
UNIT 17 EQUITY AND EFFICIENCY ISSUES

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17.0 OBJECTIVES

After going through this unit, you will be able to:

- understand the important equity and efficiency issues in a federal economy;
- understand the rationale and need for the sub-central governments;
- analyze the role of sub-central governments with regard to the major functions and tax powers; and
- understand how an optimal size of local jurisdiction for the provision of local public goods is determined.

17.1 INTRODUCTION

While the fiscal operations are carried out by a single level of government in some countries, they are carried out by different tiers of government in several other countries. The number or the levels of governments that deal with the fiscal operations also differ across nations with federal structure. For instance, USA, India, Australia, Canada and West Germany have a three tier governments in the federal structure while Holland and Switzerland have two-tier federal structures. Whether it is a two-tier or three-tier federal structure or whether a federation is formed by aggregation or desegregation what is very essential rather inevitable is separation or segregation of powers and functions. In fact this division is the most crucial and delicate issue which needs coordination and intervention by the central government to avoid problems in the federation. One of such problems is the fiscal problem that arises due to the division of powers and functions which needs federal or central intervention to ensure efficient solutions in case of less-than-optimum solutions and to bring in horizontal equity.

Horizontal equity gets added significance in several federal countries, especially in the developing economies due to the existence of regional disparities. One method widely accepted across the federal economies around the globe to reduce regional disparities is federal fiscal transfers to finance regional development. In other words, federal fiscal transfers has a very important role in bringing down regional disparities through financing regional development. Of course, there is no unanimity among economists with regard to the transference of fiscal resources from the federal government to the backward regions or states. While one approach does favour the equity aspect, the other opposes it commending the efficiency approach.

Economists like J.M.Buchanan advocated fiscal transfers from the federal government to the needy poorer regions or states to promote economic development. According to him, the grants-in-aid or subsidies provided by the federal government encourages an in-migration of highly skilled labour along with capital and at the same time checks out-migration of skilled labour and capital from the poorer state, thus helping in accelerating the development process in the backward States. But this argument has not been accepted by some economists, the prominent among them being A.D.Scott. Their argument is mainly based on the fact that the returns to the factors of production tend to be lower in the poorer regions compared in richer regions. Thus, it is argued that any transfer of resources by the federal government to the poor regions would retard the rate of economic growth of the national income and as such fiscal transfers lead to “*subsidizing inefficiency*”. He further opines that poorer states lack adequate natural resources besides capital and entrepreneurs and mobility of labour from these areas to the developed states would maximize the production. Thus he favours efficiency objective compared to equalization. But for Buchanan, B.P.Adarkar, R.N.Bhargava and Mrs.U.K.Hicks who staunchly supported the equity objective compared to efficiency held that social productivity of resources transferred from rich to poor states is equally important. But according to them, Scott took into consideration financial productivity only ignoring the social productivity angle of fiscal transfers. While arguing that fiscal transference is one of the main features of federal finance, he opines that welfare is maximized by the transfer of resources through taxation and public expenditure from the richer states to poorer states. R.N.Bhargava also favours equity in a federal context on the basis of the principles of equal marginal sacrifice and marginal benefit. According to him,

the marginal sacrifice of taxation in a rich state would be less than that in poor state and the marginal benefit of public expenditure is lower in the richer states compared to the poorer states. Such inequality can be corrected through fiscal transfers to the poorer regions. Thus the objective of equalization has been upheld especially in a developing economy like India. It does not necessarily mean that efficiency objective should be ignored altogether. A balance need to be struck between equity and efficiency in the federation.

Thus, issues of efficiency and equity assume extra importance in a country with federal structure. The present unit makes an attempt to explain important aspects of efficiency and equity in a federal context. Before discussing the efficiency and equity aspects that arise due to division of powers and functions, it is necessary to know about the rationale and need for the sub-central governments or authorities (decentralization). What follows is an explanation of these issues.

