

* Taxes, Subsidies & Rationing

→ TAXES :-

Quantity tax / Per unit tax / Specific tax
₹10/unit.

value tax / Ad-valorem tax / value
(% term) added tax.

Lump sum tax. (₹5000 tax).

* Quantity tax:- A quantity tax implies that consumer has to pay a certain amount to the government for each unit of good he purchases.

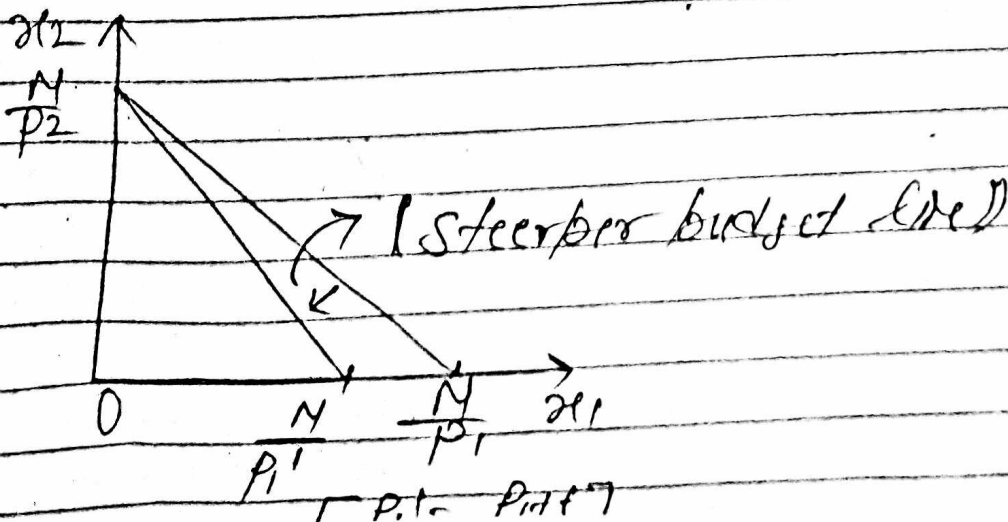
[Note :- Quantity tax is just like a higher price.]

Quant. Tax ₹/unit imposed on g 1.

Before tax $\Rightarrow$ Price = P_1 /unit.

After tax Price = $(P_1 + t)$ /unit.

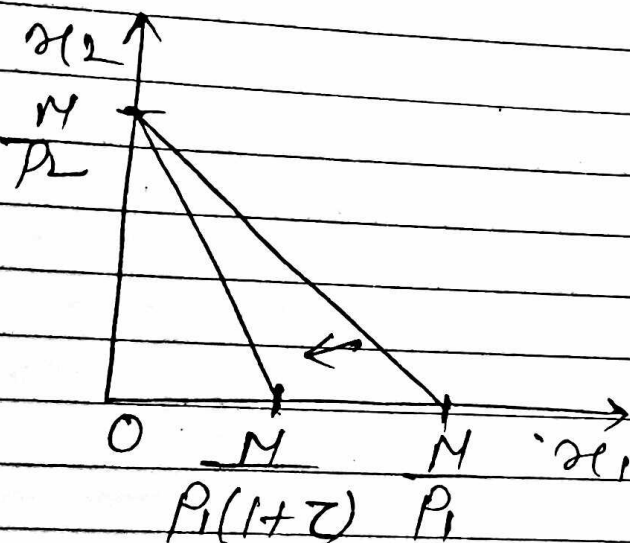
Under Quantity tax budget line gets steeper



(*) Value tax :- This is a tax on value or price of the good rather than on the quantity purchased.
A value tax usually expressed in percentage terms.

value tax :- τ (τ_{ao}) = 10%.

After tax :- $P_1' = P_1 + \left(P_1 \times \frac{10}{100} \right)$



$$\begin{aligned} &= P_1 + \tau P_1 \\ &= P_1 (1 + 0.1) \\ &= P_1 (1 + \tau) \\ &= [P_1 + P_1 \tau] \checkmark \end{aligned}$$

$$[0 \leq \tau \leq 1]$$

Note :- Quant tax $\rightarrow$ Equal burden on every unit.

Value tax $\rightarrow$ More spending
More tax and vice versa

Here, the actual price the consumer is facing is $= P_1 (1 + \tau)$

i.e. Consumer have to pay P_1 to the supplier and (τP_1) to the government for each unit of the good so that the total cost to the consumer is $P_1 (1 + \tau)$

