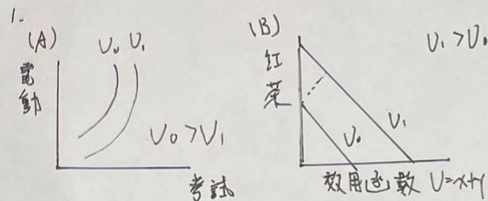


A108260019 經濟 = 甲 廖思勤

一、

1	D	6	D	11	C	16	A
2	B	7	C	12	D		
3	D	8	C	13	D		
4	A	9	A	14	C		
5	B	10	B	15	A		

二、



2

$$\begin{aligned}
 (1) \quad & 20x + 10y = 300 \\
 & U = f(x, y) = x^{\frac{1}{3}} y^{\frac{2}{3}} \\
 & MRS_{xy} = \frac{\frac{1}{3} x^{-\frac{2}{3}} y^{\frac{2}{3}}}{\frac{2}{3} x^{\frac{1}{3}} y^{-\frac{1}{3}}} = \frac{P_x}{P_y} = \frac{20}{10} \\
 & \frac{4}{3} x^{-\frac{2}{3}} y^{\frac{2}{3}} = \frac{2}{3} x^{\frac{1}{3}} y^{-\frac{1}{3}} \\
 & \frac{4}{20} x^{-1} = \frac{1}{20} x^{-2} y^2 \\
 & \frac{64x}{20y} = \frac{y^2}{20x} \\
 & 27y = 64x \quad x^3 = 14x^3 \quad \frac{y^3}{x^3} = 64 \\
 & (\frac{y}{x})^3 = 64, \frac{y}{x} = 4, y = 4x \\
 & 60x = 300, x = 5, y = 20
 \end{aligned}$$

消費者均衡 5 杯咖啡 20 個包子

(12)

$$\begin{aligned}
 U &= f(x, y) = 3x + y \\
 200 &= 20x + 10y \\
 MRS_{xy} &= 3 > \frac{P_x}{P_y} = 2 \\
 x &= 15, y = 0
 \end{aligned}$$

15 杯咖啡, 0 個包子

(13)

$$\begin{aligned}
 U &= f(x, y) = \min(x, y) \\
 \text{subject to } & 300 = 20x + 10y \\
 2y &= x \\
 2y &= x \quad x=12 \quad y=6 \\
 & 12 \text{ 杯咖啡, } 6 \text{ 個包子}
 \end{aligned}$$

3.

$$\begin{aligned}
 \text{Max } & U = f(x, y) = x^{\frac{1}{3}} y^{\frac{2}{3}} \\
 \text{subject to } & 300 = 20x + 10y \\
 x &= 5 \quad y = 10
 \end{aligned}$$

烏龍茶

F 降 10 元

$$\begin{aligned}
 \text{Max } & U = f(x, y) = x^{\frac{1}{3}} y^{\frac{2}{3}} \\
 \text{subject to } & 300 = 10x + 10y \\
 MRS_{xy} &= \frac{P_x}{P_y} = \frac{10}{10} = 1 \\
 y &= 2x, x = 10, y = 20
 \end{aligned}$$

價格效果: (5-20) 到 (10-20)

$$U = x^{\frac{1}{3}} y^{\frac{2}{3}} = (5)^{\frac{1}{3}} (20)^{\frac{2}{3}} = (2000)^{\frac{1}{3}}$$

$$y = 2x \text{ 代入 } U = (2000)^{\frac{1}{3}}$$

$$x = (1000)^{\frac{1}{3}} \quad y = (8)^{\frac{1}{3}} (1000)^{\frac{1}{3}} = (8000)^{\frac{1}{3}}$$

所得效果 [(1000, 8000)^{\frac{1}{3}}] 到 [(10, 20)]

替代效果 [5-20] 到 [(1000)^{\frac{1}{3}}, (8000)^{\frac{1}{3}}]

4.

$$\begin{aligned}
 (1) \quad & U = f(x, y) = x^{\frac{1}{3}} y^{\frac{2}{3}} \quad \text{subject to } 300 = 20x + 10y \\
 MRS_{xy} &= 2 \Rightarrow y = 4x
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & y = 4x \text{ 代入 } 20x + 10y = 1M \\
 60x &= M \quad x = \frac{M}{60}
 \end{aligned}$$

$$(3) \quad y = \frac{1M}{20}$$

(14)

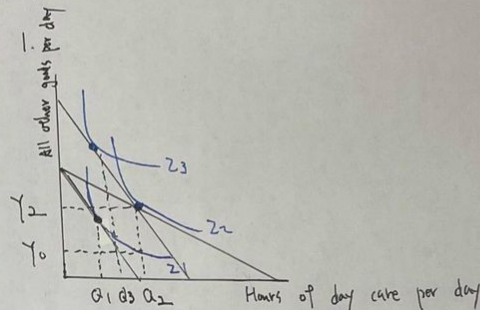
$$U = f(x, y) = x^{\frac{1}{3}} y^{\frac{2}{3}}$$

$$\text{subject to } 300 = P_x x + 10y$$

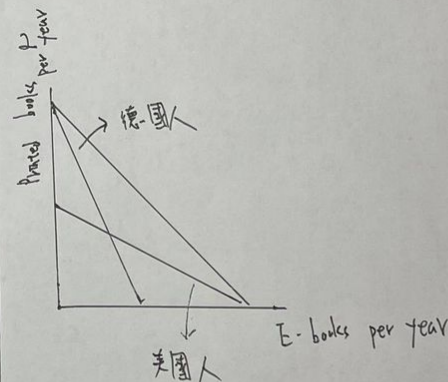
$$MRS_{xy} = \frac{\frac{1}{3} x^{-\frac{2}{3}} y^{\frac{2}{3}}}{\frac{2}{3} x^{\frac{1}{3}} y^{-\frac{1}{3}}} = \frac{P_x}{P_y}, y = \frac{4P_x}{5} x$$

$$300 = P_x x + 10 \left( \frac{4P_x}{5} x \right) \Rightarrow 9P_x x = 300, x = \frac{300}{9P_x}$$

三、



價格補貼政策可以對老人長照的數目增加最多, 業者會最喜歡價格補貼政策, 因消費者對長照購買數最多



電子書和紙本書為完全替代品, 美國稅少電子書便宜, 所以買電子書德國反之。政策差異, 價格不同消費行為也會不同。情況二為文化差異, 德國人喜歡實體書大於電子書, 而美國反之。