



M.A. (ECONOMICS) PART-II

PAPER - ECO-303

SEMESTER-III

PAPER-III : PUBLIC ECONOMICS

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Lesson No. :

Section-B

- 2.1 : Theory of Incidence of Taxation
- 2.2 : Taxable Capacity
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LESSON NO. 2.1

THEORY OF INCIDENCE OF TAXATION

- 2.1.1 Introduction
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2.1.1 Introduction

The problem of the incidence of a tax is commonly considered as the problem of who pays the tax ultimately. The burden of taxes is not necessarily borne by those upon whom they are levied. More precisely, it can be said that the incidence is upon those who bear the money burden of the tax. But taxes are not always borne by the people who pay them in the first instance. They are sometimes shifted on to other people. Incidence means the final resting place of the tax. Thus, incidence of taxation is on the person who ultimately bears the money burden of the tax. Physicists, classicists and modern economists have put forward theories of shifting of taxation. Musgrave and other economists have redefined the concept of incidence in terms of redistribution of income.

2.1.2 Objectives: After having gone through this lesson, you would be able to:

- understand the meaning of incidence.
- differentiate impact and incidence of taxation.
- learn about various theories of shifting and incidence.

2.1.3 Meaning of Incidence:

A conventional definition of incidence of taxation given by Prof. Dalton is, "To every shilling of revenue raised, there corresponds a shifting of direct money burden or incidence falling upon some one else." According to him, the problem of incidence is to discover the person who ultimately pays this one shilling. All other considerations relating to tax imposition may be regarded as effects. Prof. Seligman defined incidence as "the

settlement of the tax burden on the ultimate tax-payer". Mrs. U.K. Hicks has distinguished between 'formal incidence and effective incidence'. According to her, formal incidence refers to the money burden of the tax. Effective incidence, on the other hand, refers to the broader effects of a tax. Musgrave has given five concepts of incidence (i) absolute tax incidence; (ii) absolute expenditure incidence; (iii) differential tax incidence; (iv) differential expenditure incidence; and (v) balanced budget incidence.

2.1.4 Distinction between impact and incidence

The impact of a tax is on the person who pays it in the first instance and the incidence is on that person who finally bears it. In other words, impact refers to initial burden of the tax, while, incidence refers to the ultimate burden of the tax. The impact of a tax is, therefore, the immediate result of the imposition of the tax on the person who pays it in the first instance. It corresponds to what is often but loosely referred to as "original incidence" or "primary incidence" of a tax. Thus, impact is felt by the tax-payer at the point of imposition of the tax, while the incidence is felt by the tax-payer at the point of settlement or rest of the tax or the incidence is felt by the person, who actually bears the burden of the tax. Thus, the impact of a tax can be shifted but not the incidence of a tax.

2.1.5 Theories of Shifting and Incidence

Shifting means the process of transfer i.e. passing the tax burden from the one who pays it in the first instance to the other who finally bears it. It is through this process of shifting that the incidence of a tax comes finally to rest some where else. This process of shifting may be slow or may be only partially effective so that the burden of a tax may not fall entirely on the person who is intended to bear it. The actual problem before us is to ascertain the conditions according to which a tax is shifted-forward, backward, or not at all. Only when we understand where, why, and how a tax is shifted, we can discover its actual incidence. Hence, the analysis of incidence of taxes is important. The, tax system is not merely aimed at raising a certain amount of revenue but, the aim is to raise it from those sections of the people who can best bear the tax. The aim, in short, is to secure a just distribution of the tax burden. This obviously cannot be done; unless an effort is made to trace the incidence of each tax levied by government. We must know who pays it ultimately. In order to find out whether it is just to ask him to pay it, or whether the burden imposed on him is according to the ability of the tax-payer or not. Hence to make the tax equitable, it is essential to find its final resting place. In general, the introduction of taxes, or changes in the rates of taxes, changes the economy's equilibrium. Prices of goods and rewards to factors are altered by taxes.

The term incidence may also be distinguished from effects of taxation. The effects of a tax refer to incidental results of the tax. There are several consequences of the imposition of a tax (such as effects on production, distribution etc.) which are quite distinct from the problem of incidence of taxation. Effects are a much wider problem as distinguished from incidence which is a narrow and a special problem of finding out only who bears the money burden of the tax.

Numerous writers among the Physiocrats, Classicists and the Modern have put forward various theories of tax shifting and the final settlement of money burden or the incidence of taxation. These are the Concentration Theory, The Diffusion Theory and the Modern Theory as discussed below:

2.1.5.1 The Concentration Theory

The Physiocrats and the Classicists advocated this theory. According to the Physiocrats all taxes wherever they were imposed, ultimately concentrate on the net income of land. They were of the opinion that land was the only source of net income and hence net production or net income of land should be taxed. In other words, only the rent should be taxed. The reason that wages tended to remain at the subsistence level and could not be taxed and interest was likewise a necessary payment for the use of capital and hence could not be taxed. Since agriculture was the only profitable occupation to the Physiocrats, they advocated taxing the land rents as the only taxable surplus. The land owner paid all taxes in the end or the taxes concentrated on land, because all taxes gravitated to this net product of the land.

The Physiocrats, therefore, argued that the existing diversity of taxes should be abolished and a single tax on the net income of land should be imposed. This would simplify tax system, reduce the excessive costs of tax collection, and thus reduce the burden of taxes on land owners (as all taxes ultimately fall or concentrate on land).

The Classical economists added a refinement to this analysis. They argued that there were two types of surpluses in the economy, namely, rent and profit. Accordingly, all taxes or their incidence would get concentrated on these two surpluses.

However, this contention of the Physiocrats and the Classicists has been challenged by modern economists. They are of the view that all economic activities are productive and a single tax either on land rent or on profits cannot be considered adequate in a modern welfare state. The burden of quite a large number of taxes should be distributed in an equitable manner on the community as a whole and not on a particular section of the community.

Despite its limitations the concentration theory has been advocated as it laid stress on the fact that all taxes are ultimately paid out of surplus and where there is no surplus, attempts are made to shift the burden of taxation. Hence it would not be justified to impose a tax on the person who does not enjoy surplus in the economic sense.

Self Check Exercise-I

Q. 1 Define incidence of taxation

Ans.

Q. 2 Differentiate between impact and incidence of taxation.

Ans.

2.1.5.2 The Diffusion Theory

The advocates of Diffusion theory of tax shifting say that a tax gets diffused automatically in the community so widely that individual tax-payer bears only a small portion of the tax which he can easily bear. This theory stresses on the idea that the tax burden is widely spread over, that it automatically gets distributed equitably among the various sections of the community. Hence it is useless to bother the shifting of a tax which settles the question of ultimate incidence. In other words, tax laying authorities may comfortably rest in the belief that all is well with the tax policy. Even if a tax contains an initial element of injustice, adjustments are sure to be made and the injustice is sure to be eliminated. This theory was advanced by two French writers, Mansfield and Canard. They were of the opinion that individuals from whom the tax is collected do not ultimately bear the whole burden, but shift it to other classes, so that it is diffused or spread all over the society. In the words of Mansfield, "I hold it to be true that a tax laid in any place is like a pebble falling into and making circles in the lake, till one circle produces and gives motion to another, and the whole circumference is agitated from the centre."

The diffusion takes place through the process of exchange. If a tax is imposed on a commodity, concealed in the price of the commodity, it is shifted little by little on to the consumers. A tax on profits will enter the cost of the commodity and hence it forms a part of the cost of production of the commodity. The tax, therefore, moves with the commodity from person to person and finally comes to rest where it ought to be. Canard compares taxation with the operation of cupping. He says, "After taking the blood from the vein, it is no more bloodless than any of the other veins owing to the circulation of blood through the body."

However, it is true that some diffusion taxation does take place; but it is too much to say that through this diffusion process the burden of taxation is automatically adjusted according to the tax-payer's ability to bear the tax. If the taxes were to be diffused by some unknown law, the governments would not have tried to devise some taxes to be borne by some particular class of people. No body seriously believes that the taxes are spread fairly or equitably throughout the community automatically. If they are, how are we to explain the hue and cry raised by people whenever a tax is imposed? Hence the taxes do stick to certain persons or objects. It is not like the cupping operation but like the cutting of a branch of a tree or a limb of the body. There are certain taxes like income tax or inheritance tax in which there is very little shifting and there is the least diffusion. This theory has only a very limited application. It applies to indirect taxes only and even in their case there is no diffusion throughout the community.

This theory is based upon the assumption of free and perfect competition which does not actually exist. There is a good deal of economic friction which obstructs the shifting of a tax. Hence the diffusion theory is contrary to the actual experience. Its only redeeming feature is that it emphasizes the fact that the taxes do not stay where they are first imposed. But we cannot rely on the theory in order to distribute the tax burden

in the community fairly and equitably as it assumes.

2.1.5.3 The Modern Theory of Incidence of Tax

“The demand and the supply theory” known as the modern theory is the most acceptable approach in explaining the incidence of a tax. The application of this theory to tax shifting or incidence determination is the work of writers like Seligman, Edgeworth and Dalton. According to Prof. Buchler, “The modern theory possesses all the virtues which the earlier theories had. It accepts and advocates the fact that all taxes should be imposed directly upon the economic surpluses if the tax-payer (either the consumer or the producer) enjoys an economic surplus, he may readily bear the burden of the tax, otherwise he will try to shift it.” Further, the Modern theory regards the tax as part of the cost of production and it therefore, enters into price. Hence, shifting of tax takes place through the change in price. A person would try to pass on the tax to another by raising the price of the taxed commodity. Therefore, shifting is common in commodity taxation. If taxes have no effect on prices, they are usually not shifted. Hence, shifting forward or backward is not possible where there is no price transaction.

Obviously, shifting and incidence of taxes depend upon the process of pricing. But the prices are determined by the forces of Demand and Supply. Hence, shifting of tax incidence depends upon the behaviour of buyers and sellers. Therefore, to understand the nature of tax shifting as well as to determine the incidence of a tax, the factors which affect the conditions of demand and supply should be analysed.

However, the most important factors which affect the conditions of demand and supply are the elasticity of demand, elasticity of supply and the laws of returns. Besides, it should also be noted that the final shifting of taxes is conditioned by the relative strength of the various tendencies of work facilitating and preventing tax shifting.

Analysis of Elasticity of Demand and Elasticity of Supply

According to Prof. Dalton there are two general propositions with regard to taxes on particular commodities or services :

(i) The first is that, other things being equal, the more elastic the demand for the object of taxation, the more will be the incidence of the tax upon the seller. If the demand of the commodity is perfectly elastic, the entire tax burden will be upon the seller, because an increase in the price due to tax will make the demand of the commodity zero. If the demand for the commodity is perfectly inelastic, the entire tax burden will be passed on to buyers, because an increase in price due to tax will not affect the demand. When demand is relatively elastic, a greater part of the tax burden will be upon the seller and vice-versa.

(ii) The second proposition is that, other things being equal, the more elastic the supply of the commodity, the more will be the incidence of tax upon the buyer. And the less elastic the supply of the commodity, the greater will be the incidence of the tax upon the seller. If the supply of the commodity is perfectly elastic, the entire tax burden

is shifted to the buyers. With the imposition of the tax, the cost of production will rise and thus the price will rise, which may affect the demand of the commodity and bring loss to the seller. Therefore, the seller would curtail the supply of the commodity, increase its price by the full amount of the tax and will shift the entire burden of the tax on the buyers. If the supply is perfectly inelastic, the tax burden will be wholly on the seller. If the supply is more elastic, a greater part of the tax burden will be upon the buyer and vice-versa.

Concluding with the words of Prof. Dalton, “The sellers, in short, try to put the incidence on the buyers by reducing supply, the buyers try to put it on the sellers by reducing demand. The relative ability of the two groups to achieve their aims, with the minimum loss to themselves, determines the result.”

The above conclusions have been combined by Prof. Dalton to form a general proposition of the theory of Incidence of Taxation as the “direct money burden of a tax imposed on any commodity is divided between the buyers and sellers in the proportion of the elasticity of supply (E_s) of the taxed commodity to the elasticity of demand (E_d) for it,”

The above mentioned general principle of the incidence of the taxation has been explained with the help of Fig 1:

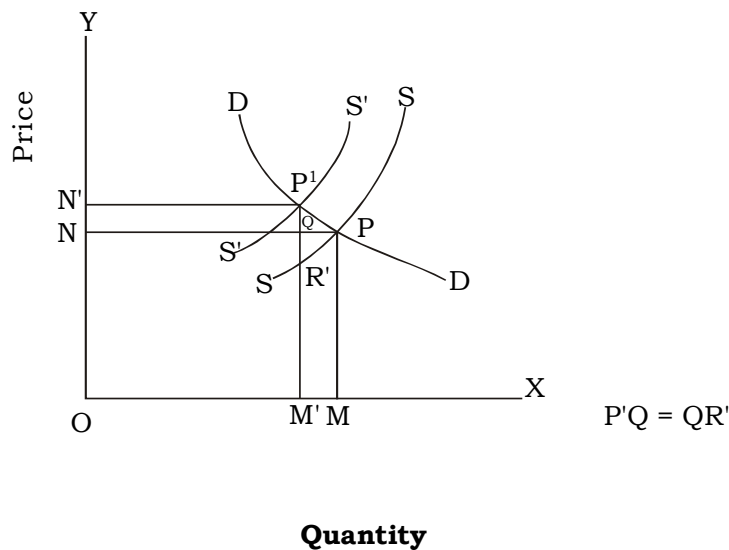


Fig. 1

In the above diagram DD is the demand curve and SS is the supply curve for a particular commodity or service. PM is the price per unit before the imposition of the tax and NP or OM is the amount sold before the imposition of tax. Now a tax equal to $P'R'$ has been imposed on the commodity and is collected from the seller. Now $S_1 S_1$ is the new supply curve after the imposition of the tax. $P'M'$ is the new price after the imposition of tax and $N'P'$ is the new quantity sold of the commodity after the imposition of the tax and $P'R'$ is the tax per unit.

Thus, the price rises by $P'Q$ and the sales fall by PQ due to the imposition of the

tax. The incidence of the tax, P'R' is divided between buyers and sellers. The buyers bear P'Q and the seller bears QR'. Thus P'R'=P'Q+QR'.

Now we can prove that the incidence of the tax is divided between buyers and sellers in the ratio of the elasticity of demand as follows:

$$\text{Elasticity of Demand : } Ed = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in price}}$$

This can be expressed in mathematical terms as :

$$Ed = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

(Here, Q stands for quantity demanded or supplied and P stands for price)

Now the elasticity of demand :

$$Ed = \frac{MM'}{OM} / \frac{P'Q}{PM} = \frac{M'M}{OM} \times \frac{PM}{PQ}$$

Similarly, the elasticity of supply

$$\begin{aligned} Es &= \frac{MM'}{OM} / \frac{QR'}{PM} = \frac{M'M}{OM} \times \frac{PM}{QR'} \\ &= \frac{ES}{ED} = \frac{MM'}{OM} \times \frac{PM}{QR'} / \frac{MM'}{OM} \times \frac{PM}{P'Q} \\ &= \frac{MM'}{OM} \times \frac{PM}{QR'} \times \frac{OM}{MM'} \times \frac{P'Q}{PM} = \frac{P'Q}{QR'} \end{aligned}$$

Thus P'Q is incidence on buyer and QR' on seller. The above result holds good, even if the same taxes were collected from the buyers instead of the sellers, the only difference would be that, instead of a rise in the supply curve, there would be fall in the demand curve.

From the foregoing explanation of the general principle of the incidence of taxation, the following conclusions can be drawn:

(a) If the $Ed = Es$, the burden of taxation is equally divided between the buyers and seller and the price of the commodity will rise by half the amount of the tax. This is possible when both the supply and the demand curves have similar slopes as has been shown in fig. 1. In this figure the burden of tax is equally shared, So $P'Q=QR'$.

(b) When the degree of elasticity of supply is greater than that of elasticity of demand i.e. $E_s > E_d$, the burden of the tax will be upon the buyers in higher proportion than upon the seller, and the rise in price will be more than 50 per cent of the amount of tax per unit. This can be explained with the help of figure 2 as shown below:

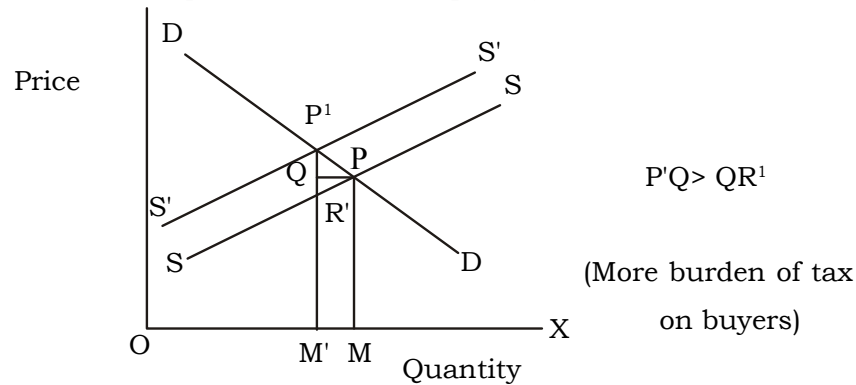


Fig. 2

In figure 2, the demand and the supply curves indicate that the supply is more elastic than demand. PM is the price before the imposition of the tax, & P'M' is the price after the imposition of the tax. P'R' is the amount of the tax and the tax burden is shared by buyers as well as sellers. So $P'R' = P'Q + QR'$. But since $P'Q > QR'$, the burden of the tax falls more on the buyers than on the seller.

(c) When the degree of elasticity of supply is less than elasticity of demand i.e., $E_s < E_d$, the burden of the tax falling on the sellers is higher than that on the buyers, as the rise in price of the taxed commodity will be less than 50 percent of the tax per unit. This can also be explained with the help of figure 3 as shown below:

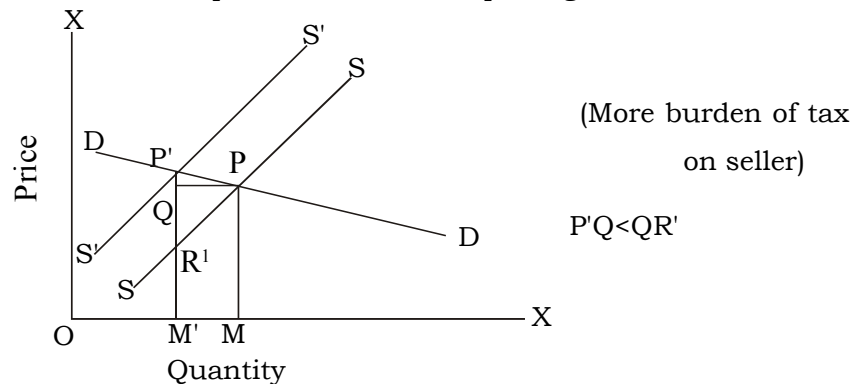


Fig. 3

In figure 3 the demand and supply curves indicate that the supply is less elastic than the demand. PM is the price before the imposition of the tax, and P'M' is the price after the imposition of the tax. P'R' is the amount of the tax and $P'R' = P'Q + QR'$. But $P'Q$ which shows rise in price is less than QR' . Hence, the burden of the tax falls more on

the seller than on the buyers.

The preceding cases of incidence with different degrees of elasticities can be explained in one figure. Since the nature of demand for different commodities is different as the demand for necessities is inelastic, while that for luxuries is elastic, Thus relative incidence of a tax on different commodities would be different. This can be explained with the help of Figure 4.

$D_1D_2D_3$ are demand curves of three different types of commodities. SS is the supply curve before the imposition of tax and S_1S_1 is the supply curve after the imposition of tax. The demand curve D_1D_1 indicates that the commodities demand is less elastic, i.e. for necessities. D_2D_2 indicates relatively elastic demand, i.e. for comforts, and D_3 is highly elastic demand, i.e. for luxuries. P_a , P_b and P_c are the prices of the respective commodities before the imposition of the tax.

In the 1st case of necessities, the total burden of the tax is $P_1R_1 = P_1Q_1 + Q_1R_1$ the rise in the price due to tax is equal to P_1Q_1 . Therefore, P_1Q_1 burden of the tax is borne by the consumers and Q_1R_1 by the sellers. But $P_1Q_1 > Q_1R_1$. Hence, the burden of tax on consumers is greater than that on sellers. Therefore, taxes on necessities can be easily shifted to the consumers because their demand is inelastic.

In the 2nd case, the demand is unity elastic, the total burden of tax is P_2R_2 . The rise in price due to tax will be equal to P_2Q_2 . Hence P_2Q_2 amount of the tax is borne by the consumers and Q_2R_2 by the sellers. But $P_2Q_2 = Q_2R_2$. Hence, the burden of tax is divided equally between buyers and sellers in case of comforts.

Similarly, in the 3rd case, the total burden of tax is $P_3R_3 = P_3Q_3 + Q_3R_3$. Here P_3Q_3 tax is borne by the consumers and Q_3R_3 by the sellers. But $P_3Q_3 < Q_3R_3$. Hence, the burden of tax is greater on sellers than on consumers. Therefore, taxation on luxuries is not easily shifted to the consumers.

Thus we may conclude that the burden of tax on consumers is the greatest in the 1st case i.e. of necessities and is the smallest in the 3rd case i.e. of luxuries.

Self Check Exercise-2

Q.3 The more elastic the demand for the object of taxation, the more will be the incidence of the tax upon the seller. Discuss.

Ans.

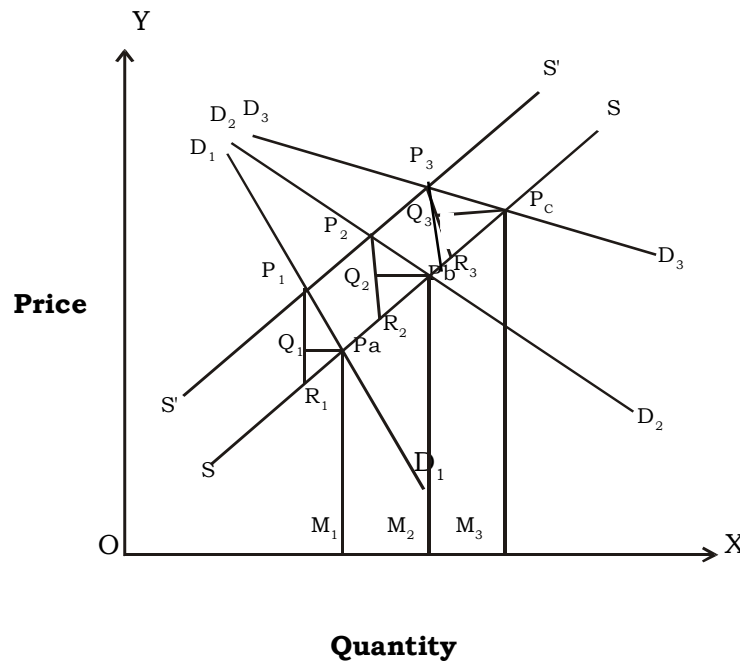


Fig. 4

Criticism of 'The Demand and the Supply Theory'

"The demand and the supply theory" as explained above does not satisfy the test of criticism:

(1) This theory is based on the demand and supply curves. "But a tax is only one of many factors that affect the supply or demand of a commodity. The new supply curve may be completely different from the one that is assumed in the above illustration, because as a result of the imposition of the tax many other factors may change, affecting the supply price of the commodity. Similarly, the demand curve may also change. The tax is bound to result in a reduction of incomes and therefore, will change the demand curves for many other products. The tax may be only a small factor as compared to other factors determining the shape of the demand and supply curves. According to professor R.N. Bhargava 'A tax tends to cause movements in the economic situation just as a stone causes movements when thrown into a pool. It will be a drastic assumption that when a stone is thrown into a pool the ripples and disturbances are caused by it alone actually the ripples and disturbances may cause such other disturbances in the pool whose effect may be more prominent such as it may cause fishes to move about and create fresh ripples and disturbances. So that before the new position of rest is achieved many other changes would have taken place.'

(2) It is a partial theory since it takes into consideration only the receipt side

of the budget and ignores the effects of public expenditure. A true incidence theory must deal with the net budget incidence i.e. tax burden minus expenditure benefits. Most of the modern researchers while dealing with the incidence of taxation have also considered the expenditure benefits.

