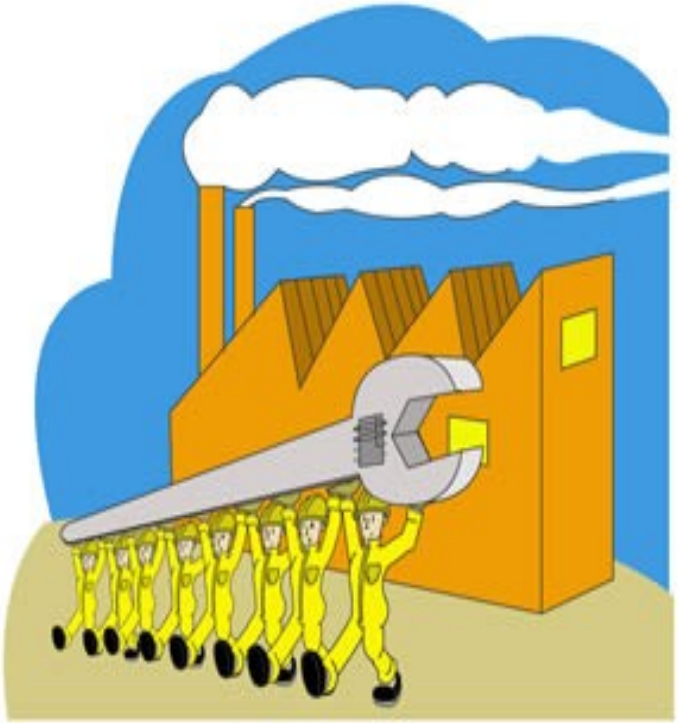
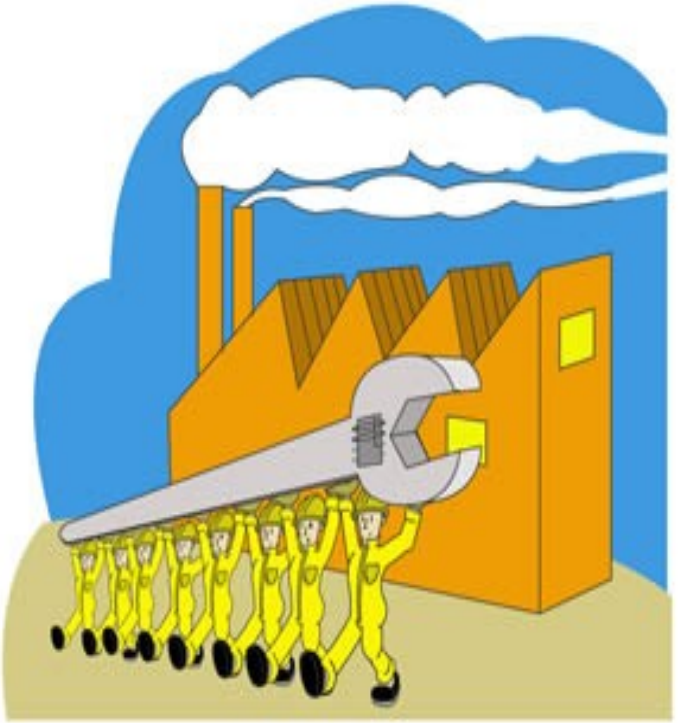
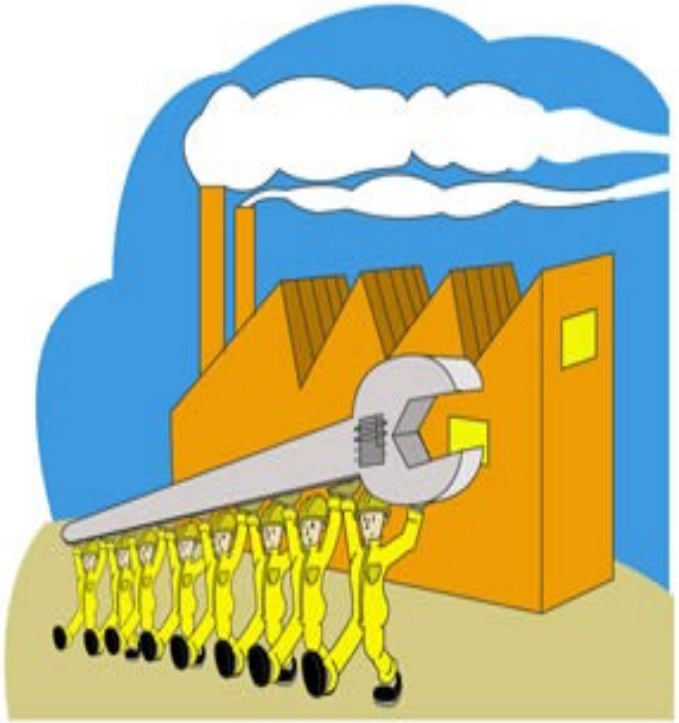
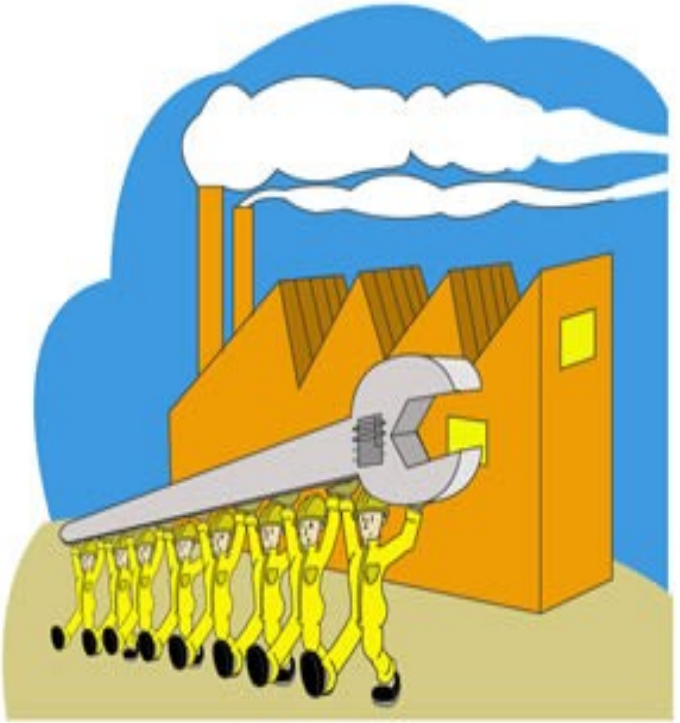
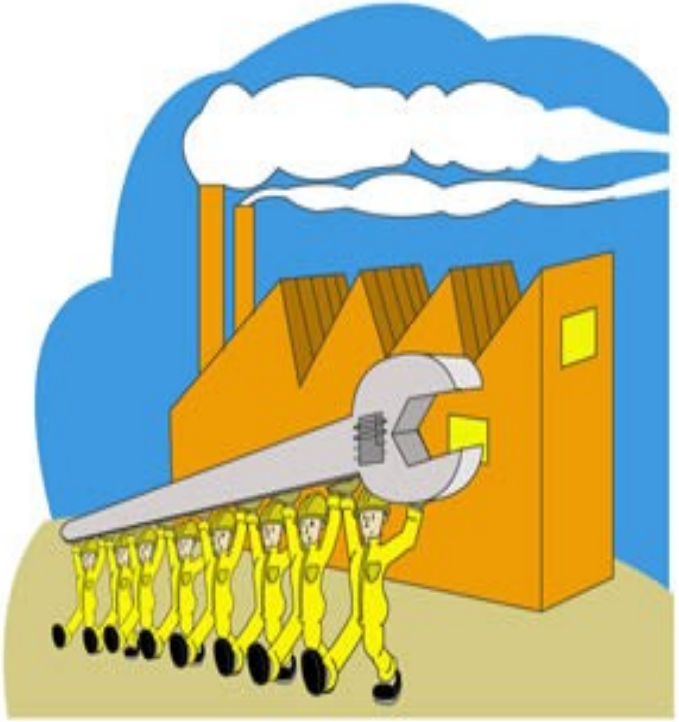


