

**SPQ [01]**

[A]       $Y = E$   
            $Y = C + I$   
            $Y = 200 + 0.75 Y + 300$   
            $Y = 500 + 0.75 Y$   
            $Y - 0.75Y = 500$   
            $0.25Y = 500$   
            $0.25 \quad 0.25$   
  
            $Y = \underline{2,000}$

Alternatively;

$W = J$   
 $S = I$   
 $- 200 + 0.25Y = 300$   
 $0.25Y = 300 + 200$   
 $0.25Y = 500$   
 $0.25 \quad 0.25$   
  
 $Y = \underline{2,000}$

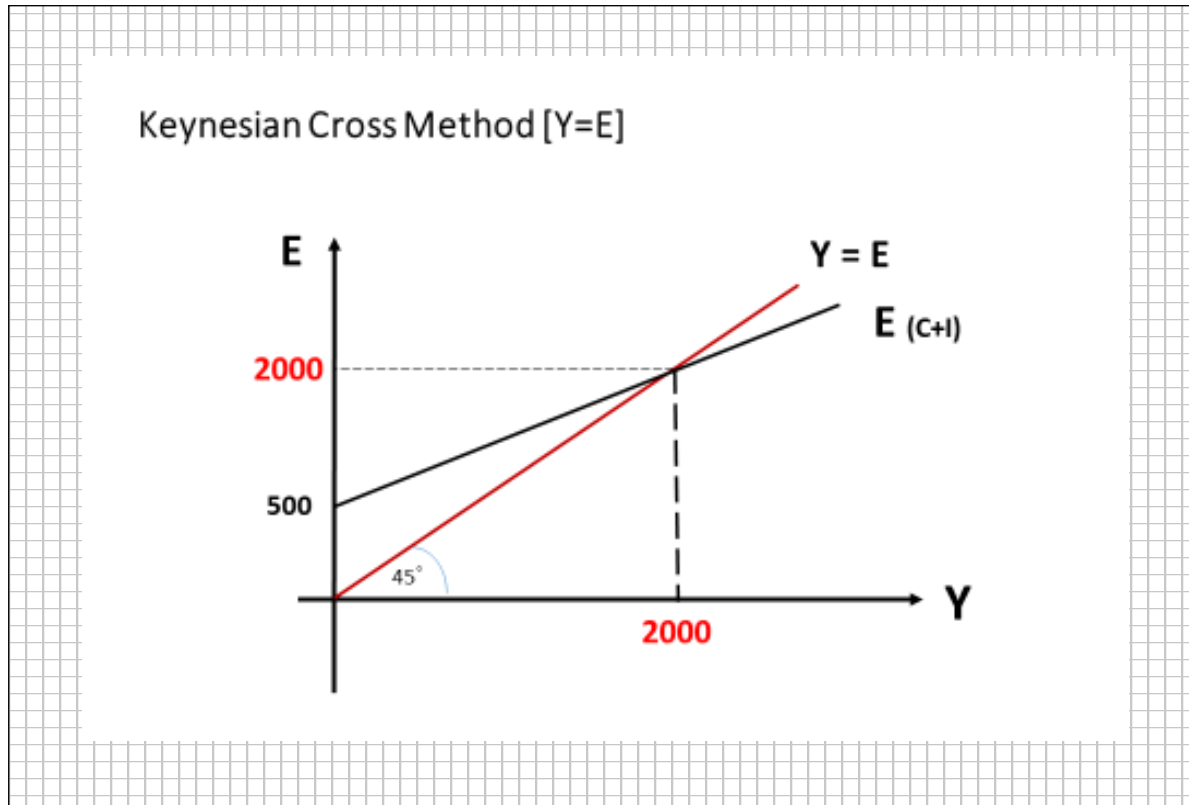
If,  $C = 200 + 0.75 Y$   
 $S = - a + (1-b) Y$   
 $-a = - 200$   
 $(1-b) = 1 - 0.75$   
 - - -