(3) Dalton has defined tax incidence as the 'direct money burden' of a tax. It is pointed out that while the term 'money burden' may be precise, the qualifying word 'direct' is too ambiguous and vague to be given any scientific precision. Let us suppose that a tax is levied and collected from the producer of sugar. We have first to consider the demand and supply curves of the wholesale dealers, the retail dealers and other intermediaries and finally the consumers. Where are we to stop in these series of exchanges and say that incidence can travel thus far and no further. If it is said that we should carry the analysis up to the consumers, the difficulty is that there is no person who is only a consumer and not a producer. The consumer of sugar may be a producer of syrups or potatoes and the money burden of the tax on sugar may be shifted by him to the producer of wheat and he may shift the tax to the consumers of wheat and thus there is no end to these series of transfers. Thus, R.N Bhargava rightly points out that "incidence of taxation is indeterminate not because adequate information is not available, but because even in theory it cannot be isolated."

It is because of this that many economists have "disliked the term incidence of taxation." Cannon maintained that "I have no doubt that it is desirable to eschew the use of the term incidence of taxation". It unduly restricts inquiries into the justice and expediency of taxes. It is perhaps vagueness of the term which compelled Edgeworth to say that "incidence denotes all those effects of taxation with which the economist is concerned". Professor Robertson also deplores "an unfruitful discussion between the incidence of a tax and its effects," This doubt seems to exist even in the mind of Dr. Dalton when he says that, "it is doubtful whether these cases.....properly belong to the theory of incidence as distinguished from the more general theory of the effects of taxation,"

It is thus clear that the above concept of incidence is defective and that it would be better to give it a broader meaning in the context of the compensatory system of finance.

2.1.9.6 Alternative concepts of Incidence

The Swedish economists, particularly Wicksell, have given a new interpretation to the concept of incidence free from all ambiguities associated with the "Demand and Supply Theory". Following him Musgrave and others have redefined the concept of incidence in terms of redistribution of income. To these writers, "incidence means changes in the distribution of income which prevails as a result of change in taxation and public expenditure (the change in budget policy)". It is pointed out that whenever budget policy is changed, four important effects come into existence, viz. (a) changes in resource transfer (from people to the government), (b) output effects, (c) employment

effects (d) effects on the distribution of income. The term “incidence” is used to denote the last type of effects. This is clearly different from the preceding concept of incidence which means the money burden of a tax. Besides, the new concept speaks of the distributional changes while the “demand and supply” concepts of incidence completely ignored the role of public expenditure.

Musgrave has distinguished five different concepts of incidence depending upon the type of budget policy.

Tax incidence

- It can be
- (i) Specific or Absolute tax incidence
 - (ii) Differential tax incidence.

Specific or Absolute Tax Incidence

Public expenditure, remaining constant, changes or modifications may be introduced in a tax. The resulting change in the distribution of income is known as absolute or specific tax incidence. For example, if income tax rates are reduced, this will increase the disposable income of the people. Assuming full employment, this will generate inflationary pressure which will transfer resources from the poor (fixed income people) to the rich (whose sources of income are variable). Likewise, if income tax rates are increased, deflationary impact will be generated and resources will be transferred from the rich to the poor.

Differential Tax Incidence

This refers to the distributional changes that may result when one tax is substituted for another, assuming that the money burden of the two taxes is the same. It carries out a revenue neutral change in tax by raising one tax while lowering another. Thus, the differential tax incidence considers the difference in the distributional result of two taxes that provide, for equal yield. Obviously, when progressive income tax is substituted by sales tax of equal yield.

Expenditure Incidence

Like tax incidence, we can also define expenditure incidence. If taxes are held constant, while public expenditure varies, certain distributional effects will come into existence. Those may be known as expenditure incidence which is of two types viz (i) Specific or Absolute expenditure incidence and (ii) Differential expenditure incidence.

If public expenditure on a particular item is increased or decreased the resulting change in the distribution of income may be called specific or absolute expenditure incidence.

Similarly, when an increase in public expenditure in the one direction is cancelled

by a decrease in public expenditure in other direction, the resulting change in the distribution of income is called differential expenditure incidence.

Balanced Budget Incidence

Finally, we can speak about distributional change that involves adjustment, in both tax and expenditure policy. A consideration of tax burdens without inclusion of expenditure benefits remain one-sided approach. Thus, this may be considered as the best concept of incidence since it reveals who benefits directly or indirectly from public finance activities.

Self Check Exercise-3

Q.4 Write the different concepts of incidence described by Musgrave.

Ans.

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2.1.9.7 Technical Terms

Impact of tax: Initial payment of a tax. Impact of the tax is said to fall on a person who pays the tax in the first instance.

Incident of tax: The determination of who actually and ultimately bears the burden of a tax in terms of paying higher prices or receiving less income or a reduction in the value of assets.

Shifting of tax: The process of passing on the burden of the tax from the person who is initially required to pay a tax to a customer, worker, supplier, etc.

Questions:

Long Question

1. Differentiate impact and incidence of taxes. How is incidence of a tax determined?
2. Examine the Concentration and Diffusion Theories of tax shifting.
3. Discuss the modern theory of tax incidence with special reference to general commodity taxation.
4. "Incidence is part of the problem of price determination" Discuss.
5. How is incidence of a tax divided between buyers and sellers under different Conditions of demand and supply?

Short Question

1. What is incidence of tax?
2. Differentiate incidence, impact and shifting of taxation.
3. Distinguish between formal incidence and effective incidence of a tax.
4. What is shifting of taxation?
5. Write a note on concentration theory of incidence of taxation?
6. Criticise Demand and Supply theory of taxation.
7. How far elasticity of demand and supply affect the incidence and tax shifting?
8. Describe the modern concept of incidence given by Prof. Musgrave.

LESSON NO. 2.2

TAXABLE CAPACITY

- 2.2.1 Introduction
- 2.2.2 Objectives
- 2.2.3 Taxable Capacity : The Concept
 - 10.3 A -Absolute Taxable Capacity
 - 10.3 B -Relative Taxable Capacity
- 2.2.4 Taxable Capacity : The Nature of Tax Limits and their Mode of Operation.
- 2.2.5 Taxable Capacity : Determinants
- 2.2.6 Taxable Capacity in India
- 2.2.7 Taxable Capacity : A Dissent

2.2.1 Introduction:

In simple terms, taxable capacity denotes the extent to which the citizens of a country can be taxed. Technically, it refers to the presumed ability of the government to generate taxes. Taxable capacity differs in different countries.

Over the past few decades, the less and more developed countries have unilaterally witnessed the growth in their tax revenues outstrip the growth in their national incomes. The ratio of tax revenue to gross national/ domestic product now exceeds 25 percent in several countries. This increase in tax ratio has resulted in both popular resistance and academic controversy. The general suspicion is that the limit to taxation has been reached, or exceeded, in some countries. Various tax reliefs and tax holidays are suggestive of the growing severity of the problem and the consequent strain on different fiscal systems. There are manifestations that somewhere along the line, in the process of transfer of resources from the private to public sector, through the instrumentality of forced frugality, certain constraints may have to be allowed for and certain limits may have to be respected. It is these constraints that the concept of taxable capacity seeks to be systematized.

While relevant for the under-developed countries, the concept of taxable capacity is also relevant for the developed nations. Indeed the tax ratios in the developed countries are much higher than in the less developed countries. It may

be argued that if there do exist any absolute limit to taxation, then do the developed countries stand near the danger of reaching (and over reaching) that limit, then do not so developed countries. This of course assumes that the absolute limit is the same for both the developed and under-developed countries. However, even', if it were not the same it is still possible that both the developed and under-developed countries though their tax ratios are quite different are operating close to their taxable capacities. The point that we wish to establish is that the concept of taxable capacity is relevant for both the developing and developed countries. It is, therefore, in order that the concept be concretised and the effective limits to country's taxation potential be identified.

2.2.2 Objectives : After having gone through this lesson you would be able to-define taxable capacity

- differentiate absolute and relative taxable capacity.
- know whether taxable capacity can be quantified or not.
- discuss the factors determining taxable capacity.
- judge the taxable capacity in India.

2.2.3 Taxable Capacity : The Concept

I Findlay Shirras's Version

An early discussion of the concept of taxable capacity can be found in G. Findlay Shirras, 'Science of Public Finance' (1936). Shirras laments that the concept of taxable capacity has remained 'an unattractive cryptogram'. Though Shirras did not formulate any reasons for this state of affairs, we may suggest the following :

- (i) Tax ratios in 1936 were definitely at much lower levels than they are today.
- (ii) The contextual justification for the concept
- (iii) The concept as had developed, till then was quite rudimentary.

Findlay Shirras identified two variants of taxable capacity : Absolute taxable capacity and relative taxable capacity.

2.2.3 (a) Absolute Taxable Capacity : Absolute taxable capacity may be defined as the maximum amount which the citizens of a country can contribute towards the expenses of public authorities without having undergone an unbearable strain (pp. 228-229) or as Sir Josiah Stamp described it, without having a really unhappy and downtrodden existence and without dislocating the economic organisation too much. Put crudely, it is the limit of squeezability. However, too many unpleasant ideas may be consorted out of the last expression. Prof. Shirras immediately sound the caveat. It (taxable capacity) is the optimum taxability of a

nation, the maximum amount of taxation that can be raised and spent to produce the maximum of economic welfare in that community. Prof. Shirras (in an attempt to make the concept more precise) recognized that “the ultimate test is the residual national income. it is surplus of production over the minimum consumption required to maintain that volume of production per head of population, the essential standard of living remaining unchanged over a number of years.” By minimum of consumption, Prof. Shirras sought to clarify, we mean necessities for efficiency. The minimum will, of course, differ widely in different countries.

The following points may be noted from the above:

- (1) The absolute taxable capacity is conceived in absolute terms, i.e., an absolute amount (given by the formula: Absolute taxable capacity = National Income - minimum of consumption) rather than as some tax ratio.
- (2) The concept of Absolute taxable capacity is made precise (as in above formula) at the cost of introducing another ambiguous concept, that of minimum consumption.
- (3) It is quite correctly recognised that absolute taxable capacity will be different in different countries.

2.2.3 (b) Relative Taxable Capacity: It, on the other hand, does not mean the maximum or absolute capacity to bear tax burden. Instead, it deals with the amount which a state should pay in comparison with other towards a common contribution or how a given burden imposed should be distributed among states or provinces of a Federation.

Findlay Shirras went on to construct his own statistical estimates of absolute and relative taxable capacity of (British) India for the years 1910-11 to 1926-27, the concept of taxable capacity as presented by Shirras amounted to little more than scratching the surface. It highlighted the strains of the fiscal system all over the world, the constraints on the stretchability of their revenue apparatuses which were already fair that especially when these constraints represented more than a concern for some minimum consumption. Shirras' notion of taxable capacity (aggregate) is concerned chiefly with tax burden, while there are other aspects to the question as well. Those aspects have been discussed below:

II Colin Clark's Arguments

Colin Clark's argument is two-fold: first, the theoretical assertion that in non-totalitarian countries, there exists an effective ceiling to tax revenues; second the empirical assertion that this ceiling in times of peace can be placed at 25 percent of national income. Or putting the two assertions together, taxation ceases to be effective in controlling inflation when it exceeds approximately 25 percent of national

income.

To reach the above conclusion, the following three propositions need to be established:

- (i) Taxation as a fiscal instrument becomes useless if and when it results in inflationary outbreaks.
- (ii) Taxation beyond a certain limit, is unable to control inflation.
- (iii) The certain limit is approximately 25 percent of national income.

The first proposition is really proved.¹ When taxation leads to inflation, the latter will reduce the real value of tax revenue so that while nominal tax revenues may be rising the actual resource transfer to the public sector may be constant or declining. To be sure, even inflation is a method of forced frugality and may through its redistributive effect increase aggregate savings. Also, if taxation is resorted to for redistributive purpose inflation only abnegates such redistribution. Again if taxation is used as a stabilization device, then inflation is obviously an absolute frustration of the intended result. Hence the uselessness of the taxation is clear in the face of inflation.

The second proposition, Clark consciously sought to establish was by stating the problem as follows: Is there a discoverable point where the burden of taxes becomes insupportable or supportable only by such dubious means as inflation?² Inflation thus was seen as the main threat from rising taxes. In fact, the taxation limits were conceived of as maximum that may be approached without entailing inflationary consequences, but crossing which would unleash inflationary spirals. Similar is the importance of Benjamin Higgins's statement while discussing the relative efficacy of taxation and saving. He writes, "The main purpose of either, from the standpoint of development finance, is to permit increased public and private investment without inflation."³

Having raised the problem thus, Clark in his original article (Economic Journal, 1945) emphasized a quasi-political explanation of tax limit. He argued that when taxation exceeds a certain limit (25 percent of national income), influential groups will favour inflation as means of reducing the burden of public debt and other fixed charges in the budget. After inflation has brought taxes below the critical limit, these groups will favour stabilisation. The argument recognizes that process of collection of taxes and their subsequent expenditure entails a certain redistribution welfare that may become politically unacceptable once the process is enlarged beyond a limit. The article is open to the interpretation as a commentator notes that the

1. This proposition is not explicitly stated in Clark's two articles and is simply assumed to hold
2. Colin Clark : 'The Danger point in Taxes', Harper's Magazine, December, 1950, p.611.
3. Benjamin Higgins : Economic Development, p. 483.

limit to taxation is simply the point beyond which democratic countries will refuse to tax themselves, except perhaps in wartime.”

In his later article (Harper’s Magazine, 1950), however, Clark makes it clear that he believes that the anti-inflationary power of taxation is .subject to a strict economic limit. He agrees with the common opinion that deficit spending is inflationary but adds that if a government incurs heavy expenditures, and these are covered by taxation, so that the budget is balanced, the trend while may be deflationary for a time, will in the long run be towards inflation if the rate of taxation is too high to be borne (Harper’s Magazine, p. 67). The long run is defined as ordinary a period of two years, though in wartime it may be longer

Clark’s economic limit is derived from the following consequences of high taxes: (1) weakening of employer’s normal resistance to wage increases; (2) wasteful business expenditures; and (3) a decrease in the amount and efficiency of work.

As for the third proposition, Clark appears to rest his case mainly on a statistical examination of the experience of a number of countries in the interwar years and in the period since World War II. He thus, concludes that, ‘Although this evidence is far from conclusive, it certainly suggested that the critical level of taxation beyond which inflationary forces come into play (and deflationary forces suffer a political check) is around 25 percent if tax limit is extremely dubious at least on the following two counts. First, taxable capacity or tax limit depends, as shown below, on a variety of factors, and it would take the tax limits of all (non-totalitarian) countries at, or close to, 25 percent. Secondly, most developed nations have already crossed the 25 percent mark, and indeed may have done so without causing a serious inflation (atleast not before their tax ratios touched substantially high levels much higher than 25 percent).

Thus, while the first and the second proposition may be justified, justification for the third proposition is lacking. The conclusion about the Colin Clark’s argument is therefore obvious and is similar to the conclusion of the Joint Committee on the Economic Report (1952), which stated as follows :

‘There appears to be some upper economic limit to taxes, although not an inflexible percentage of the Nations’ income but an area beyond which further tax increases would aggravate inflation and reduce output.

Self-Check Exercise -I

Q.1. Define the concept of taxable capacity.

Ans
.....

Q.2. Differentiate absolute taxable capacity from relative taxable capacity.

Ans.

III Advisory Commission on Inter-governmental Relations (ACIR)'s

Definition

A simple and lucid definition of the term taxable capacity or fiscal capacity is given by the Advisory Commission on Inter-governmental Relations (A.C.I.R.). According to the Commission, "Fiscal Capacity is a quantitative measure intended to reflect the resources which a taxing jurisdiction can tax to raise revenue for public purposes." According to this definition available taxable resources would indicate the taxable capacity or potential. Defining 'tax-efforts' ACIR expressed, "Tax effort is a closely related measure quantifying the extent to which a government actually uses its capacity to raise revenue through taxation."

Taxable capacity refers to the predicted tax-gross domestic product ratio that can be estimated with the regression taking into account a country's specific economic, demographic and institutional features.

Tax-effort is defined as an index of the ratio between the share of the actual tax collection in gross domestic product and the predicted taxable capacity.

2.2.4 Taxable Capacity: The Nature of Tax limits and their Mode of Operation:

We may now turn to the nature of tax limits perse and examine how much such a limit operates.⁴

Tax limits are economic in the sense and exceeding them will gravely harm production and distribution. They are also political if the governments recognise the bad consequences of excessive taxation and the resistance to it and try to keep taxes within limits. An absolute limit would prevail if no additional revenue could be obtained or obtained only at the prohibitive cost of reducing private savings by a matching amount of raising taxes or imposing new taxes. An absolute limit is, rarely encountered. Usually, a tax limit not fixed at any specific level reflects a judgement that the harm done by raising taxes beyond some point would outweigh the revenue advantage or the possible benefits from reducing the rate of domestic inflation.

Tax limit may operate because excessive taxation impairs productive capacity, weakens economic incentives, arouses resistance and evasion or imposes insupportable administrative burdens.

4. The discussion that follows is, largely based on the analysis of Richard Goodes in 'Limits to Taxation' in March, 1981.

Taxation can reduce productive capacity by destroying capital or by reducing consumption needed to maintain the health and energy of workers. It depends on the methods of and areas on which the tax revenue is used. The risk is, of course, less if government expenditure caters to health and education, and to the necessary maintenance of useful facilities. By reducing economic rewards, high taxes can make people less willing to work, assume managerial responsibility, control costs or investment. If the tax revenue is then used for welfare purpose, that may be applauded for social reasons. For, while the community as a whole may benefit from social expenditure the amount of benefit received by an individual or family is not related to the amount of tax paid by that person or family; every one wishes to be a 'free rider'.

There is a risk of beneficiaries not paying for it voluntarily. Every individual may argue that the supply would not be affected by his not paying for it. Thus the principle of financing the supply of public goods and services on a voluntary basis creates free riders problem.

Taxation can be limited by the resistance that may be aroused when taxes rise rapidly and are regarded as excessive. This had been already hinted at while dealing with the Colin Clark argument. A part of such, 'Tax revolt' may be traced to the disillusionment with the government (and its functioning) in many advance capitalist countries. Thus, examining the enigma of U.S. electorate's demand for tax reductions, C Ladd Jr. writes: 'The protest is also symbolic and a deliberately exaggerated expression of low regard for the government's competence. This seems to voters to be a rational way to dramatise an important problem'⁵.

Resistance to taxes may also take the form of increased evasion particularly of direct taxes on income, profit and wealth which depend to a great extent on the co-operation and voluntary compliance to tax payers. The plain effect of high marginal tax rates is that the activity called 'tax evasion begins to yield a high rate of return and hence indulgence in the activity increases.' Apart from tax evasion, there may be tax avoidance, which does not break the law but diverts activities and transactions from commercial or organised markets to channels less exposed to taxation. In less developed countries, farmers may consume more of their produce or barter it in the villages and offer less for sale in the cities or for export. In the industrialised countries, households may divert time and energy from earning taxable income to maintaining and improving their house and gardens and other household activities.

Another form of resistance to taxation shows itself in inflation. This has been dealt with at length in the Colin Clark's argument. Now, we only wish to point out that government had only limited success in combating wage retaliation against taxation, especially since wages have come to formally linked with cost of living index. In such circumstances, a cost push inflation may be quite unavoidable.

5. Ladd, E.C. Jr., 'The Riddle of Tax Revolt', 'Economic Impact', No. 211. Vol.3, 1979, p.4

Another objection to compulsory saving through taxation is that it can lead private people to reduce their savings or actually to dis-save. The result may be a cumulative tendency for more and more taxation, and less private saving. The danger, however of such displacement would carry greater weight if the flow of voluntary savings was considerable. Actually, in most of the poorer countries the flow is meagre. Therefore, According to Nurkse 'the appeal to spare the goose that lays the golden eggs is not very strong when the goose is not laying many eggs of any kind.'

Finally, it is important to take into account the time factor. People may also be willing to accept on a temporary basis unusually high taxes during a war or other emergency. On the other hand, economic incentives and voluntary compliance may be less damaged by a slow upward creep of taxation than by a sudden jump. Time is required to strengthen administrative capacity. These considerations suggest that the rate of change of taxation as well as the level, determine the 'limit', it appears that tax limits tend to increase over time in most countries, though at varying rates.

2.2.5 Taxable Capacity: Determinants

Taxable capacity is not rigidly fixed. It is a moving figure. It is relative to so many factors that any change in any of them is bound to change our estimate about the taxable capacity of a nation. The determinants of taxable capacity should be obvious from the foregoing discussion. Hence, we spell out these determinants very briefly. More important among the determinants of taxable capacity are:

(i) Stage of Development: Stage of development is the first and foremost determinant of tax ratio. Economic development is a multifaced phenomenon affecting quality of life and therefore can not be measured precisely by a single variable. Still, a variable frequently used as a proxy is per capita income which, though incomplete is by far the single best indicator of the stage of economic development attained by a country. A common opinion is that the greater the per capita income, the higher the tolerable limit of the ratio of taxation to income.

(ii) The Distribution of Income: Other things being equal, taxation potential would be greater for a country with a more skewed income (and wealth) distribution than for a country with a less skewed distribution. Since most underdeveloped countries show markedly greater relative inequality than the developed, taxation potential in the former should be relatively greater on this count.

(iii) The Relative Importance of Different Kinds of Economic Activity: The most important factor here relates to the relative shift between the conventionally

taxable and non-taxable activities. Important, therefore, in this respect are the following : size of the non-monetized sector, the extent of subsistence farming, the degree of openness of the economy, etc.

(iv) The Size of Employing Establishments: The administration of an income tax and taxes in general is difficult where employment is in small establishments, unorganised and where self employment is widespread.

(v) Form of Taxation: Not only is the tax-structure relevant here, also relevant is the tax rate-structure. For instance, it is observed that high tax ratios are associated with the use of progressive taxes, a partial explanation for which may be that the political attractions of progressive taxes have outweighed its economic disadvantage (in terms of the impact on incentives etc.). Especially in democracies the use of direct taxes at steeply graduated rates on the affluent few may be necessary to win acceptance of heavy taxes on the masses.

(vi) Form of Government Expenditure : This will affect taxable capacity in so far as the specific form of government expenditure can affect productive capacity, incentives to save, willingness to work and the tax burden in general.

(vii) Innovation and Administration: Readiness to accept tax innovation, if not carried to extremes, can help push up tax limit. Several important innovations have helped to increase the tax limit since the end of World War II. Among these were the development of broad-based sales taxes, particularly value added taxes; the reduction of the threshold of income tax coverage made possible by withholding tax at source and by modern data processing system; and the conversion of many excise and custom duties from specific to ad valorem bases and Goods and Services Tax (GST). Such innovations apart from the adaptation of the tax system to a country's administrative capabilities and the willingness of tax-payers to comply can also increase the revenue potential by minimising tax evasion and compliance costs.

(viii) Tax Rates in other Countries: Tax rates in other countries influence the tax limit by affecting opinions about what is bearable. The possibility that domestic capital will flow abroad to countries with lower taxes and that foreign capital will be discouraged from entering a high-tax country.

(ix) Inflation : It reduces the buying capacity of the people of nation, thus has an unpleasant result on taxable capacity.

The section may be concluded with the observation that tax limits are neither static nor universal. They are determined with respect to time and a country in accordance with the country's situation vis-a-vis tax limits are highly important for policy making. A country that has exceeded the safe limit of taxation must cut government expenditures, however unpleasant as that may be. A country that has

not reached its tax limit has more options.

Self-Check Exercise -II

Q.3. Write four determinants of taxable capacity

Ans

.....

