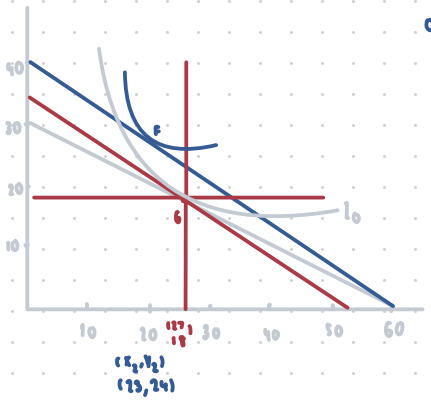


old

$XP_x + YP_y = 0$

$2x + 4y = 120$

$4y = -2x + 120$

$y = -\frac{1}{2}x + 30$

new

$XP_x + YP_y = 0$

$2x + 3y = 120$

$3y = -2x + 120$

$y = -\frac{2}{3}x + 40$

y int $(x = 0) = 40$

x int $(y = 0) = 60$

- Equilibrium change from E to F, p_y decrease
  - consume less x and more y
  - x and y are substitude product
- Slope changes from $-1/2$ to $-2/3$

Draw budget line on same IC

S.E. $\begin{cases} \Delta x = x_1 - x_0 = 27 - 31 = -4 < 0 \\ \Delta y = y_1 - y_0 = 18 - 15 = 3 > 0 \end{cases}$

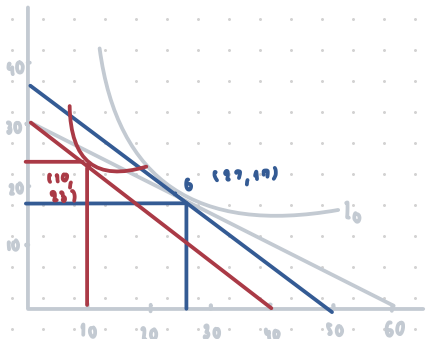
Draw more budget line, Draw new IC

I.E. $\begin{cases} \Delta x = x_2 - x_1 = 23 - 27 = -4 < 0 \\ \Delta y = y_2 - y_1 = 24 - 18 = 6 > 0 \end{cases}$ more real income ⇒ consume less x, consume more y ⇒ x is inferior, y is luxury

Total effect = SE + IE

T.E. = $\Delta x = x_2 - x_0 = 23 - 31 = -8$

$\Delta y = y_2 - y_0 = 24 - 15 = 9$



old

$XP_x + YP_y = 0$

$2x + 4y = 120$

$4y = -2x + 120$

$y = -\frac{1}{2}x + 30$

new

$XP_x + YP_y = 0$

$3x + 4y = 120$

$4y = -3x + 120$

$y = -\frac{3}{4}x + 30$

y int = 30

x int = 40

- Equilibrium changes from E to F, P_x increase ⇒ consume less x and more y
- x and y are substitude product
- Slope changes from $-1/2$ to $-3/4$
- so we draw budget line on same IC

S.E. $\begin{cases} \Delta x = x_1 - x_0 = 27 - 31 = -4 < 0 \\ \Delta y = y_1 - y_0 = 17 - 14 = 3 > 0 \end{cases}$

Draw more budget line up, draw new IC

I.E. $\begin{cases} \Delta x = x_2 - x_1 = 10 - 27 = -17 < 0 \\ \Delta y = y_2 - y_1 = 23 - 17 = 6 > 0 \end{cases}$ less real income ⇒ consume less x, more y ⇒ x is luxury, y is inferior

Total effect = S.E + I.E

T.E $\begin{cases} \Delta x = x_2 - x_0 = 10 - 31 = -21 \\ \Delta y = y_2 - y_0 = 23 - 14 = 9 \end{cases}$