

# **BUDGET CONSTRAINT**

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# PROPERTIES OF THE BUDGET SET

- The rate at which the market is willing to *substitute* good 1 for good 2
  - **Example-** Consumer is going to increase her consumption of good 1 by  $\Delta x_1$ . To satisfy her budget constraint, how much will her consumption of good 2 have to change? Let us use  $\Delta x_2$  to indicate her change in the consumption of good 2
- If the consumer satisfies her budget constraint before and after making the change she must satisfy

$$P_1x_1 + P_2x_2 = m \dots\dots (\text{eq. 1})$$

- And

$$P_1(x_1 + \Delta x_1) + P_2(x_2 + \Delta x_2) = m \dots\dots(\text{eq. 2})$$

# PROPERTIES OF THE BUDGET SET

- Subtract the first equation from the second one

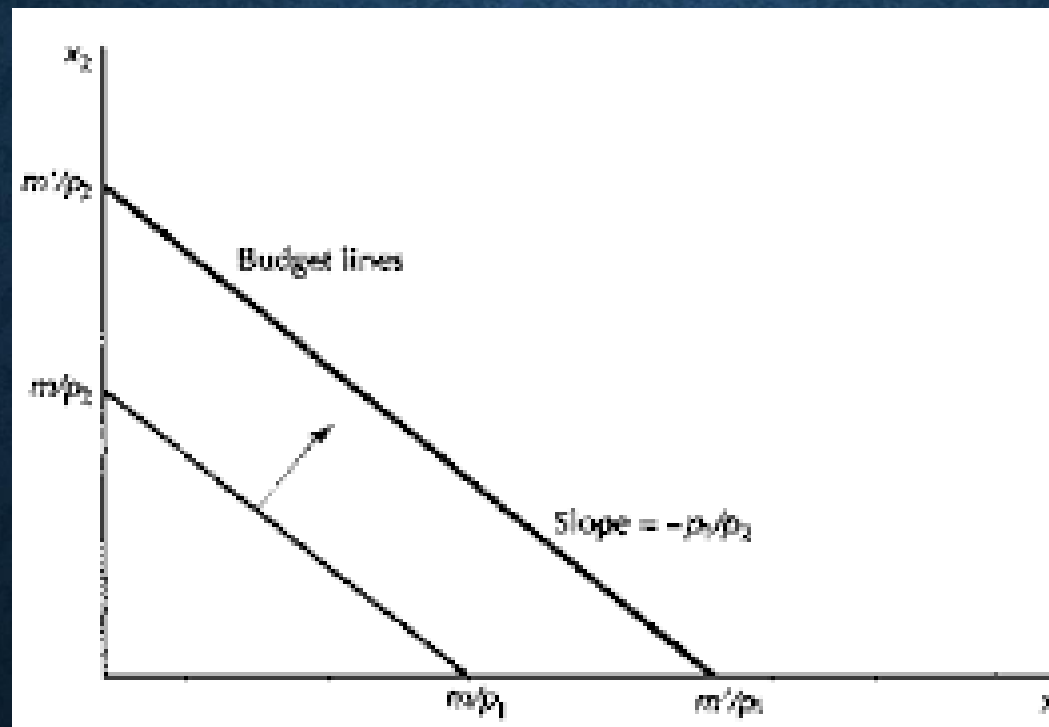
$$P_1\Delta x_1 + P_2\Delta x_2 = 0$$

- The total value of the change in her consumption must be zero
- The slope of the budget line measures the *opportunity cost* of consuming good 1