2.2.6 Taxable Capacity in India

Regarding the taxable capacity in India, Jha Committee (1978) observed: Comparing the tax ratios for India with other countries, we find that as against a tax ratio of about 16 per cent for India in 1974-75, it ranged from about 25 to 30 percent for advanced countries like the USA, UK and Denmark. This may suggest that our tax effort is low in comparison with that in the advanced countries. One cannot, however, ignore the fact that even a lower tax ratio of 16 to 17 percent can mean a much higher burden in a country where per capita income is below Rs. 1000 a year, than even a high ratio of 25 to 30 percent, in countries having per capita incomes reckoned in terms of thousands of rupees.....⁶

On account of paucity of data, the Committee regretted that it is less easy to compare India's tax effort with that of the other developing countries. However, considering that per capita income in India is one of the lowest even among the developing countries. India's tax effort cannot be said to be too low by international standards.⁷

After independence there are many factors which indicate that the taxable capacity of the country has increased, and the country has not reached to the limit of taxable capacity? Table 1 highlights tax GDP ratio in selected developed and developing countries in 2015. You can see that tax-GDP ratio in India is far less than such a ratio for developed countries like Sweden, France, Germany etc.

The most important feature of the Indian tax system is the heavy reliance on indirect taxes. This represents a serious constraint on our tax potential. The most important reason for the limited role of direct taxes is the poverty of the Indian people. An overwhelming majority of the income earners in India have income below the exemption limit. And the exemption limit, if lowered, would not only fail to take adequate care of the subsistence needs of a family; it would also raise the administrative costs of tax collection to prohibitive heights.

Thus, the most immediate need (in view of raising the taxable capacity) is that of diversifying the tax structure in favour of the direct taxes. This however, may not be immediately possible given the constraints of backwardness. Nevertheless, areas may still be identified where improvements are possible. A case in point is agriculture which so far remains out of the tax net.

To increase the taxation potential, change would also be required on the indirect

tax front. It is recognised that “If the system were made more income elastic than in the past there would be less need for raising the rates on individual commodities from time to time”. The Indirect Taxation Inquiry Committee observes: ‘Low elasticity of excise has been due to inadequate coverage and widespread reliance on specific duties in the past’. To increase this elasticity, the Commission, therefore recommended besides the ascending of tax base, the conversion of excise duties to an ad valorem basis. Recently many tax reforms like implementation of CENVAT and State VAT, levying of service tax (since 1994) etc have been made.’ As a result, tax-GDP ratio is improving.

With economic development, the taxable capacity of the Indian fiscal system will gradually register an increase.

Self-Check Exercise -III

Q.4. Has India reached to the level of its taxable capacity?

Ans
.....
.....

QUESTIONS

1. Discuss the concept of taxable capacity with a view to identify its determinants.
2. “In the interest of clear thinking, it would be well that the phrase taxable capacity’ should be banished, from all serious discussions of public finance. “ (Dalton). In view of above statement, discuss the relevance of the concept of taxable capacity.
3. Relative taxable capacity is a reality and absolute taxable capacity is a myth’ Comment.
4. Define taxable capacity and point out how it can be measured? Has India reached her taxable capacity?

SHORT-QUESTIONS

1. Relative taxable capacity.
2. Absolute taxable capacity.
3. What is a ‘free riders’ problem?
4. Direct tax.
5. Indirect tax.
6. Define the concept of taxable capacity
7. Explain factors determining the taxable capacity.
8. What is the limit of taxable capacity?
9. How limit of taxable capacity can be measured?
10. Whether India has reached her taxable capacity?
11. What are the causes of low taxable capacity in India?
12. Differentiate relative and absolute taxable capacity?
13. What is the significance of taxable capacity?

LESSON NO. 2.3

EFFECTS OF TAXATION

- 2.3.1 Meaning
- 2.3.2 Objectives
- 2.3.3 Economic Effects of taxation
 - 2.3.3.1 Effects on production
 - 2.3.3.2 Effects on distribution
 - 2.3.3.3 Other effects of taxation
- 2.3.4 Trade off between Equity and Efficiency
- 2.3.5 Summary

2.3.1 Meaning :- The term effect of a tax refers to incidental results of the tax. There are several consequences of the imposition of a tax which are quite distinct from the problem of incidence as discussed in the previous lesson. For example, the imposition of an excise duty on sugar is shifted ultimately to the consumer of sugar and so the incidence is on the consumer. But the effect of this duty may be far-reaching; a heavy excise duty may cripple the industry. The manufacturer's profits will be reduced and so the wages may also fall. Capital and labour may leave the industry. Reshuffling of all these affected people's family budgets may effect the demand for certain other goods. The consumption of sugar may decrease and that of its substitutes may increase. All these are effects of the tax. It is a much wider problem as distinguished from incidence which is narrow and a special problem of finding who bears the money burden of the tax.

2.3.2 Objectives:

After having gone through this lesson, you would be able to:

- Understand the economic effects of taxation on production, distribution and stabilisation.
- Know the issue of trade off between equity and efficiency

2.3.3 Economic Effects of Taxation: Taxation, these days, is not only used as a means of raising revenues but also it is considered as an important instrument for achieving various socio-economic objectives such as regulation of consumption, production and distribution of income, controlling booms and depressions and thus promoting economic growth with stability in a country. With a view to achieve these objectives we have to analyse in detail the various direct and indirect, favourable

and unfavourable effects of taxation on work effort, saving and investment and with reference to the present and the future generations.

Since the economic effects of taxation may be good as well as bad, the modern government should not keep only the revenue considerations in mind, but the economic effects of taxation should also be considered. To put it in the words of Prof. Dalton, "The best system of taxation from the economic point of view is that which has these economic effects under the following three heads:

1. Effects of taxation on Production
2. Effects of taxation on Distribution and
3. Other effects of Taxation

2.3.3 Effects of Taxation on Production:

In line with Dalton, we shall analyse the effects of taxation on production and growth with reference to (i) ability to work, save and invest (ii) desire to work, save and invest and (iii) diversion of resources between various employments and localities and influencing pattern and composition of production.

(i) Effects on Ability to Work, Save and Invest

Taxes transfer the purchasing power from the hands of people to government. Hence this transfer implies the reduction of purchasing power of the tax-payer and his ability to obtain the necessary goods, comforts and luxuries of life. This causes adverse effects on the poor people. When the tax burden falls upon the poor, it curbs their income and consumption of necessities and comforts and lowers their standard of living. Thus, efficiency and ability to work of poor people is adversely affected by taxation. On the other hand, the efficiency and ability to work of richer people is not so much affected by taxation, because taxes on the rich may only curb their consumption of luxuries and that may not affect their efficiency and ability to work. That is why heavy taxation on the poor has been strongly objected by one and all. Therefore, taxes on low income and on those articles, which are largely consumed by less well-to-do people, should be avoided in the interest of production and economic growth.

However, there are certain taxes which do not adversely affect people's ability to work. Examples of such taxes are taxes on harmful drugs like opium and liquor. The consumption of these commodities is certainly harmful to the health and efficiency of the people. Hence taxes on such commodities have good effects on people's health, efficiency and ability to work.

Ability to save, on the other hand, depends on income, and when income is reduced by taxation, saving automatically declines. Therefore, using Dalton's words, "Ability to save is reduced by all taxes on those who have any margin of income, out of which saving is possible. The only taxes, therefore, which do not to some extent, reduce ability to save, are those which fall exclusively on people who are so poor that

Self-Check Exercise -I

Q.1.	What are the economic effects of taxation?
Ans

they have no such margin. It is evident that heavy taxes on the rich, though defensible on other grounds (such as equity), substantially reduce their ability to save." The argument is, of course, based upon the presumption that only saving makes an addition to capital and not spending. To most modern economists this argument is fallacious. To them "Capital", in a broad view, includes human capital. Moreover, much "spending" is also required to maintain human capital at its existing level of efficiency: Hence, a large proportion of expenditure on its consumption is in short really investment. And, on the other hand, large "Saving" especially in time of trade depression, makes no addition to material capital because it fails to find its way into investment.

Since ability to invest depends on the resources available for investment i.e. savings, any reduction in saving as a result of taxation is bound to reduce investment and cause adverse effects on production and economic growth.

We may, therefore, sum up our arguments pertaining to effect of taxation on ability to work, save and invest by stressing the point that no taxes should be imposed on the poorer members of the community (in the form of direct taxes on small incomes or indirect taxes on necessities etc.) for they are still so poor that a reduction in their incomes will generally mean a "reduction both in the present efficiency of the adult and the future efficiency of the children."

It may, however, be noted that while we are considering, as per foregoing analysis, the effects of taxation on production and growth via their effects on ability to work, save and invest, we should take into consideration the beneficial effects of public expenditure. The ability to work, save and invest may be increased by public spending as, for example, by public expenditure on public health, education, training etc. is reduced by taxation. Hence, while evaluating the effects of taxation, the effects of public expenditure should also be evaluated.

(ii) Effects on Willingness to Work, Save and Investment

Turning from effects of taxation on people's ability to its effects on desire to work, save and invest, we have to take into account, not only the primary effects of actual

taxation in the present but also the secondary effects of the expectation that taxation will continue in the future. For it is these secondary effects which are here by far the most important. A tax which is expected to be short-lived as, for example, a special tax to meet some special emergency such as war expenditure or rapid extinction of a war debt, would not produce significant secondary effects of this kind.

Taxation affects the desire or willingness or incentives of the people to work, save and invest and when this happens, the production and growth will automatically be affected. Hence the need arises to analyse the effects of taxes on incentive to work, save and invest. However, the effects of taxation on economic incentives depend upon two types of factors: (a) the nature of taxes, and (b) the psychological reaction of the tax-payers. We examine the nature of taxes first.

(a) “Nature of Taxes” : From the point of view of production, the aim of taxation is to put people in more work effort, to earn more, save more and invest more. However the effect of various taxes would differ depending upon the nature of tax. Some taxes have the least or no bad effects at all on the desire or incentive to work, save and invest whereas some have very bad and distorting effects. For instance, taxes on unearned income or windfalls, inheritances, capital gains, abnormal profits etc., all being unexpected will not affect the desire to work and save adversely. Moreover, a reasonable commodity taxation such as sales tax and excise duties may not have any unfavourable effects on the desire to work, save and invest. But, if a large proportion of the income is taken away by way of taxation of the commodities of wide consumption, the savings are likely to fall due to high marginal propensity to consume. The demand for these commodities may also fall due to rise in the prices because of taxation, which would result in a decrease in output of these commodities. On the other hand, import duties, which protect home producers against foreign competition, are favoured because those duties increase the desire to work, save and invest more in the production of those goods which are imported. But lower export duties are favoured to encourage exports in order to capture the foreign markets. Hence lower export duties may increase the desire and incentive to work, save and invest more in the production of those goods which are exported. Similarly, the effect of income tax, wealth tax, inheritance tax and expenditure tax differ in nature. A highly progressive income tax discourages most tax-payers from working hard and saving more and same is the case with wealth tax. But wealth tax has less adverse effects on the desire to work and save of the tax-payer than income tax, since the former does not directly affect the reward for work. Similarly, compared to income tax, inheritance tax is preferable, because the former is paid by the tax-payer out of his present income and the latter will be paid from the wealth

and income which he inherits and which is unearned in nature to him. Though, income tax and inheritance tax both affect the desire to work and invest, yet the effects of income tax are more unfavourable on the desire to work and save (and hence on production) as compared to the effect of inheritance tax.

An expenditure tax, on the other hand, may have more favourable effect on the desire to work and save than income tax. A progressive expenditure tax will discourage wasteful expenditure on consumption and thus encourage saving and investment.

Thus, it is obvious that, taxes differ in nature and in their effects on the incentives of the people, i.e. on the desire to work, save and invest.

(b) Psychological Reaction of the Tax-payers: The second factor on which the incentive or desire to work, save and invest depends is the psychological reaction of the tax-payers. Prof. Pigou calls this psychological reaction as the announcement effect of taxation. It implies as to how a tax-payer is psychologically affected by the burden of taxation. When a tax is announced, the tax-payer immediately feels that it has reduced his income. This psychology of the tax-payer may affect his desire to work hard and save more. The disincentive effect of a tax on the taxpayer's willingness to work and save is called, "The announcement effect." The psychological reaction of the tax-payers to any tax varies from person to person and is governed by the elasticity of his demand for income. The demand for income is said to be elastic when a person is not so anxious to maintain his given income, and he is not prepared to work hard and secure the same amount of income. Suppose a person has taxable annual income of Rs. one lac ten thousand and pays Rs. 10000/- as income tax. His demand for income is elastic, if the intensity of his desire to maintain his income is not high, and he does not work more to earn extra income, so that he may be able to compensate the effect of taxation, and that taxable income of Rs. one lac ten thousand after the tax as such. The demand for income is inelastic if the intensity of desire to maintain a given income is high and he is willing to work to maintain his total income after the payment of tax. Thus if a person has an elastic demand for income, his incentive to work and save may be retarded with the imposition of tax and hence production may suffer. On the other hand, if a person's demand for total income is inelastic, the incentive to work and save may not be adversely affected, but may be accelerated by taxation.

However, the elasticity of demand for income, being more a psychological and subjective factor, and also varying from person to person 'and in different circumstances, is a difficult thing to measure. But, usually, the demand for income, is inelastic i.e. people generally desire to have a certain level of income always and by all means. The factors responsible for the inelasticity of demand - for income may be mentioned as :

Firstly, some people desire to maintain a certain minimum standard of living for themselves and their families under all circumstances. Such people certainly like to work more, and save more when a tax is imposed.

Secondly, some people desire to have a definite minimum income from their savings in future, either for themselves or for their dependants. Such people may also like to work more and save more when tax is imposed.

Thirdly, some persons have a strong tendency to accumulate wealth, acquire power and distinction. These, too, are likely to work more and save more on the imposition of tax.

Fourthly, those people who have love for action and enterprise, will also work hard and save more when a tax is imposed.

Fifthly, there are people who want to have a relative satisfaction from income and wealth over others and thus they work more. These people, who want to have higher satisfaction from the income they earn and the wealth they possess would like to work more and save more when a tax is imposed. To put in Dr. Dalton's words, 'Men do not desire to be rich but to be richer than other men'. Despite these, there are other conditions in which the nature of taxation influences the psychology of the tax-payers. These are the 'boom' and the 'depression' conditions, the national emergency such as war, the type of industries and the enterprises etc. For example, during the boom period when prices are rising, traders and producers are optimistic for earning huge profits in future and hence, heavy taxation may not discourage them from working hard and saving and investing more. Under such conditions of boom, therefore, taxation does not have adverse effects on production. Contrary to this, is the result of taxation in depression when taxation proves detrimental to production. During war, the prices are rising and so profits are high and the taxation under such conditions will not have adverse effects on production. Moreover, during an emergency like war, the people's psychology to pay taxes is favourable and their work efforts are not undermined. This is because the consequences of a defeat in war are more disastrous than the effects of heavy taxation on war effort. Similarly, the industries which are well established and earning profits, may be able to bear heavy taxation than those which are newly established. Hence, heavy taxation may have adverse effect on the production of infant industries. That is why, industries are given "tax holidays" or 'tax exemptions' for some years.

(iii) Effects of Taxation on the Diversion of Economic Resources:

While the volume of production in a country depends upon the ability and desire to work, save and invest, the composition pattern of production depends upon the way the economic resources are distributed and allocated between various industries and localities. Taxation can be used as an instrument of fiscal policy for favourable diversion of resources between industries and regions in a country. When the products of certain

industries are taxed, their prices rise, hence the demand for their products falls, and thereby the profits are reduced. This may result in the diversion of resources from these industries to some other industries whose products are either untaxed or are taxed at a lower rate.

The extent to which the diversion of resources takes place - from taxed to non taxed or low taxed industries - will depend upon the elasticity of demand and supply of the products of such industries. If the demand for taxed commodity is inelastic and its supply is elastic the incidence of tax will be relatively more upon the buyers, and hence, the diversion of resources would not take place. Contrary to this, if the demand for the product is elastic and its supply is inelastic, the incidence of tax will fall upon the producer. If the producer finds it unprofitable or comparatively less profitable to carry on production in taxed industries, the diversion of resources may take place to non-taxed industries.

Self-Check Exercise -II

Q.2.What are the effects of taxation on ability to work, save and invest?

Ans

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Taxation diverts resources from a present to a future use when taxes are imposed to discourage consumption and to encourage saving. Thus resources are diverted because of taxation from present use to future uses. Again when savings are increased, investment may also increase and, thus, the productive power of the community as a whole may be increased. Tax exemptions and concessions to encourage the savings have the same effect.

On the other hand, when payment of taxation discourages savings, consumption is increased. This causes a diversion of resources from future use to present use. This may have an adverse effect on production. This is more true when revenue collected by way of taxation is spent on day to day administration or on unproductive expenditure, which otherwise might have been saved and utilised for productive purposes.

Similarly, taxation may cause diversion of resources from one state to another in a federal system when different states follow different types of taxes or adopt different rates of the same tax. This does not happen in a unitary type of political set up, where a uniform tax pattern is followed for the country as a whole. Diversion may also take place from one country to another especially from heavily taxed to lightly taxed one. It is because the entrepreneurs always feel it profitable to invest their capital in those

countries where the burden of taxation is not so heavy. Diversion of resources caused by taxation may be beneficial as well as harmful as discussed in the following two sections:

(a) Beneficial Diversion: Taxation on harmful drugs or injurious articles of consumption may discourage their production, and the labour; capital and other resources employed in these industries may be shifted to other industries. Restriction of consumption and hence of production of harmful goods and the consequent diversion of productive resources to other and more useful industries may be taken as beneficial diversion. A check on the consumption of such articles may also improve the health and efficiency of the consumers. Hence the taxation of such articles is socially desirable. Similarly, a tax on production of luxuries may divert resources (labour capital, etc.) to the production of necessities. This type of diversion is beneficial, especially, in the under-developed countries where productive resources are generally scarce.

(b) Harmful Diversions: Taxation on necessities of life or articles of common consumption may not be socially desirable. Taxation on such articles will increase their prices and thus the consumption of these articles may be reduced. This may have an adverse effect upon the health and efficiency of the people. Further, the rise in prices will reduce the demand, and hence, the production of such articles. This may reduce profits and therefore, it is possible that the resources may be diverted from the production of necessities or the articles of common consumption to that of some less useful goods. Thus, such diversion of resources are harmful and are socially undesirable.

2.3.3.2 Effects of Taxation on Distribution

Just as one tax system is preferable to another if it has lesser tendency to reduce production, similarly one tax system is preferable to another if it has greater tendency to reduce inequality of income and wealth. The German economist Wagner deserves credit for being one of those economists who insisted that taxation should be used as an instrument to reduce inequalities in the distribution of incomes. His so called "Social political view of public finance has not been appreciated by many but it is sound in principle, and is, increasingly followed by the modern governments in welfare states." It is because "a less unequal distribution is not less desirable than increased production" i.e. an equitable- distribution of wealth is as much desirable as increased production.

Therefore, one of the major objectives of taxation in modern economies is to use it as an important tool of fiscal policy to reduce the income and wealth inequalities and to bring an equalitarian society. Here the distribution should not be in terms of taxation and distribution; but fiscal policy and distribution. Both taxation and public expenditure are used together to achieve this objective. The effects of taxation on the distribution of income and wealth among the various sections of society, however, depends upon the following two factors:

- (i) Nature of Taxes or Tax Rates
- (ii) Kinds of Taxes

(i) Nature of Taxes or Tax Rates: The nature of taxation means whether the taxation is progressive, proportional or regressive. A tax is said to be progressive if the larger the tax-payer's income (or property) the greater is the proportion which he pays as tax. A tax is called proportional if all the tax payers pay the same proportion of their income (or property) as tax. A tax is regressive if the larger is tax payer's income (or property) the smaller is the proportion which he pays as tax.

If taxation is "regressive", the inequalities in the distribution of wealth and income may increase as the burden of taxation falls more heavily on the poor than on the rich. A toll-tax is regressive, as the amount of tax is the same for the rich and the poor, while the utility of money, which is paid as tax is greater for the poor than for the rich. Hence, the burden of taxation is higher on the poor than on the rich.

If taxation is "proportional", inequalities would continue as before, if the income remains the same. But if the income changes in unequal proportions, the inequalities in income will increase. Therefore, the burden of proportional taxation falls more heavily upon the poor than the rich as the income increases.

If the tax system is "progressive" the income and wealth inequalities would be reduced, because a higher proportion of the income and wealth of the rich would be taken away by way of taxes than that of the poor. Hence, a sharply progressive tax system tends to reduce inequalities in the distribution of income and wealth and, the sharper the progression, the stronger is the tendency to reduce inequalities. It is obvious therefore, that progressive taxation is desirable in order to bring about a more equitable distribution of wealth and income. Logically, equitable distribution aims at taxing the largest incomes heavily, and all incomes above a certain level should be brought down through taxation, to the level below which incomes are not to be taxed at all. As Dalton puts it, "Cutting off the heads of all the tallest poppies." But this is not a practical proposition as it may have adverse effects on production.

From the point of view of equity in the distribution of tax burden, the tax system should be based on the "principle of ability to pay." The higher the income of a person, the greater would be his ability to pay taxes and vice versa. The people who get unearned income will have greater capacity to pay taxes than those who are earning income from work by rendering personal services and so the former can be taxed at a higher rate than the latter. The progressive tax system for the purpose of equitable distribution of incomes can be designed in such a way that it may not have adverse effects on production. That is why, the taxation should be highly progressive to the highest income groups and mildly progressive to the middle income groups, with a

provision for complete exemption from taxation to low income groups. In addition to the size of the family or the number of dependents on the income earner, and also the nature of his income whether earned or unearned or whether from work or property, should be taken into account while imposing taxes. Thus, the system can be made equitable so that it can serve as an effective tool of fiscal policy, to reduce inequalities in the distribution of wealth and income.

(ii) Kinds of Taxes: Whether the system of taxation is progressive, proportional or regressive in nature, depends upon the kind of taxes, i.e. whether the tax system is composed of direct or indirect taxes or both.

(a) Direct Taxes and Distribution: If taxation is to be used as a tool of reducing inequalities in the distribution of wealth and income in a society, all those taxes which fall heavily upon the rich sections can have favourable distributional effects and hence justified. Therefore, direct taxes like taxes on income, property, wealth, inheritance, gift etc. which are based upon the principle of progression and ability to pay and hence having equitable distributional effect are able to reduce disparity.

(b) Indirect Taxes and Distribution: The burden of indirect taxes, like taxes on commodities of wide consumption, generally falls on the poor. It is because the poor spend a larger proportion of their income on such commodities than the rich. Since poor people's propensity to consume is higher than that of the rich, the burden of indirect taxes such as taxes on food stuffs, tobacco, cheaper sorts of alcohol etc. falls more heavily upon the poor than the rich. However, the indirect taxes may be made progressive or equitable if the necessities are exempted from taxation and luxuries are subjected to heavier ad valorem taxes, so that the tax rates would be higher for the highly proved goods of superior quality-which are mainly purchased by the rich. It may, however, be noted that the purchases of luxury goods are optional, and hence the rich can avoid the payment of these taxes by not purchasing such goods or by reducing their demand to some extent.

Further, commodity taxes such as import duties, may have favourable effects on distribution of income. For instance, when duties are levied on imported goods to give protection to those industries in which the wage rates are higher than in other industries there would be tendency for the workers to move from the low wage industries to the high-wage industries. This may help to reduce inequality of incomes. The import duties may also have favourable effect when imposed on those commodities which are imported for the benefits of the rich people. However, indirect taxes are, in general, regressive in nature. Hence, the inequalities of income and wealth cannot be reduced by these taxes.

In conclusion, we may say that heavy taxation have unfavourable effects on production; but, favourable effects on distribution. In fact, the improvement in production and improvement in distribution are the two important objectives of taxation, though

conflicting in practice. Hence these two conflicting objectives of taxation should not have any adverse effect on production as well as distribution. But it depends upon the intelligence and the techniques, which are used in framing the tax structure of the country.

2.3.3.3 Other Effects of Taxation :

Under the heading 'Other effects of taxation' we shall analyse the effects which are termed as regulatory or stabilization effects of taxes on the economy.

A free market economy generally has a tendency for trade cycles with recurring phases of rising and falling incomes, output, employment and prices. Beside various explanations given for this phenomenon, it has been recognised after the Keynesian thesis that the availability of purchasing power in general and the speed with which it is used in the economy are the important variables in the total behaviour of a trade cycle. During the rising phase of the cycle, the quantum (and speed of its use) of purchasing power will increase and will thus add to the total effective demand in the country, and just the opposite will happen during the downward phase of the cycle.