[B]      **Workings**

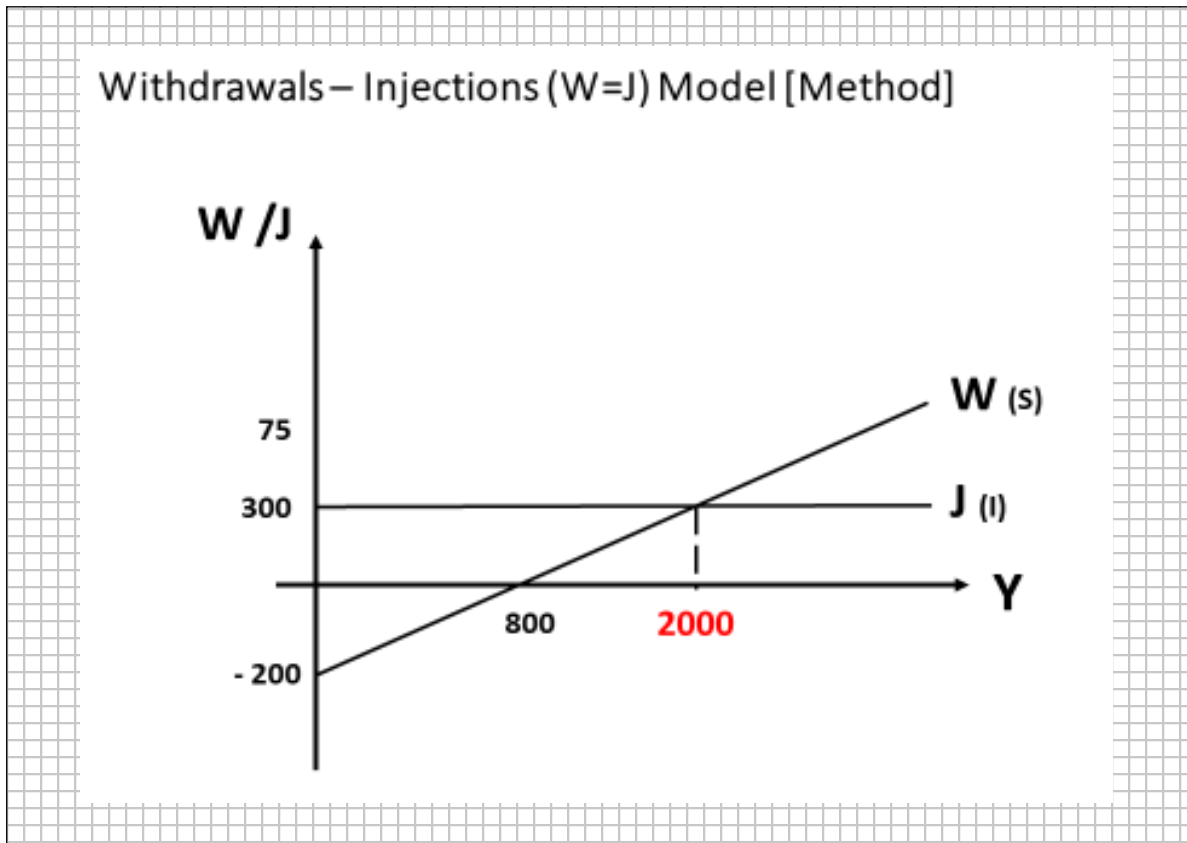
Y	C [200 + 0.75Y]	I	E [C + I]	S [-200 + 0.25Y]
00	200	300	500	-200
1000	950	300	1250	50
2000	1700	300	2000	300
3000	2450	300	2750	550
4000	3200	300	3500	800

**General Marks Allocation:**

Technically correct diagram, indicating the axis, curves, components pertaining to each function [e.g. E (C+I)], forming the correct numeric value of equilibrium income, will be awarded 04 marks. One of the two methods is sufficient.



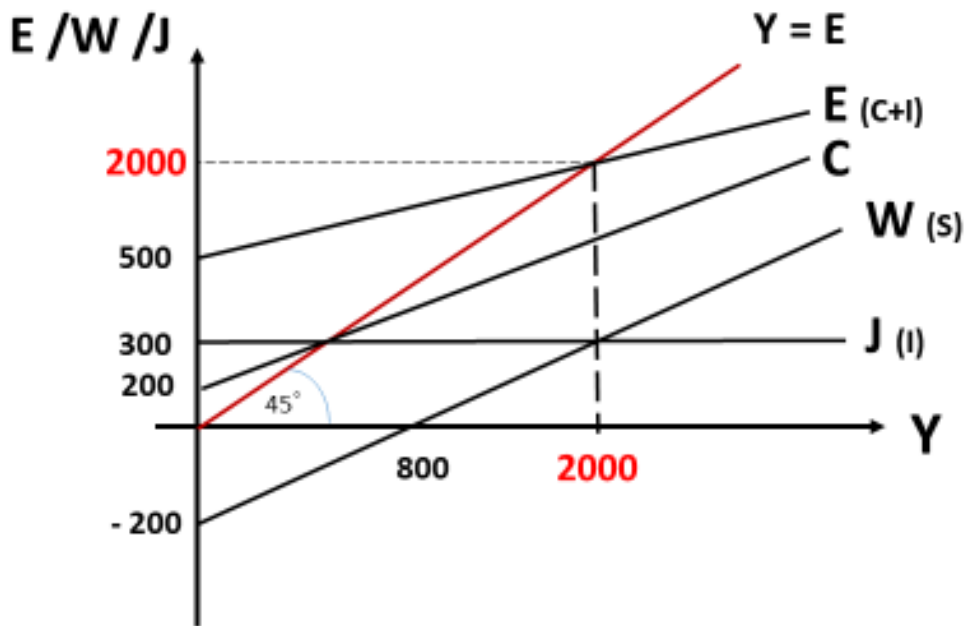
Alternatively;