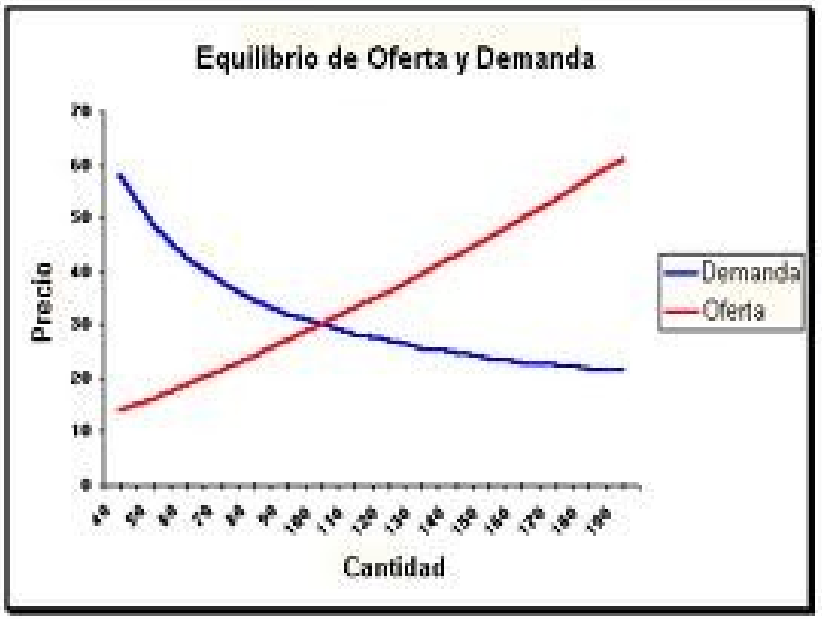


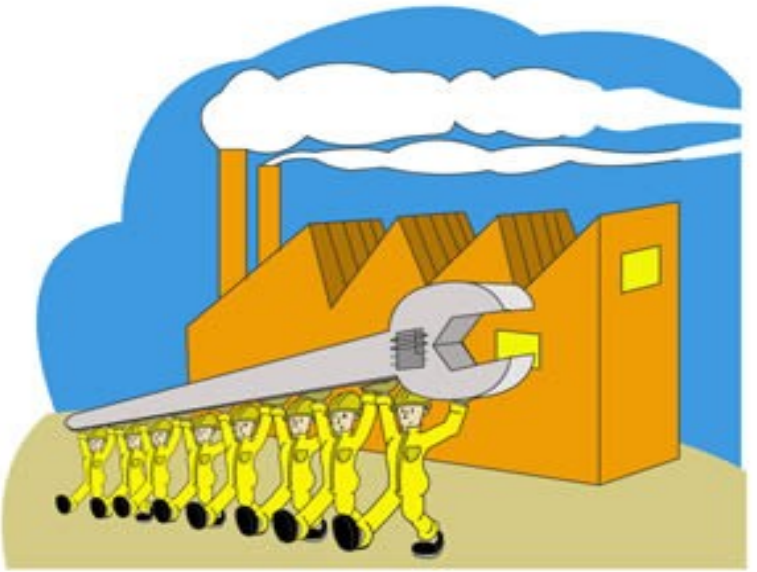




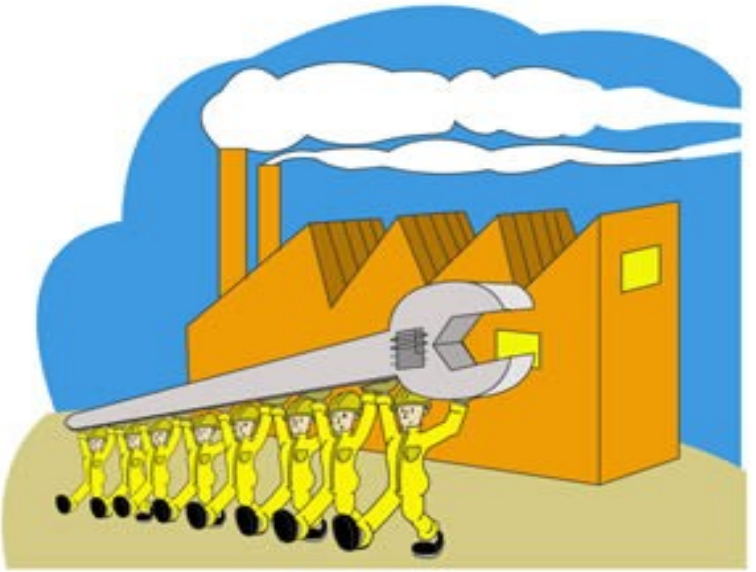

Equilibrio de Oferta y Demanda
Precio
Cantidad
Demanda
Oferta



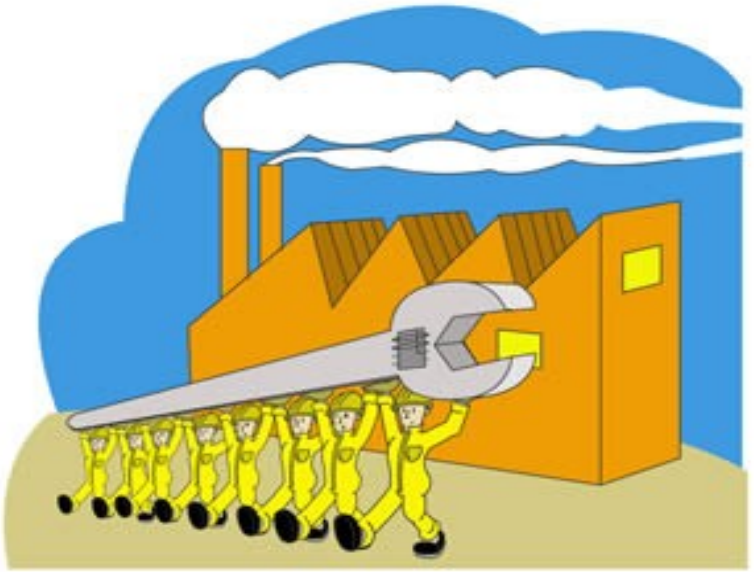

Equilibrio de Oferta y Demanda
Precio
Cantidad
Demanda
Oferta



$$U = XY$$



$$X = \frac{L_X}{2}$$



$$Y = L_Y + X$$

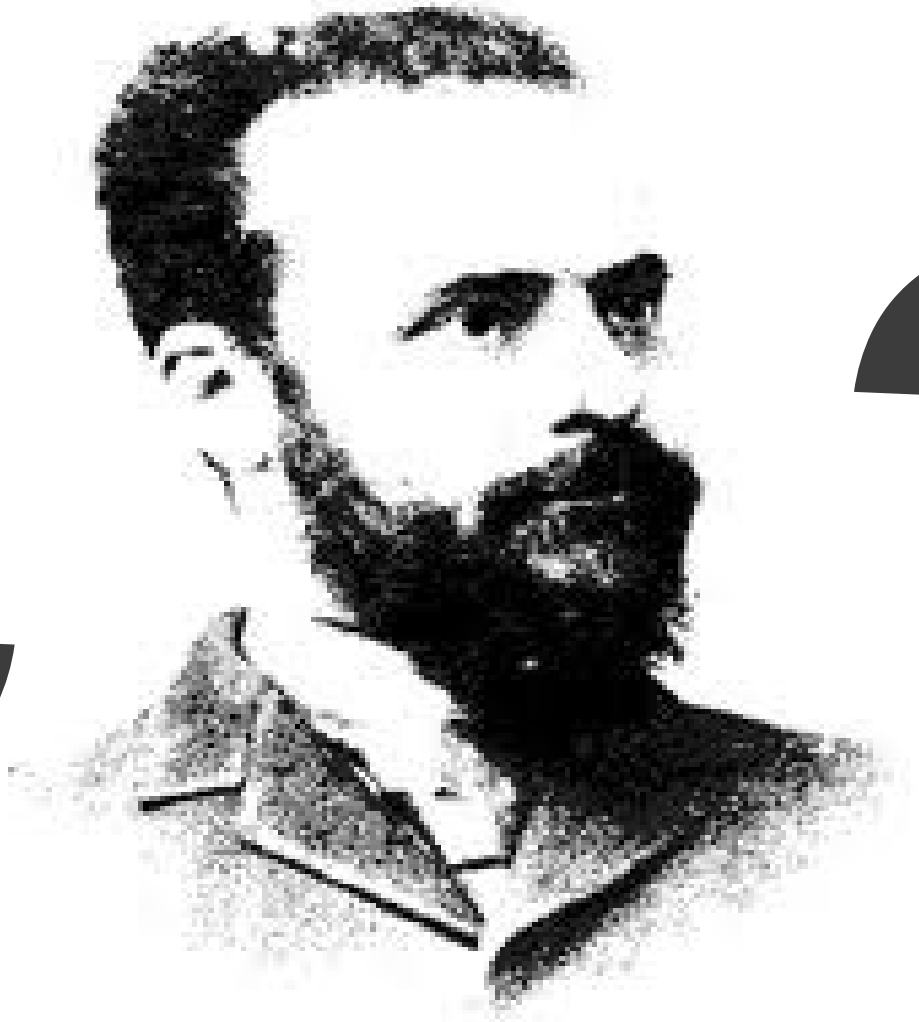
$$\bar{L} = 100$$

$$U = XY$$

$$X = \frac{L_X}{2}$$

$$Y = L_Y + X$$

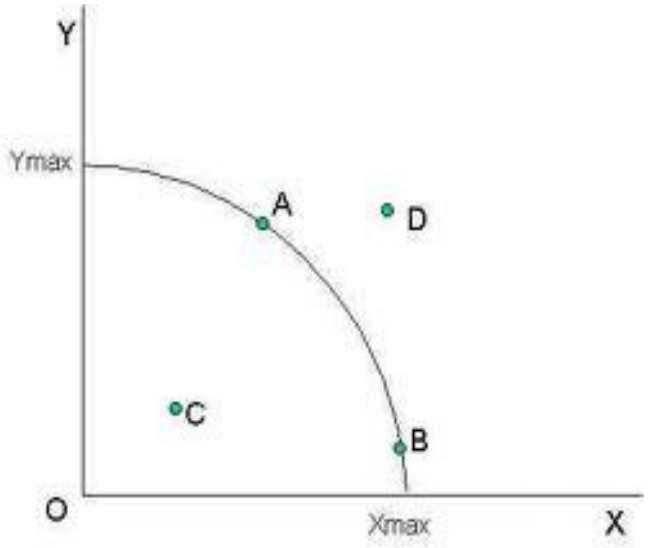
$$\bar{L} = L_X + L_Y = 100$$

¿  ?

1

Max. U

s.a.



$$Max\, U = XY$$
$$s.a. \left(X, Y\right) \in FPP$$

¿Cómo es la FPP?

$$X = \frac{L_X}{2} \rightarrow L_x = 2x$$

$$Y = L_Y + X$$

$$\rightarrow L_Y = Y - X$$

$$L_x = 2x$$

$$L_Y = Y - X$$

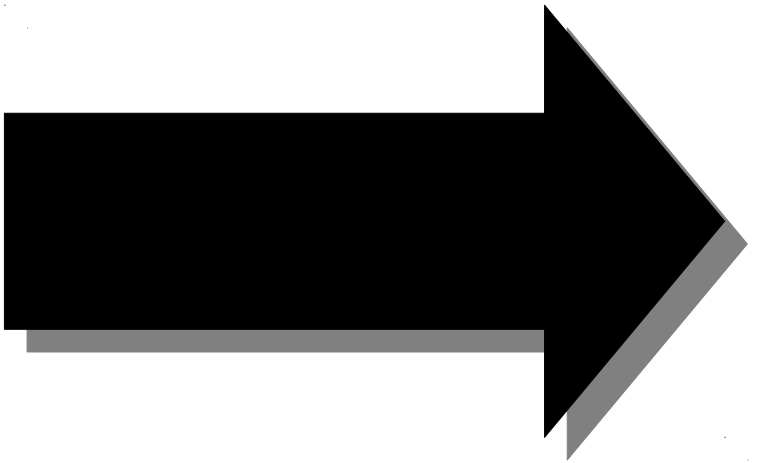
$$\bar{L} = L_X + L_Y = 100$$

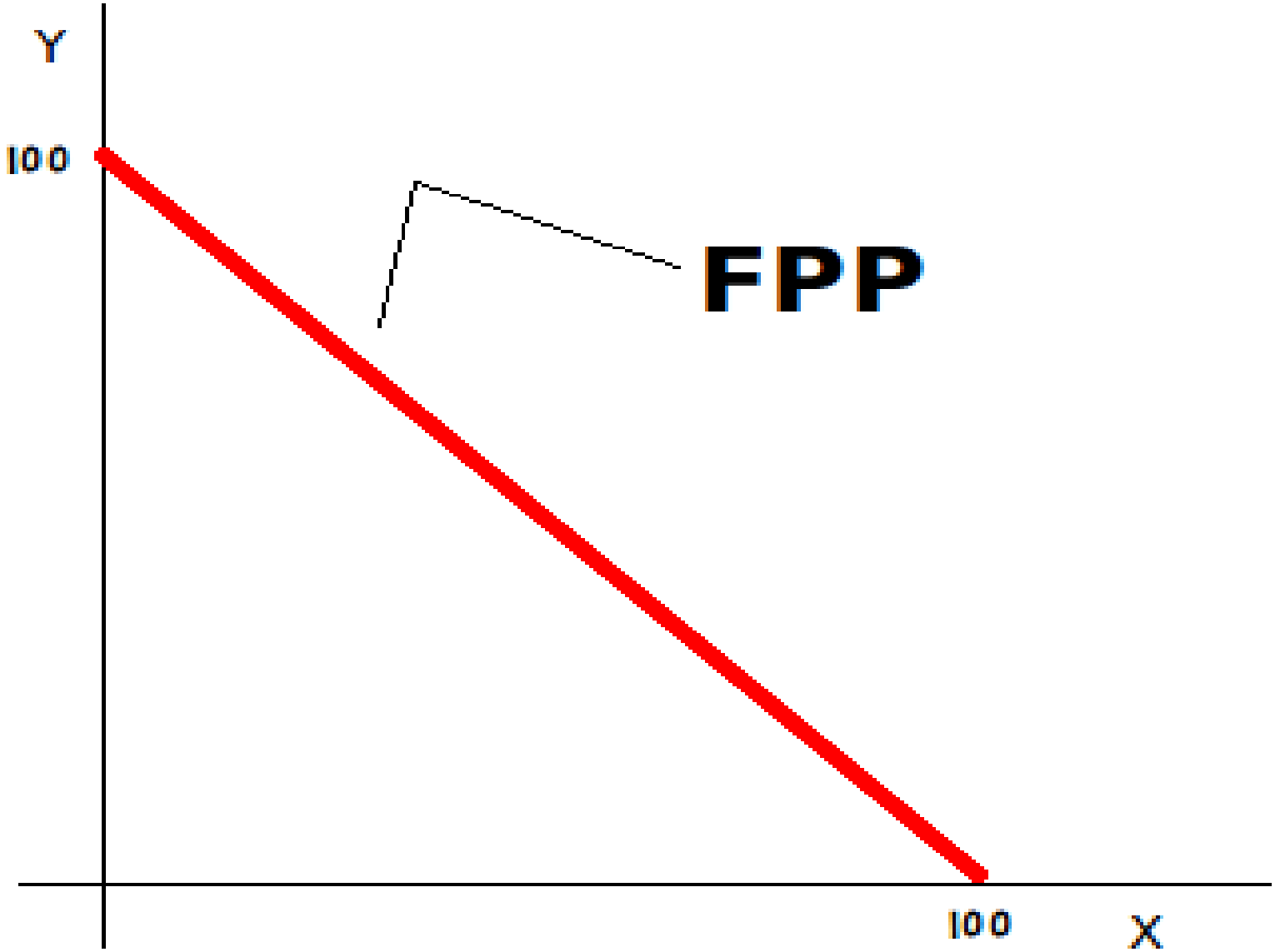
$$2X + Y - X = 100$$

$$X + Y = 100$$

FPP

$$X + Y = 100$$




Y
100
FPP
100
X


Are You Sure?
YES
NO


NO

¿Qué pasa si destinamos todo el trabajo a producir el bien X?