Self-Check Exercise -2

Q.3. Write about the effects of taxation on distribution.

Ans

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Lord Keynes explained how a developed market economy was not able to defend itself against a persistent deflationary tendency on account of a deficiency of effective demand which in turn was caused by falling marginal propensity to consume and falling marginal efficiency of capital. From Keynesian analysis we can derive the general prescription that progressive taxation should be of help in neutralizing the fluctuations in the economy. Such tax system does not advocate taxing the poor because they have a high marginal propensity to consume which is a firm base of aggregate consumption in the country. Moreover, during depression, the tax liability of richer sections would fall rapidly, thus leaving a relatively greater proportion of purchasing power in private hands. During inflationary periods, on the other hand, the tax liability (especially of the rich sections) will increase and thus excess purchasing power will be drained away. The authorities were to supplement the corrective measures by adjusting the public expenditure also, raising it during depression (as compensatory spending) and reducing it during the period of boom. Hence tax exemptions during depression and tax impositions during boom or inflation are used as effective tools of fiscal policy to stabilize or regulate the level of economic activity in a country. While Keynes

basically emphasized the remedial measures against depression only. Prof. Lerner on the other hand, highlighted the utility of functional finance in combating inflationary tendencies also. According to Lerner functional finance implies effective role of both taxation and expenditure to correct the market incompatibility between demand and supply. Thus anti-deflationary taxation (in the form of heavier direct and indirect taxation) can help to regulate or stabilize the level of economic activity i.e., income, output, employment and prices in a country.

11.4 Trade off between equity and efficiency

Equity and efficiency are two conflicting motives of taxation. These are tried to be achieved through trade off between equity and efficiency the tax system is required to be devised in such a manner that it should not have any unduly adverse effect on production, it should also be able to achieve its egalitarian goal of reducing the inequalities in income and wealth. But these two goals often conflict. For example, a sharply progressive tax system is required for the socially desirable distributional effects, which may however, discourage the ability and willingness to work, save and invest and thereby curb production and growth. Therefore, these two conflicting motives of taxation are to be reconciled. There may be trade off between improvement in production and distribution.

11.5: Summary: As compared to incidence of tax, effects of tax are much wider. Effects of tax are incidental results of the tax. Economics effects of taxation are studied under three important heads: Effects of taxation on production, on distribution, and on stabilisation. Taxation influence the ability to work, save and invest; desire to work, save and invest; and diversion of resources between various employments and thus the composition of production. The effects of taxation on the distribution of income and wealth depend on the nature of taxes and kinds of taxes. Stabilisation effects of taxes on the economy are also important to regulate the level of economic activity.

Questions

1. Discuss briefly the economic effects of taxation?
2. How do taxes affect production in a country?
3. Discuss the effects of taxes on the distribution of income and wealth in a country.
4. How do taxes help to regulate the level of economic activity in a free market

THEORIES OF TAXATION AND PROBLEM OF DOUBLE TAXATION

2.4.1 Introduction

2.4.2 Objectives

2.4.3 The Benefit Approach

2.4.4 The Ability to Pay Approach

2.4.5 The Problem of Double Taxation

2.4.1 INTRODUCTION

In accordance with the spirit of the age, most of the countries are Welfare States and the functions and responsibilities of these governments are continuously expanding. The states cannot perform functions in the absence of finance or revenue which can be raised from various sources such as taxes, loans, creation of money, profits of public undertakings etc. As you have read in lesson No. 8, of all these, most important source of revenue in modern times is taxation. It is clearly a desired characteristic of taxes that they should be fair. Apart from the ethical desirability of equity, there is need on practical grounds also, that taxes should be acceptable to tax paying public, otherwise “the consequences may range, from wide-spread evasion to revolution.”¹ Mrs. Ursula Hicks has emphasized in this connection that, “tax bankruptcy was an important contributory factor to the fall of Roman Empire. Unjust and inefficient taxes set France aflame. An important part of the explanation of Germany’s failure in the War 1914-18 was her antiquated tax structure.....inefficient taxes helped to lose Britain the American colonies.”²

This explains that the burden of taxation should be just and equally distributed.

There is no doubt that in a democracy taxes cannot be imposed unless they meet the approval of a majority of the representatives of the people but once they are levied and an individual falls within its range, he does not have the choice of paying or not paying. “Because of this compulsory aspect, the collection of taxes may have very significant effect upon the behaviour of the individuals and in the functioning of the economy, which must be taken into consideration in the selection of taxes, if tax structure is not to interfere with the attainment of economic goals of society.”³ Furthermore, if the goals of society are to be realised, the distribution of tax burden among various persons must conform to the accepted standard of equity. This depends upon value judgement relating to the overall pattern of income distribution which is regarded as desirable by the society. In other words, the most fundamental problem of taxation is the problem of justice. Everybody expects the Finance Minister to so arrange his taxation proposals as to ensure that the burden falls on those who can bear it.

1. Charles, M. Allan : The Theory of Taxation, Penguin Modern Economics, 1971, p.33

2. Mrs. Ursula Hicks : Public Finance, 1948, p. 10

3. John F. Due : Government Finance 1963, P-102.

The welfare approach to distribution of tax burden grew out of the equity view. The problem of equity has two major aspects :

The first is HORIZONTAL EQUITY that people in similar circumstances should be treated similarly.

The other is VERTICAL EQUITY that people in dis-similar circumstances should be treated differently.

There is almost unanimity among economists that persons in the same circumstances should be taxed to the same extent, but the treatment of persons in dissimilar circumstances poses complex problems. While vertical equity has great merit as an ideal but it is very hard to achieve it in practice. This is because there are many views held as to what is the appropriate degree of inequality with which persons in dissimilar circumstances should be treated.

There are several approaches to the theory of taxation. The Benefit and Ability to Pay approaches are the subject matter of this lesson.

2.4.2 Objectives

After having gone through this lesson you would be able to:

- know about the Benefit Approach of taxation.
- understand the limitations of benefit approach.
- discuss the Ability-to-Pay Approach and index of Ability-to-Pay.
- interpret three concepts of equal sacrifice.

2.4.3 The Benefit Approach or Voluntary Exchange Principle

In the Benefit Approach, the relation of taxpayer and government is seen in quid-pro-quo term. Since the relation is one of exchange, the benefit approach involves the application of the rules of one sector to the entire government sector. Benefit principle is based on the idea that people should pay taxes based on the benefits they receive from government services. It tries to make public goods similar to private goods. The more you use, the more you pay. According to this theory, the total tax burden should be so distributed among the people that each of them pays that proportion of the total expenses, which his benefits bear to the total benefits of the society. Adherents of this approach feel that equity is best served if the beneficiaries of the government expenditure pay for these benefits through taxation in proportion to the benefit they enjoy and it is unfair to make some persons pay for what others get. The second advantage of the benefit approach is that it gives simultaneous determination of the tax level and of the level of government expenditure incurred. This happens in the same way as in the market where the prices that people are willing to pay and the amounts that they are willing to buy are determined simultaneously. So, this can be called a willingness to pay theory. In other words, the benefit approach has the advantage of providing a simultaneous determination of public service and the tax shown, thus combining both sides of the budget process.⁴ In short, tax liability under the benefit approach depends upon the taxpayer's estimate of how much social goods are worth to them. The taxpayer's willingness to pay is determined by his desire for the social goods and by his income. "To the extent that the rich are willing to

4. Richard A. Musgrave : The Theory of Public Finance, International Student edition

pay more for the social goods, the benefit approach encompasses an estimate of....the taxpayer's estimate of his true ability to pay.⁵

Obviously, such a principle has in practice, serious limitations. Sometimes, those who are least able-to-pay taxes need most of the state's aid.

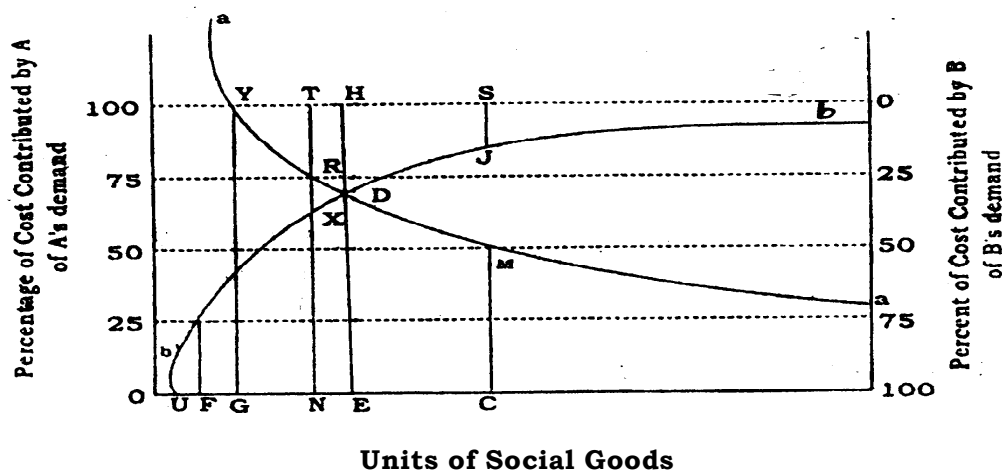
In analysing the benefit approach, several models have been developed and the important among them being : 1. Lindahl Model and 2. Bowen Model have been discussed here:

2.4.3.1 The Lindahl (1989) Model

Lindahl tries to solve three problems :

- Extent of state activity
- Allocation of the total expenditure among various goods and services.
- Allocation of tax burden.

This model makes four assumptions. First, that there is one social good. Secondly, that the social good is enjoyed by two tax-payers A and B. Thirdly, the distribution of income is ideal, and fourthly, that the social good is produced under conditions of constant costs.



In Fig (1) on the horizontal axis, we measure the quantity of social good. On the left vertical axis we measure the percentage of total cost contributed by person A and on the right vertical axis, we measure the percentage of total cost contributed by person B. The curve aa is A's demand schedule.

Taxpayer A is willing to pay cent percent for output OG : he is willing to pay half of the cost for output OC and so forth. The curve bb is a similar demand schedule for person B. The schedule bb may be viewed as B's demand schedule for social goods or as supply schedule of social goods to A. Thus, B is willing to contribute cent per cent for output OU, which amount is available free to A. Similarly, B is willing to contribute 75 percent for OF which amount is available to A at 25 percent of the cost, and so forth.

5. Ibid.

The equilibrium output remains at OE, where aa and bb intersect, and both shares add up to cent per cent. Here A contributes ED percent and B contributes DH percent. For any amount in excess of OE, the combined cost shares fall short. For output OC, for instance, the combined contribution falls short of the total by JM percent. The amount OC cannot be supplied and output must be reduced. For any supply below OE, both A and B are willing to offer better than that the other demands. At ON, for instance, total offer exceeds cost by RX percent. If A contributes fraction NR, supply ON will be available to B at T, even though he would be willing to pay TX if needed. If B contributes TX, A will purchase this amount for NX, even though he would be willing to contribute NR. If A contributes NX, and B contributes TR, both pay less than they would be willing to contribute. From this Lindahl concludes that both parties will be ready to pay for larger amount until OE is determined by a competitive process similar to that which applies in the private market. Equilibrium is reached at point D on a voluntary exchange basis.

Lindahl assumes that this entire process occurs against the background of a given proper state of distribution. His concern is with the problem of the allocation branch only. Given a proper distribution of income to begin with, Lindahl holds, that resulting equilibrium at OE is an optimum solution, one that complies with both the benefit and ability-to-pay principles. The benefit principle is met because each tax payer equates his marginal rates of substitution between goods supplied for the satisfaction of social and private wants and total utility derived from public service is maximized thereby. The ability-to-pay principle is satisfied because each taxpayer purchases social goods at a different price, reflecting his particular ability to pay. This seems to Musgrave a misleading interpretation. In his view the most that can be said is that this solution is compatible with the ability-to-pay principle, since the resulting act of prices is based on the proper distribution.

Self-Check Exercise -1

Q.. What are the assumptions of Lindahl Model?

Ans

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2.4.3.2. The Bowen (1943) Model

The Bowen Model is perhaps simpler. It has the virtue of easy adoption to show what happens under the likely conditions when social goods foregone. This is illustrated in Fig. (2).

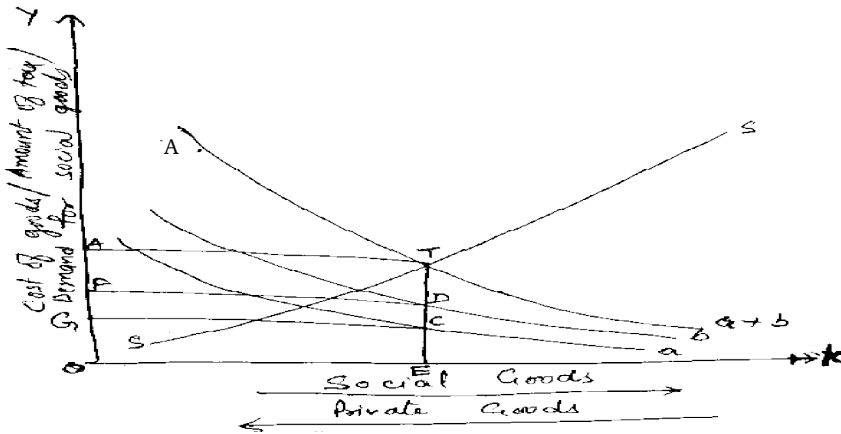


Fig. 2

Fig. 2 may be adopted to conditions of constant cost changing the principle of Lindahl's arguments.

Here we have one social good and two taxpayers/consumers A and B. The demand curves of consumers A and B respectively for social goods are represented by a and b and the curve $a + b$ is the total demand curve for social goods, the sum of a and b. The supply curve of social good is represented by SS showing that these goods are produced under conditions of increasing costs. But the cost of producing social goods is the value of the private goods foregone to make their production possible. This means that the curve $a + b$ although being the supply curve of social goods, is also the demand curve of private goods.

The intersection of the cost and demand schedules for social goods at T gives us the determination of how a given national income, OK, should, according to the consumer-tax payer's desires, be divided between the social goods and private goods. There should be OE of the social goods and EK of private goods.

But simultaneously, the tax shares of A and B are determined according to the consumer's own valuation of the benefits they receive from social goods. The total tax requirement is represented by area ATEO in Fig. 2. The shares of A and B are found by reference to a and b. At the level of provision of social goods, A is willing to pay GCEO and B is willing to pay FDEO. But $ATEO = GCEO + FDEO$. Musgrave also favours the Bowen Model because of its easy generalization of the real world.

To sum up, the great virtue of the benefit approach is the simultaneous determination of both tax shares and extent of the provision of social goods. This is

thought desirable by many, as it means the consumers/tax payers' preferences are the important criteria and the discretion of political decision-makers is eliminated. However, if we look at the benefit principle as an equity rule, there remains the vital question of just how benefits are to be determined. If we think that benefit principle is implemented by the market mechanism, we have to make the unrealistic assumption that the principles of voluntary exchange are applicable to the satisfaction of public wants.⁶ In fact, the benefit principle is contrary to the whole philosophy of the welfare activities of the government where the main objective is to increase the economic well-being of the lower income group people. If the benefit rule is followed, it would lead to regressive taxation, as the poor are more in need of protection.

Limitations of Benefit Approach

Practical application of the benefit approach to taxation also poses a number of problems. First, the benefit approach limits the scope of government activities. The government can neither support the poor nor take steps to stabilise the economy. This implies that many of the services now rendered by the government should be done away with. Secondly, the benefit theory can be applied only where the beneficiaries can be clearly identified. This is not true of most public services. How can we quantify the benefits of national defence or education which give rise to externalities. Thirdly, the problem of getting people to reveal their preference is a difficult work. If consumers cannot reveal their preference either because of ignorance or due to deliberate intention, they must be guessed and this leaves the authorities with a lot of discretionary power. Fourthly, as Arrow (1963) has pointed out even if all preferences were revealed willingly, it would still be possible to derive a social welfare function only if there is transitivity between choices open to them differently. Fifthly, taxation, strictly in accordance with the benefit principle, would leave the distribution of real income unchanged.

It follows from the above discussion that the benefit cannot operationally be used as the basis for taxation, in a world with public goods and externalities because it is impossible to determine who benefits from most public expenditures and upto what amounts, apart from the fact that the benefit principle neglects distributive justice. Only in the case of local authorities; gathered together, some local rates can be imposed on this benefit theory since beneficiaries can be identified. This implies that the general benefit tax has theoretical value, but the specific benefit taxes like tax on petrol, property tax, social security, etc., can be imposed on goods and services, which are in the nature of private goods, i.e., where consumption is wholly rival. But such cases are few and far between. It is, therefore, agreed that the benefit approach is inadequate in the fiscal system today.

Self-Check Exercise -2

Q.. Write three limitations of Benefit Approach.

Ans

6. Richard A. Musgrave : The Theory of Public Finance. P. 63.

2.4.4 The Ability-to-pay Approach

The most important principle of taxation is the Ability-to-pay approach and it is a progressive taxation principle which treats revenue and expenditure of the government separately. The government would decide independently about the size of its expenditure in any year and this would determine what the appropriate amount of revenue would be. In this case, taxation is not imposed on the basis of benefit derived by the people, but on the basis of their ability-to-pay. Here there is no quid-pro-quo relationship between the tax payer and the public authority.

The idea that just taxation is according to faculty or ability-to-pay, is very old. The argument for progressive taxation, based on faculty, may be traced back to an essay by Guicciardini published in the first half of the sixteenth century.⁷ Towards the end of the sixteenth century, Bodin propounded a case for proportional taxation on the basis of faculty. Since the benefit approach was found to be theoretically incorrect and practically unworkable, the idea grew that a quite different principle of taxation was needed and the principle should be such as to treat all equally under the law. J.S. Mill rejected the benefit principle of taxation as it would mean that the poor would have to pay most of the taxes since they receive the major portion of the benefits of the government expenditure. It came to be argued that "equality in taxation means equality of sacrifice"⁸. Thus, the more or less objective concept of faculty or ability to pay, as advanced by earlier writers was translated into the strictly subjective concept of equal sacrifice. Thus, ability-to-pay theory came to occupy both objective and subjective aspects. Objective aspect consists in deciding by what objectives index ability to pay can be measured. 'Equal' in the equal sacrifice principle needs to be defined in more precise manner and a choice has to be made about the concept of sacrifice which will be most suited to the rule of equity in taxation.

Index of Ability-to-pay

The earlier version of the ability-to-pay was formulated in terms of faculty rather than income. Accordingly, the term 'faculty' or 'ability' referred in Elizabethan poor law to the property, and same was the case in the early legislation passed in the American Colonies.⁹ However, with the progress of the industrial society and increasing monetization, income came to be regarded generally as a proper index of ability-to-pay. No doubt, debate still goes on whether proper index of ability-to-pay is given by wealth, consumption or income. But there is almost unanimity amongst economists that income is by far the most satisfactory objective index of ability-to-pay, though at times it needs to be supplemented by other indices as well as to achieve equity. The concept of income has been developed at length by Henry Simons,

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7. Richard A Musgrave : The Theory of Public Finance, International Student edition, P-191.
 8. John Stuart Mill : Principles of Political Economy, ed. W.J. Asoley, 1921- P-804
 9. E.R.A. Seligman : Essays in Taxation, 1921, Chapters 1 and 2.

William Vickery and other economists. However, Professor R.M. Haig's definition of income as "the money value of the net accretion to economic power between two points of time"¹⁰ may be regarded as a very satisfactory theoretical definition of income. According to the definition, income is the algebraic sum of.....(1) the person's consumption during the period, and (2) increase in the net worth.

Concepts of Equal Sacrifice

The Ability-to-pay principle is conceived in terms of sacrifice on the part of tax-payers. When a tax-payer pays some tax, he sacrifices some utility. The questions are, what should be the sacrifice of each tax-payer and how should this be measured? A fair system of taxation based on the ability-to-pay approach is defined as one where the sacrifices of utility by all tax-payers are equal. In other words, tax-payers are said to be treated equally if these tax payments involve an equal sacrifice or loss of welfare. The loss of welfare, in turn, is related to loss of income. If the level of welfare is a function of income the so-called income utility schedule is the same for all tax-payers, the equal sacrifice rule calls for people with equal incomes (or ability-to-pay) to contribute equal amount as tax. Further, people with different incomes should pay different amounts. The requirements of equal taxes for people in equal positions is also referred to as 'horizontal equity' while the proper pattern of unequal taxes among people with unequal incomes referred to as "vertical equity"¹¹. Both are a part of the same principle of equal treatment, i.e., the taxes should be imposed on the basis of equal sacrifice.

But equal sacrifice can be interpreted in three different ways :

- (i) Equal absolute or equal total sacrifice.
- (ii) Equal proportional sacrifice.
- (iii) Equal marginal or the least aggregate or minimum sacrifice principle.

(i) Equal Absolute Sacrifice version requires adjustment of tax rates in such a manner that the sacrifice to be done by all persons should be the same. In other words, every tax-payer should give up the same quantity of utility. Under this approach the rich man pays more money in taxes than the poor man but both must find it equally unpleasant or both should sacrifice same total utility.

(ii) Equal Proportional Sacrifice version suggests that sacrifice should be proportional to income rather than equal at all income levels. The rationale behind the equi-proportional doctrine is that persons with greater income receive more benefit from society and thus should sacrifice more from their income rather than persons with small incomes. In other words, the equal proportional sacrifice approach suggests that a fair system of taxation according to ability-to-pay implies that the rich should pay not only more money in taxes but they should also lose a greater absolute amount of utility. Each should give up the same proportion of

10. R. M. Haig : "Concept of Income-Economic and Legal Aspects" in Readings in the Economics of Taxation, p-190, p. 54-79.

11. Richard A. Musgrave : op. cit., pp. 69-79.

his total utility in such way that :

$$\frac{\text{Sacrifice of tax-payer A}}{\text{Income of A}}$$

$$\frac{\text{Sacrifice of tax-payer B}}{\text{Income of B}}$$

(iii) **Equal Marginal (Least Aggregate) Sacrifice** version suggests that people should be taxed in such a manner that the total sacrifice for the society as a whole, would be kept to the minimum possible figure. This is possible only when the disutility arising from the payment of the last rupee of tax would be the same for all persons. In other words, the equal marginal sacrifice approach suggests that the rich should not only pay a greater amount as taxes but should also sacrifice a greater proportion of utility than the poor.

To illustrate these concepts, we accept the necessary assumption that inter-personal utility comparisons are admissible. Without this assumption, the entire discussion breaks down. Moreover, we begin the convenient assumption of identical taxes; so that the same income utility schedules (marginal and total) may be applied to the tax-payers. Further, there is no difficulty in identifying, or at any rate correlating units of income with units of utility or satisfaction. It has to be postulated that the utility for income has a downward slope. As income increases total utility increases but at decreasing rate, i.e., the marginal utility of income varies inversely with income.

The three types of equal sacrifice principles have been clearly demonstrated by Musgrave through the help of Fig. (3).

Self-Check Exercise -3

Q.. What do you know about the Ability to Pay Approach?

Ans

On the horizontal axis of Fig. (3) we measure income, where OZ and DC are the amounts required for subsistence. On the vertical axis from O up we measure marginal utility and from D up, we measure total utility of income, leaving the utility of subsistence income undefined. CE is the total income utility curve and CF is the marginal income-utility curve. Now suppose that tax-payer A has income above subsistence equal to ZG while tax-payer B has income that equals ZH. The total utility received by A equals IE and B equals JK, and marginal utility of A equals GQ and B equals HL.

An income tax yielding MG is introduced. Under equal absolute sacrifice, A will pay NG and B will pay TH, where NG + TH = MG. The amounts NG and TH are obtained so as to equal the total loss of utility by A or EP with that by B or KF. Under equal proportional sacrifice, A pays RG and B pays SH, where RG + SH = MG. The shares are arranged so that EW/EI = KU/KJ. Under equal marginal

sacrifice A pays VG and B pays VH, where $VG + VH = MG$; the marginal sacrifice for both is equal to VV^1 . Aggregate sacrifice, or $EX + KY$, is at a minimum.