**Additional** [for Knowledge purposes]

Combined Approach:

Keynesian Cross (Y=E) - Withdrawals – Injections (W=J) Model



**SPQ [02]**

(A)  $C = 100 + 0.8Y$   
 $C = a + bY$   
 $S = -a + (1-b)Y$

$-a = -100$   
 $(1-b) = 1 - 0.8$   
 $= 0.2$

$S = -100 + 0.2Y$

(B)  $E (AD) = C + I$   
 $E = 100 + 0.8Y + 200$   
 $E = 300 + 0.8Y$

$$\begin{aligned}
 \text{(C)} \quad & Y = E \\
 \text{Therefore} \quad & Y = 300 + 0.8Y \\
 & Y - 0.8Y = 300 \\
 & \underline{0.2Y} = \underline{300} \\
 & \underline{0.2Y} = \underline{0.2Y} \\
 & Y = \underline{\underline{1,500}}
 \end{aligned}$$

$$\begin{aligned}
 \text{(D)} \quad C &= 100 + 0.8Y \\
 &= 100 + (0.8 * 1500) \\
 &= \underline{\underline{1,300}} \\
 \\ 
 S &= -100 + 0.2Y \\
 &= -100 + (0.2 * 1500) \\
 &= \underline{\underline{200}}
 \end{aligned}$$

**SPQ [03]**

$$\begin{aligned}
 \text{(A)} \quad \text{Primary effect} \quad & \Delta Y_1 = \Delta I \\
 & \underline{\underline{200}}
 \end{aligned}$$

$$\begin{aligned}
 \text{(B)} \quad \text{Aggregate secondary effect} \quad & \Delta Y_2 = 500 - 200 \\
 & = \underline{\underline{300}}
 \end{aligned}$$

**Workings**

$$\begin{aligned}
 \text{Multiplier Coefficient} &= 1 \div [1 - 0.6] \\
 &= \underline{\underline{2.5}}
 \end{aligned}$$

$$\begin{aligned}
 \text{Multiplier Application} &= \Delta I \times K \\
 &= 200 \times 2.5 \\
 &= \underline{\underline{500}}
 \end{aligned}$$

$$\begin{aligned}
 \text{(C)} \quad \text{Total effect} &= \text{Primary effect} + \text{Secondary effect} \\
 &= 200 + 300 \\
 &= \underline{\underline{500}}
 \end{aligned}$$

**Alternative:**

$$\begin{aligned}
 \text{Multiplier Application} &= \Delta I \times K \\
 &= 200 \times 2.5 \\
 &= \underline{\underline{500}}
 \end{aligned}$$

**SPQ [04]**

(A)

$$\begin{aligned}
 Y &= E \\
 \text{Therefore } Y &= C + I + G \\
 Y &= 300 + 0.80Y_d + 400 + 300 \\
 Y &= 1000 + 0.80 [Y - T] \\
 Y &= 1000 + 0.80 [Y - 250] \\
 Y &= 1000 + 0.80Y - 200 \\
 Y &= 800 + 0.80Y \\
 Y - 0.80Y &= 800 \\
 \underline{0.20Y} &= \underline{800} \\
 0.20Y &= 0.20 \\
 Y &= \underline{\underline{4,000}}
 \end{aligned}$$

(B)

Y	C* [100 + 0.80Y]	I	G	J [I + G]	E [C + I + G]	S* [-350 + 0.20Y]	T	W [S + T]
00	100	400	300	700	800	- 350	250	-100
2000	1700	400	300	700	2400	50	250	300
<b>4000</b>	3300	400	300	<b>700</b>	<b>4000</b>	450	250	<b>700</b>
6000	4900	400	300	700	5600	850	250	1100

C\* [Consumption equation, based on Income (Y)]