¿intercepto horizontal?


NO

$$X = \frac{L_X}{2} = \frac{100}{2}$$

$$X = 50$$

$$Y = L_Y + X = 0 + 50$$

$$Y = 50$$

¿Qué pasa si destinamos todo el trabajo a producir el bien X?

$$(50,50)$$

¿Qué pasa si destinamos todo el trabajo a producir el bien Y?

¿intercepto vertical?


Si

$$Y = L_Y + X$$

$$Y = 100 + X$$

$$X = \frac{L_X}{2}$$

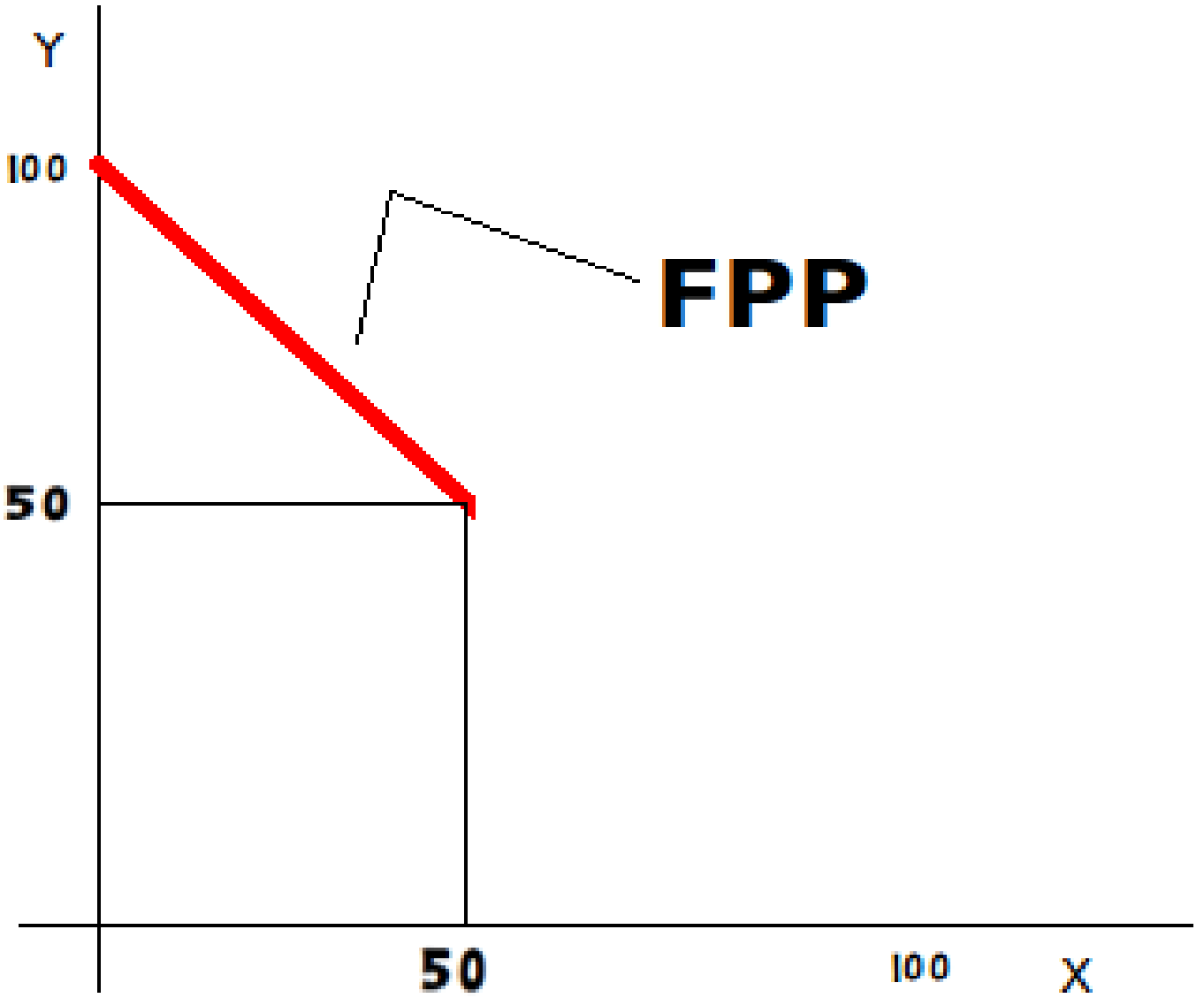
$$X = \frac{0}{2}$$

$$X = 0$$

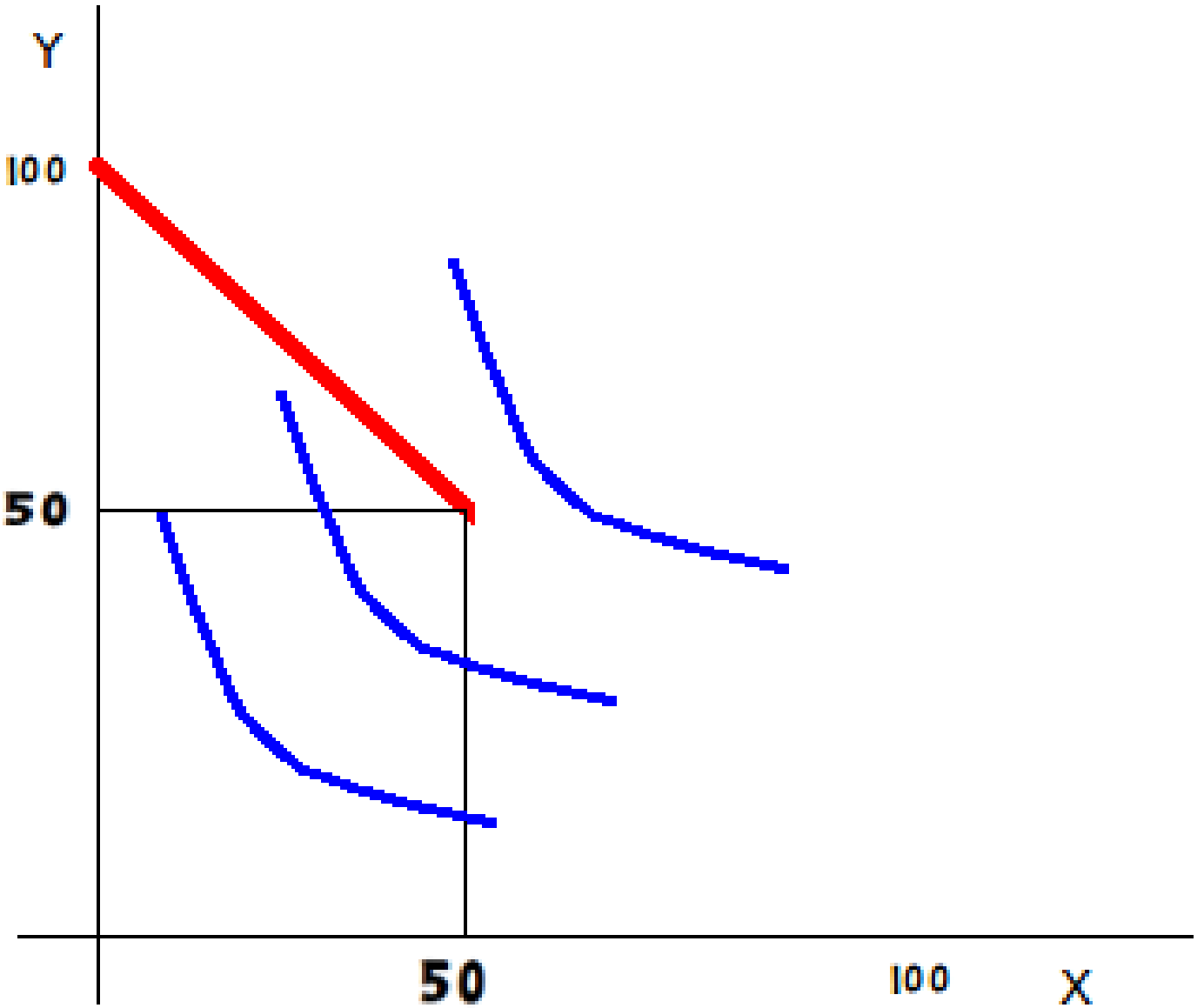
$$Y = 100 + 0$$

¿Qué pasa si destinamos todo el trabajo a producir el bien Y?

$$(0,100)$$


Y
100
50
FPP
50
100
X

2


Y
100
50
50
100
X

$$Max\, U = XY$$
$$s.a. \left(X, Y\right) \in FPP$$

$$Max\, U = XY$$

$$s.a.\ Y + X = 100$$

$$X \leqslant 50$$

$$TSC = TT$$

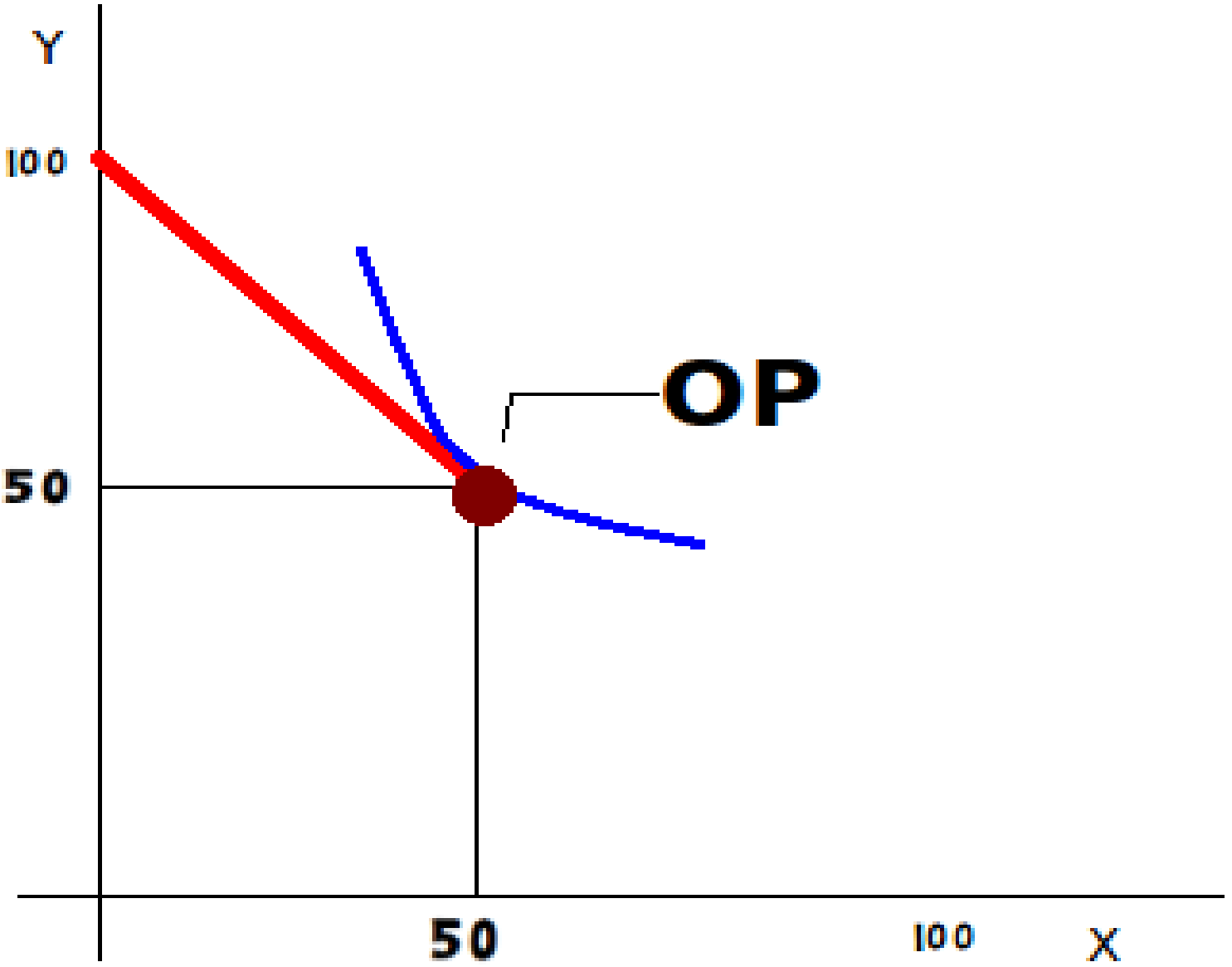
$$s.a.\ Y + X = 100$$

$$X \leqslant 50$$

$$\frac{Y}{X} = 1 \rightarrow Y = X$$

$$X + X = 100$$

$$X = 50 = Y$$


Y
100
50
OP
50
100
X

$$(X^*, Y^*)$$

$$(50,50)$$

¿Y el EGC?

