.

Budget Constraint equation

$$p_M x_M + p_V x_V \leq I_{hypothetical} = p_M \omega_M + p_V \omega_V$$

Intercepts: if spend all income on one good.

- x-axis(meat) $= \frac{p_M \omega_M + p_V \omega_V}{p_M} = \omega_M + \frac{p_V}{p_M} \omega_V$
- y-axis(veg) $= \frac{p_M \omega_M + p_V \omega_V}{p_V} = \omega_V + \frac{p_M}{p_V} \omega_M$

Assumption consumers are price takers.

Affordable means *spending* $\leq$ *income* and $\vec{x} \in \mathbb{R}^n_+$

1.2 Opportunity Cost

OC/MRT Rate at which one good can be traded for another though the market, expressed in units of a good.

To get another unit of good 1 home many unit of good 2 do I need to give up?

$$\frac{dy}{dx} = -\frac{p_x}{p_y}$$

1.3 Changes that affect the budget constraint

1.3.1 Pure income change

keeping relative prices constant. i.e. $\frac{p_1}{p_2} = \overline{p}$

Figure 3: Pure income change

Note Changes in prices(relative price holds) will change the budget constraint in exogenous income budget, but will *not* affect the endogenous income constraint.

Conclusion To change budget constraint defined with endogenous income, we need **endowment changes**.

1.3.2 Price change

Figure 4: Price change

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1.3.3 Endogenous income price change

Figure 5: Endogenous income price change

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