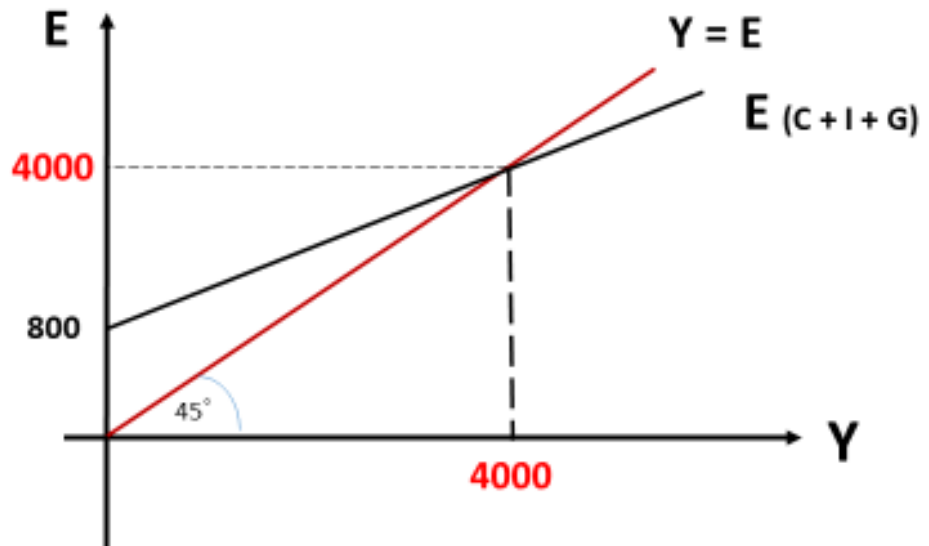
$$\begin{aligned}
 C &= 300 + 0.80 Y_d \\
 C &= 300 + 0.80 [Y - T] \\
 C &= 300 + 0.80 [Y - 250] \\
 C &= 300 + 0.80 Y - 200 \\
 \underline{\underline{C = 100 + 0.80 Y}}
 \end{aligned}$$

S\* [Savings equation, based on Income (Y)]

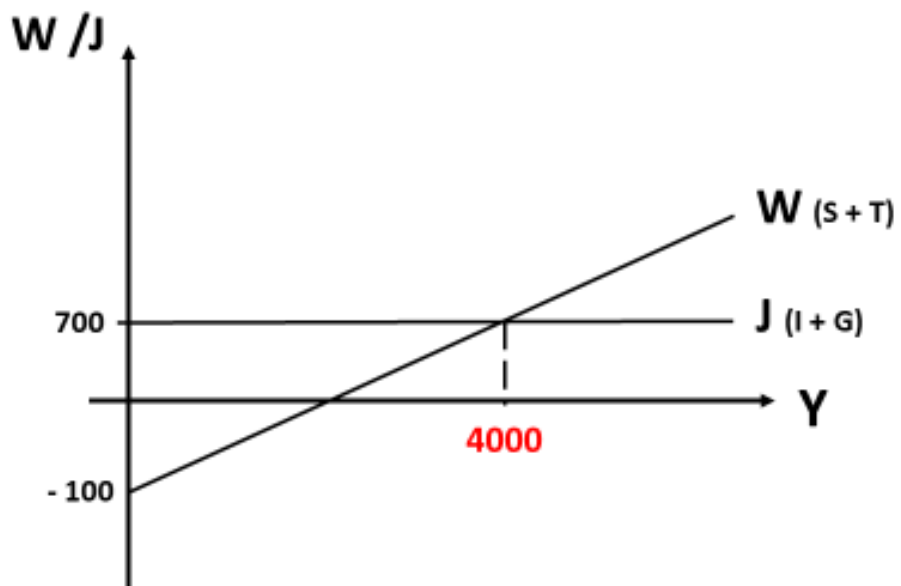
$$\begin{aligned}
 S &= - 300 + 0.20 Y_d \\
 S &= - 300 + 0.20 [Y - T] \\
 S &= -300 + 0.20 [Y - 250] \\
 S &= - 300 + 0.20 Y - 50 \\
 \underline{\underline{S = - 350 + 0.20 Y}}
 \end{aligned}$$

(c)

Keynesian Cross Method [Y=E]



Withdrawals – Injections (W=J) Model [Method]



**(D) Investment-Savings Gap [at Equilibrium]**

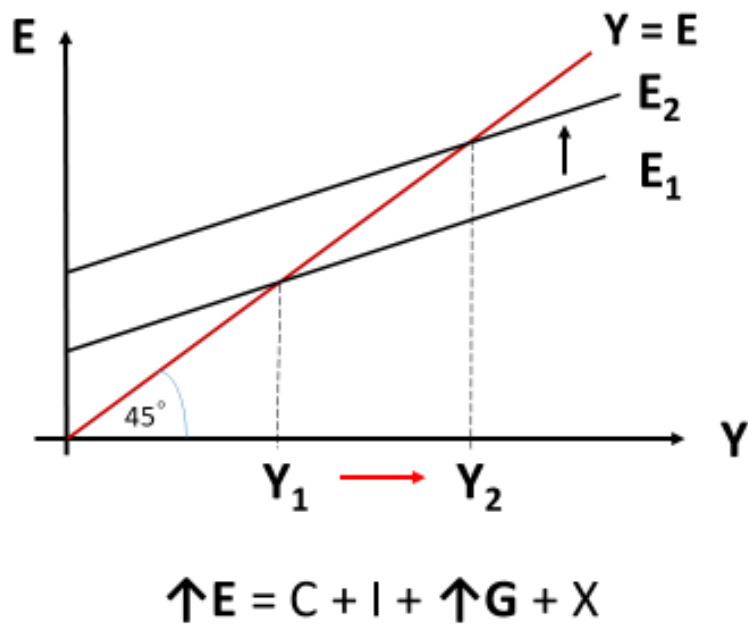
$$\begin{aligned}
 &= \text{Investment} - \text{Savings} \\
 &= 400 - 450 \\
 &= \underline{\underline{-50}}
 \end{aligned}$$