Stated mathematically, conditions are as follows :

Concept	Term
Equal Absolute Sacrifice	$= U(Y) - U(Y-T)$ of A $= U(Y) - U(Y-T)$ of B
Equal Proportional Sacrifice	$= U(Y-T)/U(Y)$ of A $= U(Y-T)/U(Y)$ of B
Equal Marginal Sacrifice	$= \frac{\Delta U(Y-T)}{\Delta(Y-T)}$ of A $= \frac{\Delta U(Y-T)}{\Delta(Y-T)}$ of B

Y = Income; T = Amount of tax paid; U(Y) = Total utility obtained from Income Y.

The relative tax liability and the relative progressiveness of the tax structure under the different sacrifice principles may be summarised in the following table :

Tax Liability				
Principles of Sacrifice				
	Rich Man	Poor Man	Relative Progressiveness of tax structure	
(i) Equal Absolute Sacrifice	Least	Most	Least	
(ii) Equal Proportional Sacrifice	More	Less	More than under (i) but less than under (iii)	
(iii) Equal Marginal Sacrifice	Most	Least	Most	

It should be carefully noted that the third column of the above table shows only the relative progressiveness of the tax structure under different sacrifice principles.

Which Equality of Sacrifice ?

You have read three possible versions of equal sacrifice : equal absolute, equal proportional and equal marginal sacrifice. The question now arises how do we choose between these three versions.

We have already seen that taxation, by definition, involves some type of compulsion, as “the essence of a tax....is the absence of a direct quid-pro-quo between the tax-payer and the public authority”. As the payment of tax reduces the disposable income of the tax payers, it imposes sacrifice on them. “The tax-payers derive no direct benefits in paying taxes, except for the negative advantage that they would not be punished for violating taxation laws of the state.”¹² Burke rightly pointed out, “it is difficult to tax, and to love and be wise.” Modern Government being a welfare government should, therefore, tax in such a way that the sacrifice imposed upon the community is kept to the minimum level.

12. R. N. Bhargava-The Theory and Working of Union Finance in India, 1974, P. 39.

The aggregate sacrifice of the community is minimum when the marginal sacrifice of individual tax-payer is equal or as nearly as equal as possible. If this

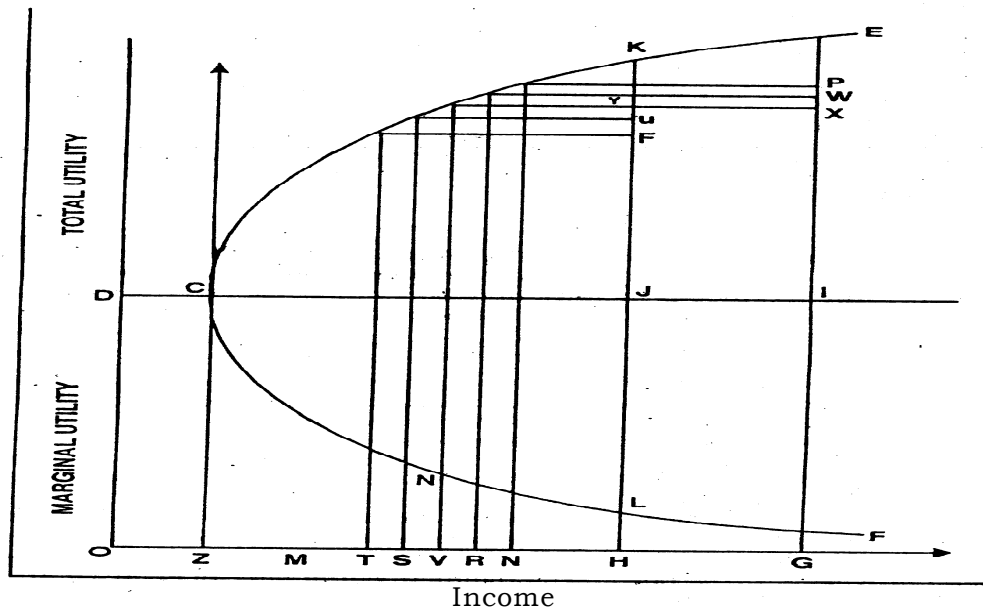


Figure-3

point was not attained, shifting of tax burden from some persons to others would reduce the sacrifice of some persons more than it would increase the sacrifice of others, and thus lessen aggregate sacrifice. To take an example,¹³, let us suppose that there are only four tax-payers A, B, C and D and let us suppose that the sacrifices imposed by different rupees on A, B, C and D are as follows :

Sacrifice imposed (in units)

	A	B	C	D
In paying the 1st rupee	3	4	6	7
In paying 2nd rupee	4	5	7	9
In paying 3rd rupee	6	7	9	11
In paying the 4th rupee	7	8	12	14
In paying the 5th rupee	9	10	14	17
In paying the 6th rupee	11	13	18	19

We know the law of diminishing marginal utility that as the stock of a commodity goes on increasing with the consumer, the marginal utility goes on declining. From this, it logically follows that as the stock diminish, the marginal utility would increase. Now when a person has to pay only one rupee as tax, he will pay his last rupee—the rupee which has least utility to him. If he is asked to pay the second rupee, his disutility to sacrifice in payment of rupee will increase. It is clear from the above example that if the state has to raise one rupee, it should be realized from A in order to make the sacrifices least. The second rupee should be collected from either A or B and so on. So if the state has to raise ten rupees, the tax on A, B, C and D should be 4, 3, 2 and 1 rupees, respectively. Here the marginal sacrifice of each tax payer is the same and is 7 units. But if 2 rupees are realized from D and only 3 from A, the increase in sacrifice of D is 9 units, whereas the

13. Ibid.

decrease in A's sacrifice is only 7, so that the aggregate sacrifice will go up by 2 units, and it will not be the least.

Emphasising the importance of this principle, Professor Pigou opines that the principle of the least aggregate sacrifice is the only second principle of taxation whose claim to superiority is undisputed.

On the basis of the assumptions made in the sacrifice principle, it can be concluded that the principle of least aggregate sacrifice leads to progressive taxation.

Inadequacies of the Sacrifice Approach

The principle of the least aggregate sacrifice has been criticised by several economists on many grounds. Criticizing the assumption of measurability of utility, Sir Josiah Stamp writes, "It is very difficult for a man to say that one boot pinches three times as much as the other. Even when both are his own and much more difficult it is for one man to say that his boot pinches twice as much as of another's."¹⁴ But such an accurate measurement of utility is not at all required for our purpose. We need to know only the fact that the common marginal utility curve is downward sloping and not the precise rate at which it declines.

Sir Sidney Chapman¹⁵ has criticised the assumption of diminishing marginal utility of income. "It is reasonable to assume", writes Richard A. Musgrave, "that successive units of commodity become less useful related to commodity which is held constant; also it is reasonable to assume that successive increments of X and Y should become less useful relative to leisure, holding leisure constant."

Economists also do not agree that inter-personal comparisons of utility can be made. In this connection, A.R. Prest points out that "the comparability of satisfaction between individuals does not command itself today as an acceptable procedure. If introspection is the only means of demonstrating that two people with equal incomes derive equal satisfaction from their income, most economists would not feel they could rely heavily on this line of approach." It is true that it cannot be scientifically proved that the utility of an additional or marginal rupee is less to a rich man than to poor man yet, there is surely such a thing as utility from the receipt of income. Evidence on measurable characteristics of people—physical, mental or emotional lends credence to the assumption that there is a fair degree of similarity among individuals living in a given society. If this is the case, it may not be unreasonable to expect that a similar situation prevails with regard to satisfaction derived from income. Since individual differences on measureable traits follow a more or less systematic pattern of distribution. It would not be surprising to find the same hold with regard to satisfaction derived from income.

It is clear, therefore, that there are three interpretations of equal sacrifice. In a mixed economy equal absolute sacrifice or equal proportional sacrifice would command considerable support for attaining vertical equity rather than equal marginal sacrifice which implies equalisation of all post-tax income. But if it is considered from the point of view of aggregate utility of income that can be derived after equal marginal sacrifice is considered best, next come equal proportional sacrifice. This is 'possible' because as long as there is a difference between the marginal utility of income from the rich man and giving it to the poor man. This implies that when the principle of equal marginal sacrifice is employed, no reallocation of the tax burden will be capable of producing an increase in the total utility of the community.

Equal marginal sacrifice, then emerges as the best principle on ground of minimising the total burden of taxation. A.C. Pigou has, therefore, rightly said that equal marginal sacrifice is the only acceptable rule on welfare grounds, because, it is equitable and derived from the basic utilitarian principle of maximum welfare.

2.4.5 Problem of Double taxation.

Government or tax authority can impose a tax on any or some of the tax bases or all the tax bases as per rules determined by that country. Tax base, thus is the most important entity to levy the tax, it can be income/ wealth / property. A person who occupies any thing/things which is/are covered under tax base can be taxed. Thus, the government can impose a tax on income, wealth or inheritances

14. Sir Josiah Stamp, *The Fundamental Principles of Taxation* pp. 53-54.

15. "The utility of Income and Progressive Taxation" in the Readings in the economics of taxation, AE.A., pp 3-12.

of a person provided his income/value of property is above the exemption limit. Although the person concerned is subject to different taxes imposed by the same authority yet strictly speaking this is not the double taxation. Since, we know the tax liability on a person or entity can be determined by different layers of government as per the rules or criterion fixed during a financial year. Nations try to avoid overlapping of taxation on the same base. But sometimes, the tax payers bear the problem of double taxation and find themselves overburdened. Double taxation means taxation of the same base twice or more in the same period. It does not mean taxation of the same person twice. In the words of Prof. J.K. Mehta, 'double taxation means the taxation of a person twice by two authorities, in the same way that is on the same thing or the same base twice by the same authority'.

When a single tax authority imposes the same base twice or more than twice, it is the problem of double taxation or multiple taxation. For example, same property and same income of an individual can be taxed twice by the same authority. The property may be taxed on the basis of income yielded by it and again on the basis of its capital value in the same period. Similarly, the income of a person if taxed when it is received, again taxed when it is spent in the next year, but this is not the problem of double taxation. But if the same income is taxed twice in the same year by the same or different authorities, it is the double taxation. Sources of income, place of residence and property are the basis on which various levels of government in one country or governments of different countries can levy the tax.

Double taxation mainly occurs if two authorities i.e. two layers of governments in one nation impose tax on the same base twice. Similarly the problem of double taxation may arise when governments of different countries impose taxes on the same tax base in the same year, it is called the problem of international double taxation.

Double taxation is opposed on the following grounds:

It increases the monetary burden of taxation on the individuals who pay it.

It adversely influences the tax payers's desire and incentive to work, save and invest.

It violates the canon of equity of taxation as it puts more burden on one section of tax payers.

Thus, there is a need to find methods to avoid inter-State, Union-State and International double taxation. Some countries, for example Russia, have done centralisation of finance where central government controls the finances of the whole nation or all layers of government. In such an arrangement, all taxes are levied and collected by the central government and then proceeds are allocated between Central and State governments. On the basis of different characteristics like resources, population, income etc. any criteria is fixed for inter-se allocation of tax revenue.

Summary: In this lesson, you have read about two approaches i.e. the Benefit and Ability to-Pay approach of taxation. The Benefit Approach is based on the idea that people should pay taxes based on the benefits they receive from government services. Ability to pay approach is defined as one where the sacrifices of utility by all tax payers are equal. There are three principles of sacrifice. Equal absolute sacrifice, equal proportional sacrifice and equal marginal sacrifice. In the case of last principle, the tax liability is the most on the rich man and the lowest on the poor man.

Question

1. Discuss the various approaches to sacrifice in taxation. Which of these explains the principle of taxation most accurately?
2. Explain the principle of minimum sacrifice and equal sacrifice in regard to distribution of taxation. Which of them would you consider as the ultimate principle?
3. What is meant by ability-to-pay principle of taxation? How it is generally implemented?
4. Discuss critically the Benefit Approach to equity in taxation. Also describe the problem evolved in the practical application of this approach.
5. Which theory of taxation is best for collection of taxes and why?

Short Question

1. What is significance of Benefit Principle?
2. What is the index of ability-to-pay?
3. Explain Lindahl Model to distribute tax burden among different people.
4. Horizontal and vertical equity.
5. Elements of a tax

Public Expenditure-I
(Rationale for Growing Public Expenditure)

2.5.1 Introduction**2.5.2 Objectives****2.5.3 (A) Growth of Public Expenditure****(B) Wagner's Law of Increasing State Activities****(C) Wiseman and Peacock Hypothesis****(D) Canons of Public Expenditure****2.5.4 Summary****2.5.5 Major Questions****2.5.6 References****2.5.1 Introduction**

Under the policy of laissez-faire when the state was regarded as a police state, the role of public expenditure in the economic life of the people and community remained neglected. Its effects on production and distribution were ignored and it was also held that public expenditure should be kept at the minimum. But today, with the change in the nature of state from a police state to a welfare state, the swing of the pendulum has moved to the other side. The theory of public expenditure has come into prominence as a result of the failure of the market mechanism to respond fully to the true needs of the society and create conditions of full employment of human and natural resources.

The increased participation of the government in economic activities has brought public spending to the forefront among the fiscal instruments. The appropriate variations in public spending can have a more direct effect upon the level of economic activity than the variations in taxes. The increased public spending has a multiple effect upon income, output and employment exactly in the same manner as an increase in investment does. A reduction in public spending, on the contrary, can reduce the level of economic activity through the reverse operation of the government expenditure multiplier. During the time of inflation, the basic cause of inflationary pressures is the excessive aggregate spending. Both private consumption and investment spending are abnormally high. Therefore, the proper public expenditure policy should attempt to reduce the government spending through the abandonment of some of the schemes and the postponement of some others.

In case, public spending has to be reduced, the care should be taken that the productive spending is not shelved, since that will further aggravate the inflationary dangers. The expenditure reducing policies during inflation thus play a balancing role in the economic system.

It is during recession or depression that the deficiency of demand due to sluggish private consumption and investment spending can be met through the additional public expenditure equivalent to the deflationary gap. The multiplier effect of public spending will neutralize the depressing effects of lower private spending and pave the way for economic recovery. Thus business fluctuations can be controlled by an appropriate variations in public expenditure. Besides, a carefully and wisely planned public expenditure by creating social and economic overheads can go a long way in creating necessary environment for the growth of the economy. Hence public expenditure is now regarded as one of the most potent weapons in the hands of the state to secure economic development of the under-developed economies. This tendency has been further reinforced by the increasing interest of governments in the problems of distributive justice, economic planning, regional disparities, etc. To sum up we may say that public expenditure has now stability and accelerating the pace of economic development as the main objectives.

2.5.2 Objectives

According to Mrs. Ursula Hicks the theory of Public Expenditure should always precede the theory of taxation. Because it is only after the optimum amount of Public Expenditure having been decided that the Government should look towards alternative sources of revenue including taxation. That is why in most of the standard text books on Public Finance that the chapter on Public Expenditure are given first followed by the chapters on taxation.

This lesson first identifies the factors which have been responsible for the growth of Public Expenditure. This enables the students to evaluate the growing importance of Public Expenditure This also contains canons and incidence of Public Expenditure. While the former provides guidelines to maximize the benefits from Public Expenditure, the latter deals with the actual identification of the beneficiaries of Public Expenditure in order to design an optimum expenditure policy.

2.5.3 (A) Growth of Public Expenditure

Public expenditure has increased manifold in recent times and it continues to be increasing with the passage of time due to the following factors:

(i) For Promoting Economic Development and Economic Stabilization:

Modern states are not police states but welfare states. The days of

laissez-faire policy are gone. The belief of the classical economists that economic system can function smoothly without state intervention and is capable of creating conditions of full employment of human and economic resources has been falsified. On the other hand, the penetrating analysis of Keynes has shown beyond any shadow of doubt that the state must intervene in the economic system to secure economic stabilization in developed countries. In the Keynesian analysis effective demand has two sides, income and expenditure. On the income side $Y = C + S$ and on the expenditure side $Y = C + I$. Since C is common on both the sides, therefore, for equilibrium S must be equal to I . But, as marginal propensity to consume is less than one, therefore I , i.e. investment expenditure always falls short of S and this gap must be filled by 'G', i.e., government expenditure. Therefore, for economic stabilization the expenditure side (Y) must be equal to $C + I + G$. Similarly in underdeveloped countries the adoption of the strategy of planned economic development necessitates huge government expenditure. In a welfare state also the role of public expenditure cannot be belittled.

(ii) Democratic Governments:

Twentieth century was an age of democracy and democratic governments are for the people. They have to perform an increasing number of functions to satisfy the diverse needs of the people. In democracy, there are a number of political parties in the country and each party is anxious to win the support and sympathy of the people. The supporters of each party claim for more and more facilities and benefits in the form of more education, more schools and colleges, more hospitals, more roads, greater transport facilities etc. Besides huge expenditure on election, ballot papers and other staff has to be incurred in democratic countries. All this has led to a phenomenal increase in public expenditure.

(iii) War and Prevention of War:

This is another factor which has increased public expenditure to astronomical heights. Modern wars are very expensive. The nature of warfare has fundamentally changed. The weapons of mass destruction costing crores and crores of rupees are being manufactured. The conventional weapons have lost their importance. Even if there is no war, the constant fear of war and the measures to prevent it have obliged the governments to maintain large armies and spend the major portion of their national income on the manufacture of war weapons. According to Wagner, there is always an arms race going on between the countries. This has obviously led to a huge increase in public expenditure.

(iv) Collective Satisfaction of Wants:

Many wants which were formerly satisfied through private expenditure are now met by the government with a view to reap the advantages of large scale production and avoiding exploitation, wastefulness and duplication. This has led to a phenomenal increase in public expenditure.

(v) Increase in the Price Level:

Under the impact of the factors discussed above, the prices of all goods and services have increased considerably in recent times. Consequently, the governments have to pay more for the goods and services it purchases from the market to meet its requirements and hence it results into an increase in public expenditure.

(vi) Increase in Territory and Population:

The physical boundaries of modern states have expanded and small states of the old times have disappeared through the process of unification. Only big states can survive these days and make economic progress. The increase in area of the states has resulted in an increase in the cost of administration. Even if the area has remained the same, the increase in population has contributed to the increase in public expenditure as the governments have to cater to the needs of ever increasing population.

(vii) Urbanization:

With economic development, there is urbanization of population on a large scale which implies larger per capita expenditure on civic amenities by the municipalities and hence an increase in public expenditure.

(viii) Nationalisation of Industries and Trade:

There is a manifest tendency on the part of modern governments to provide goods and services to the people on a more or less commercial basis. The governments are doing so with a view to prevent the exploitation of consumers by private monopolists; to secure equitable distribution of wealth; to provide a yardstick for private operation and to earn profit for the treasury. But the setting up and the management of these enterprises and the payment of compensation has resulted in a tremendous increase in public expenditure. **(ix) Public Debt:**

Inherent deficiencies of the free market economy have resulted in economic instability and wide-spread unemployment and under-employment. Consequently the state is called upon to undertake various regulatory and anti-cyclical measures which have led to enormous increase in public expenditure. To meet this expenditure, the governments are obliged to borrow on a large scale and this has led to an increase in public expenditure in the form of increasing cost of debt servicing and repayment of the public debts. **(x) Increase in National Income :**

With economic development, the national income of the countries has increased many times. Consequently public revenue by way of taxation has also increased and this has led to an increase in public expenditure.

As a consequence of the above factors the growth of public expenditure has increased considerable. Now the government spends, apart from performing the traditional functions more for promoting the welfare of the society. A major chunk of public expenditure in a welfare state is now spent for removal of poverty, unemployment and inequalities in the distribution of income and for providing social security, educational and medical facilities. Public utilities and goods providing more externalities have to be produced in the government sector. Even merit goods, as already stated, are receiving more and more attention from the government. The Wagner's law of increasing state activities states that public expenditure has increased both intensively and extensively.

2.5.3. (B) Wagner's Law of Increasing State Activities

A German economist, Adolph Wagner (1835-1917) in 1883, gave a law called the "law of ever increasing state activity" which was based on historical facts, primarily of Germany and then for other countries. He asserted that there is a long run propensity for the scope of government to increase with higher levels of economic development. Thus there is a long run propensity for government expenditure to grow relative to national income. The increase in state expenditure is needed because of three main reasons. Wagner himself identified these as (i) social activities of the state (ii) administrative and protective actions, and (iii) welfare functions. He based his law on "pressure for social progress" and pointed out that there is a persistent tendency for the activities of different layers of a government - central and state and local bodies to increase both intensively and extensively. By intensive increase in public expenditure, he means more of public expenditure on the same items on which the government has been incurring expenditure i.e. defence, law and order etc. By extensive increase in public expenditure, he means public expenditure on more and more items like education, medical and public health, poverty alleviation etc.

Wagner divided public expenditure into two categories - (i) expenditure for internal and external security, and (ii) that for "culture and welfare" which implies education, health, transport, recreation, banking etc. With the change in the nature of the use of force by the state from simple aggression to the prevention of attack and use of more sophisticated weapons, the expenditure for external security would increase. Similarly, according to Wagner, the expenditure on internal security would also increase due to greater friction

between economic units and people as urbanization would progress.

Wagner assumed that income elasticity of demand for public goods and services is greater than one and therefore, whenever there is an increase in income, demand for public goods increases proportionately more.

Richard Bird supports this notion by postulating that the 'law' operates under the following conditions : (i) rising per capita incomes, (ii) technological and institutional change of a particular sort, and (iii) democratisation.

2.5.3 (C) Wiseman and Peacock Hypothesis for the period

As part of their seminal study of the growth of public expenditure in the U.K., Alan T Peacock and Jack Wiseman, questioned the generality of Wagner's law and introduced their now famous displacement effect hypothesis to explain the time path of the growth of government in democratic countries. They suggest that the failure of non-defence spending to return to pre war levels in post war periods may be explained by what they call a displacement effect. In normal times, the possible extension of the public sector is broadly limited by what the general public considers to be a reasonably tolerable level of taxation. A major disturbance such as a war changes this tolerance limit, and invariably the economy is found to be capable of supporting heavier tax loads than had previously been deemed acceptable. In a world dominated by a politico-economic philosophy of expansion in the public services, governments will tend to utilize post-war or post-disturbance periods to expand ordinary services rapidly. And this expansion will be general throughout the public sector. This displacement effect will also be supported by other changes brought by the major disturbance. Such periods create new and emergency demands on government, even in civilian sector. Government gain experience in administration and regulation. The bureaucracy is increased in both size and in power. Vested interests emerge in bureaucracy itself, and people come to expect a greater degree of regulatory activity by government. This displacement hypothesis is supplemented by a hypothesis which suggests that the same factors tend to cause a concentration of financial responsibility in the government.

These two hypotheses seem suggestive, and they do offer quite plausible explanations for observed facts about public spending over time. They suggest that, in the 20th century, major disturbances explain much of the increase in the relative importance of the public sector. On the other hand, in the absence of major disturbance the public sector may be predicted to expand

only gradually and within reasonably prescribed limits.

Self Check Exercise-1

1. How market failures are responsible for the growth of Public Expenditure?

2. Write a short note on Wagner's Law of increasing state activity?

3. Write a short note on Wiseman and Peacock Hypothesis?

2.5.3. (D) Canons of Public Expenditure The Canon of Benefits

Public expenditure should be incurred, or regulated on the various items, so as to secure maximum benefits for the society as a whole. Maximum social welfare is achieved 'when marginal utility of the marginal expenditure in each case is equal.' Theoretically the state should spend on different items in such a way that marginal benefits are equal in each case. In fact this is the principle of public expenditure. It may also be called the principle of equi-marginal social utility or we can say that public money should be spent so as to promote maximum social advantage.

To achieve this canon in actual practice or to follow equi-marginal social benefit principle, Shirras has laid down three criteria. He says that no amount of public expenditure should be spent to benefit a particular person or region until and unless : (a) the amount of expenditure involved is small, (b) a claim for the amount could be enforced in a court of law and (c) The expenditure is in pursuance of a recognised policy or custom.

So far as the first item is concerned, the word 'small' is a relative term. What does it mean? Whether a small percentage of annual expenditure or a small lump-sum amount. There is then the question as to why even only a small amount of expenditure should be incurred on a particular person or section of the community. The state has to spend in accordance with the

principle of maximum social welfare and the amount to be spent on any particular person or section of the community has to be justified on this principle. If the government spends a small amount on any particular person or section we should oppose it, provided it is not in accordance with this principle. If however, to maximize social welfare a large amount of expenditure has to be incurred on a particular section of the society, then it is fully justified. This would be so when the social benefit derived by diverting it to some other item of expenditure is less.