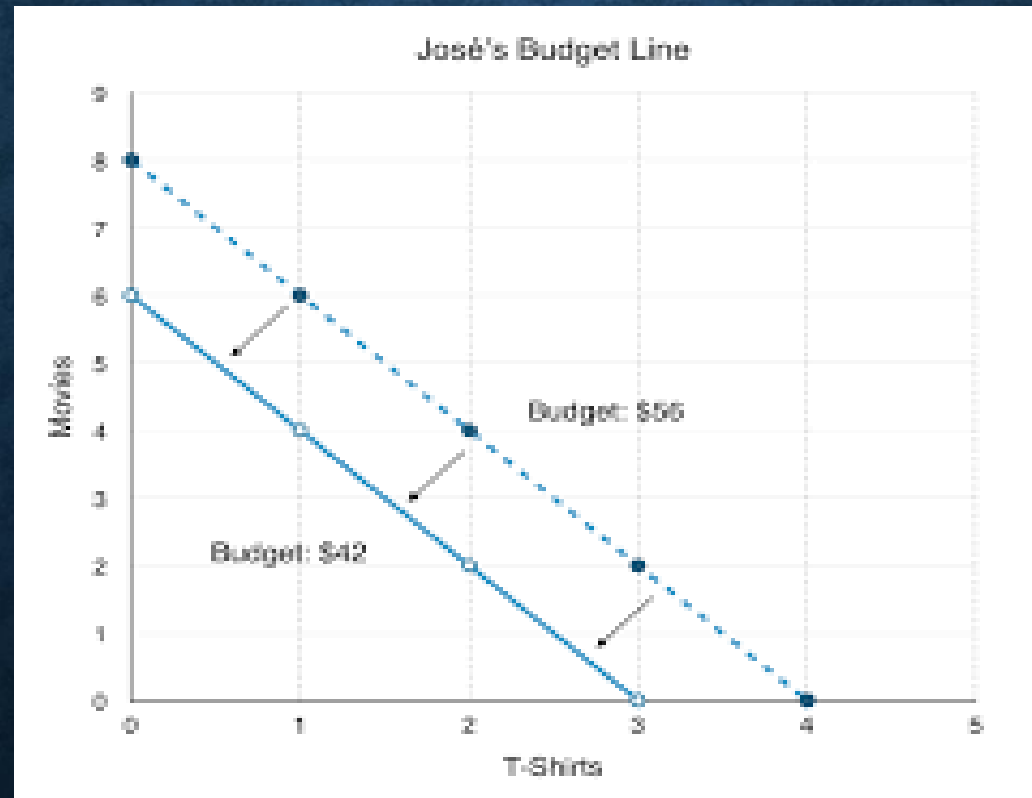
# HOW THE BUDGET LINE CHANGES

- With the change in prices and incomes, the set of goods that a consumer can afford also changes
- Let's consider changes in income
  - Increase in income
  - Decrease in Income