**Budget Balance (Gap) [at Equilibrium]**

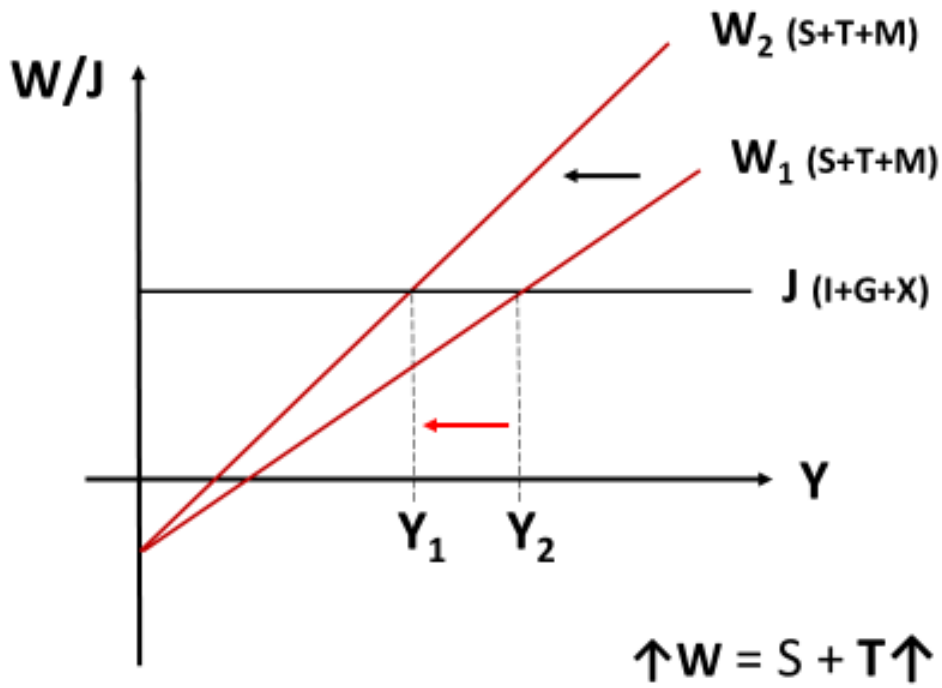
$$\begin{aligned}
 &= \text{Tax} - \text{Government Purchases} \\
 &= 250 - 300 \\
 &= \underline{\underline{-50}}
 \end{aligned}$$

**Graphically Illustrating [ $\Delta Y_e$ ]**

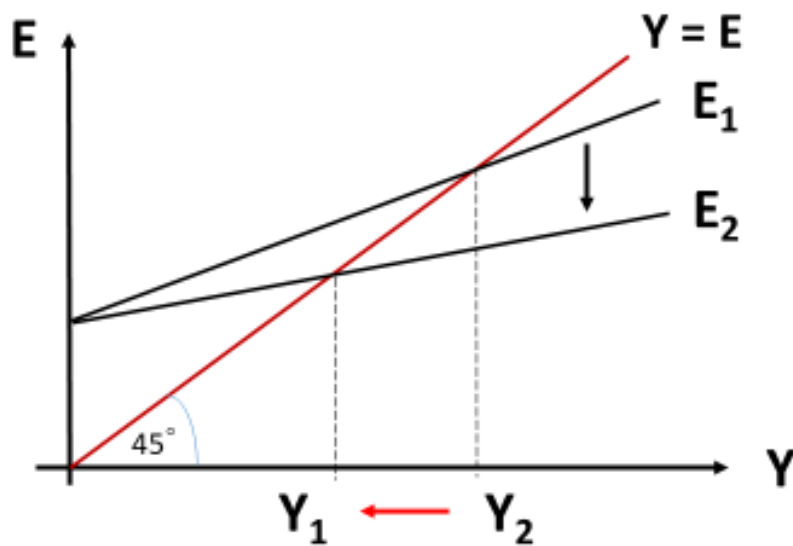
Increase in Government Purchases [ $\uparrow \Delta G$ ]