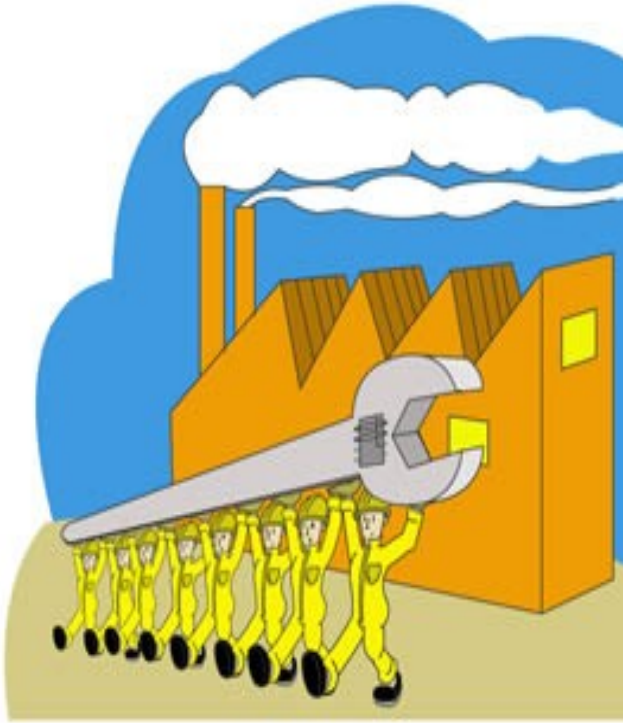
Dado el vector de precios

$$\left(P_X^*, P_Y^*, W^*\right)$$

Encontrar

$$\left(X^*, Y^*, L_X^*, L_Y^*\right)$$

s.a.