As far as item (b) is concerned it is an obligatory expenditure which the state must incur, otherwise the authority of the law will be used to compel the state to incur this expenditure. Therefore, this expenditure occupies a high priority and confers a relatively greater social benefit. In its absence the rule of the law will be broken and community will suffer a great loss in social welfare.

So far as item (c) is concerned, Shirras seems to think that expenditure sanctioned by custom and usual practice is justified. If this expenditure confers relatively greater social welfare and, therefore, the state and the community wants to incur it, then it is justified. However, if it confers a relatively smaller benefit then it will be in violation of the principle of equi-marginal social utility and would not be justified. It is true that due to the pressure of tradition or custom we have to incur some expenditure which we would otherwise avoid, but then the pressure is so great that the benefit derived by incurring the expenditure is more than that derived from diverting this expenditure to some other item. In such a case the expenditure is not in violation of the principle of public expenditure.

We thus see that all the instances mentioned by Shirras are taken into account of by the principle of public expenditure, which has no exception. Further, this canon says the same thing which the principle of public expenditure says and therefore, it is not a canon at all.

The Canon of Economy :

“Every one is less prudent with other’s income”. Public expenditure should be incurred in such a manner so as to minimize the waste and extravagance of public money. The best thing will be to avoid all waste of public money and then alone we secure economy in its use. Simply, by economy is meant that public expenditure must be increased without any extravagances and misuse. However, the word ‘economy’ can be interpreted in a narrower or a wider sense. Economy may mean that while spending money the state should see that, very little is wasted, i.e., it should not pay Rs. 100 where Rs. 50 can serve the purpose. In its wider sense even if we are paying just as much as

we should, it may still be uneconomical expenditure provided the benefit derived from it is smaller than the benefit that could have been derived if this money was spent on some other object or service.

Strictly speaking for the state, economy in expenditure means that it spends its money in such a manner that the maximum benefit is derived from each unit of money. This is so when principle of public expenditure, i.e., principle of equi-marginal social benefits is followed. Shirras seems to attach narrower meaning to the word economy as he talks of avoiding 'extravagance and corruption.' He says that social benefit would be maximized when there is no waste. However, this canon is not independent canon and is merely a corollary of the first canon, i.e., canon of equi-marginal social benefit.

In the context of this canon Shirras also says that "economy means protecting the interest of the tax payers not merely in effecting economies in expenditure, but in developing revenue." Even though it may be desirable that the expenditure incurred by the state should also help to expand its revenue, the later objective belongs not only to the sphere of expenditure but also to revenue and, therefore, it cannot be considered to be canon of expenditure alone.

The Canon of Sanction

Shirras says that no public expenditure should be incurred without the approval or sanction of proper authority. This means that we cannot leave it to every individual public official (officer) to spend the money in the manner he likes. He must obtain the sanction of the proper authority before he incurs expenditure. The reason for this is that we want to ensure that the public money is put to the best use and for the prevention of misuse or reckless expenditure. The objective is that nothing should be spent in a manner that does not help to maximize social benefit. It is also necessary to put this check on spending so that too much is not spent on some item of expenditure or on some particular region so that the other items or regions are tarved. This ensures that the principle of maximum welfare is followed and, therefore, all expenditures must be sanctioned in the final resort by a supreme authority which takes into account the interest of all regions and sections of the society. Once the allocation of public money between different regions or items of expenditure is broadly decided, the authority to sanction the actual incurring of expenditure can be delegated to subordinate administrators. It is only the highest authority which can take an overall view of the entire community and can sanction expenditure in the light of the principle of maximum social benefit. The canon of sanction is, therefore,

a good practical rule of the principle of public expenditure.

While further elaborating this canon Shirras says that, no expenditure by an authority beyond its own powers of sanction should be incurred. This is quite correct. Because, otherwise a subordinate authority may incur obligation beyond the sanction already conveyed and may even force the supreme authority to spend more on some items, which may not be in the broader national interest and would thus not maximize social welfare.

Shirras further says that 'loans should be spent only on those objects for which money may be so borrowed.' His intention is to prevent the raising of loans for financing expenditure that has to be met from the revenue. The orthodox view was that normally all current expenditure should be financed from tax revenue, while capital expenditure may be financed from loans, which could be gradually repaid. This is no longer a rigid rule to be followed by the state. Whether the state should borrow or tax depends upon the economic conditions prevailing in the economy. If there are inflationary conditions then the state may finance even capital expenditure out of taxes or it may preferably build up revenue surpluses to sterilize purchasing power and thus reduce private consumption and investment. Similarly, for financing economic development it is necessary to increase the rate of savings and therefore, revenue surpluses would enforce extra savings. We have been following this policy since planning. It was only after eighties that we have been having revenue deficits. However, in deflationary conditions when demand has slackened and there is unemployment, the state may raise loans to meet its expenditure and thus activate idle savings of the individuals. The state may even reduce taxes and increase budgetary deficits so that private disposable incomes are increased. This will increase the consumer demand of the private sector. Reduced taxes will also encourage private investment and further increase the aggregate effective demand. Whether the state should have a surplus or deficit on revenue account, or should achieve a fine balance between revenue and expenditure, depends upon the exigencies of the prevailing economic situation.

The orthodox theory of public finance advocated only balanced budgets or a small surplus of income over expenditure. Following the Keynesian revolution, we know that the state should have a surplus or deficit or a balanced budget depending upon the state of the economy. If there is over full employment in the economy, so that demand is excessive, state should have a surplus budget. If there is unemployment because of the fall in effective demand, the state should incur deficits. When there is full employment and the economy is on an even keel, the state may tax just enough to meet its expenditure.

The choice between taxes and loans also depends on the volume of savings in the community. If savings are excessive the state should borrow them and spend them so that aggregate effective demand is maintained at high level. On the other hand, if the volume of savings is insufficient to meet the investment requirements of the economy as in under-developed economies, then through budgetary surpluses the state should increase the savings of the economy. This will help to finance larger investment expenditure. The reduction in consumer expenditure through such a policy will also keep the inflationary forces in check.

The Canon of Surplus

Public authorities should raise enough revenue to meet their expenditure and leave some surplus over that. They should not have deficits. Shirras says that 'public authorities should earn their livings and pave their way like ordinary citizens. Balanced budgets must, as in private expenditure, be the order of the day.' Surplus means that there should be an excess of income over expenditure. Thus, this is a canon of income and expenditure and not of expenditure alone and it should find a place in the canon of public finance. Further, whether there should be a surplus or deficit, it depends upon the economic conditions prevailing in the country. If there is excessive boom then the government should collect more tax revenue than it spends in order to siphon off the excessive purchasing power. On the contrary if recessionary conditions are prevailing then government should incur more expenditure than the revenue which it collects from the people. Therefore, it should find a place in the canons of public finance, if any. It could as well be a canon of income or public revenue. Further, there is no reason why the state should always have a surplus. In the case of an individual it may be that he should have a surplus so that he can use it when he is unemployed, older, sick or his expenses increase. However, this argument is not applicable in the case of state finance. Strictly speaking whether the state should have a surplus or deficit or balanced budget, it depends upon the economic conditions prevailing in the country. "We, therefore, conclude that the canon of surplus has no place in modern public finance."

In conclusion, we may say that there is only one principle of public expenditure which states that the state should incur its expenditure in such a manner as to achieve maximum aggregate benefit for the community as a whole. The first canon of Shirras really amounts to this principle. His canons of economy and sanction are good practical rules dictated by this principle. They do not exhaust the list of such rules and many more can be added, e.g., canon of elasticity, canon of equitable

distribution, canon of productivity, etc.

Canon of Elasticity

This canon requires that the expenditure policy of the state should be able to change itself with the change in circumstances of the country, i.e., the public expenditure should be able to adjust according to the circumstances of the country and the expenditure policy of the government should not be rigid. Infact, this canon aims that the policy of public expenditure should posses such an elasticity that it may not fail in times of emergency like war or in financing large development programmes. In other words, public expenditure should be carried out in such a way that the diversion of resources in times of emergency from one head to another may not upset the economic life of the country, e.g., the construction of houses may be postponed in times of war.

Canon of Equitable Distribution

This canon requires that the public expenditure should be incurred in such a way as inequalities in the distribution of income are reduced. Public expenditure should ensure just and equitable distribution of income among different groups of the society, i.e., more for education, medical and public health, housing, etc., for the poor. This canon is particularly more significant in countries like India where large inequalities exist. That is why special attention is paid to start schemes which create employment and income for the poor, eg., MFALA, SFDA, CSRE, TRYSEM in India.

Canon of Productivity

Public expenditure should encourage productive activities and production of the country as a whole. Obviously, more and more public expenditure should be directed towards production and development purposes, i.e., creating social and economic overheads. This is particularly true for under developed countries. Canon of productivity implies that public expenditure should be so incurred that it adds to total production in the economy so that it leads to increase in government revenue. This will further enable the state to finance the increasing volume of public expenditure.

Infact the latter canons are also the practical guidelines to achieve the basic principle of public expenditure. Finally, the cannon of surplus has no place in the theory of public finance.

Self-Check Exercise-2

1. Write a short note on canon of benefit of public expenditure?

2. Explain canon of elasticity required for public expenditure.

2.5.4. Summary :

There are a number of reasons for the increasing role of Public Expenditure. Although a severe blow to the philosophy of classical economists i.e, laissez faire policy was caused by Keynesian thinking, yet there were philosophers and social thinkers like Wagner who had already propounded the law of ever increasing state activity. The increasing level of Public Expenditure was also empirically proved by Wiseman and Peacock using the data of U.K. economy.

There are canons of Public Expenditure, which are simply the guidelines to maximize the benefits from Public Expenditure. Incidence of Public Expenditure deals with the ultimate flow of benefits from Public Expenditure. In other words incidence of public expenditure means, who ultimately are benefited from Public Expenditure. This part of public economics helps to design a suitable policy of tax-expenditure mix.

Technical Terms:

Displacement Effect: A Major disturbance in the economy changes the reasonably tolerable level of taxation or tolerance limit and the economy is found to be capable of supporting heavier tax loads.

Canon of Benefit: Public expenditure should be incurred so as to promote maximum social advantage.

2.5.5 Questions for your practice :

1. Explain the different factors responsible for the growth of Public Expenditure?
2. Write a short note on Canons of Public Expenditure, which one is the best and why?
3. Discuss briefly the important classification of public expenditure.
4. Discuss the necessity of public expenditure in a developing economy.
5. Discuss briefly the causes of the growth of public expenditure.
6. Write short notes on :

1. Pigou's classification of public expenditure.
2. Economic classification of public expenditure.
3. Causes of increase in public expenditure in India.
4. Wagner's law of increasing state activities.
5. Wiseman and Peacock Hypothesis
6. Incidence of Public Expenditure

2.5.6 References :

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**PUBLIC EXPENDITURE - II
(Incidence and effects)**

- 2.6.1 Introduction
- 2.6.2 Objectives
- 2.6.3 Meaning of Expenditure Incidence
- 2.6.4 Measurement of Expenditure Incidence
- 2.6.5 Effects of Public Expenditure
- 2.6.6 Summary

2.6.1 Introduction

Classical economists gave less importance to the science of public finance and the father of Economics, Adam Smith suggested only three functions to be performed by the state-(i) protection from foreign attack, (ii) maintenance of law and order and (iii) the supply of educational and medical services. But in modern days, functions of the state have increased many-fold, both in depth and intensity. Now a days government watches interests of people from birth to death. For example, government (local) provides medical aid and information about the health of the child and the mother before the birth of the child to the expected mother. Expected mothers are provided with medical assistance when birth takes place. When child grows, government provides play grounds and when he further grows, provides him educational facilities in school, college and the university. After education is completed, government tries to provide him some employment and if he is unemployed, government gives him unemployment allowance and if some accident occurs while on work, government pays him disability allowance and in the old age government pays him old age pension and after death, if there is no one to attend, takes the dead body to the graveyard. All these functions need expenditure to be made by government. The purpose of this example is to show the importance of the government expenditure.

Government tries to influence (i) private decisions regarding saving, investment, production, consumption, will to work, and will to invest and (ii) distribution of national income. Government exercises this influence through its tax-expenditure policy (budget). Taxation theory has been developed fully and we can pin-point the tax incidence but so far no concrete theory has been developed for the determination of expenditure incidence. Incidence of revenue and expenditure are receiving attention of the economists and now it is felt that we cannot meaningfully discuss economic consequences of budgetary policy at large. We must define specifically just what type of economic

consequences we wish to measure. Expenditure incurred by the government is going to affect the level of production, level of saving, level of investment, price level, level of consumption and the distribution of national income. Leaving aside all effects when we consider only the effect of expenditure on the distribution of income, a change here is referred to as expenditure incidence. When the benefit received as proportion to income decreases as income increases, the pattern is said to be regressive, i.e. pro-poor and favourable. Let us assume that expenditure in money terms is increased. Resource transfer to public use is also increased. The distributional consequences of such a change is referred to as specific expenditure incidence.¹

Most of the earlier economists have not made a distinction between effects of expenditure on production, saving and on investment and the incidence of expenditure. Similarly, most of the authors who analyzed the incidence of government expenditure in developing countries did so in combination with tax incidence estimates. Therefore, we should be very clear about the meaning of expenditure incidence.

2.6.2 Objectives

After having gone through this lesson, you would be able to:

- understand the meaning and methods of measurement of expenditure incidence.
- know the effects of public expenditure on production, distribution, economic growth, stability and consumption.

2.6.3. Meaning of Expenditure Incidence

By expenditure incidence we mean the distributional impact of government expenditure. This distributional impact may be of a specific expenditure or expenditure for general benefits. While measuring distributional impact of government expenditure or say expenditure incidence the following points may be kept in mind :

- (i) When government expenditure is increased it may have different effects on different sections of the economy and it may cause resource transfer, distributional changes and output effects but in the expenditure incidence we are concerned only with distributional changes.
- (ii) To see the expenditure incidence, we may classify public expenditure on the basis of benefits into four classes, namely (a) expenditure benefiting the entire country for example, defence expenditure, (b)

1. Musgrave, Richard A., *The Theory of Public Finance*, McGraw Hill Book Co., New York, p. 213.

- benefiting certain classes/people, for example poor relief, relief to flood affected people, (c) benefiting certain people and the entire community also; for example, expenditure for the maintenance of law and order in the country, and (d) benefiting particular group, say subsidy to a particular industry.
- (iii) Estimation of incidence of expenditure is limited to the first-order effects of the budgeted expenditure on income only. Although it is recognised that many non-budgetary decisions of the government also effect the income distribution, for example, price controls, import licences, minimum wage legislation etc. These effects on income distribution are certainly considerable in many developing countries.
- (iv) The distributional impact of incidence of government expenditure can be analyzed from three points of view :
- (a) **Money Flow Approach** : It concentrates on the recipients of direct payments made by the government without considering who ultimately is benefited from the services supplied through the public expenditure. For example, we may consider school teachers as the only recipients of educational expenditure on education and may not take a note of the benefit which the students and others enjoy from this expenditure.
- (b) **Benefit Approach** : It emphasises the services rendered by the public expenditure and those who in the final analysis are benefited from those services. For example, the beneficiaries of educational expenditure may not be limited to the teachers only but we may consider the benefit of government expenditure arising to the students and their families.
- (c) **Transfer of Purchasing Power Approach** : Under this approach we consider how the transfer of purchasing power from the private to the public sector modifies the expenditure pattern in the economy and affects factors and output prices. It can also be termed as a cost-benefit analysis.

Self-Check Exercise-1

1. What do you mean by expenditure incidence?

2. Write the methods through which expenditure incidence can be measured.

All these methods have their own limitations. For example, about the flow of money method, it is said that the end purpose of government expenditure is to provide certain services and not to maintain civil servants as teachers. Therefore, distribution of services rendered are not on the flow of money. Similar opinion has been expressed for the benefit approach and it is said that it is very difficult to attribute the benefit of government expenditure to a particular group or person. It is said that "The benefit approach alone is also inadequate when government expenditure does not provide the services that it is supposed to provide or provides sub-standard services. In this case it would be native to insist on distributing non-existent benefits to those for whom this expenditure was allegedly made." He tells that it will happen, let us assume, when the educational system continues adding graduates with certain qualifications to a labour market that may already be saturated with similarly trained people. Even if the additional disbursements made to these employees yield no service, at least those who receive the payment from the government are better off with these payments than without them. The elimination of this inefficient public expenditure might result in reduced taxes, which in turn would give taxpayers higher disposable income.

- (v) We may attempt to analyse the distribution of the expenditure benefits in a given period of time. However, this can be considered correct for consumption type of expenditure only. Expenditure on investment on the other hand, requires a different approach, because it generates benefits in future years.
- (vi) Government expenditure on some specific benefits (say education) not only provides benefits to some more or less identifiable individuals or sub-groups but at the same time increases the overall efficiency of the economy.
- (vii) Sometime incidence of expenditure is worked out on the basis of sectors. For example, we may classify the beneficiaries into urban-rural population or into agricultural and non-agricultural sectors.
- (viii) To work out expenditure incidence economists have used diverse methodologies therefore results cannot be compared.
- (ix) Results depend on the methodology adopted and assumptions made.
- (x) The theory of expenditure incidence is still not fully developed. However, it can be stated that more taxes on the rich and more expenditure on the poor can help the redistribution of income in favour of poorer sections of the economy.

2.6.3 Measurement of Expenditure Incidence

Now let us see how expenditure incidence is measured in the case of government expenditure. For this we can take up expenditure in general or in specific.

Expenditure in general

Expenditure on general benefits is incurred by the government in producing social goods, or those goods for which private allocation of resources is insufficient because they are consumed jointly by all. Expenditure on defence, justice, police, etc. can be considered expenditure for general benefit. In such cases it is very difficult to determine benefit on individual and sub-groups of the population. However, to measure the incidence generally the following methods are used :

- (i) Many authors have tried to distribute expenditure in proportion to income. This method is justified on the ground that people are benefitted from government's expenditure in proportion to what wealth and property they possess.
- (ii) An other method widely used is to derive the benefit on an equal per capita basis. This method is adopted on the assumption that each family is benefitted equally from general government expenditure.
- (iii) Sometimes, authors combine the use of above mentioned both the methods i.e. benefit is distributed 50 percent of expenditure on an equal per capita basis and the other 50 percent in proportion to income.

Expenditure in specific

In the case of specific expenditure, the benefit can be easily identified on individuals/groups/sectors, in certain cases. For example, in the case of educational expenditure the procedure is to estimate the average cost per student for different types of education provided and then to allocate the benefit (based on cost) among the income classes in proportion to the number of students that families from different income classes sent to different schools. If it is recognised that educational expenditure may affect the overall level of productivity of the society rather than the income distribution then some percentage of the cost, say 25% can be attributed to the per capita income basis.

For measuring incidence of expenditure on health different methods have been tried. One such method is to treat expenditure on health in the same way as the expenditure on general benefits. The secondary method used is

to allocate half of the total health expenditure in proportion to the income of families assuming that health expenditure affects not only the income distribution but also the overall productivity level of the economy. A third method adopted is the allocation of expenditure according to the classification of patients admitted in hospitals.

Expenditure on Agriculture

In this case allocation of expenditure is often made in proportion of agricultural incomes. It is assumed that some benefits of this type of expenditure are shifted to non-agricultural sectors through a lowering of the prices of agricultural goods consumed by the non-agricultural sector. So some proportion of benefit can be attributed to non-agricultural sector.

We conclude with the remarks of Prof. Luc De Wulf when he rightly says that 'It should be clear that research on the distributional effects of government expenditure faces tremendous conceptual difficulties. So many allocation and valuation choices are left to the discretion of the individual researcher that the meaning and value of the estimates produced are inevitably questionable, probably more so than the tax incidence estimates.'

2.6.4. Effects of Public Expenditure

In fact, the total effect of public expenditure in any economy can be put under the four main headings of (1) effect on production, (2) effect on distribution, (3) effect on economic growth and economic stability, and (4) effect on consumption.

2.6.1.1. Effect on Production

The volume and nature of public expenditure in any country had a far reaching effect on its level and pattern of production. Public expenditure affects production by influencing people's ability to work, save and invest (i.e. their efficiency), by influencing their willingness to work, save and invest, by influencing the allocation of resources between different uses and areas and by influencing the pattern of production in the country.

Public expenditure can affect the efficiency of workers in many ways. Public expenditure on education, medical services, cheap housing facilities, recreational facilities etc. undoubtedly increases worker's efficiency. Moreover, public expenditure that provides additional income to people, particularly the lower income group can promote savings on their part. Public expenditure also places additional funds in the hands of those people who may be able to invest it. Public expenditure also raises efficiency by increasing the mental fitness of the people. We know the universal free and compulsory primary education raises the general mental level of the people. Technical education

makes possible the development of trained workers for industry and increase their productivity.

Public expenditure also makes adverse effect on the production of the country by influencing the willingness of people to work, save and invest. Indeed this effect is most likely to be adverse. Public expenditure such as on pensions, provident funds and other social security measures are likely to reduce people's willingness to work hard. This is also because these expenditures provide security to workers in situation of unemployment, old age, etc. and thus reduce the compulsions that drive people to work, save and produce. Public expenditure may also adversely affect the willingness to work for a different reason. An increase in government expenditure that increases the purchasing power may reduce the people's desire to work and make them slack simply because people may feel that they have got enough to maintain their normal standard of living.

Public expenditure also affects production favourably through the provision of the basic services and facilities. The development of roads, railways, irrigation, power projects, etc. enlarge opportunities to invest and thereby enhance production. Public expenditure on transport and communication, power, basic industries such as steel, coal and heavy chemical stimulates investment in numerous other industries of different kinds. Apart from the provision of infrastructure, the government expenditure encourages production in the private sector in other ways. For example the provision of market information and technical advice to agriculturists and industrialists always improves the productive capacity of private sector of the economy.

Public expenditure can also bring about better allocation of economic resources between the present and the future. People always prefer the present to the future and thus do not make adequate provision for the future. The government, on the other hand, being the custodian of the interests of the future generations also; has to see that adequate provision is made for the future or not. Thus, Government expenditure on irrigation, afforestation and other economic projects do not give immediate results but yield economic benefits for the future generations. Government expenditure on expansion of research, education, training, public health and sanitation are also of the same character. In this connection Hugh Dalton says:

"Increased public expenditure in many of these directions is desirable in order to bring about the distribution of the community's resources between different uses which will give the best results, balancing without bias the present and the future."

Public expenditure may also affect production in the country by diverting resources from the developed regions or localities of the economy to the backward ones. The private entrepreneurs may not exploit the resources of an under-developed area. The government can promote the development of the backward regions through opening up and developing transport and communication, offering tax reliefs to private businessmen or even establishing itself one or two industries that will stimulate the growth of other industries. Dalton concludes the discussion on the effects of public expenditure on production in the following words:

"Where taxation taken alone, may check production, public expenditure taken alone, should almost certainly increase it."

It may be pointed out that, like many other developing economies, in India also public expenditure has come to be used as a chief means of promoting economic development and raising the level of production in the country. In fact, all expenditure on development activities in the country, which has constituted a large proportion of total public expenditure, has raised particularly production and employment in the country. The huge expenditure on agriculture, veterinary services, irrigation, multi-purpose projects, steel plants, and other industries, rural works etc., fall in this category. These expenditures have already produced substantial effect on the production front and there has been marked increase in the agricultural and industrial production and productivity in the country.

2.6.4.2. Effect on Distribution

One of the important problems faced by the free enterprise economies is that of unequal distribution of income and wealth. This problem is the natural outcome of the institution of private property. It has now been universally accepted that gross inequality of income and wealth is undesirable on ethical, economic and political grounds. Hence reducing inequality of income distribution has been considered as one of the important tasks of public policy. Actually fiscal policy-taxation and public expenditure policy - has been found to be the most effective instrument of attaining the objective of fairer distribution of income and wealth. Hence governments everywhere try to achieve this objective through the use of fiscal policy. This is done partly by means of taxation-by imposing taxes on the relatively richer sections of society and thus levelling down their income and wealth-and partly by public expenditure or spending government funds for the welfare of poorer sections of the society and thus levelling up the income of the poorer sections of society.