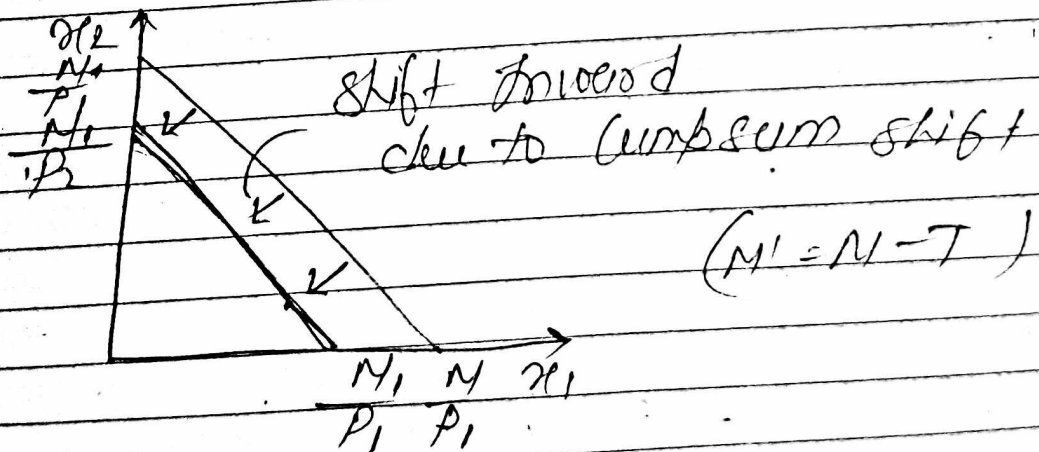
$[\tau$ - Rate of sales tax]

P	f-1	10%
1	2	1.1
2	3	2.2
3	4	3.3

⊗ Lump Sum tax:- In case of Lump sum tax govt. takes away a fixed amount of money regardless of individual's behaviour.

[Individual behaviour refers to preferences of consumer over q_1 and q_2 , in whatever quantities.]

Thus, A lump sum means the budget line of consumer will shift inward because his money income has reduced.



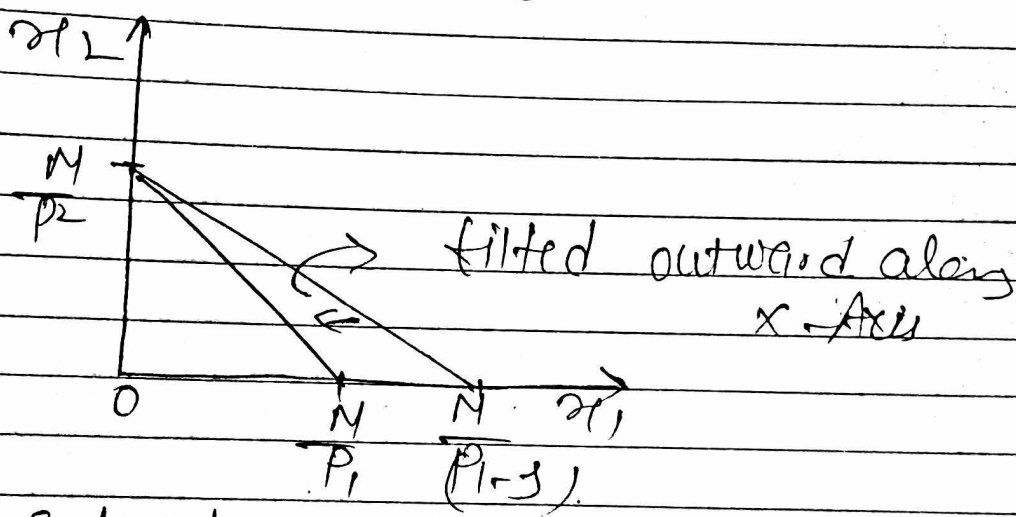
*) In the Quantity Subsidy govt gives an amt to the consumer that depends on goods purchased by consumer. Similar to that

due to Subsidy

$$P_1' = (P_1 - s) / \text{unit}$$

→ B.L become flatter.

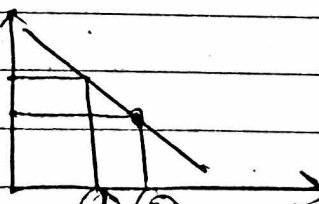
→ Tilted along x-Axis.



Here subsidy of s supports per unit consumption

i.e. $(P_1 - s)$

	P_1	$P_1 - s$	$(P_1 - s)$
1	10	$10 - 1 = 9$	10
2	9	$18 - 2 = 16$	9



① ② → Nine for Each unit
i.e. $9 + 9 = 18$

[Consume only
one unit at $\text{₹} 10$]

*) Subsidy = $\text{₹} s / \text{unit}$
for 2 unit = $(\text{₹} 2s)$
for 5 unit = $(\text{₹} 5s)$

i.e. Consumer effectively faces price of $(P_1 - s)$ for good-1. Here budget line would be flatter and tilted along x-Axis

* Ad-valorem Subsidy:- If good is subject to Ad-valorem subsidy at rate σ then the actual price of good-1 that consumer faces is $P_1(1-\sigma)$.
 i.e. $[P_1 - \sigma P_1]$
 i.e. $[P_1' = P_1 - \sigma P_1]$

* Lump Sum Subsidy:- Lump sum subsidy will shift budget line outward.

Note:- Quant. taxes and value taxes ~~shift~~ the budget line one way or the other, depending on the which good is taxed, but lump sum taxes shift the budget line ~~shift~~ ~~and~~ ~~up~~ inward.

* Rationing Constraint:-

It means that the level of consumption of some good is fixed to be no larger than some amount.