Jeri

Incógnitas

$$\left(P_X^*, P_Y^*, W^*\right)$$

$$\left(X^*, Y^*, L_X^*, L_Y^*\right)$$

numerario

$$W = 1$$

Incógnitas

$$\left(P_X^*, P_Y^*\right)$$

$$\left(X^*, Y^*, L_X^*, L_Y^*\right)$$

1

$$P_X = CMg_X$$

$$CT_X = WL_X$$

$$CT_X = L_X$$

pero $L_X = 2X$

$$CT_X = 2X$$

$$CMg_X = 2$$

$$P_x = 2$$

vector de precios

$$\left(2, P_Y^*, 1\right)$$

2

$$P_Y = CMg_Y$$

$$CT_Y = WL_Y$$

$$CT_Y = L_Y$$

pero $L_Y = Y - X$

$$CT_Y = Y - X$$

$$CMg_Y = 1$$

$$P_Y = 1$$

vector de precios

$$(2,1,1)$$

3

$$TSC = TOC$$

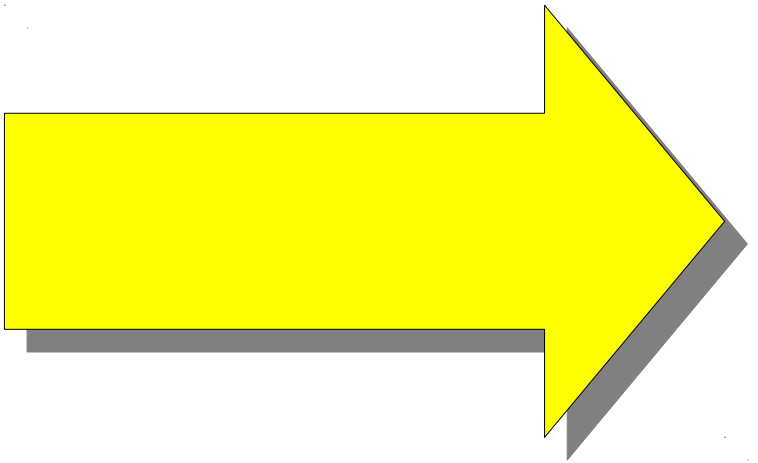
$$\frac{Y}{X} = \frac{P_X}{P_Y}$$

$$\frac{Y}{X} = \frac{2}{1} \rightarrow Y = 2X$$

Pero, no olvidemos la FPP

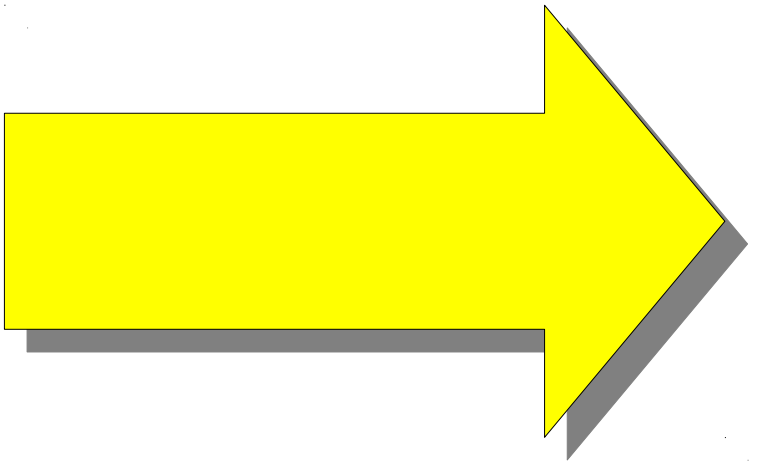
$$Y + X = 100$$

$$X \leqslant 50$$



$$2X + X = 100$$

$$\rightarrow X^{*} = 33.33$$



$$\rightarrow Y^{*} = 66.66$$

$$(X^*, Y^*)$$

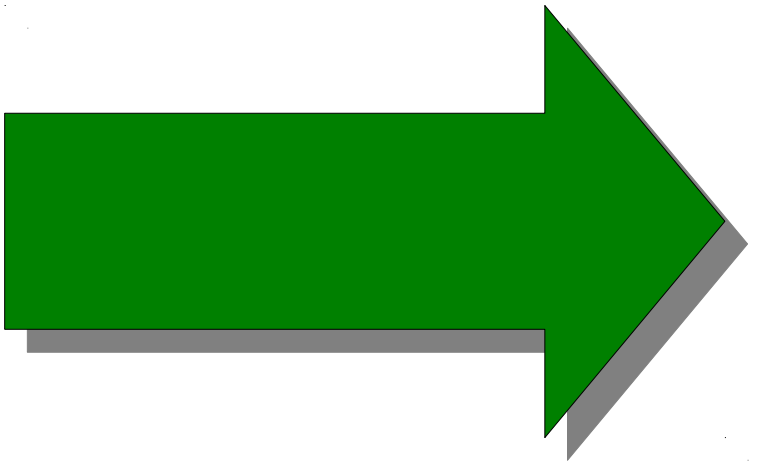
$$(33.33, 66.66)$$

4

Pero, no olvidemos que

$$L_X = 2X$$

$$L_X^* = 66.66$$



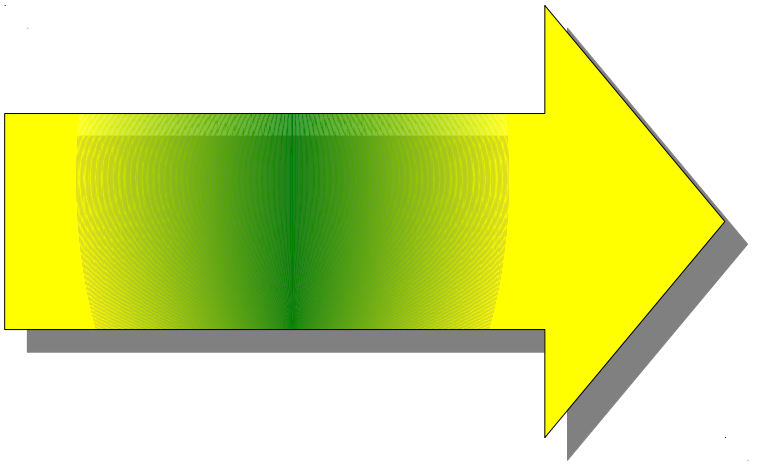
Y que

$$L_Y = Y - X$$

$$L_Y^* = 33.33$$

$$\left(L_X^*, L_Y^*\right)$$

$$\left(66.66, 33.33\right)$$



EGC

$$\left(P_X^*, P_Y^*, W^*\right)$$

$$\left(X^*, Y^*, L_X^*, L_Y^*\right)$$

EGC

$$P_X^* = 2$$

$$P_Y^* = 1$$

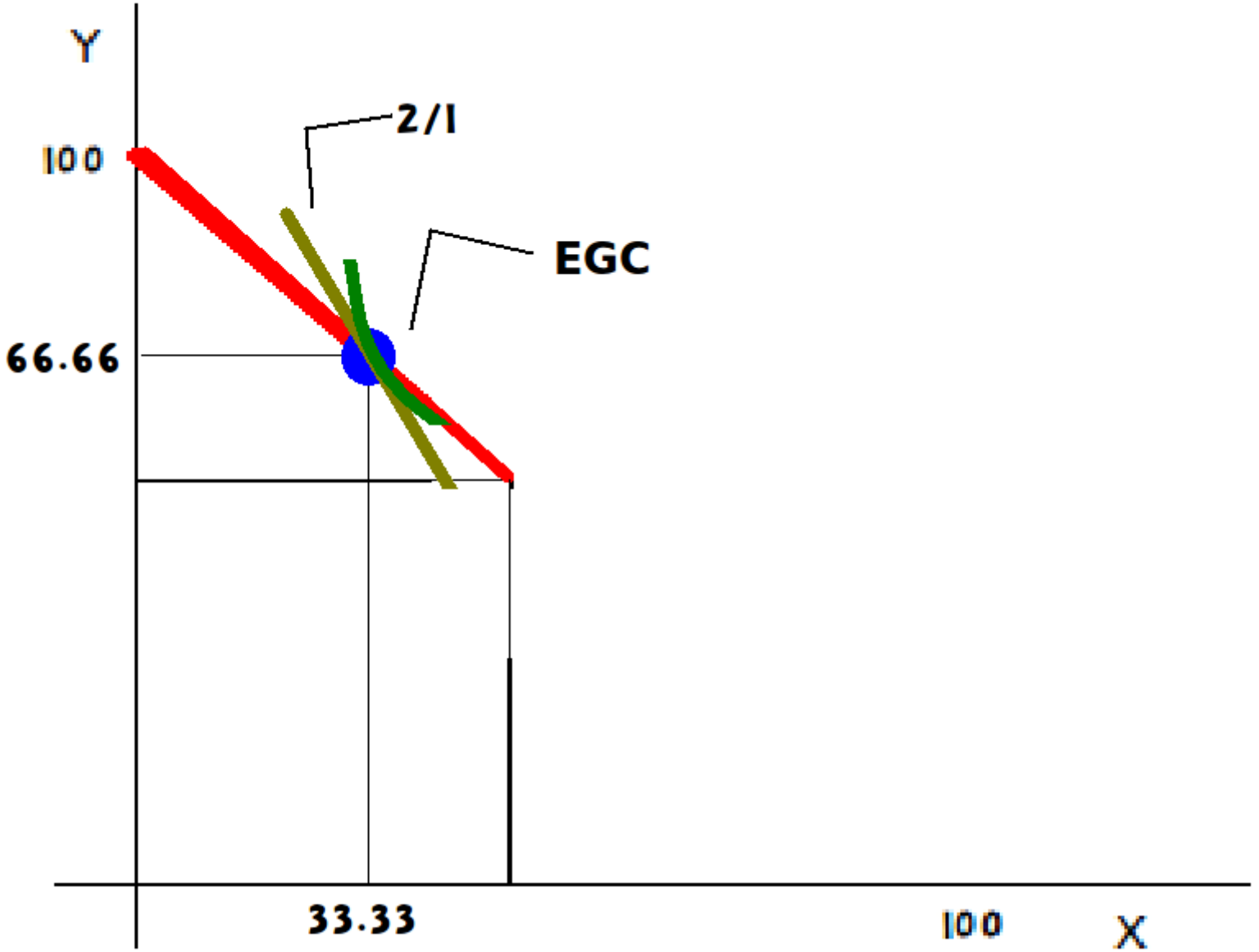
$$W^* = 1$$

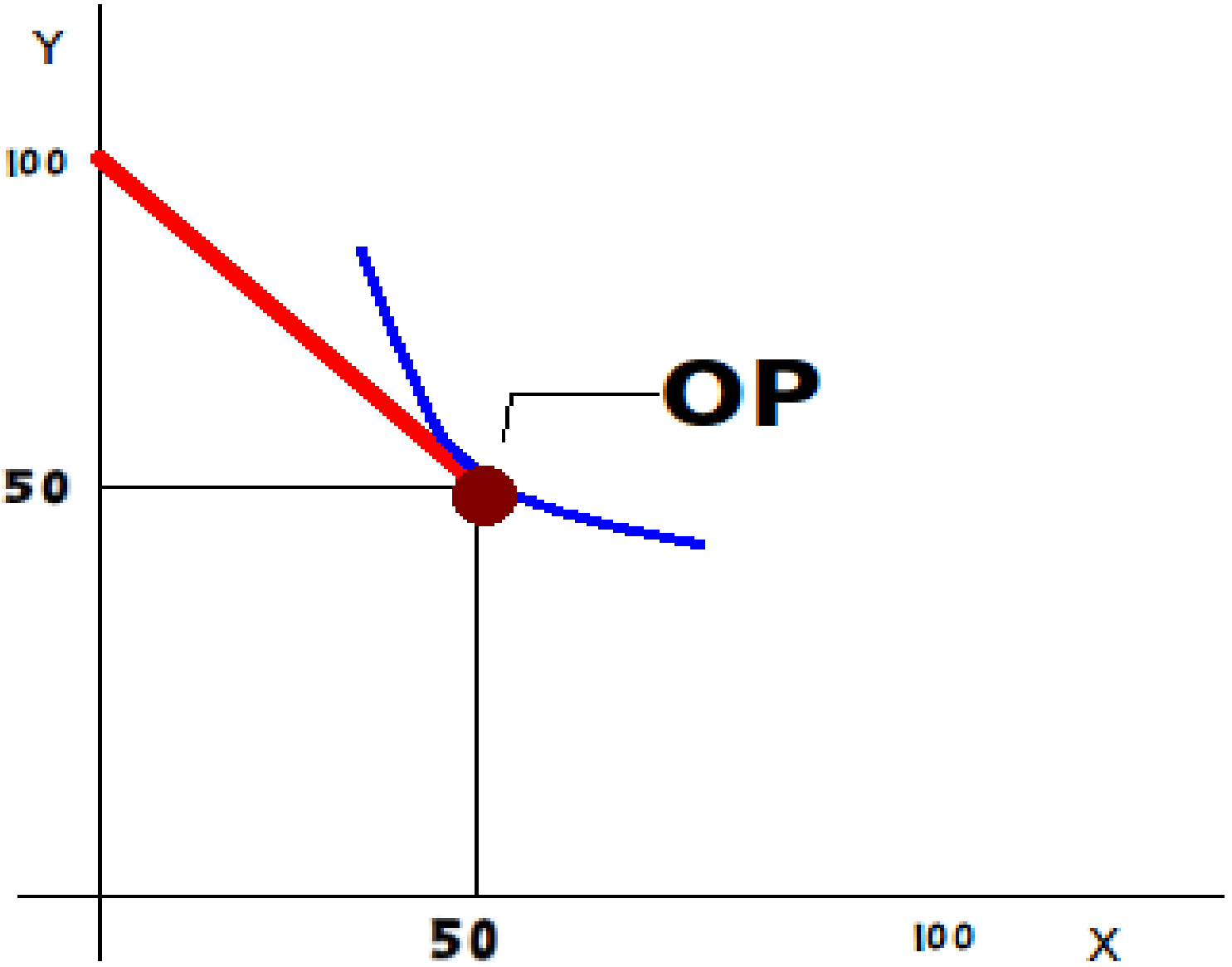
$$X^* = 33.33$$

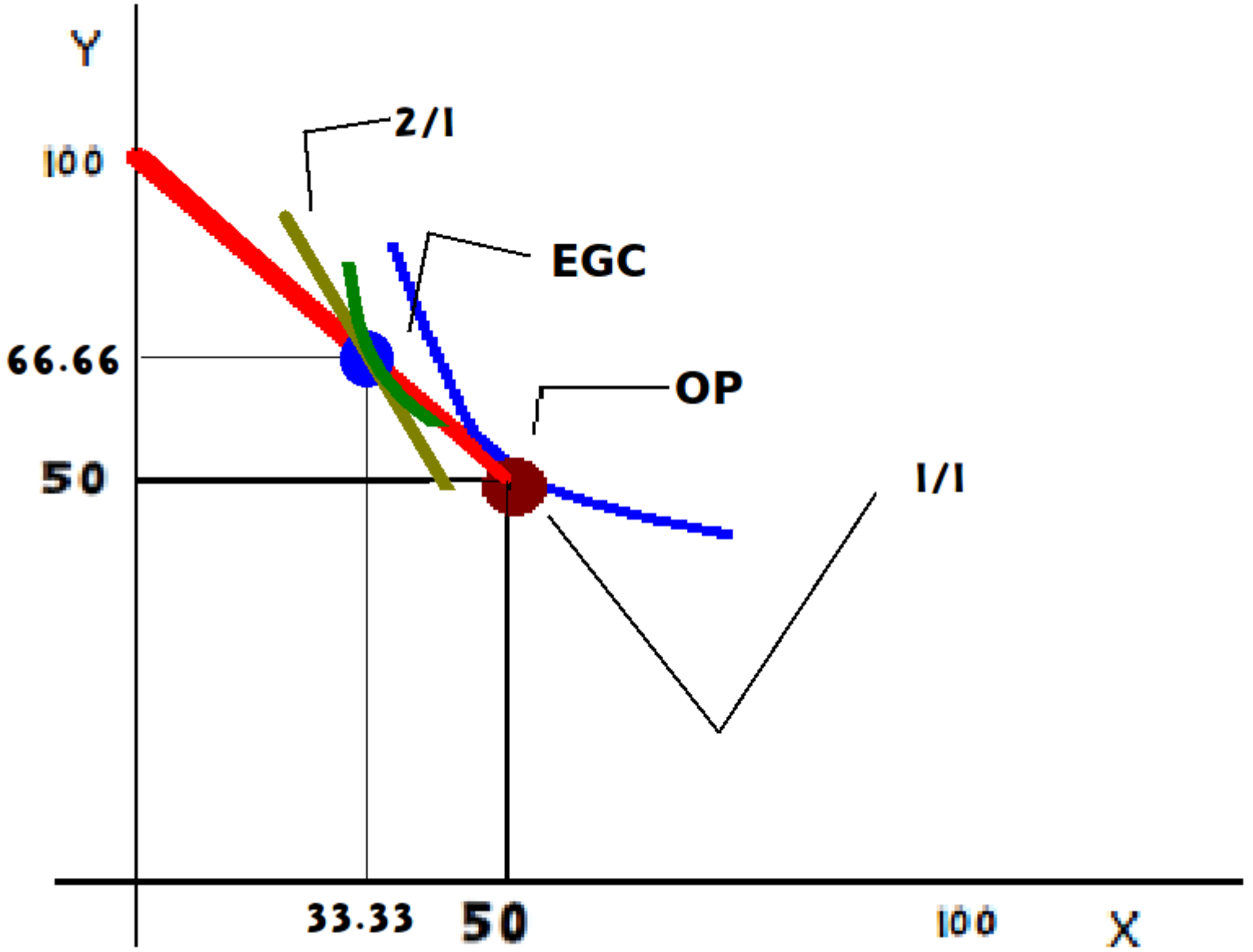
$$Y^* = 66.66$$

$$L_X^* = 66.66$$

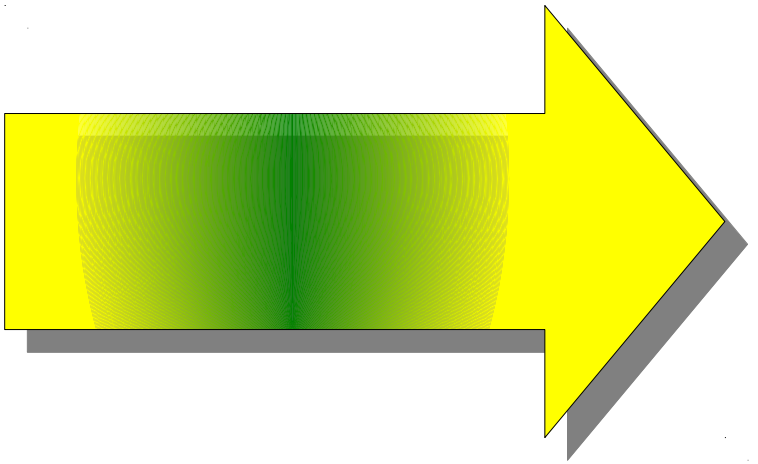
$$L_Y^* = 33.33$$


Y
100
2/1
EGC
66.66
33.33
100
X


Y
100
50
OP
50
100
X

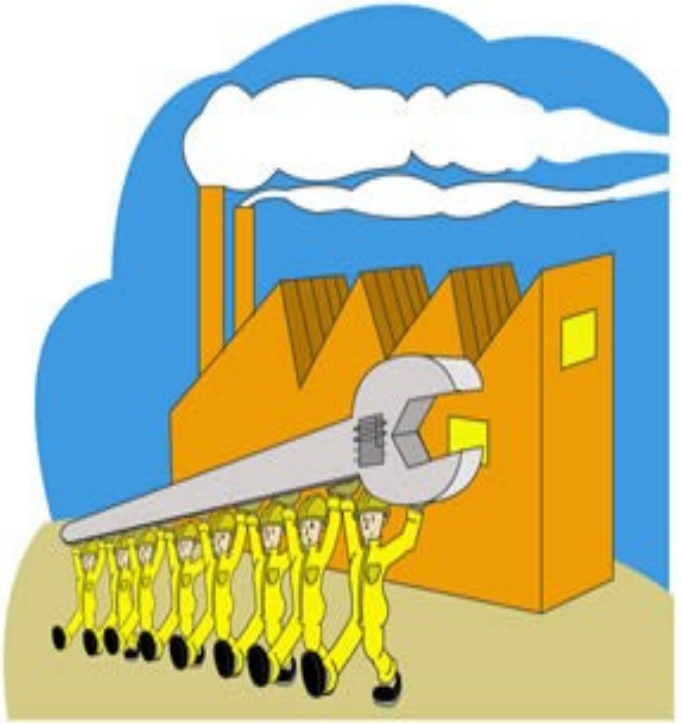

Y
100
66.66
50
2/1
EGC
OP
1/1
33.33
50
100
X

$$EGC \neq OP$$



EXTERNALIDADES

1

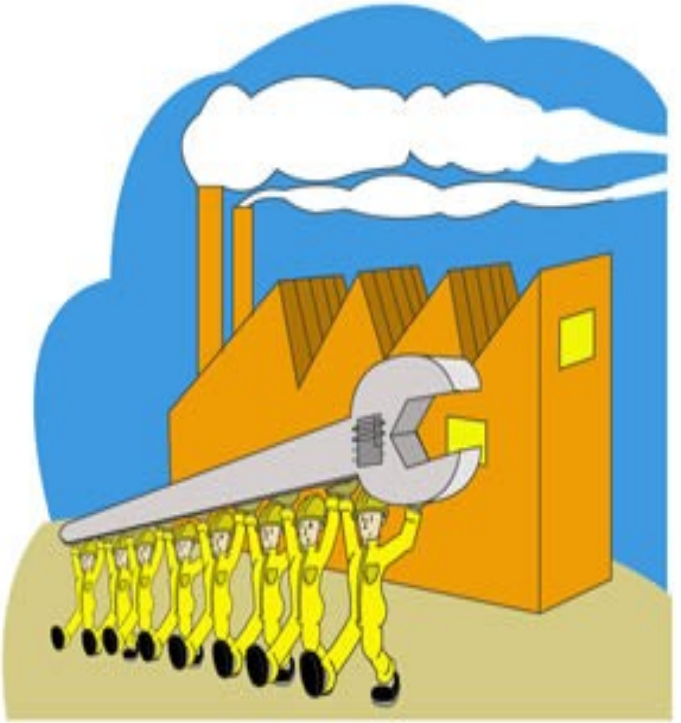


X