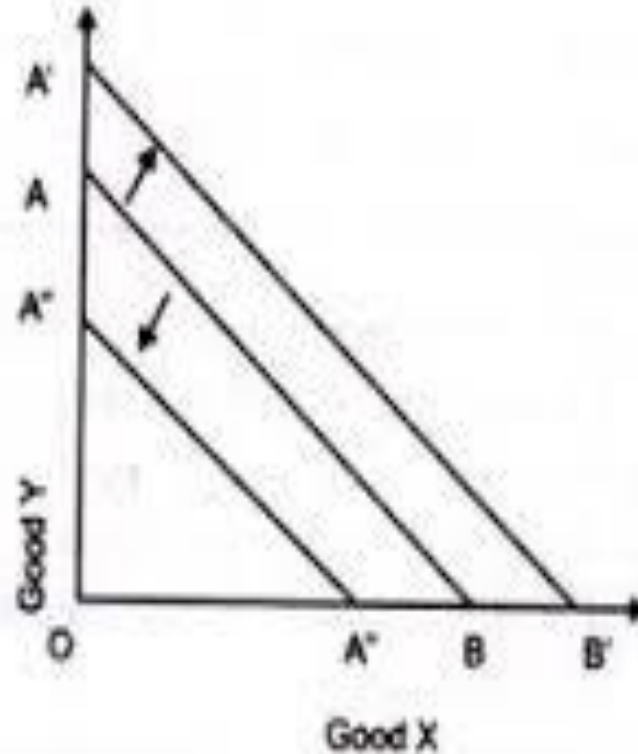
# INCREASE IN INCOME



# DECREASE IN INCOME

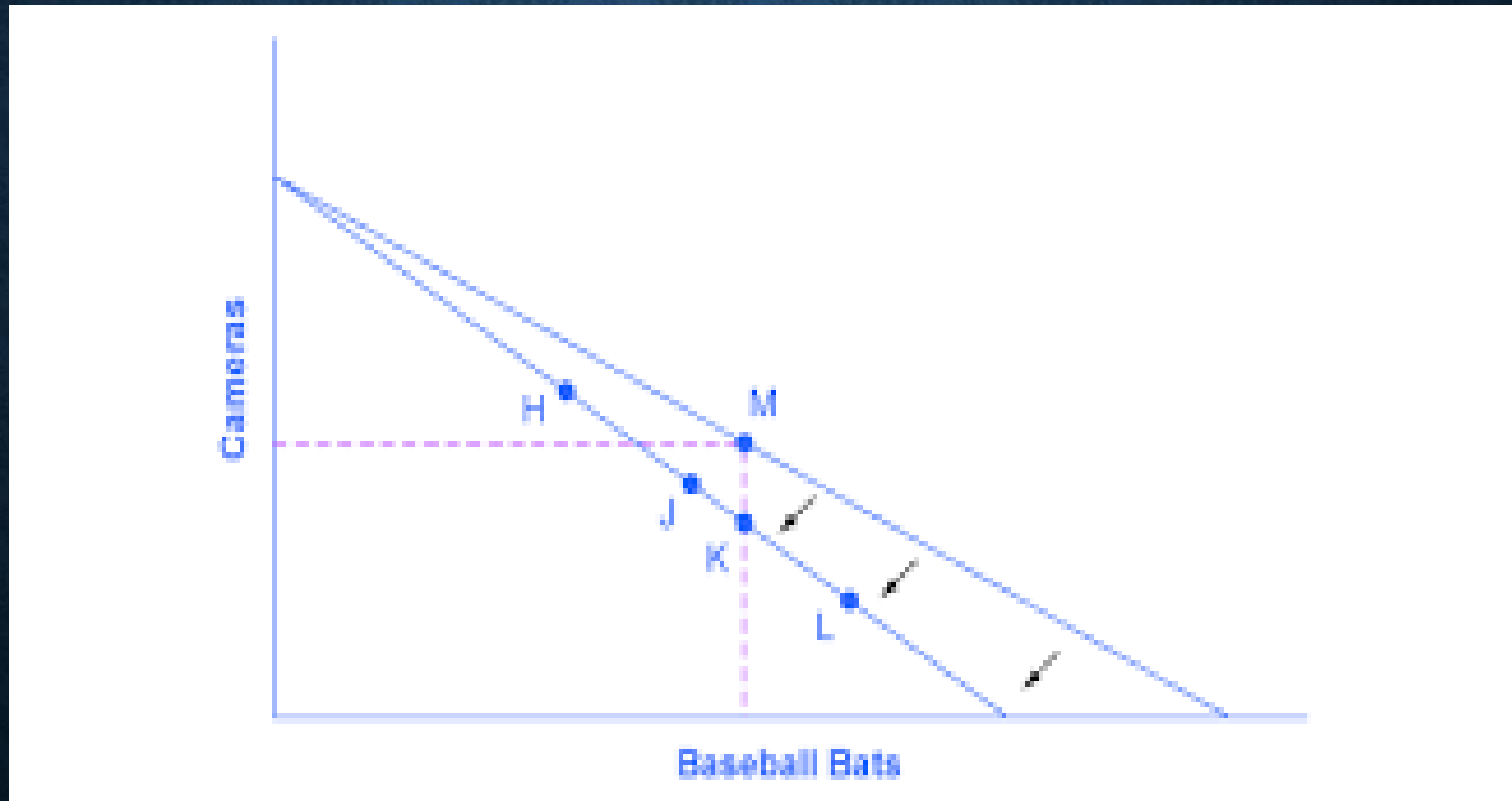


