

Suppose the utility from Gasoline (**G**) and “All other Goods” (**Y**) is $U=G \cdot Y^6$

- 1) Initially, $B=\$100$, $P_G=0.60$, $P_Y=1$. Maximize this person’s utility. (Solve for optimal G , Y , U)

- 2) Now, $B=\$100$, $P_G=\$1$, $P_Y=\$1$. Maximize this person’s utility. (Solve for optimal G , Y , U)

- 3) Now determine the hypothetical decomposition basket, where people would get the same old utility as before, but at the new prices.

- 4) Determine how much of the total decrease in gasoline consumption is due to the income effect, and how much is due to the substitution effect.

- 5) What is the compensating variation? Explain what this means.

G is on the X axis, Y on the Y Utility from Gasoline (G) and "All other Goods" (Y) is $U=G \cdot Y^6$

Plot the three solutions, labeling them along with their budget lines.