$$X = \frac{L_X}{2} \quad \Longrightarrow \quad \frac{\delta x}{\delta Y} = 0$$

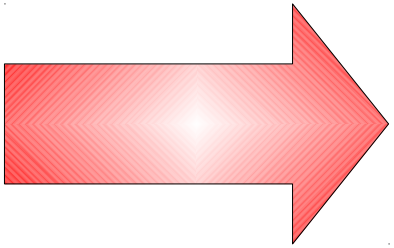
LA PRODUCCIÓN DEL BIEN Y NO GENERA EXTERNALIDADES EN LA PRODUCCIÓN DE X

2



Y

$$Y = L_Y + X$$



$$\frac{\delta Y}{\delta X} = 1$$

LA PRODUCCIÓN DEL BIEN X GENERA EXTERNALIDADES EN LA PRODUCCIÓN DE Y

Y como

$$\frac{\delta Y}{\delta X} = 1 > 0$$

EXTERNALIDADES POSITIVAS

¿Por qué surgen?

Cada empresa toma sus decisiones de producción sin considerar el impacto que puede generar sobre la producción de otras empresas.

Cada empresa toma sus decisiones de producción considerando sus costos y no los costos que le puede generar a otros.

Costo Privado
Vs
Costo Social

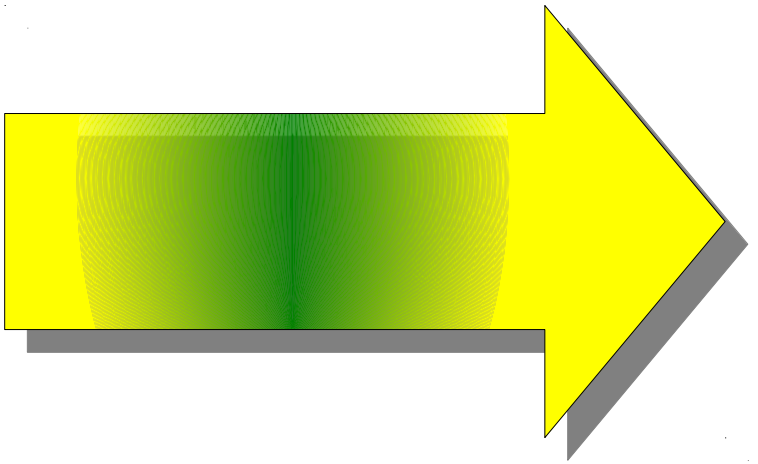
¿cuál es el costo total de producción en la economía?

1

NO EXISTEN EXTERNALIDADES

$$CT = CT_X(X) + CT_Y(Y)$$

Minimizando costos

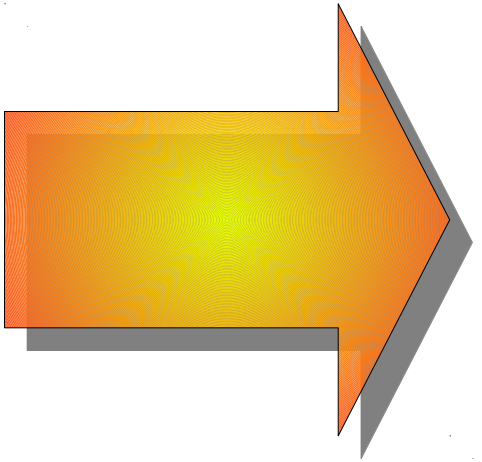


$$dCT = 0$$

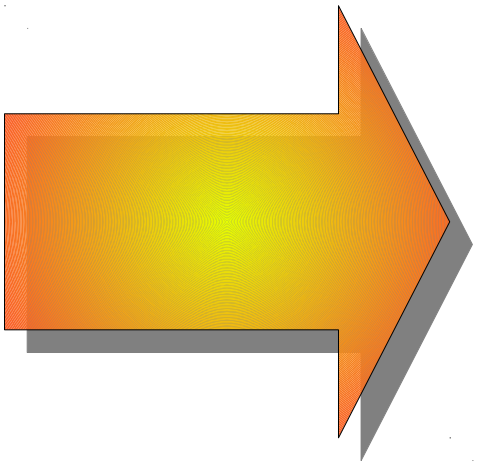
$$dCT = \frac{\delta CT_X}{\delta X}\, dX + \frac{\delta CT_Y}{\delta Y}\, dY = 0$$

$$CMg_X\, dX + CMg_Y\, dY = 0$$

$$-\frac{dY}{dX} = \frac{CMg_X}{CMg_Y}$$



$$TT = \frac{CMg_X}{CMg_Y}$$



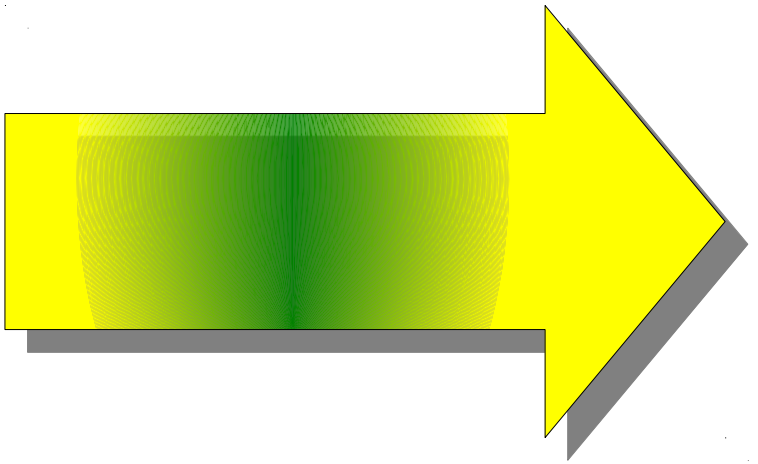
$$EGC = OP$$

2

EXISTEN EXTERNALIDADES

$$CT = CT_X(X) + CT_Y(X, Y)$$

Minimizando costos

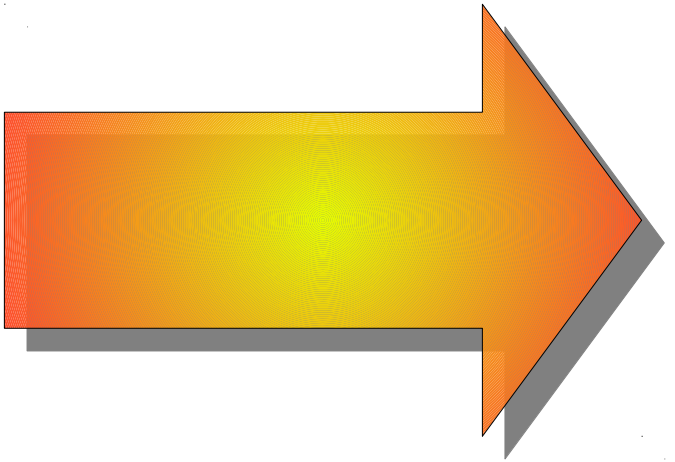


$$dCT = 0$$

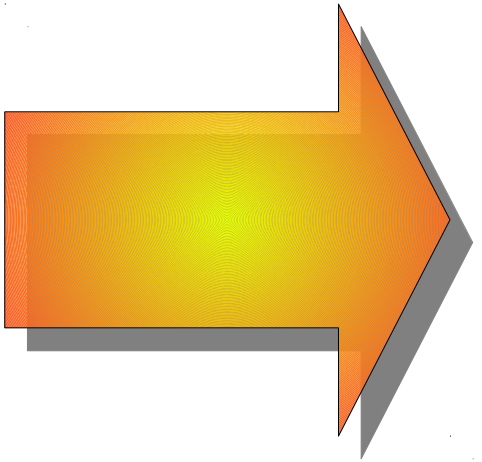
$$dCT = \frac{\delta CT_X}{\delta X}\, dX + \frac{\delta CT_Y}{\delta Y}\, dY + \frac{\delta CT_Y}{\delta X}\, dX = 0$$

$$CMg_X\, dX + CMg_Y\, dY + \frac{\delta CT_Y}{\delta X}\, dX = 0$$

$$-\frac{dY}{dX} = \frac{CMg_X + \dfrac{\delta CT_Y}{\delta\, dX}}{CMg_Y}$$



$$TT = \frac{CMg_X + \frac{\delta CT_Y}{\delta dX}}{CMg_Y} \neq \frac{CMg_X}{CMg_Y}$$