Increase in MPT or  $[T_1]$



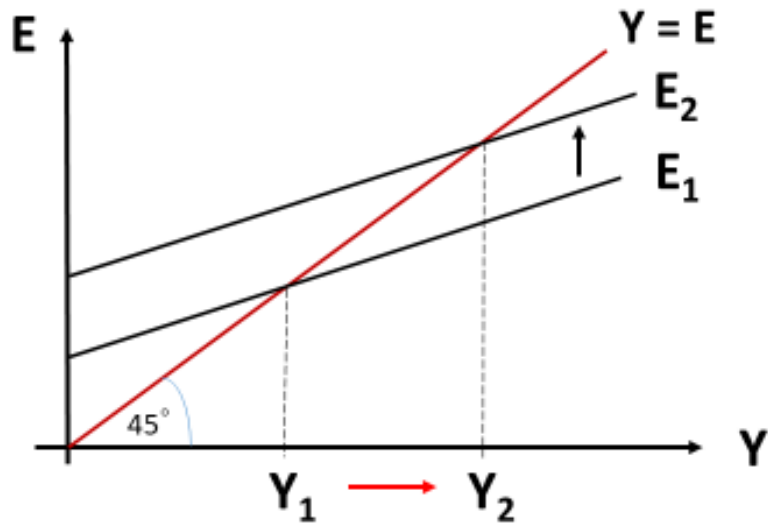
Increase in MPT or  $[T_1]$



$\downarrow E = \downarrow C + I + G \leftarrow [C = f(Yd \downarrow)] \leftarrow [Yd = Y - T \uparrow + TR]$