The use of public expenditure to bring about fair distribution in the country may take various forms. First there are certain cash grants, which are technically known as transfer payments. These consist of old age pension, widow pension, unemployment benefits and similar other social security measures. The making of these expenditures by the government helps the recipients precisely at the time when these are most needed. The transfer payments have come to occupy a very important place in the expenditure scheme of most of the modern governments. However, the most usual and the general form that public expenditure, as a tool of promoting social justice; assumes is the provision of free or cheap services to the poorer sections of society. Free education, free medical facilities, subsidised food and housing, provision of free milk or meals to children at schools etc. are common examples of this type of government expenditure. It needs no explanation that if government is able to make available free or cheap essential services to its citizens, the evils of income inequality would be eliminated. In this connection particular emphasis must be laid on the provision of education. As education is believed to be the most significant factor which can raise level of incomes. There are also other services and amenities which make life better and fuller, such as public parks, libraries, swimming pools etc. Government expenditure on these services is also justified on grounds of welfare considerations.

H. Dalton has drawn distinction between progressive, proportional and regressive public expenditure. This has been done on the analogy of progressive, proportional and regressive taxation. Whether a particular item of public expenditure is progressive, proportional or regressive in character would depend on whether it gives relatively larger benefits to poorer sections, same benefit to every body irrespective of the income level or relatively smaller benefits to the poorer sections. In other words, public expenditure is progressive if the proportionate benefits yielded by the expenditure grant or item is larger, the smaller the beneficiary's income. For example if government provides free residential accommodation to only its low paid employees and denies this to relatively well paid employees, the expenditure incurred would be called progressive. Public expenditure is said to be proportional if the proportionate benefit yielded is the same whatever may be the beneficiary's income. For example, if all government employees are given a house allowance at the same rate, say 15% of their salaries, the expenditure incurred would be called proportional in nature. Public expenditure is regressive if the proportionate benefit yielded by it is smaller, the lower the beneficiary's income. For example, the provision of free residences to only the well paid

government employees would be a regressive public expenditure. From the classification given above, it clearly follows that regressive public expenditure cannot promote social justice, instead, it will further accentuate income inequalities. Only progressive public expenditure is suited for attaining fair distribution.

It may not be out of place to mention that there exists a possibility of potential conflict between the two objectives of public expenditure discussed above namely, increasing production and bringing about fair distribution. For instance, the provision of free education, medical aid, unemployment benefits, etc. by government may reduce people's desire and eagerness to work hard and improve their lot. This is likely to adversely affect production in the country. Similarly, large scale public expenditure in the form of transfer payments and provision of free or cheap essential services to the poorer sections would necessitate very heavy taxation on the relatively richer fellow citizens. This may kill the incentives to work, save and invest on the part of these people and thus retard production of wealth. In addition to this, in poor countries, where actually need to reduce gross inequalities of income and wealth is the greatest, only richer sections have the saving potential which is likely to fall because poorer sections of the society are most likely to eat up a greater proportion of their newly acquired incomes. All this clearly shows that there is a potential conflict between the two objectives of higher production and fair distribution. Fiscal authorities have, therefore, to strike a balance between the two objectives so that both can be attained simultaneously. Public expenditure should be regulated in such a way that gross inequalities are reduced while at the same time production of wealth is not discouraged.

In India also public expenditure has been used as a tool to bring about a fair distribution of income and thus promote social justice. For this, throughout the government has also been making use of social security measures, the main reliance has been on social services, such as education and health. The expenditure on social services both at the Central and the State Government level has been rapidly increasing. This has gone a long way in reducing gross inequalities, though the state of income distribution is yet far from desirable.

Self-Check Exercise-2

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|----|---|
| 3. | What is the effect of public expenditure on production?

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| 4. | How the instrument of public expenditure can attain the objective of fair distribution of income and wealth?

_____ |

2.6.4.3. Effect on Economic growth and Economic Stability

The important objectives of public expenditure are achieving higher economic

growth rate and stabilising the level of economic activity. Public expenditure results into growth in national income either in the short or in the long run. Public investment in agriculture, education, roads, infrastructure and defence have positive growth promoting effects. The need and importance of the stabilising function of the government was realized first as a result of the Great Depression of the thirties and then the inflationary pressure of the World War II and the year that followed. Economists, under the influence of Lord Keynes, have come to believe that a free economy, if uncontrolled, tends towards more or less drastic fluctuations in prices, production, employment and part from relative short-term savings, maladjustments of secular nature towards unemployment or inflation may arise. Hence it has been emphasised that public policy must assume a stabilising function in order to achieve full employment with stability or to hold within tolerable limits.

If the total expenditure is less than the total value of goods and services to be bought, we get falling prices and unemployment. On the other hand, if total expenditure is more than the total value of goods and services, measured at current prices, we get rising prices. The task of fiscal policy, therefore, is to make demand equal to supply at full employment level with stable prices.

Now, one of the chief weapons of regulating the flow of expenditure in the economy is public expenditure. Since in every economy public expenditure constitutes one of the main elements of total demand. Variations in public expenditure have proved to be of great help in regulating the level of demand. Thus during periods of deflation or falling prices when there is deficiency of aggregate demand public expenditure is raised so as to compensate for the deficiency in total demand. The variations in public expenditure take various forms. First, there is an increase in the transfer payments such as pensions, unemployment allowances and other social security benefits, which raises the disposable income of their recipients and thus stimulates their consumption. They help in raising the level of aggregate demand in the economy. Another way in which public expenditure is used to fight a deflationary situation is by raising government purchases of goods and services. This leads immediately and directly to increase in demand. But there is also the multiplier process and the size of the multiplier depends upon the size of community's marginal propensity to consume. The level of national income is likely to be much larger than the initial increase in government purchases. Indeed the size of the multiplier depends upon the size of community's marginal propensity to consume.

Apart from the possible increase in government purchases of goods and services in the sphere of basic and essential service, there are improvements and extensions

of social amenities like civil buildings, parks, swimming pools, etc. generally called, public works. If the problem of deficiency of demand is a serious one, government can take up public works programme to compensate for the deficiency. Public works have also the additional advantage. They can be directed to a particular area.

In a situation of inflationary pressure on the other hand, the problem is one of excess of demand. Hence fiscal authorities have to reduce public expenditure on both transfer payments and government purchases. The reduction in transfer payments would reduce the private consumption of those who are affected by these cuts. The reduction in the government purchase directly reduce the demand of the public sector. Then there is the multiplier process. Consequently, the fall in the income is much more than the initial cut in government purchases.

It may be pointed out that in actual practice there are several practical difficulties in varying public expenditure particularly the government purchases of goods and services. There are problems of delays and time lags of anti-cyclical public works programmes. Moreover, most of the public expenditure these days is for military purpose and also for economic development. It is not easy to use instrument of expenditure simply to fight inflation.

The policy of compensatory spending discussed above has been developed in the context of the advanced capitalist countries. As we know the under-developed countries like India have certain characteristics which are very different from those of the advanced economies. In these countries there are numerous market rigidities. The shortage of capital equipment, skilled labour, means of transport and communication are common. Accordingly compensatory spendings in the form of regulating the total flow of expenditures is not the correct prescription in fighting out the cyclical fluctuations. Hence these countries have to lay greater reliance in import-export duties and subsidies for eliminating these fluctuations. In India, of course, a large number of economists are of the opinion that the prevailing inflationary situation in the country has been caused mainly by the rapid expansion in unproductive government expenditure. Accordingly, it has been suggested that an important way of stabilising prices is, by introducing drastic cuts in the unproductive government expenditure.

2.6.4.4. Effect on Consumption

Public expenditure affects consumption in many ways. Public expenditure on developmental activities raises production, income and employment. When income and employment increase, consumption is bound to increase. Public expenditure aimed at fair distribution also raises the volume of production. As we know, the poorer sections of the society have a higher marginal propensity

to consume. Hence with every increase in their incomes, as a result of greater social justice, consumption is likely to increase.

Public expenditure in the form of direct provision of goods and services to the people, either free or at low price, directly raises the level of consumption. The obvious examples of public expenditure of this type are subsidised food, subsidised housing, free medical facilities, free education, etc. Public expenditure in the form of increased wages, salaries and allowances directly raises the income and consumption of the government employees. Finally, public expenditure in the form of transfer payments such as pensions and unemployment benefits raises directly the purchasing power of the recipients and hence their consumption level and standard of living.

Public expenditure can also affect the pattern of consumption in the country. Thus if the government wants to encourage the consumption of a certain good or goods, it can do so by subsidising its/their prices. Similarly if government wants to discourage the consumption of a commodity which may be the product of a State monopoly or a public enterprise, it can do so by increasing its price.

In India also public expenditure has resulted in considerable improvement in consumption standards. The huge expenditure incurred on roads, railways, education, health and other social services has been aimed both at reducing inequalities and raising the consumption standard of the poorer section of the community. The government has also been spending large sums of money on public distribution system so as to ensure the minimum necessary standard of consumption.

Self-Check Exercise-3

Q.5. Write about the effect of public expenditure on consumption.

Ans _____

Summary: The distributional impact of government expenditure can be analysed through (a) Money flow approach, (b) Benefit approach and (c) Transfer of purchasing power approach. Government spends money for general as well as for specific purpose. Estimation of incidence of expenditure is limited to the first order effects of budgeted expenditure on income only. When economic consequences are measured means how the level of production, level of saving, level of investments, price level consumption and distribution of national income are influenced because of public expenditure, these are called effects of public expenditure.

Questions:

1. What are the canons of public expenditure? Discuss their relevance for India.
2. What do you mean by incidence of expenditure? What are the methods for its measurement?
3. What are the limitations for the measurement of incidence of public expenditure?
4. How does public expenditure affect production and consumption in the country?
5. Discuss the role of public expenditure as an anti-cyclical measure.
6. Examine the significance of public expenditure as an instrument of distributive justice.

Short Questions

1. Explain the canon of economy of public expenditure?
2. Explain money flow approach for the measurement of incidence expenditure.
3. Explain benefit approach for the measurement of incidence expenditure.
4. Incidence of subsidy on fertilizer.
5. Incidence of public expenditure.
6. Incidence of public expenditure on grants and purchase price.
7. Differentiate the concepts "ability to pay tax" and "ability to receive expenditure."
8. Effect of public expenditure on economic stability.
9. Effect of public expenditure on production.
10. Effect of public expenditure on distribution.

PLANNING AND PROGRAMME BUDGETING

- 2.7.1 Introduction
- 2.7.2 Objectives
- 2.7.3 Drawbacks of Traditional Budgeting
- 2.7.4 Performance and Programme Budgeting
- 2.7.5 Difference between Programme and Performance Budgeting
- 2.7.6 Planning Programming Budgeting System (PPBS)
- 2.7.7 Limitations of PPBS
- 2.7.8 Cost-Benefit Analysis
- 2.7.9 Conclusion

2.7.1 Introduction:

The word 'budget' has been derived from the French word 'Boudgette' which means leather bag. The word budget was used for the first time in 1778 in England to describe the bag containing the financial proposals of the government and carried by the Chancellor of Exchequer (person-in-charge of government treasury). Since then the process of budgeting has covered a long way and budgeting has now become much more efficient and result-oriented than in the past. Today, the budget is an informative document, showing how the departments and their agencies spend their money.

Although it is the general political process that determines government expenditures, it is through budgeting that the specific decisions are taken. A budget is a detailed statement of a government's expenditure and revenue. In traditional budgeting the executive branch of the government prepares its expenditure and revenue proposals and the legislative branch considers these proposals and votes the fiscal plans (i.e. revenue and expenditure sides) of the government into law. Once the budget becomes the law, it is referred to administrative officers for enforcement. In traditional budgeting system a major emphasis is laid on the financial aspects of the government activities. Budget usually contains financial data for the previous year (or years), estimated figures for the current year, and recommended (budgeted) figures of both revenue and expenditure for the coming year.

2.7.2 Objectives

After having gone through this lesson you would be able to:

- know the meaning of performance and programme budgeting.
- understand the difference between programme and performance budgeting
- specify the limitations of PPBS System.
- explain the cost-benefits analysis.

2.7.3 Drawbacks of Traditional Budgeting:

A primary function of the budget system is to facilitate evaluation of proposals and to compare their relative merits and demerits. Unfortunately the traditional presentation of the budget does not facilitate this task.

First, the usual budget is organised on the basis of various agencies or departments independently of one another i.e. without regard to the interdependencies among agencies or the conduct of closely related work done by other agencies. As a consequence, all costs of particular activities are not properly revealed and the estimation of benefits is made difficult.

Second, in the traditional budget a major emphasis is usually put on inputs, i.e. purchase of various types of items or hiring of various personnel, without reference to the activities or outputs produced by them. Accordingly, relationships between inputs and outputs (i.e. achievements or accomplishments) are not established, and no basis is provided for comparing the relative effectiveness to various programmes from year to year in a federal set-up between different states. The traditional budget also fails to recognise, that to achieve the same end result there may be various alternative means (like private individual who is confronted with scarce resources having alternative uses) and the chosen path may not be the most efficient one.

Thirdly, the typical budget is usually formulated on a year-to-year basis without regard to future prospects or commitments arising out of the proposals included in this year's budget.

In fact, in traditional budgeting the primary objective is to check legal abuses. Traditional budget is not designed to facilitate comparisons in terms of priorities. More and more attention is now focussed upon programmes in relation to needs, the task which performance and programming budgeting can handle much more easily.

2.7.4 Performance and Programme Budgeting:

* *The Hoover Commission Report* (New York : McGraw Hill Book Company, 1949), p. 36, as quoted in H.M. Groves : *Financing Government* (Sixth Edition)

The above deficiencies have been recognized for decades. Many suggestions have been made for remedying them. The principal approach suggested in this regard is the replacement of the traditional budget having input emphasis by the performance or programme budget.

The Hoover Commission (U.S.A.) also recommended that in the interest of intelligibility, "The whole budgetary concept of federal government be refashioned by the adoption of a budget based upon functions, activities and projects: This we designate as a "performance budget". *The commission went on to explain that the performance budget should focus attention on the accomplishment of objectives rather than on allocation to agencies. A system of reporting and review is an essential component of a scheme of performance budgeting. Performance budgeting emphasises on purpose of expenditure rather than the items of expenditure.

Performance budgeting focuses upon workloads, such as tons of garbage collected, number of school children graduated, number of income tax returns processed, etc. It is especially useful in administrative management and in appraising various proposals. In the defence department, performance budgeting takes the form of what is called programming in which a calculation is made of what constitutes adequate defence in terms of physical units providing a retaliatory striking force of a certain magnitude. The programme approach which has now been extended to other sectors as well, stresses the end product such as the elimination of poverty, reducing the drop-out rates, public housing, flood controls etc. rather than the inputs of various types of men and material.

Secondly, programme budgeting stresses the relationship between various outputs or programmes and the necessary inputs to produce them. The work of each department is classified into programmes, which are broken into subcategories. Programmes include all works seeing to obtain the same objective. This in turn facilitates the use of PPBS (Planning-Programme-Budgeting System) and cost-benefit analysis discussed later in the present lesson.

The primary advantage of the programme budget structure is obvious from its nature. It provides a more useful basis for evaluation of various proposals by concentrating on end products rather than on inputs and by providing better information on costs and benefits. Use of this structure forces the various agencies in preparing their budget proposals to lay more emphasis on inputs to-inputs and other relationships and to give attention to a wider range of benefits and costs.

2.7.5 Difference Between Programme and Performance Budgeting:

Although most of the scholars use programme budgeting and performance budgeting as synonymous terms, yet there does exist a thin line of demarcation between the two. The programme budgeting is forward looking. It is a projection of the government

activities. It tells us how amongst the alternative activities, the best should be chosen. Performance budgeting must be based on the past, i.e., what has actually been achieved. The UNO has made the distinction between the two in the following words: In programme budgeting the principal emphasis is on a budget classification in which functions, programmes and their sub divisions are established for each agency and these are related to accurate and meaningful financial data. Performance budgeting involves the application of more refined management tools, such as unit costs, work measurement and performance standards.

2.7.6 Planning Programming Budgeting System (PPBS) :

The programme budget is merely a form of budgetary presentation-a particular type of budget document. However, the introduction of programme budget has followed by a growing use of Planning-Programming System (PPBS), first introduced in the defence department of the USA and subsequently extended to other sectors.

This system tries to integrate long range planning of governmental activities and programming specific activities with annual budgeting, making use of programming-budget structure and of various quantitative techniques, with quantification of costs and benefits. This helps in the selection of best alternatives. Planning involves the statement of the relationships of inputs and outputs under various alternatives to achieve the desired objectives, This approach is helpful in defining the goals and in choosing among the goals, in specifying alternative programmes to attain the goals, in choosing the best alternatives, and finally in measuring performance. Emphasis is placed on trade off within and between programmes. Cost analysis stresses marginal relationships rather than mere overall or average figures. Planning is extended forward for several years. Because of long-range approach, advance planning is possible, and a better picture is given for all costs and benefits over a period of several years. Steps involved in a Planning-Programming-Budgeting System can be briefly summarized as below:

- (1) To define the budget in terms of the final product or goals of the government (e.g. flood control, elimination of poverty, developing a tactical defence force);
- (2) To make explicit comparisons and trade-offs among final goals and make explicit comparisons among alternative ways of attaining any one goal;
- (3) To look at the full costs and benefits of their proposals; and finally.
- (4) To undertake long range planning by making explicit costs of various projects over a number of years.

PPBS thus aims at selecting the best out of a number of available programmes.

2.7.7 Limitations of PPBS :

One of the greatest difficulties in PPBS centres around the specification of outputs. Many government activities involve outputs or services which are not clearly distinguished from the activities themselves (e.g. education, police protection) and hence are not easily defined or measured. The ultimate objective of police protection is to reduce crime, but this accomplishment is not easily measured or compared. The result is to use some proxy measure, such as the number of arrests yet maximisation of these is not the ultimate objective at all. Similarly, many governmental activities (e.g. education, construction of dams etc.) serve more than one objective. And it may be difficult to lay stress on one objective at the cost of other objectives. Secondly, apart from the measurement of output, there is the problem of defining objectives and establishing priorities of objectives. These decisions require value judgement and being mostly subjective are not susceptible to scientific interpretations. Even actual costs are often difficult to ascertain and the overhead or fixed costs are arbitrarily allocated to various activities. Then in the face of uncertainty, benefit from various services cannot be estimated with any degree of accuracy. This is particularly true for activities having cross-country ramifications, e.g. defence and foreign fields. Thus the application of PPBS involves many inherent conceptual problems which have only arbitrary solutions.

Another, criticism against PPBS is that it tends to centralize decision making in government, thereby lessening the chances of innovation. To some observers the PPBS relies undue on economic efficiency alone and ultimately the decision may be arrived at by the computers. This rules out the process of political decision making. Thus too much significance to the quantitative magnitude produced by PPBS may depersonalise government programmes from the people whom they tend to serve. Then, sometimes non-economic benefits which cannot be covered under PPBS, may be more relevant than the economic ones. Suppose the goal is to reduce the drop out rate from schools. Now the drop out from school by a private individual is an economic choice. The person thinks that the gains in terms of expected earnings after finishing school education are less than the costs to be incurred on completing education. Now public expenditure on extra-counselling and special help to reduce drop out rate may not pass the test of PPBS. But its non-economic benefits in terms of reducing the crime rate or breaking the circles of poverty that trap families from generation to generation may be more significant for the society.

On the whole, programme budgeting, and PPBS may contribute significantly to rational decision making about governmental activities and expenditures, but they cannot solve all problems. They do little to define objectives in the light of the preference pattern of the society. Then there are uncertainties particularly on the front of benefits. However PPBS does increase the element of rational expenditure in government decision making.

Self-Check Exercise-I

1. Differentiate Programme and Performance Budgeting.

2. What is PPBS?

3. Write two limitations of PPBS.

2.7.8 Cost-Benefit Analysis:

An essential element of PPBS is the careful comparison of benefits and costs of various programmes and alternative means of attaining the objectives. This method can help to identify the most effective manner of achieving a stated goal or objective. Cost-benefit analysis is a technique that can help the government to choose among the various objectives it is considering. Cost benefit analysis helps the government by (i) making clear means which have that the largest net benefits are chosen and (ii) cost-benefit analysis can be used as a test to indicate whether resources being transferred from the private to the public sector are being transferred to a higher valued use. Cost-benefit analysis first developed in the field of water resources, is now being increasingly applied to investment in human resources (education) and in other physical resources. Like PPBS, cost-benefit analysis takes into account all benefits and costs (direct as well as indirect). It also evaluates alternative approaches as well as the overall project in the light of objectives.

2.7.8.1 The Elements in a Cost-Benefit Study:

Cost-benefit studies are typically undertaken within a particular government as a preliminary budget preparations or as a continuing programme to ascertain optimum expenditure patterns and budget recommendations. A study of cost-benefit analysis involves the following steps:

(i) Statement of objectives:

Obviously, the goals of the particular programme must be defined. The goal may be

very specific, such as that of an irrigation project, with the immediate objective of bringing 2,000 acres of land under cultivation by providing adequate water. The long range objective may be to increase the country's potential food supply. Some projects have multiple goals e.g. dams may have flood control, irrigation and recreational objectives. Others may have goals which are difficult to define specifically. The more simply the goal can be defined, the greater will be the utility of cost-benefit analysis in decision making.

(ii) Statement of alternatives:

With many types of activities, there are various alternative ways of attaining the goals: different types of sources for irrigation facilities, different timings for parts of the project (one large dam now versus many small dams built successively over a period of time), different methods of construction, etc. Cost benefit analysis seeks to determine the relative benefits and costs of the major alternatives. Cost benefit analysis is itself costly, therefore, the number of alternatives considered must be held to a tolerable limit. Alternatives considered inferior should be outrightly rejected.

(iii) Analysis of benefits:

After defining the objectives and establishing alternatives, the cost-benefit analysis proceeds to the estimation of benefits. Determination of benefits involves two major questions (i) which benefits are to be considered? and (ii) how are these to be evaluated? The answers to these questions have been attempted briefly as :

(a) Direct and indirect benefits

With many projects there are two types of benefits those accruing directly to the users of the service and the indirect benefits or externalities-those accruing to others. For example, the construction of a new bye-pass offers direct benefits to those who use it and externalities to others, such as reduced congestion for those who continue to drive on less-crowded main roads.

(b) Valuation of benefits

The direct benefits to the users of many services can be calculated on the basis of the amounts the users are willing to pay or on the basis of prices prevailing in a perfectly competitive market. But the problem is, such conditions are seldom met, government goods are provided on monopoly basis. How much a person is willing to pay is difficult to know until and unless he is provided with such facilities in a market mechanism. In the absence of competitive market the valuation of benefits would be arbitrary.

Then apart from valuation difficulties, estimation of benefits is always accompanied by uncertainties about future conditions. The uncertainties in some activities (e.g. foreign matters) are so great that precise conclusions are impossible.

Further, valuation of externalities may encounter even more difficult problems.

(iv) Costs:-

Costs of the project may be defined as the present value of resources that will be used in the project, valued mostly at their opportunity cost, i.e. the amount that would be paid for them for alternative use. Although future costs are more easily calculable, yet analysis of costs involved the same type of problem as that of benefits. The direct costs include capital costs and operating and maintenance costs. Indirect costs include those created for other governmental agencies and overall costs to society not directly borne by the government. In a sense these are negative benefits. For example, additional fast local bus service in urban areas will increase air pollution, aggravate traffic congestion and increase delays and accidents. Without cost-benefit analysis, indirect costs are often not taken into account. But there are obvious difficulties in measuring and evaluating them.

(v) The Need for Discounting:

Cost-benefit analysis is primarily employed for long-range projects. Benefits are obtained over a number of years, while costs are incurred in present period as well as in future. Because of time preference, benefits in subsequent years are of less importance than in the current year. Similarly, because of positive interest rate, costs incurred now are more significant than costs to be incurred in the later years. Therefore, some methods must be used to adjust benefit and cost figures on the basis of the year in which they occur. This process is called discounting.