17.2 RATIONALE AND NEED FOR SUB-CENTRAL AUTHORITIES

17.2.1 Need For Decentralization

In a federal context, a decentralized government is one wherein a number of small autonomous unit governments join together to form a federation of States. The federal government does coordinate the activities and programmes of the smaller decentralized governments. On the other hand local governments have the autonomy with regard to determining the levels of public outputs and fiscal decisions. It is necessary to note that the degree of centralization varies with the amount of autonomy these unit governments enjoy over expenditure-public goods output and tax decisions. For example in the USA the state governments as well as the local governments enjoy greater freedom with regard to allocation of resources and levying of taxes and non-tax charges and other related policies. Here the federal government plays a coordinating role and provides public services of only of national interest. But in the UK a larger proportion of local government expenditure is financed by the central government in the form of grants-in-aid. The powers and functions of the local governments are delegated by the Central Government. For instance, the local governments need approval from the Centre to take upon capital expenditure programmes and also borrowing of funds. So the degree of decentralization differs from country to country as it is in the case of the USA and the UK. The most important advantage of decentralized governance is that it provides scope for greater choice between different amounts of public goods and services. As decentralization facilitates production of different levels of public goods in accordance with the individuals' local preferences, resource allocation will be efficient. In this context a brief explanation of the Tiebout Model is pertinent to have an elaborate understanding of the issue.

17.2.2 The Tiebout Model

According to Tiebout the level and mix of local public expenditure and taxes are subjected to wide variations among local political jurisdictions. So people will choose a particular community or jurisdiction whose public expenditure and tax level best suits their own preferences for public goods and services on the assumption that people can be mobile across communities. Thus, if the government expenditure and

taxation pattern is fixed, citizens will maximize their well being by choosing a community or political jurisdiction, which Tiebout states as ‘*voting on their own feet*’

The most important assumptions of Tiebout Model are as follows. *First*, all citizens are fully mobile across local jurisdictions. *Secondly*, they possess full knowledge of the government budgets in alternative political jurisdictions. *Thirdly*, there are many communities that offer similar employment opportunities to their residents. *Fourthly*, there are no inter-jurisdictional externalities. *The final* assumption is that an optimum community size is one which corresponds to minimum cost of the public services.

Under these assumptions, a quasi-market equilibrium is achieved when all citizens are located in that community which best satisfies their economic preferences. This is subject to the assumption that all communities provide government services at minimum unit cost. It implies that communities above optimal size discourages new people to join them and communities, operating at below optimal size try to attract new people to join them. In this process some people may have to be content with a “*Second – Choice*” Community. It is necessary to note that if communities can supply government services at constant costs, (absence of economies or diseconomies of scale) then equilibrium will be analogous to a market equilibrium. Such a situation may lead a one-person community or an infinite number of communities satisfying the citizen(s)’ preferences. In this way competition among communities would result in an efficient solution which is just similar to that under perfectly competitive market economy.

The assumptions on which the basic tenets of the Tiebout hypothesis formed are extremely restrictive. But still the Tiebout Model is relevant as some households really respond to differences among government budgets in alternative communities. The model is not very useful in explaining mobility of citizens across larger geographical areas like the interstate but strongly advocates decentralized provision of public goods.

17.2.3 Welfare Gains of Decentralization

Now the welfare gains of citizens from a decentralized public choice will be maximized, following Tiebout, is shown in Figure. 17.1. For example, the population of a nation is divided into two groups. For simplicity it may be assumed that the demand curve for the public good is identical for all individuals in each of the groups. At the same time it is further assumed that the demand differs between the two groups. So, D_1 is the demand curve of the individuals in group I and D_2 is the demand curve of group II. The other assumption is that constant cost conditions prevail with regard to the supply of public good. Under these conditions, the preferred levels of public good for people in group I group II are Q_1 and Q_2 respectively as shown in the figure. But in a centralized system of government a single uniform level of public service would be provided, Q_c in the figure. At this level of output, the welfare loss to individuals of group I equals the shaded area ABC. This shows the excess costs incurred by the individuals over their valuation of excessive units of consumption of $Q_1 Q_c$. Similarly, the welfare loss to group II is equivalent to the area represented by CDE.