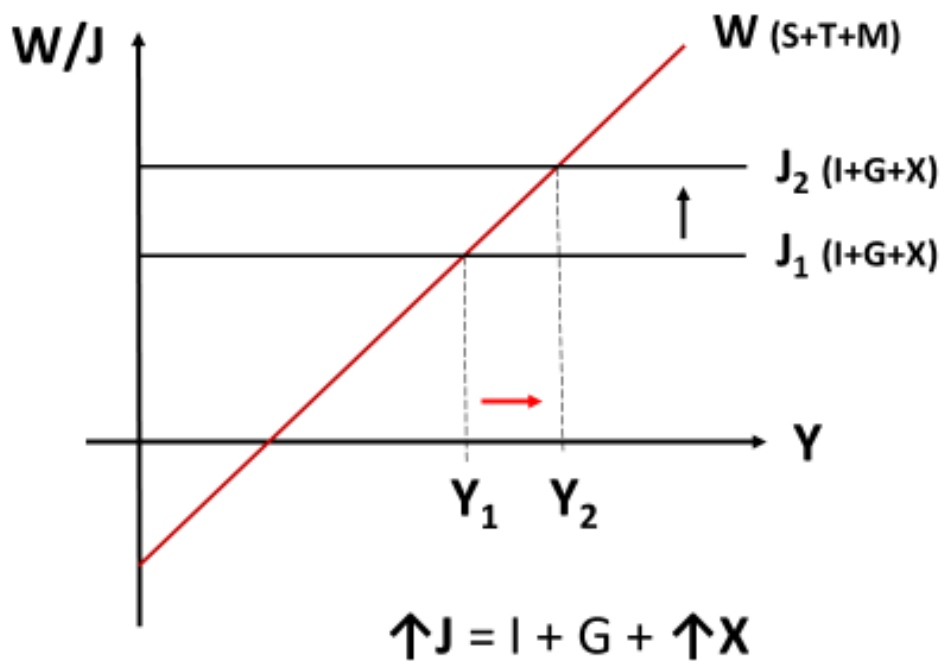


### Increase in Exports [X] or Net Exports [NX]



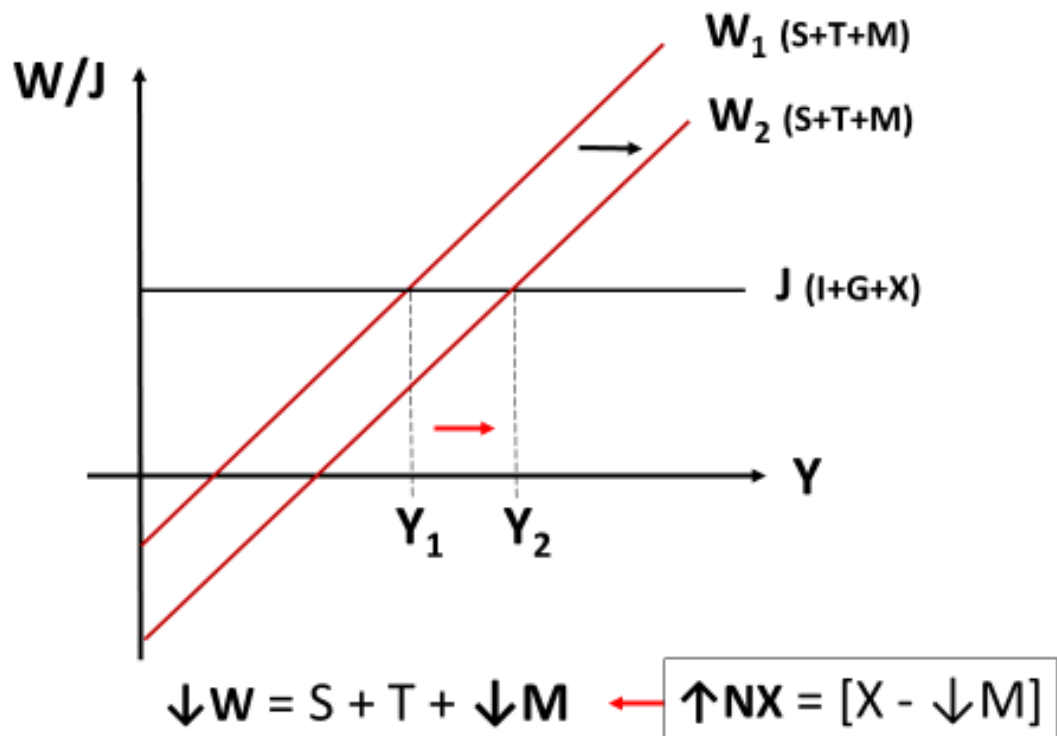
$$\uparrow E = C + I + G + \uparrow X \text{ OR } + \uparrow NX = (\uparrow X - \downarrow M)$$

### Increase in Exports [X]

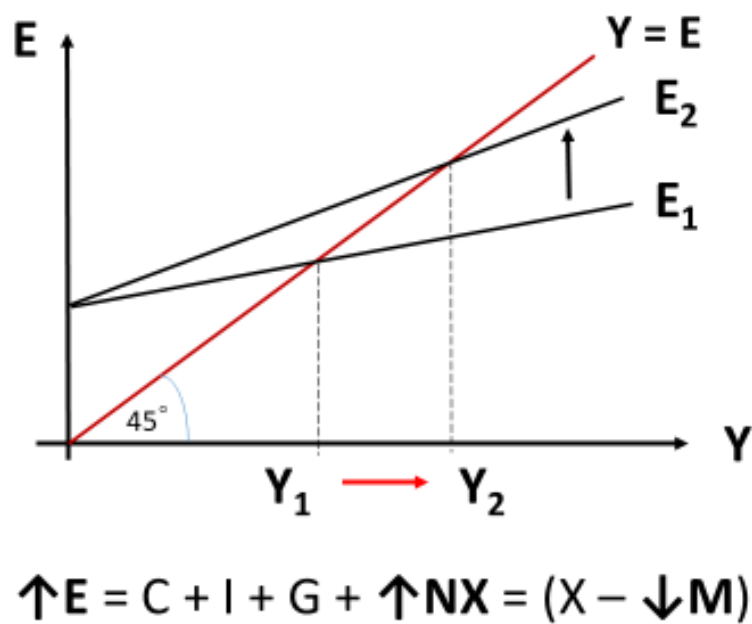


$$\uparrow J = I + G + \uparrow X$$

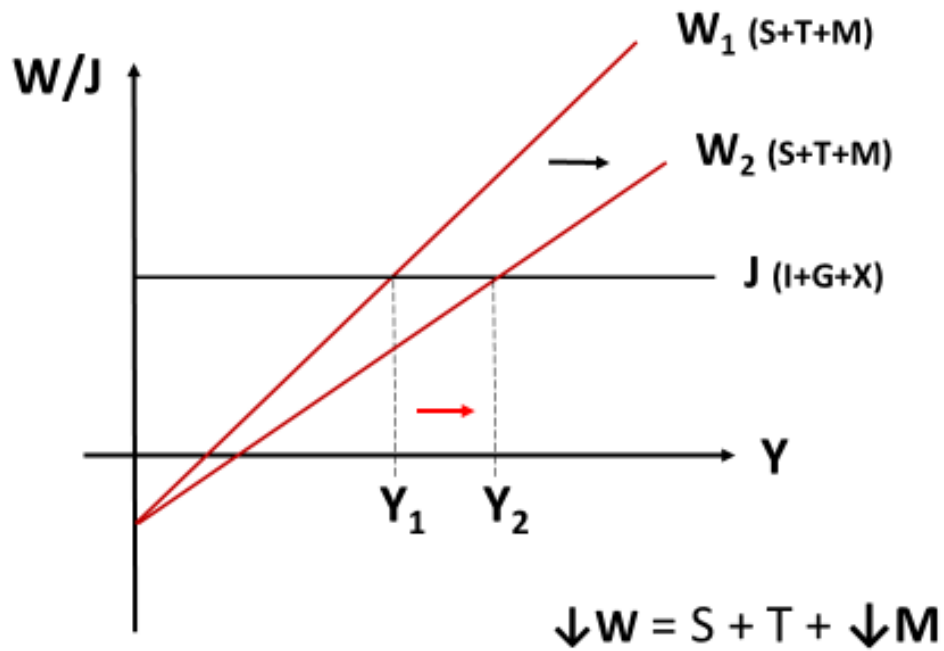
### Increase in Net Exports [NX]



