

**ES. 1** - Moltiplicatore monetario

$$a) H = CU + R = 400 + 100 = 500$$

$$M = CU + D = 400 + 800 = 1200$$

$$\theta = \frac{R}{D} = \frac{100}{800} = 0,125$$

$$c = \frac{CU}{M} = \frac{400}{1200} = 0,33$$

$$cu = \frac{CU}{D} = \frac{400}{800} = 0,5$$

$$mm = \frac{1+cu}{cu+\theta} = \frac{1+0,5}{0,5+0,125} = 2,4$$

$$b) H = 650 \Rightarrow \Delta H = 650 - 500 = 150$$

$$\Delta H = mm \cdot \Delta M$$

$$k_U = 0 \Rightarrow mm = \frac{1}{\theta} = \frac{1}{0,125} = 8$$

$$\Delta M = 8 \cdot 150 = 1200$$

$$\Delta R = \Delta H = 150$$

$$\Delta D = \frac{1}{\theta} \Delta H = \Delta M = 1200$$

$$c) \Delta M = 800$$

$$\Delta M = mm \cdot \Delta H$$

$$\Delta H = \frac{\Delta M}{mm} = \frac{800}{8} = 100$$

$$\Delta CR = \frac{1-\theta}{\theta} \Delta H = \frac{1-0,125}{0,125} \cdot 100 = 700$$

## ES. 2 Economia aperta

a)  $Z = C + G + I = Y \rightarrow$  CURVA IS

$$1000 + 0,8Y^d + 3'000 + 3'000 + 0,18Y - 20'000i = Y$$

$$1000 + 0,8(0,7Y + 500) + 6'000 + 0,18Y - 20'000i = Y$$

$$7'200 + 0,56Y + 400 + 0,18Y - 20'000i = Y$$

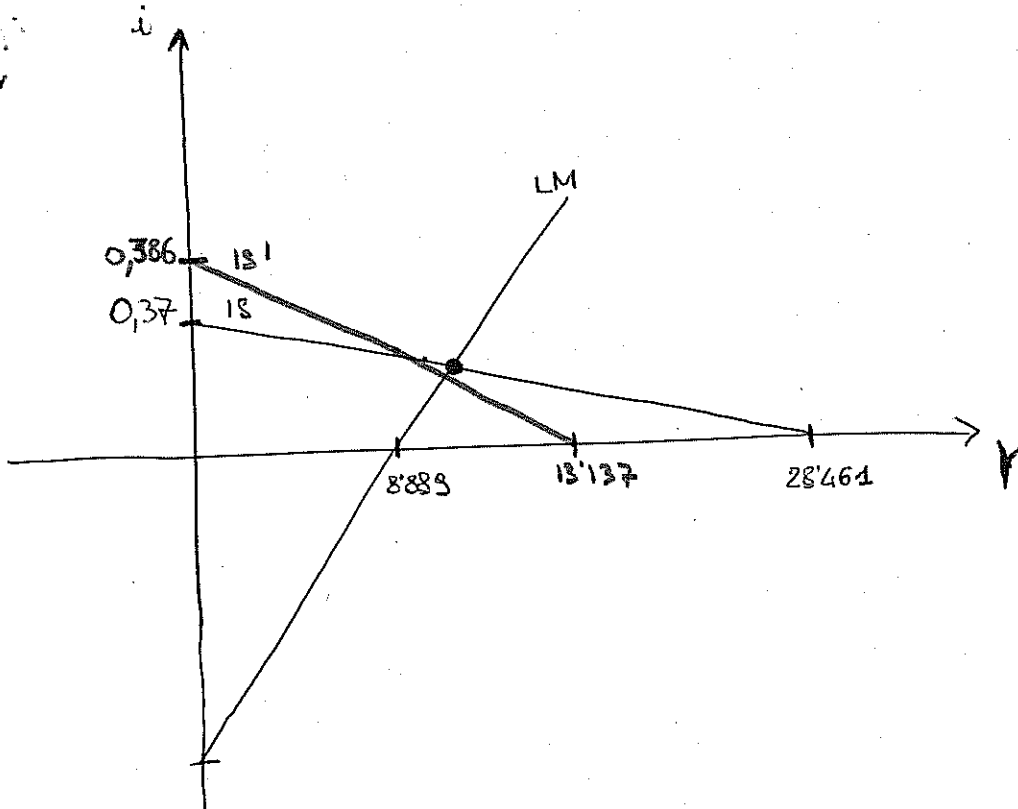
$$0,74Y + 7'600 - 20'000i = Y$$

$$Y = \frac{1}{0,26} (7'600 - 20'000i)$$

$\frac{M^d}{P} = 0,9Y - 10'000i \rightarrow$  CURVA LM

$$\frac{16'000}{2} = 0,9Y - 10'000i$$

$$i = \frac{0,9Y - 8'000}{10'000}$$



$$b) Y = \frac{1}{0,26} \left( 7'400 - 20'000 \cdot \frac{0,8Y - 8'000}{10'000} \right)$$