# EFFECTS ON BUDGET LINE WHEN INCOME CHANGES



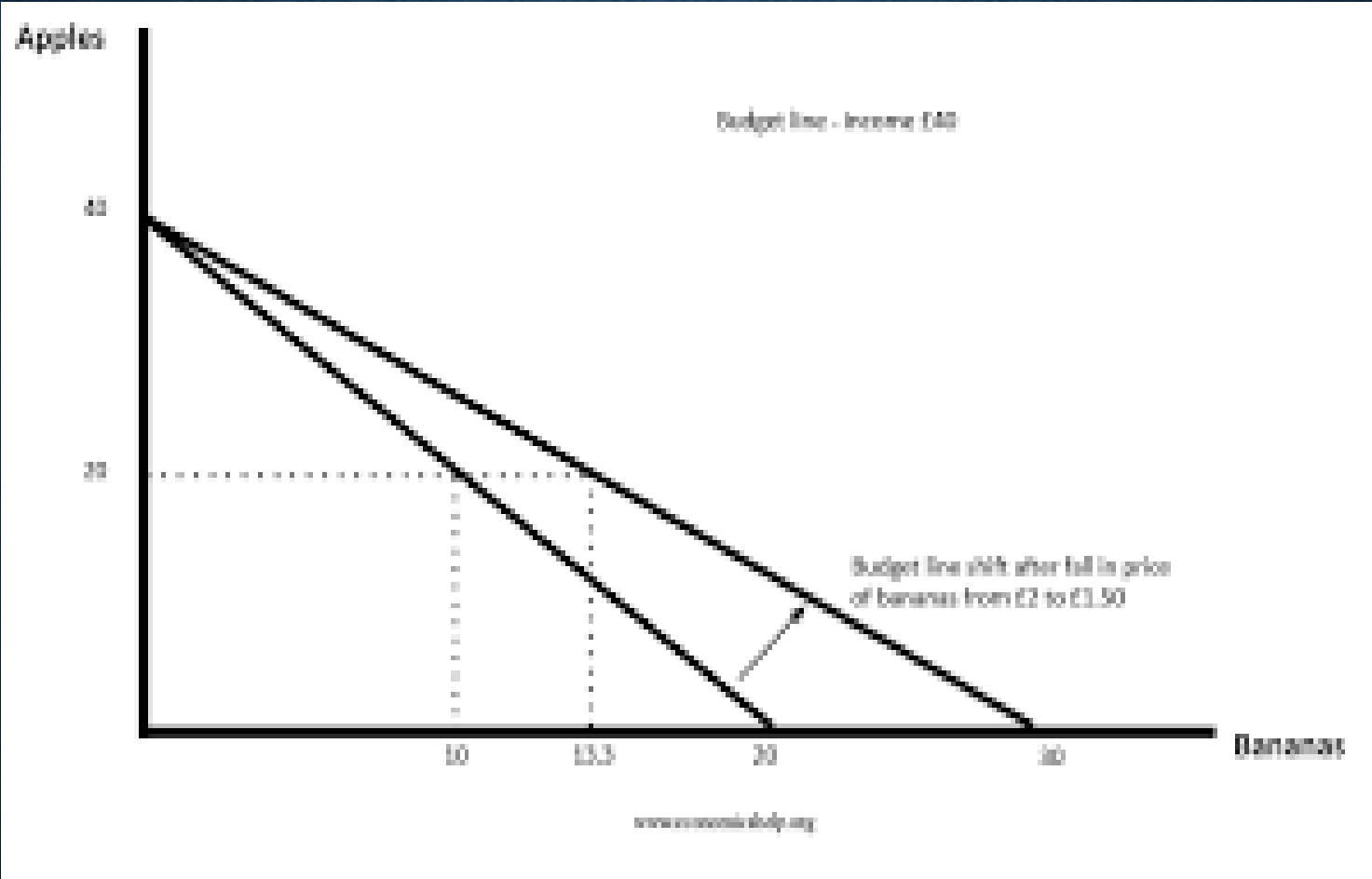
**Figure-17: Effect on Budget Line when Income Changes**