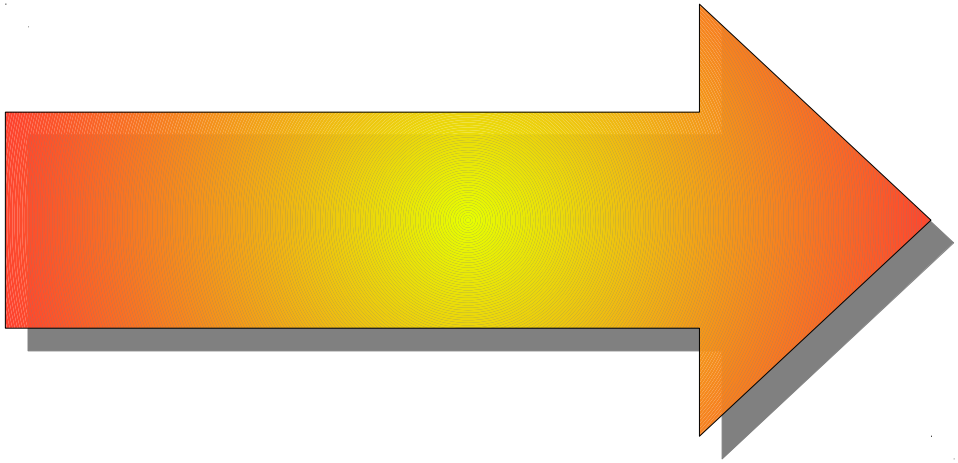


$$EGC \neq OP$$

como $CT_Y(X,Y)$

$$CT_Y = Y - X$$

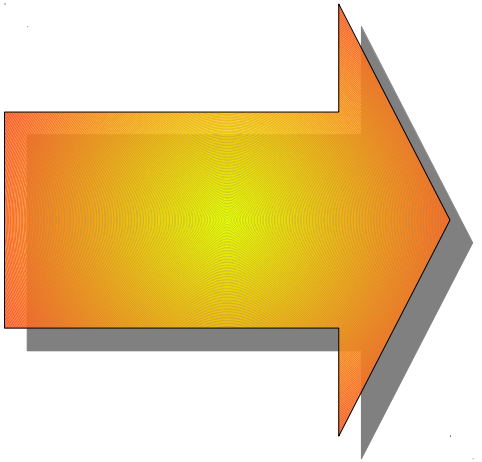
$$\frac{\delta CT_Y}{\delta X} = -1$$



$$TT = \frac{CMg_X + \frac{\delta CT_Y}{\delta dX}}{CMg_Y} \neq \frac{CMg_X}{CMg_Y}$$

$$TT = \frac{CMgS_X}{CMg_Y} < \frac{CMg_X}{CMg_Y}$$

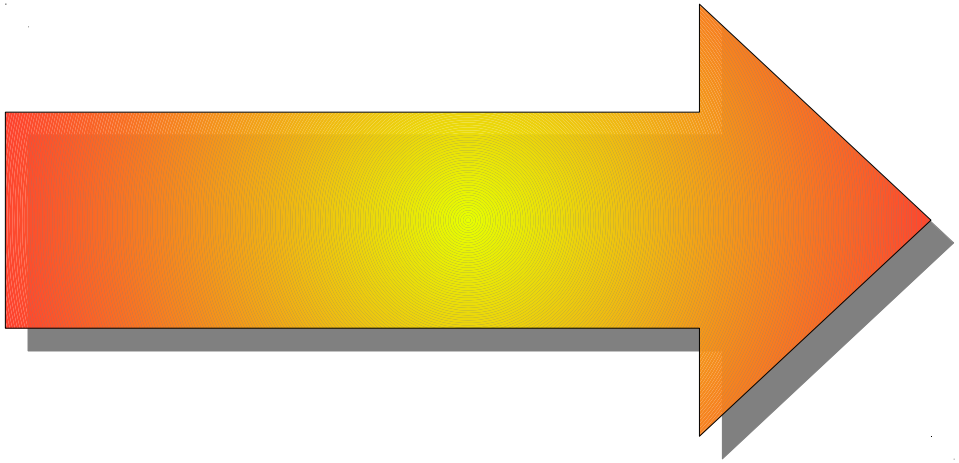
$$CMgS_X < CMg_X$$



como $CT_X(X)$

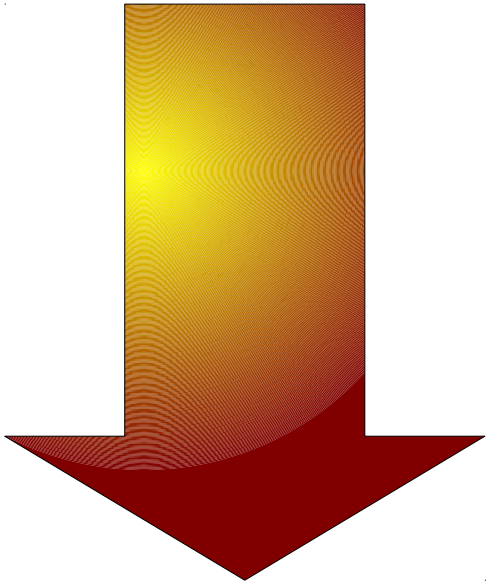
$$CT_X = 2X$$

$$\frac{\delta CT_X}{\delta Y} = 0$$



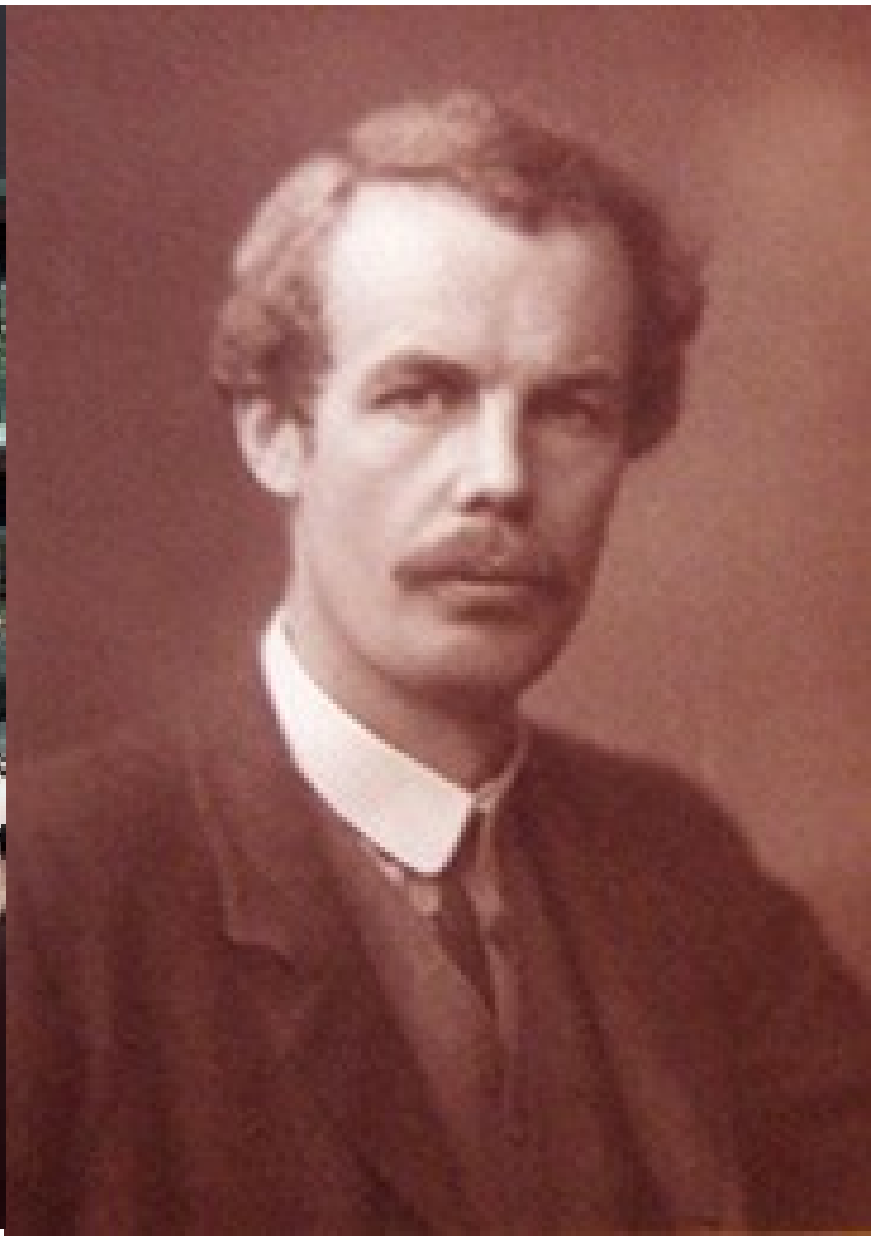
$$CMgS_Y = CMg_Y$$

$$EGC \neq OP$$

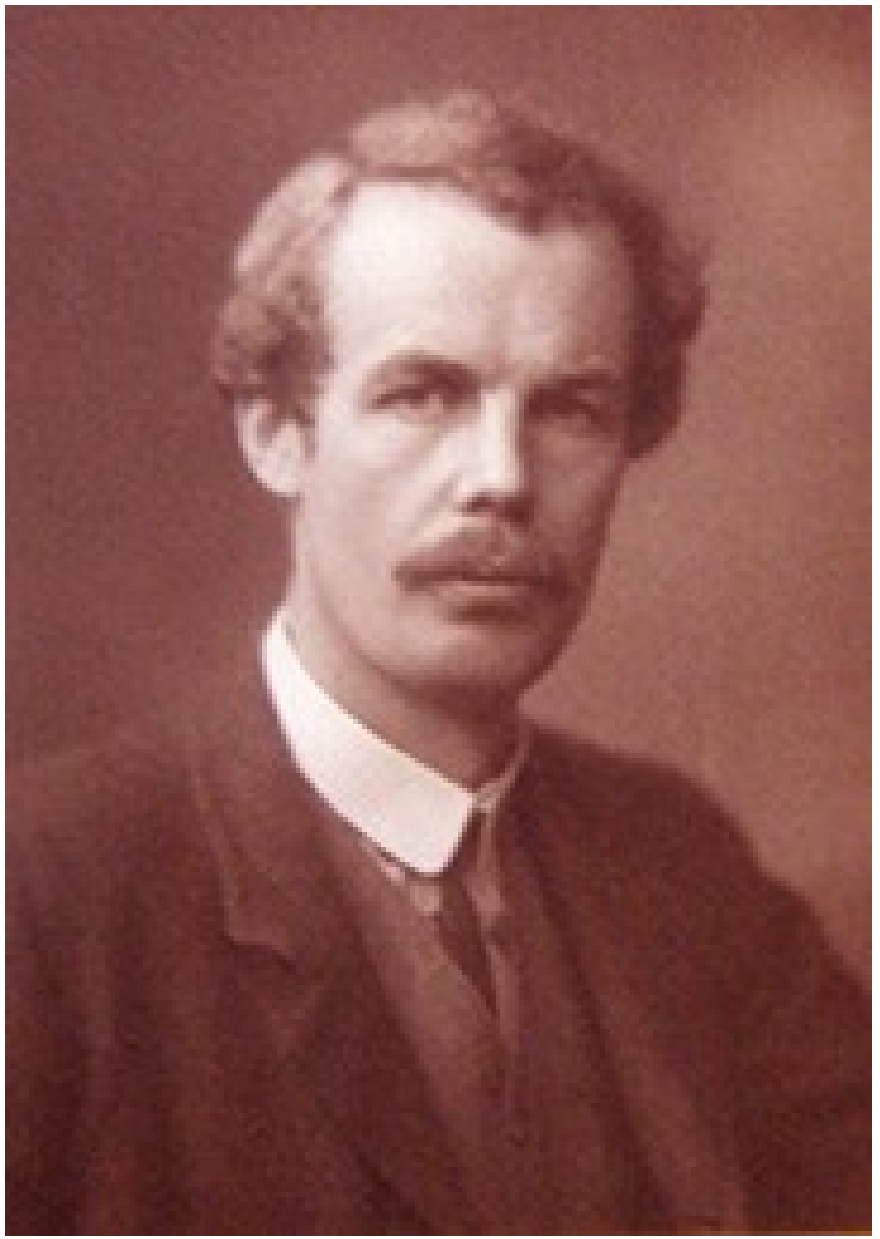


$$EGC = OP$$

¿Cómo?



INTERNALIZAR LA EXTERNALIDAD



Aplicar un impuesto a la empresa que genera la externalidad

Aplicar el impuesto a la empresa que produce el bien X

$$CT_X = WL_X + TX$$

$$CT_X = 2X + TX$$

$$CMg_X = 2 + T$$

¿Y el EGC?