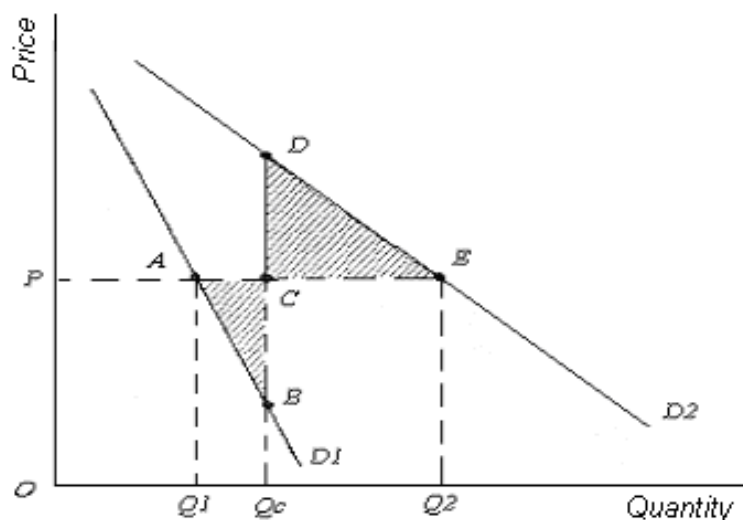


Figure 17.1

Of course, there are number of qualifications that are to be observed in this context. *Firstly*, the extent of loss of welfare depends upon the degree of homogeneity of individual preferences. *Secondly*, the quantum of loss of consumer surplus varies inversely with the price elasticity of demand. *Thirdly*, the unit cost becomes lower to larger communities than for smaller ones if there exists economies of scale in the production. In essence, the size of welfare losses depends upon the distribution of preferences of the whole community, the elasticity of demand and the existence of economies of scale. Undoubtedly, decentralization will bring efficiency gains in a federation. So let us know more about the economic advantages of decentralization or of the sub-central governments.

17.2.4 Economic Advantages of Sub-central Governments

It is generally opined that local governments performed more efficiently than a regional or state government and regional governments are more efficient than the federal or Central Government. But some people hold an opinion just opposite of it. The fact is that some functions are more efficiently rendered by the local governments while some other functions are carried out by the Central or Federal government. Especially the local governments are more efficient in the provision of local public goods having a spatial or geographical limitation. This is mainly because the preferences of residents are likely to vary from one community or group to another. For example, a community which desires to have an effective police force rather than streetlights can have such services without an interference of the choice of the preferences of another community which wants to have an altogether different set of services. It implies that a federal system with its multi-levels of government contains greater efficiency than a unitary system where the same level of services are provided to all its citizens. In other words a federal structure with several sub-central governments will be able to provide a level of outputs that really corresponds to the preferences among different communities than a national and centralized government. Such an advantage of sub-central governments is illustrated in Figure – 17.2. In the diagram output per person is represented on the x-axis and the number of people are represented on the y-axis. If there are three different communities A and B and C and a public good X, the diagram explains the optimal level of output of the public good. A_1A_2 ,

B_1B_2 and C_1C_2 curves show the preferred quantities of the public good X by the respective communities.

As may be observed from the diagram if a national government were to provide a uniform level of the public good X to all the existing communities, it would probably provide a medium level of X_B which is very unsatisfactory to the residents of A and C Communities. On the other hand if there exists three independent governments, it results into three different levels of output X_A , X_B and X_C . So the range of outputs provided by local governments is more efficient than a uniform level of output supplied by a national government. Of course, not all residents would be better off in such a situation. For example, the residents of communities whose preferences place them near A_2 and C_1 in the diagram are put to disadvantage when X_A and X_C outputs are provided respectively than X_B . So in a federal context, people are free to shop around for a community whose tax and expenditure polices are best suited to their needs(Charles Tiebout). To elaborate, residents in Community A who choose X_B more than X_A can move from community A to Community B . As a result of consumer mobility induced by the process of consumers' choice of communities in response to differences in governmental services increases the efficiency advantages of sub-central governments.