$$Y = \frac{1}{0,26} (7'400 - 1,8Y + 16'000)$$

$$Y = \frac{1}{0,26 + 1,8} (23'400) = 11'359,22$$

$$i = \frac{0,8 \cdot 11'359,22 - 8'000}{10'000} = \frac{2'287,3}{10'000} \approx 0,22$$

$$D = G - tY + TR = 3'000 - 0,3 \cdot 11'359,22 + 500 = 92,23$$

$$c) E = E \cdot \frac{P_B}{P} = 2 \cdot \frac{2}{2} = 2$$

$$E = C + G + I + X - EQ = Y \rightarrow \underline{\text{curva IS}}$$

$$7'000 + 0,50Y + 400 + 0,18Y - 20'000i + 0,01 \cdot 8'000 + 2 \cdot 0,8Y - 2(0,16Y - 0,6 \cdot 2) = Y$$

$$7'400 + 0,74Y - 20'000i + 320 + 1,6 - 0,32Y + 2,4 = Y$$

$$0,42Y - 20'000i + 7'724 = Y$$

$$Y = \frac{1}{0,58} (7'724 - 20'000i)$$

$$i = \frac{0,8Y - 8'000}{10'000} \rightarrow \underline{\text{curva LM}}$$

$$d) Y = \frac{1}{0,58} (7'724 - 2(0,8Y - 8'000))$$

$$Y = \frac{1}{0,58 + 1,8} (7'724 + 16'000) = 8'868,1$$

$$i = \frac{0,8 \cdot 8'868,1 - 8'000}{10'000} \approx 0,087$$

$$NX = 320 + 1,6 - 2 (0,16 \cdot 8 \cdot 868,1 - 2 \cdot 0,6) =$$

$$= 321,6 - 0,32 \cdot 8 \cdot 868,1 + 2,4 =$$

$$= 324 - 3 \cdot 189,78 = -2 \cdot 865,78$$

$$D = G - tY + TR = 3 \cdot 000 - 0,3 \cdot 8 \cdot 868,1 + 500 = 503,57$$

**ES. 2** matricole parivedi ES. 1 II<sup>e</sup> PROVA INTERMEDIA**ES. 2** matr. dispari

$$a) H = CU + R = 500 + 100 = 600$$

$$M = CU + D = 500 + 800 = 1300$$

$$\theta = \frac{R}{D} = \frac{100}{800} = 0,125$$

$$c = \frac{CU}{M} = \frac{500}{1300} \approx 0,385$$

$$w = \frac{CU}{D} = \frac{500}{800} = 0,625$$

$$mm = \frac{1+w}{w+\theta} = \frac{1+0,625}{0,625+0,125} \approx 2,17$$

$$b) H = 700 \Rightarrow \Delta H = 700 - 600 = 100$$

$$w=0 \Rightarrow mm = \frac{1}{\theta} = 8$$

$$\Delta M = mm \cdot \Delta H = 8 \cdot 100 = 800$$

$$\Delta R = \Delta H = 100$$

$$\Delta D = \frac{1}{\theta} \Delta H = \Delta M = 800$$

$$c) \Delta M = 700$$

$$\Delta M = mm \cdot \Delta H$$

$$\Delta H = \frac{700}{8} = 87,5$$

$$\Delta CR = \frac{1-\theta}{\theta} \cdot \Delta H = \frac{1-0,125}{0,125} \cdot 87,5 = 612,5$$

# ES. 1 matricole pari

$$a) \begin{cases} x^d = 1500 - 10p \\ x^s = -300 + 20p \\ x^d = x^s \end{cases}$$

$$1500 - 10p = -300 + 20p$$

$$30p = 1800 \quad p = 60 \quad x^d = x^s = 1500 - 600 = 900$$

$$b) \quad s = 30$$

$$\begin{cases} p^d = p^s - 30 \\ x^d = 1500 - 10p^d \\ x^s = -300 + 20p^s \\ x^d = x^s \end{cases}$$