Dado el vector de precios

$$\left(P_X^*, P_Y^*, 1\right)$$

Encontrar

$$\left(X^*, Y^*, L_X^*, L_Y^*\right)$$

1

$$P_X = CMg_X$$
$$P_X = 2 + T$$

2

$$P_Y = CMg_Y$$

$$CT_Y = WL_Y$$

$$CT_Y = L_Y$$

pero $L_Y = Y - X$

$$CT_Y = Y - X$$

$$CMg_Y = 1$$

$$P_Y = 1$$

$$TSC = TOC$$

$$\frac{Y}{X} = \frac{P_X}{P_Y}$$

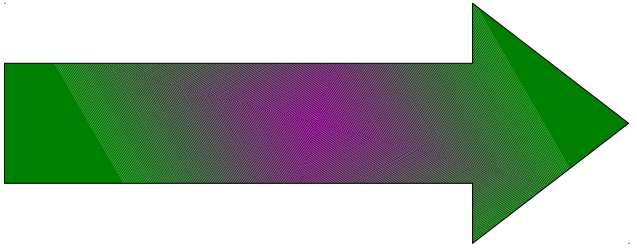
$$\frac{Y}{X} = \frac{2+T}{1} \rightarrow Y = 2X + TX$$

Pero en el EGC con impuestos, se debe cumplir que la tasa subjetiva de cambio, debe ser igual a la tasa objetiva de cambio e igual a la tasa de transformación.

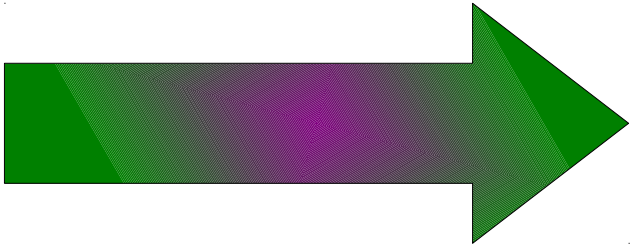
$$TSC = TOC = TT$$

$$\frac{Y}{X} = 2 + T = 1$$

$$Y = X \rightarrow 2 + T = 1$$



$$T = -1$$



$$P_x = 2 + T$$

$$P_x = 2 - 1$$

$$P_x = 1$$

vector de precios

$$(1,1,1)$$

3

$$TSC = TOC$$

$$\frac{Y}{X} = \frac{P_X}{P_Y}$$

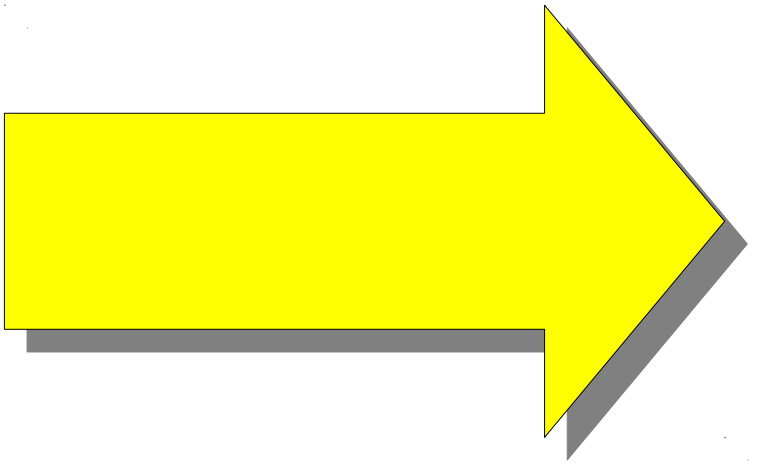
$$\frac{Y}{X} = \frac{1}{1} \rightarrow Y = X$$

4

Pero, no olvidemos la FPP

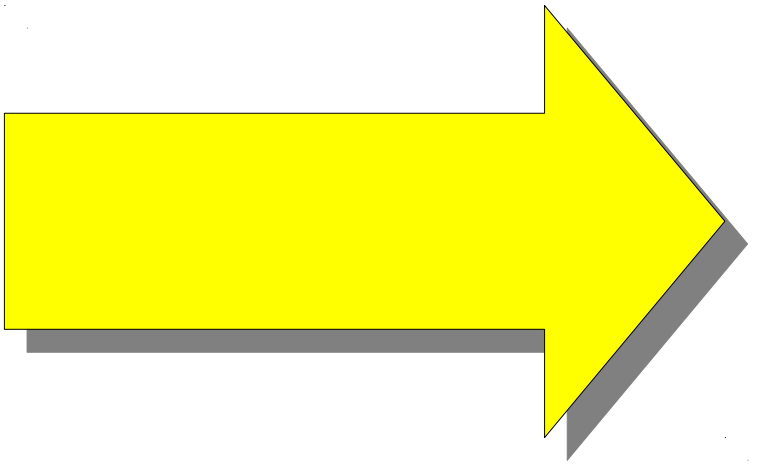
$$Y + X = 100$$

$$X \leqslant 50$$



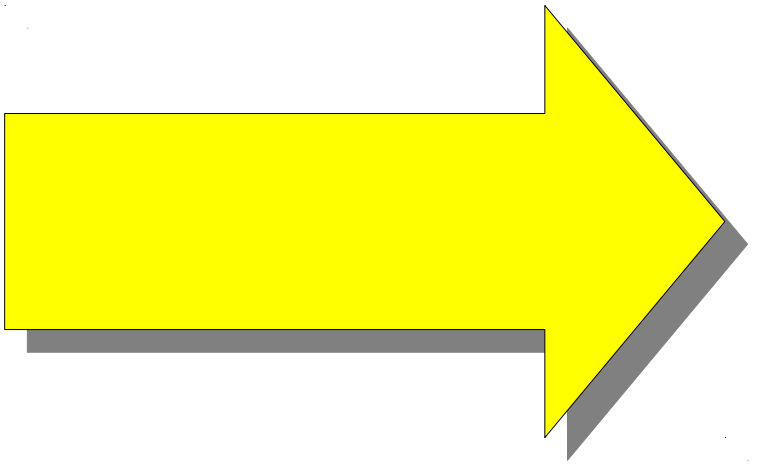
$$X + X = 100$$

$$X^* = 50 = Y^*$$



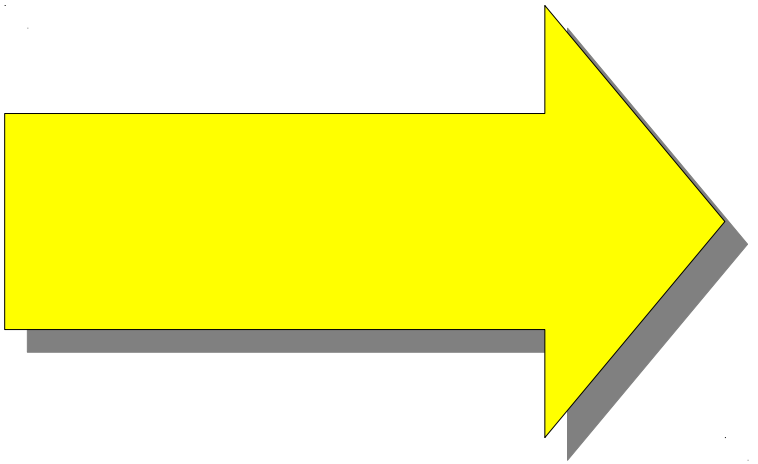
$$L_x = 2x \rightarrow$$

$$L_X^* = 100$$



$$L_Y = Y - X$$

$$L_Y^* = 0$$



EGC^{T}

$$P_X^* = 1$$

$$P_Y^* = 1$$

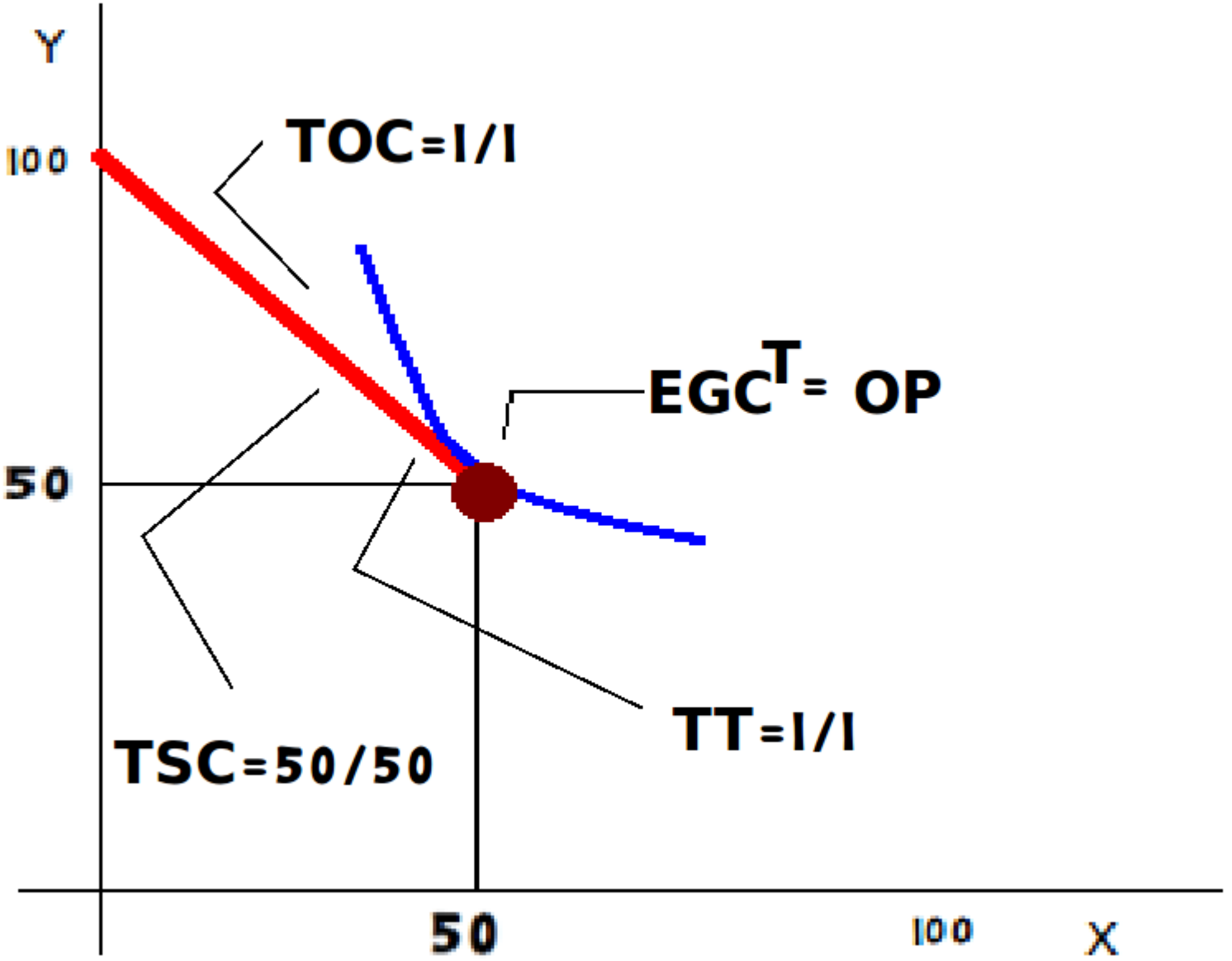
$$W^* = 1$$

$$X^* = 50$$

$$Y^* = 50$$

$$L_X^* = 100$$

$$L_Y^* = 0$$


Y
100
TOC=I/I
EGC^T = OP
50
TSC=50/50
TT=I/I
50
100
X

¿Qué ocurrirá si la empresa que produce el bien X se fusiona con la empresa que produce el bien Y?