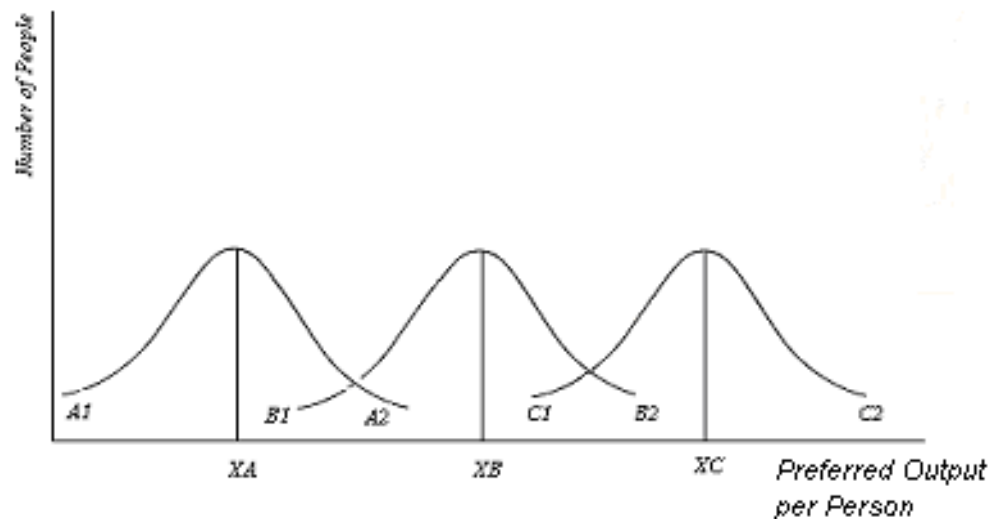


Figure 17.2: Provision of Services by Subnational Governments

The second important advantage is that the local governments may be more responsive to the needs of its citizens. In other words, the political process required in smaller units of government is more efficient than in larger unit governments. It is widely believed that local governments are closer to the people and may possess fewer defects in the decision-making process as the role of pressure groups would be less. Moreover, the voters are more knowledgeable about how the tax money is spent.

Another advantage attributed to sub-central governments in a federal system is that scope for innovation and experimentation is larger. The sub-central governments in large numbers naturally will make experiments with new policies and the experimentation can be beneficial to other governments. If the policy experimented is successful, others will emulate and avoid implementation in case of a failure of the policy or service.

Though decentralization has several economic advantages in a federal economy, what is more important is the division of powers and functions among different levels

of government and how the problems of efficiency and equity are resolved. Especially, it is necessary to know the role of the sub-central governments vis-à-vis the federal government in rendering the functions as well as powers. So let us discuss about the division of functions of allocation, distribution and stabilization among different layers of government in a federation.

Check Your Progress 1

- 1) Write three or four sentences about Tiebout Model.
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- 2) Write about the Welfare gains of decentralization.
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- 3) Explain the economic advantages of sub-central governments in three sentences.
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17.3 ROLE OF SUB-CENTRAL GOVERNMENTS

17.3.1 Division of Functional Responsibilities

17.3.1.1 Allocation Function

In a multi-unit system of government which level of government should provide which type of pure public goods and services in order to ensure efficiency in the provision of these goods. A largely agreed upon principle of distribution of these types of goods is the benefit incidence. For example, some public goods are such that their benefit incidence is nationwide (eg. defence, space exploration, navigation) while the benefit incidence of some others is spatially limited to regional and local areas (eg. law and order, streetlight etc). In other words, public goods and services need to be provided and their costs are to be shared in accordance with the preferences of the benefit region concerned. In a democratic structure, the chosen services should be voted and paid for by the resident voters of the region. Thus, those services whose benefit incidence is nationwide like the defence need to be provided by the federal government. Services which have regional and local benefit incidence like law and order and streetlight need to be provided by the sub-central governments at regional and local level respectively. Of course, the spatial

characteristics of public goods and services warrants their provision by multiple jurisdictions of governments of different sizes at the regional and local level.