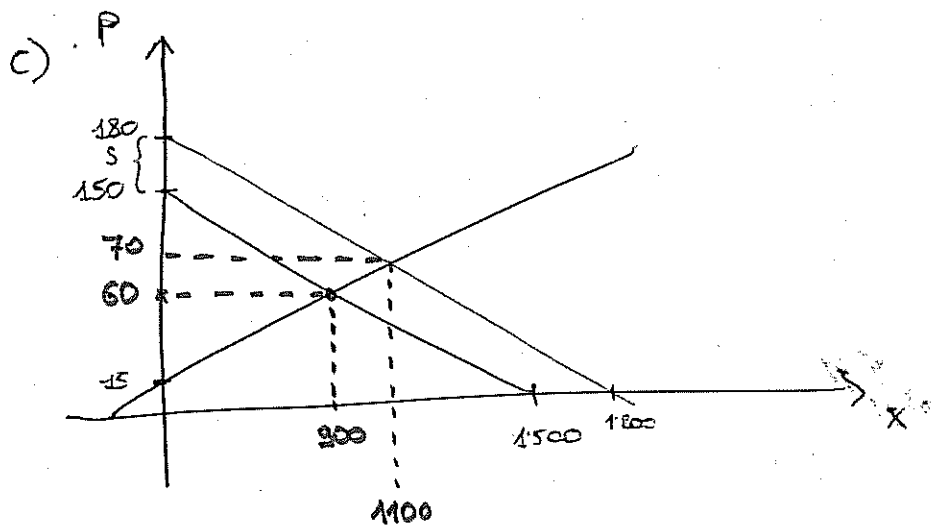
$$1500 - 10(p^s - 30) = -300 + 20p^s$$

$$1800 + 300 = 30p^s$$

$$p^s = \frac{2100}{30} = 70$$

$$p^d = 70 - 30 = 40$$

$$x = -300 + 20 \cdot 70 = 1400$$



$$W_0 = (150 - 15) \cdot \frac{900}{2} = 60750$$

$$W_1 = (180 - 15) \cdot \frac{1400}{2} - 30 \cdot 1400 = 57750$$

$$\Delta W = W_1 - W_0 = -3000$$

$$S = s \cdot x = 30 \cdot 1400 = 33000$$

d)  $x^d = \frac{20'000}{\sqrt{p}}$        $x^s = 1'000$

equilibrio  $\rightarrow$   $1'000 = \frac{20'000}{\sqrt{p}}$   
 $\sqrt{p} = 20$        $p = 400$

Il prezzo, in seguito all'introduzione dell'imposta, rimane invariato. Cambia invece quanto ottenuto dai proprietari di case

$400 \cdot t = 1000 = 33'000$

$t = \frac{33'000}{400'000} = 0,0825$

Poiché la curva di offerta è completamente rigida, l'imposta non danneggia gli inquilini, ma solo i proprietari di case.

**ES. 1** matricole dispari

a) 
$$\begin{cases} x^d = 1600 - 10p \\ x^s = -200 + 10p \\ x^d = x^s \end{cases}$$

$1600 - 10p = -200 + 10p$

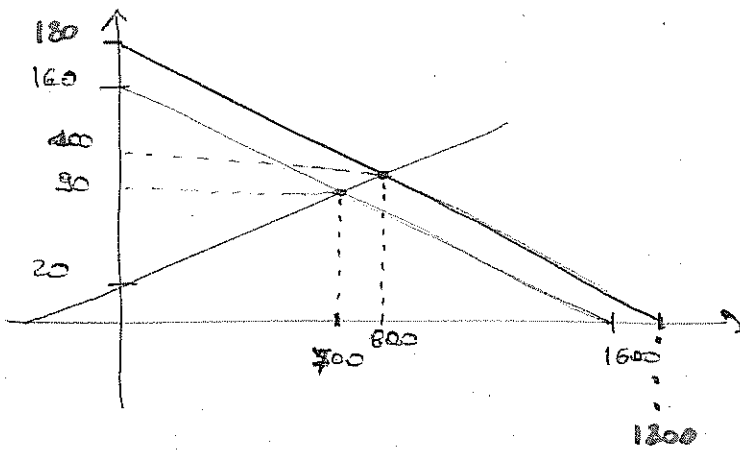
$20p = 1'800$        $p = \frac{1800}{20} = 90$        $x = 700$

b)  $s = 20$

$$\begin{cases} 1600 - 10(p^s - 20) = x^d \\ -200 + 10p^s = x^s \\ p^d = p^s - 20 \\ x^d = x^s \end{cases}$$

$1600 - 10p^s + 200 = -200 + 10p^s$

$20p^s = 2'000$        $p^s = 100$        $p^d = 80$        $x = 800$



$$W_0 = (160 - 20) \cdot \frac{700}{2} = 29'000$$

$$W_1 = (180 - 20) \cdot \frac{800}{2} - 20 \cdot 800 = 60'000 - 16'000 = 48'000$$

$$\Delta W = 48'000 - 29'000 = 19'000$$

d)  $S = 20 \cdot 800 = 16'000$

equilibrio  $\rightarrow 1'000 = \frac{20'000}{\sqrt{p}}$

$$\sqrt{p} = 20 \quad p = 400$$

$$400 \cdot t \cdot 1'000 = 16'000$$

$$t = \frac{16'000}{400'000} = 0,04$$

Il prezzo rimane invariato e l'imposta danneggia solo i proprietari di case perché la domanda è rigida.