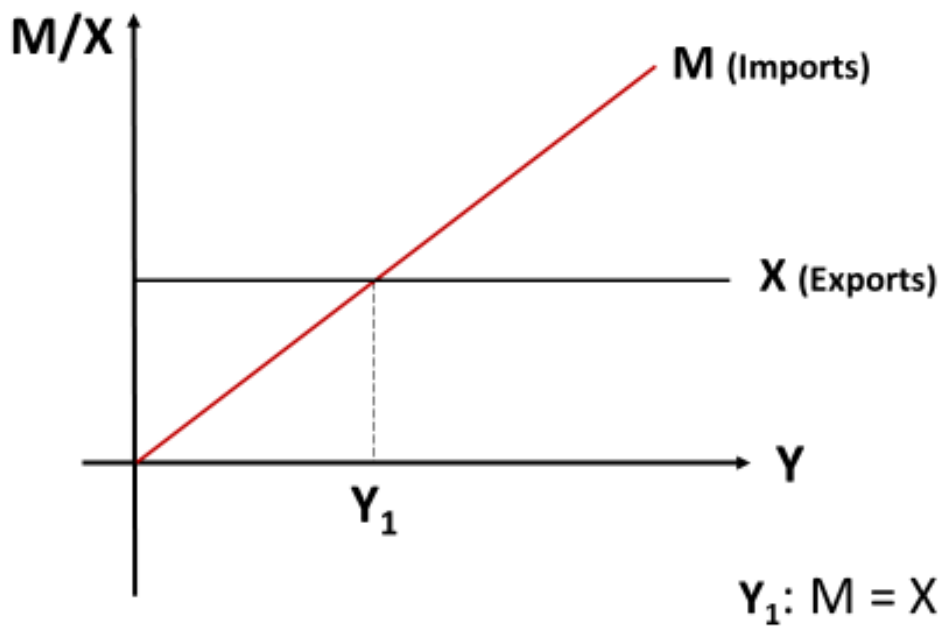
### Decrease in Induced Imports [ $M_1$ ] or [MPM]



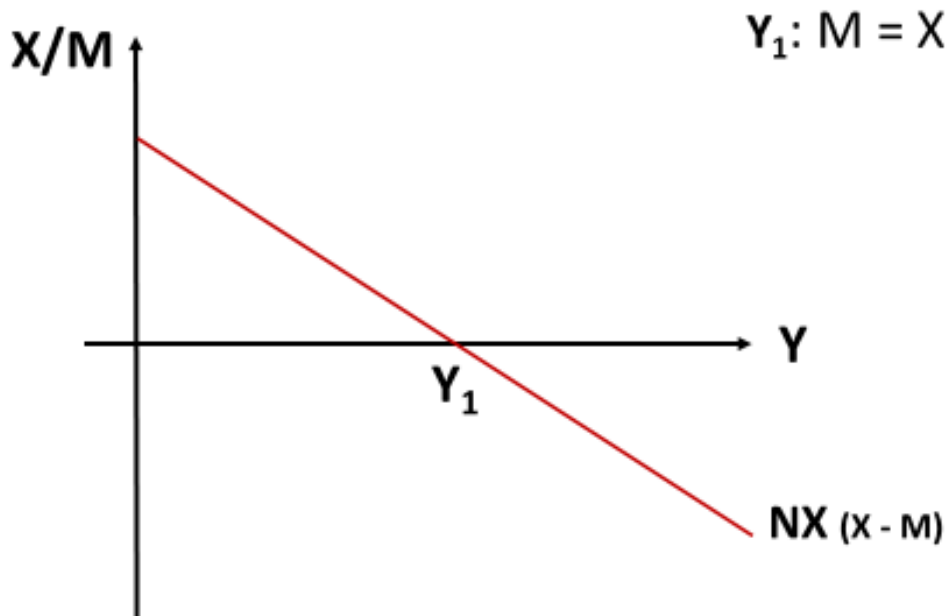
Decrease in Induced Imports [ $M_1$ ] or [MPM]



Imports [M] Vs. Net Exports [NX]



### Imports [M] Vs. Net Exports [NX]



*Achieve your 'A' Grade*



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MVSEP / ORIGINAL PUBLICATION / 27/ 05/ 2023 | MIND-HUB / THEORY (23)