The Discount Rate

The benefits from projects that lend themselves to costs-benefits analysis, e.g. water and development projects, will be obtained over a period of time.

Some of the costs will be incurred at the time the programme is undertaken while others will be undertaken in subsequent years. But a Rupee of benefits now is worth more than a Rupee of benefits say after 10 years, hence because interest can be earned on money. Therefore, in order to evaluate a particular project and to compare alternatives-a discount rate, must be used to determine the present value of benefits and costs.

There are several possible alternative rates:

- (A) Marginal Productivity of Capital Investment;
- (B) Social Rate of Time Preference; and
- (C) Government Borrowing Rate Without reference to Time Preference.

(A) Marginal Productivity of Capital Investment:

The opportunity cost may be defined as the rate of return in private investment i.e. on an equity basis what rate of return private investment would earn. However, there are several objections to this proposal. First, risk involved in private investment is far greater than government investment. If private investment fails, one loses the

entire amount. But this is not the case with government investment. It is true that the government projects too involve some risks. Moreover, government is fully backed by its taxing power, which is not true in the case of private investment. Second, capital markets are by no means perfect. Sometimes the bulls and the bears may distort the true picture of the market trends. Thirdly, the use of this discount rate is based on the assumption that the resources taken by government are diverted from private investment. But this may not be necessarily true. If the project is financed through taxes then the resources are diverted from consumption and not from investment and as such the opportunity cost of the use in investment is not relevant. However, it should be emphasised that since this approach implies comparatively high discount rate, therefore, it is used by persons who advocate minimum government investment activity. This approach may also put maximum pressure towards efficiency in the use of resources in government activities.

(B) Social Rate of Time Preference:

The second alternative is to use the rate of time preference as the discount rate i.e. rate of compensation which is necessary to induce the private consumers and for saving to refrain from consumption. This rate would be equal to the marginal productivity of capital in private investment in a riskless society with perfect capital market. However, there may be several problems of calculation in applying this approach. In the real world the only riskless investment is in government bonds. The people save not merely to postpone consumption. There may be other motives. Thus the use of time preference may not be an appropriate discount rate to be used in cost-benefit analysis.

(C) Government Borrowing Rate Without Reference to Time Preference :

The complexities and inadequacies of the above approaches suggest the use of simple rule; the rate of interest at which a particular government can borrow, without any reference to time preference. In a sense this is the direct cost to the government in obtaining funds and thus the risk element involved is that of the government. However, this would be an artificial figure because of the influence of the monetary policy. However, it would be substantially lower than the first but closer to the second rate of discount. Of all the three approaches it is the simplest one.

2.7.8.2. Limitations of Cost-Benefit Analysis

There are several limitations to the effective use of cost-benefit analysis. Like Planning Programming Budgeting (PPBS) it does not solve all problems relating to the determination of government investment expenditures. In evaluating programme

having wide scope and implications cost-benefit analysis may not be of much use. To establish priorities for various goals (e.g. national defence versus education) such an analysis may not be of any use. Then comes the problems of measurement of benefits and uncertainties. With many programmes these problems are so serious that exact quantification is not possible. In fact the techniques of cost-benefit analysis tend to over emphasize those benefits and costs, that can be quantified compared to those that cannot. Lastly, government programmes have redistributive effects, benefitting some persons at the cost of others. Cost-benefit analysis can not make any contribution towards the establishment of social welfare function based on the desirability of various patterns of income distribution. However, the technique may be useful in measuring distributional effects of alternative programmes.

Self-Check Exercise-2

1. Write the steps involved in Cost-Benefit Analysis.

2. Write two limitations of Cost-Benefit Analysis.

2.7..9 Conclusion

Planning Programming Budgeting system integrates long range planning of government activities and programming specific activities with annual budgeting. Trade off-with in and between programmes is one of the specific features of PPBS. The cost benefit analysis is useful in stressing, the need for considering costs as well as benefits in selection among alternative means of achieving given ends. The analysis can be used wherever reasonable quantification can be made of benefits. With clearly defined objectives and measurable benefits and costs, the analysis is useful in selecting most useful programmes in terms of given objectives. As long as too much is not expected of cost-benefit analysis, it can make, and is making significant contributions towards government decision making in general and Planning-Programming Budgeting System in particular.

Questions:

1. Discuss planning and programme budgeting in detail.
2. Explain the importance of cost-benefit analysis in PPBS.

Short Questions:

1. Define planning and programme budgeting system
2. What are limitations of cost-benefits analysis?
3. Write three drawbacks of traditional budgeting.
4. Write two elements of cost-benefit analysis.

ZERO BASE BUDGETING (ZBB)

- 2.8.1 Introduction
- 2.8.2 Objectives
- 2.8.3 History of the Concept
- 2.8.4 Meaning of Zero Base Budgeting (ZBB)
- 2.8.5 How the ZBB Approach Emerged ?
- 2.8.6 Process of ZBB
- 2.8.7 Benefits of ZBB
- 2.8.8 Problems of ZBB
- 2.8.9 Relevance of ZBB in India
- 2.8.10 Conclusion

2.8.1 Introduction:

Government budgeting systems are used as instruments to manage government spending pattern. As discussed in lesson No. 15, planning and programme budgeting systems are attempts to make bureaucrats to think in terms of inputs and outputs; and to find out the methods to reduce costs. In this lesson, we have to discuss Zero Base Budgeting system (ZBB). Budgets are imbalanced due to scarcity in sources, so governments would have to shed some activities. This calls for the application of ZBB. Zero Base Budgeting implies that each existing item of budget has to be annually re-justified. Zero Base Budgeting thus requires managers to justify their programmes at the minimum levels and specify decision packages that involve increase in their outputs above the minimum level. ZBB is a step in the procedure of budgetary reforms. When using Zero Base Budgeting, a government department or ministry builds a budget from the ground up, starting from zero.

2.8.2 Objectives: After having gone through this lesson, you would be able to:

- : know about the history of ZBB; and define ZBB.
- : understand the process of ZBB.
- : identify the benefits and problems of ZBB.

2.8.3 History of the Concept:

Zero Base Budgeting (ZBB) is not a new concept. The concept of ZBB was used by English budget expert Mr. Hilton Young in 1924. A system of zero-base budgeting was first introduced in a formalized way in the United States Department of Agriculture in its 1964 budget, but it proved unsuccessful. However, Peter A. Phyrr, who is known as the father of zero-base budgeting, designed its logical basic framework in 1970, successfully developed and implemented this system in his company at the private sector and popularized its wider usage.

In the sphere of public budgeting, ZBB was first tried by Mr. Jimmy Carter in 1973 when he was the Governor of Georgia, with proper remodeling; and during his administration as President, the technique was used throughout the federal government by executive order. ZBB was applied e.g. to all 65 budgeted agencies in the State of Georgia (health, highway, education, agriculture, public safety, game and fish, family and children's services (welfare) etc. It was the Department of Science and Technology where ZBB was applied completely in 1977. While, the Chinese claim that they did it in 2004. India has also applied the technique although in a guarded and uncertain manner. The Government of India, faced with mounting non-plan expenditure and declining public savings, tried to apply the technique of ZBB. The Seventh Five Year Plan had emphasized the need for introducing zero-base budgeting. Because of the problems of public sector undertakings, like inefficiency in resource utilization, high incremental Capital-Output Ratio and mounting losses etc., ZBB has highly been recommended for their improvement. It is clear that lot of public spending is wasteful expenditure which should be avoided. ZBB has been considered as an innovative technique to guard against wastage in public expenditure, So, in India, in government context, the first application of ZBB was in the Department of Science and Technology in 1983. Since then, the Centre is making efforts on adopting ZBB in a meaningful way. All the ministries and departments have been advised to adopt it. They are expected to arrange their activities and schemes in order of priorities. The ministries are also asked to evaluate the performance of the existing institutions under their control.

2.8.4 Meaning of ZBB

ZBB requires that organizations or sectors while preparing their budgets should not take previous year's expenditure for granted and should start a fresh.

This technique demands that a complete re-examination of the on-going programs and activities should be done to assess their continued utility instead of following the incremental approach to budgeting. As per this approach, new expenditure proposals should be accomplished on the same condition with the on-going expenditure based on their respective merits to claim a share of the available sources.

Basically, in this system an organization is supposed to evaluate its entire budget, starting from a base zero. ZBBs applications are appropriate to those programs and operations over which management has some discretionary expenditure control powers. It needs to be applied to such areas as marketing, personnel finance and other staff and support functions. Zero Base Budgeting is essentially a fresh base review exercise seeking a complete justification for the development of resources and the work to be accomplished. Every program, project, activity and other items of expenditure are given a fresh look. In other words, year in which such an in-depth review is made, the budget for the various departments and ministries for the forthcoming year will be formulated without any reference to what had happened in the past years, in terms of performance as well as utilisation of resources. The first step in this exercise, is the reprioritization of programs, projects and tasks. As a result of such a review unwanted and noneconomic activities and projects get dropped and desirable projects get included in the budget. Also manpower, capital equipment, and other resources are shifted from products/activities with low priority to those with high priority. Consequently, an improved use is made of all resources for enhancing benefits to the people at large.

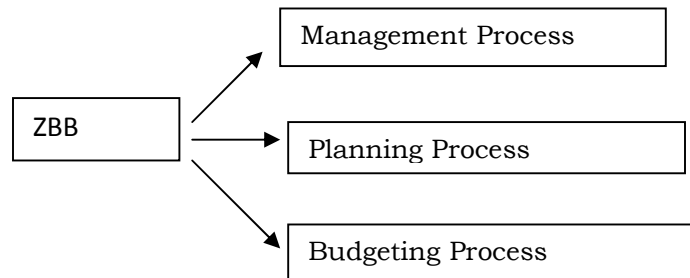
ZBB has been defined by various public finance experts. In the words of Sarant, "ZBB is a system where by each government program, regardless of whether it is a new or existing, must be justified in its entirety, each time a new budget is formulated." The definition given by Peter Sarant is suitable to use in public as well as private system. In his words, "ZBB is a technique which complements and links the existing planning, budgeting and review process. It identifies alternative and efficient methods of utilizing limited resources in the effective attainment of selected benefits. It is a flexible management approach which provides a credible rationale for reallocating resources by focusing on the systematic review and justification 'of the funding and performance levels of current programmes or activities.'" ¹

In the words of Phyrre, "An operating planning and budgeting process which requires each manager to justify its entire budget request in detail from scratch (hence zero base). Each manager states why he should spend any money at all. This approach requires that all activities be identified as "decision packages" which will be evaluated by systematic analysis ranked in order of importance."²

These definitions indicate that ZBB is an act of starting and preparing the budget from scratch or requiring each program or activity to be justified from the "ground up". But actually, ZBB refers to the review and justification of selected and not all current programs/elements starting somewhere at a point in the base area. It is not necessary the zero base.

Thus in the simple words, ZBB is a technique that requires justification of the budget requests from the bottom-up. It also needs evaluation of alternative program packages and ranking of programs as to select the best alternative and allocate resources in

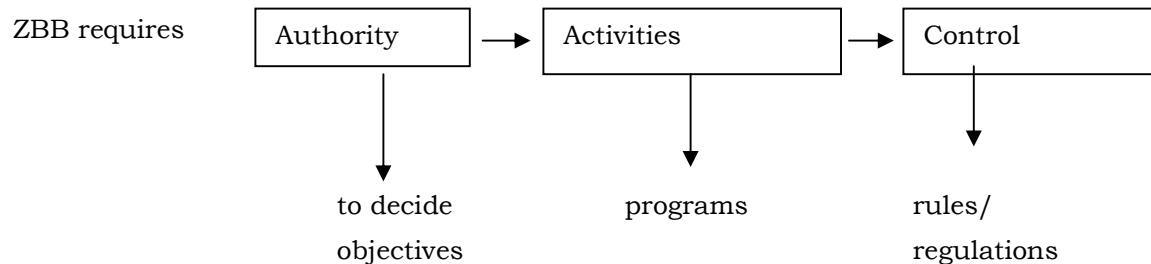
efficient manner. P.L. Joshi has aptly remarked, “ZBB is not a budgeting process in the traditional sense of the word-it is first a management process, secondly planning process and thirdly, a budgeting process.”



While defining ZBB, in simple words, we can say that organisations while preparing their budgets:

- should start on a clean slate.
- should review all activities afresh.
- should use evaluative techniques like cost-benefit analysis, cost effective analysis.
- should completely re-examine the ongoing activities.

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1. Peter Sarant, *Zero Base Budgeting*, 1979.
 2. Peter A. Phyr, *Zero Base Budgeting*, quoted in "*Introduction to Zero Base Budgeting*" by Dr. P.L. Joshi.
- should eliminate redundant expenditure.
 - should search for a better alternative.
 - should incur expenditure with efficiency and economy.



Self -Check Exercise 1

Question: Define ZBB.

2.8.5 How the ZBB Approach Emerged:

ZBB is not a totally new technique. Some of its principles can be found in such areas as capital budgeting, while others are more contemporary. Here are several budgeting techniques that either preceded zero base budgeting but similarity can be found in many of its features:

- (a) **Capital Budgeting:** Capital budgeting emphasizes on the selection of projects, the timing of the investment, the determination of the amount to be invested at any given time period and the arrangement of the financial resources required for the accomplishment of the projects. However recently, return on investment, opportunity cost, years to break even, cash flow impact, and net present value are also considered. If the same measures have been used for various areas, all projects can be ranked quickly and objectively and the most promising ones selected. In a real sense, this is similar to the zero-base concept, modified to fit the needs of particular area.
- (b) **Programme, Planning and Budgeting (PPB):** ZBB's origin can be traced back to PPB System also, which was developed in the early 1960s in the Department of Defence's office of System Analysis however in a somewhat refined way, broadly applied to U.S. Space Program. PPB was a programme-oriented technique with a long range coverage that required cost justification of several alternative methods against an established strategic approach. Its primary emphasis was on planning not on budgeting.
- (c) **Project Management:** In the late 1960s, this concept used to be applied in the space program. The primary focus was on evaluating and ranking outputs by programme rather than costs. But the analytical techniques for ranking were further refined and expanded. These included non-economic factors like technical feasibility, legal requirements, operational feasibility, as well as intangible benefits and the risks of not acting. These techniques are directly applied to ranking in Zero Base Budgeting.

(d) Management by Objectives (MBO) and Work Measurement:

Many organisations used the principles of the technique called Management By Objective (MBO) into their planning and performance appraisal processes. At Texas Instruments, the system was called, “Objectives, Strategies and Tactics” (OST) planning system. In a nutshell, the system of OST is Linked with MBO and long range planning with Zero Base Budgeting.

(e) Over-Head Value Analysis (OVA) and Cost-Benefit Analysis:

Overhead Value Analysis (OVA) emerged in the mid 1970s. As per this technique programs or services are subject to a rigorous cost-benefit analysis. Each manager while spending must work closely with those who specify what’s required. Although it is the top management who makes the final decision, but the supplier must get the sign-off of the receiver by “selling” his service. Many organisations using zero-base budgeting have incorporated this “sign-off” technique into their procedure.

(f) Bracket Budgeting: Bracket budgeting, a recent technique, shares a similarity with one of zero base budget’s features by using sophisticated statistical analysis, it attempts to assess the probability of a program’s benefit being achieved.

From the above discussion it is clear that ZBB technique does not replace a management system but builds upon those already in existence.

2.8.6 Process of ZBB:

The unique feature of ZBB is the review of different items of the project from the zero base. It is a structured, systematic and analytical process of questioning about what, why and how; these are what we do and why we do and deciding what we should be doing and how we should be doing.

The procedure of ZBB is suitable in any type of the system of the real world whether private or public sector. There are four basic element steps in ZBB:

- (1) Identification of Decision Units (DU)
- (2) Creation of Decision Packages (DP)
- (3) Review and Ranking of Decision Packages.
- (4) Allocation of resources to Decision Units and preparation of the budget.

In the starting of the process of ZBB, the decision units from among the organisation are identified and the objectives established by the management are communicated to the decision unit heads. A decision unit is a sub-class of the management that holds the responsibility of implementing a particular action. The docked of this analysis for each decision element is usually called a ‘decision package’. This decision package shows the particulars about details the purpose of the element,

provides a summary of operations and resources needed. A decision package thus includes an absolute justification for budget estimate of an activity. A particular unit's budget request is, therefore, incremental into a number of decision packages each covering an element of level of service and providing an explanation of benefits associated with that particular level of service and the consequences of not performing the service to that level. Thus under ZBB each operating manager is forced to think seriously about the functions to be performed. Consideration of alternatives enables him to identify some different ways of performing activities i.e. purchase , centralisation versus decentralisation, similar activities from separate budget items , and assignment of responsibilities to staff. A decision package is a budget request which should contain the following:

- A statement of the functions or activities.
- The goals and objectives of various functions.
- Benefits to be attained from financing the activity.
- Relevance of the activity to the overall objective.
- The consequences of its non funding.

Each decision package the financial requirements a comprehensive analysis particular level of operation, viz minimum level (below which it is not feasible to run an activity); reduced level, and current level, and improved level.

Once formulated, the decision packages are ranked shows in their order of importance by each higher level of management up through the organisation. While the process of final ranking is to be accomplished by top management, so a funding level can be determined so that only those activities where the added cost can be offset by the benefits provided.

The allocation of funds is perhaps the most important factor for the successful implementation of ZBB. First of all total funds are decided by the top management and then funds are allocated to decision packages on the basis of ranks allotted to them.

Self- Check Exercise 2

Question: Write down the four basic element steps in ZBB.

2.8.7 Benefits of ZBB :

Proponents of ZBB system claims that the system would certainly prove very effective as it will be helpful for:

- (i) **Selection of the best alternative:-** Every proposal is considered afresh every year and is evaluated on the basis of cost-benefit analysis and ranks are given to them. All alternatives are analysed and only the most profitable one is selected.
- (ii) **Best utilisation of resources-** In the business activity under-taken with the help of ZBB the resources of the enterprises are utilised in the best possible manner with the maximum benefits and economy and even the feasibility of mechanisation and modernisation can be evaluated.
- (iii) **Increase in overall efficiency of business** -The present and upcoming proposals are re-evaluated every year and comparative studies are made for all alternative proposals. This will reduce the un-necessary expenses and wastages and will lead to increase in overall efficiency.
- (iv) **Policy formulations** -Before formulating a budget the future considerations like changes in the consumer's demand, fashions, government policy and development of new technology and research are considered. These factors can guide the management in policy formulation.
- (v) **Acceptance of budget proposals with zeal** -Managers at all levels contribute to the formulation of budget and their sense of ego is satisfied as they feel that they have contributed to the formulation of budgets. Therefore they accept and implement the budget proposals with zeal and enthusiasm.
- (vi) **Continuity of Long Term Plan** -Every year new proposals are considered and implemented. Through them, the long term objectives and projects are linked with annual budget so that continuity of long term projects is maintained.
- (vii) **Visibility of overall business to top management** -Managers constantly provide information to the top management.

- (viii) Technique is helpful to business units, government, non-profit making organisations and to private and public sectors, alike.
- (ix) **No carry forward of past mistakes** -Every proposal whether past or present is considered a fresh, signifying that past inefficiencies are not carried forward.

Thus, ZBB highlights the budget process in a comprehensive way making clear cut analysis of priorities, objectives and needs of the economy. It incorporates management proven concepts such as cost benefit analysis. ZBB links planning and budgeting, it facilitates identification of those activities which are poorly operated and managed and it provides management with tremendous data base of information and analysis. Besides, it can provide significant aid to operational audit and it may also reduce the scope, timing and cost of external audit.

2.8.8 Problems of ZBB:

Regarding the various problems faced by the application of zero-based budgeting Prof. Musgrave observed that "It is a helpful procedure but clearly impracticable in detailed application."³

1. The problem of ZBB ranges from conceptual to its practical application. There are problems to understand concepts such as what is a decision package? What are appropriate levels of funding? How can decision packages be realistically ranked?

3. R. A. Musgrave and P.B. Musgrave : *Public Finance in Theory and Practice*.

4. Suver and R. Brown, "Where Does Zero Base Budgeting Work". *Harvard Business Review*, November 1977, p. 63.

Among the practical problems are such as how to educate supervisors and managers to handle the technique? It requires specific training due to increased complexity.

2. As its process is complicated, it involves a great deal of time. It is an expensive method. It is possible that expenditure incurred in establishing the system may exceed the savings accruing from it. For instance, "It is estimated that the 1975 budget preparation costs double in Washington, in establishing a zero base budgeting system."⁴ So, it requires more preparation time and more funds.
3. Thirdly, the preparation of decision packages entails unnecessary documentation work. Ranking and priority setting is a difficult task.
4. It is not practicable to evaluate cost benefit of each project. The cost-benefit analysis involves the consideration of social costs too. This would

make the calculations of cost very complicated. On the other hand certain benefits can not be measured in terms of money e.g. it is difficult to measure the benefits accelerating from expenditure on recreational activities of employees.

Managers are required to evaluate various decision packages and rank them. Some objectives base is required for the results achieved in respect of different proposals have to be decided. It is not easy to have such measuring rod. Besides, it needs commitment and professional attitude to ensure proper implementation.

Self Check Exercise 3

Question 1. Write two benefits of ZBB.

Question 2 . Write two problems of ZBB.

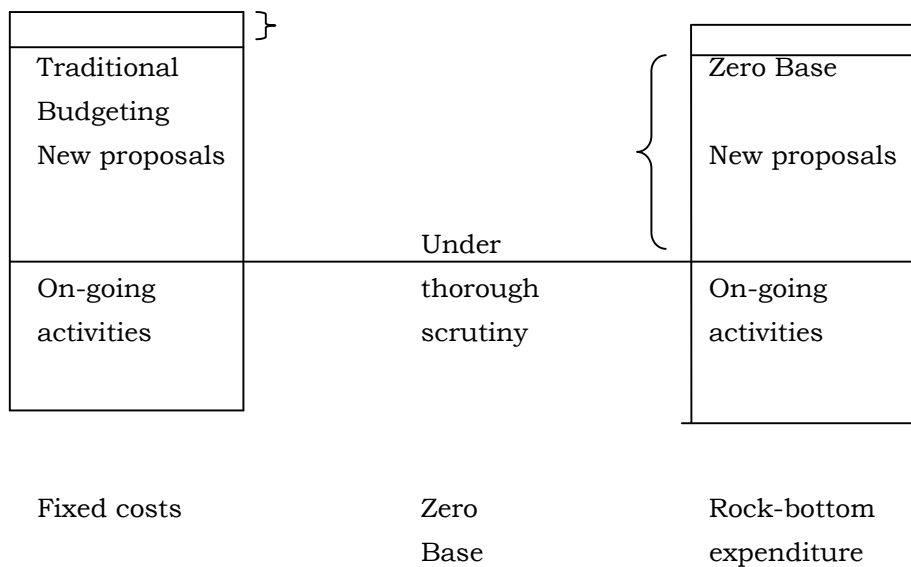


Fig. 1: Traditional Budgeting vs. Zero Base Budgeting

2.8.9 Relevance of Zero Base Budgeting in India:

In the context of severe resource constraint being faced by the Central and the State Governments, the Planning Commission while formulating the seventh plan recommended inter alia introduction of ZBB for strict control of public expenditure.

The ministry of finance issued instructions during July 1986 for introduction of the system in the Central Government with effect from 1987-88 in respect of programmes involving expenditure of Rs. 1 crore and above. Government has also recommended to public sector enterprises to instal ZBB in an effort to economise cost. The prevailing economic environment can be said to be conducive to the implementation of Zero Base Budgeting system.

Factors such as executive participation, work priorities and better administration scrutiny would facilitate implementation of ZBB in Indian conditions.

2.8.10 Conclusion:

In brief ZBB tries to uncover what is really going on in an organisation, why it is being done, what better ways might be available, and which activities are really important as well as what they cost. If we know what these efforts are, how they relate to each other and broader goals of the organisation, it is a powerful tool to manage and allocate our resources and, in so doing, to achieve our objectives. And this is precisely the virtue of ZBB. In India, ZBB can be proved very useful to the management in its efforts to improve the performance of public sector undertakings; to revive the sick industrial units; and to meet the challenges of rising prices.

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