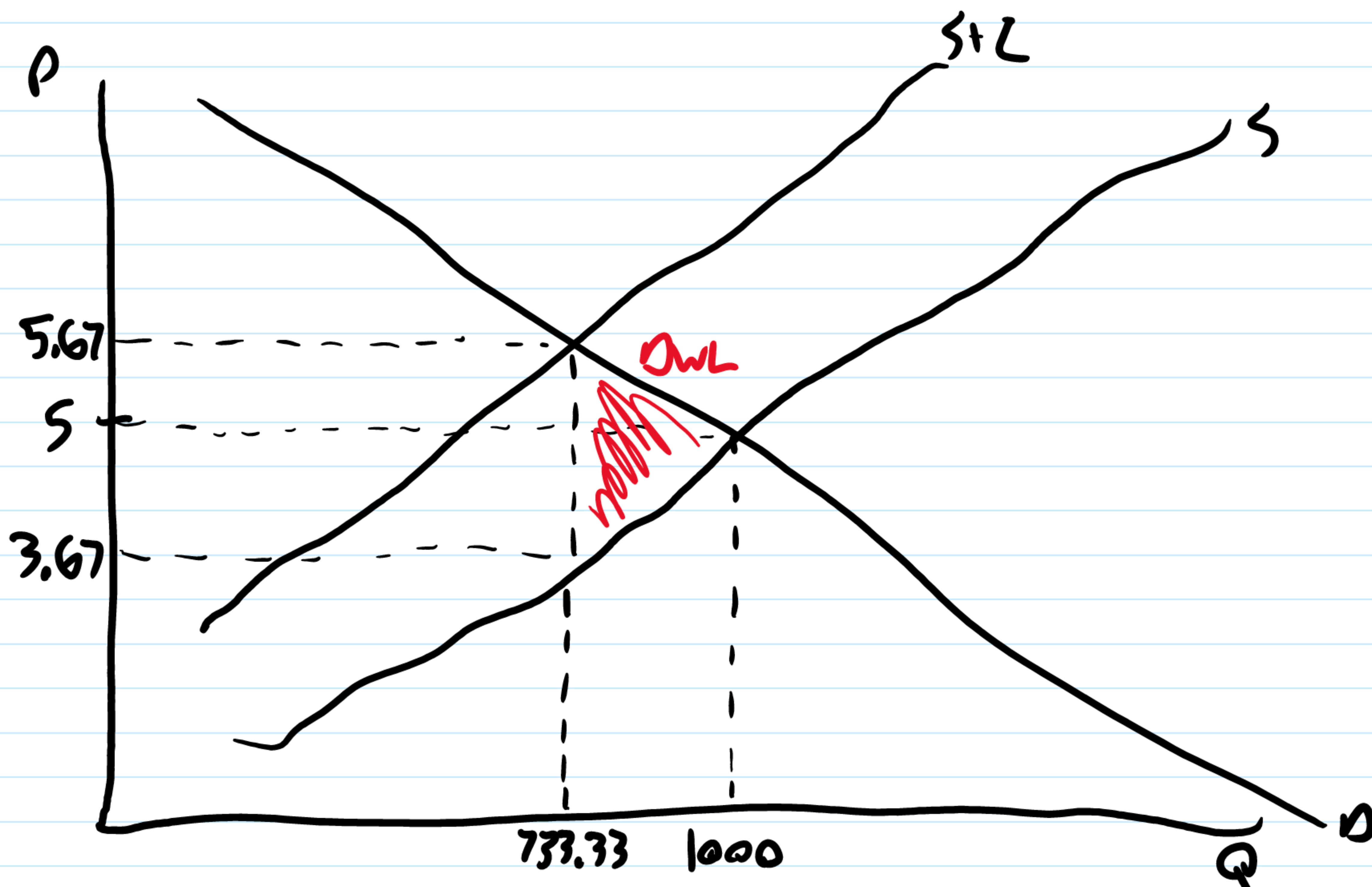


3.12 Tax Burden - Full Example

Saturday, September 5, 2020 5:51 PM

$$t = -2 \quad \eta^d = -2 \quad \eta^s = 1 \quad p_0 = 5 \quad Q_0 = 1000$$



$$-2 = \frac{Q - 1000}{p^D - 5} \cdot \frac{5}{1000} \quad 1 = \frac{Q - 1000}{p^D - 7}$$

$$p^D = p^S + t$$

$$-2 = \frac{1}{p^D - 5} = \frac{p^D - 7}{p^D - 5} \rightarrow p^D = 17/3 = 5.67$$

$$\frac{Q - 1000}{5.67 - 7} \cdot \frac{5}{1000} = 1 \rightarrow Q = 733.33$$

$$\Delta CS = -(5.67 - 5) \cdot 733.33 + \frac{1}{2}(733.33 - 1000) \cdot (5.67 - 5)$$

$$\Delta PS = (3.67 - 5) \cdot 733.33 + \frac{1}{2}(733.33 - 1000) \cdot (3.67 - 5)$$

$$\Delta GS = 2 \cdot 733.33 = 1466.67$$

$$DWL = \frac{1}{2}(1000 - 733.33) \cdot 2 = 266.67 \rightarrow 266.67 / 1466.67 = .18 \rightarrow \text{Excess Burden}$$

Ad-Valorem
tax rate
 $\rightarrow p^D = (1+t) \cdot p^S$
tax rate

constant tax
 $p^D = p^S + t$
constant tax