# INCREASE IN PRICE





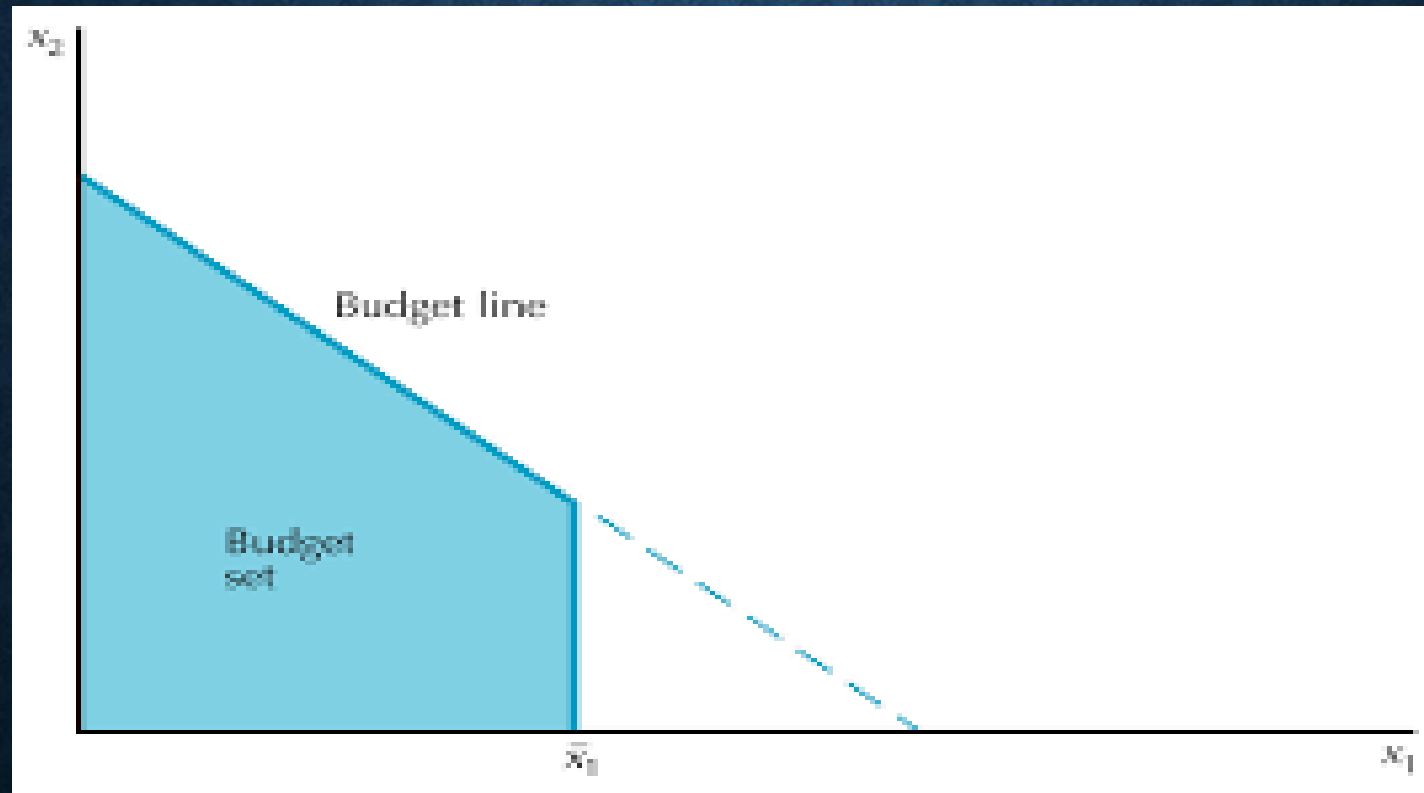
# DECREASE IN PRICE



# TAXES, SUBSIDIES AND RATIONING

- Economic policy also affects the consumer's budget constraint
  - Taxes (e.g. quantity tax, value or ad valorem tax, lump-sum tax)
  - Subsidies (e.g. quantity subsidy, ad valorem subsidy, lump-sum subsidy)
  - Rationing (the level of consumption of some good is fixed)

# BUDGET SET WITH RATIONING



If good 1 is rationed, the section of the budget set beyond the rationed quantity will be lopped off