17.3.1.1.1 Optimal Fiscal Community

In order to examine the optimum number of fiscal communities and the number of people within each community, it is assumed that there exists only one public service and the benefit incidence is confined to all within a geographical area. The benefit incidence of the service vanishes beyond this geographical region. The second assumption is that consumers have identical tastes and incomes. Thirdly, service or good in question is a pure public good so that its quality received by per person is not affected by the number of participants. It may be understood that the cost to each person would be less if the number of residents in the region partaking the service is larger. So, the efficient solution suggests that all consumers congregate in the same benefit region. It follows that such a cost sharing and the resultant savings due to large numbers leads to a unitary structure. However, there may be disadvantages like crowding associated with the saving costs if the number of persons increases in a geographical size. So the optimal community size need to be decided by striking a balance between the advantage of sharing in the cost of a given level of public service and the disadvantages of crowding. The following analysis is based on the celebrated article “*An Economic Theory of Clubs*” published in *Economica* in 1965 by *J.M.Buchanan*. It is assumed that people are having same preferences and income and also that services are pure public goods

17.3.1.1.2 Optimal Community Size

Assuming a given level of public goods and the total cost of the good to the group as a whole is *Z* rupees, the optimal size for a given service level is shown in Figure-17.3. Let us also assume that each member of the local jurisdiction pays a price equal to the marginal benefits received. In other words, the total cost is shared equally among all the members. It may be seen in the Figure that various community sizes are represented on the X-axis while the per capita cost is measured on the Y-axis. It implies that the cost of service declines as the numbers increase. The AA Curve in the diagram shows per capita service cost and the slope of the curve is a rectangular hyperbola with per capita cost equal to *Z/N*, as the total cost remains equal to *Z* throughout. The AA curve resembles a decreasing average fixed cost with increasing output as drawn in the usual cost-curve for the individual firm. The curve $A_m A_m$ which is derived from the AA curve shows a reduction of or a marginal saving of per capita service as the number increases. It can be stated mathematically as $A_m A_m$ is equal to

$$\frac{d(Z/N)}{dN} = \frac{Z}{N^2}$$

In other words, it is the negative of the slope of the AA curve. If such is the situation, the optimal group size would be the entire community and it can be expanded as long as $A_m A_m$ are positive or the AA curve is downward sloping. But the situation would be changed once the cost of crowding is taken into account.

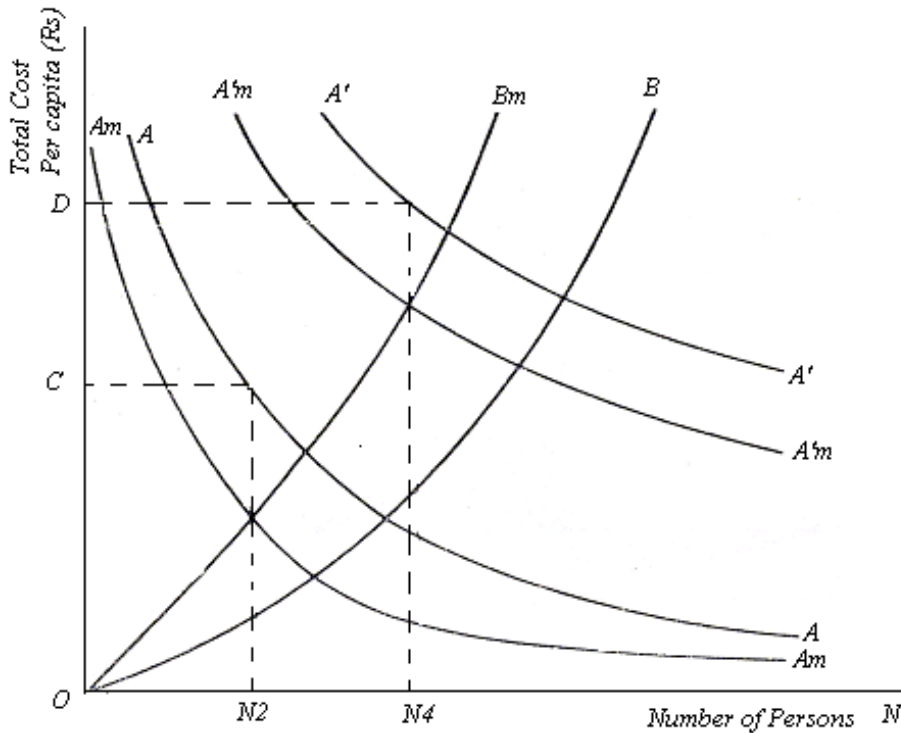


Figure 17.3 : Choice of Optimum Size for given service level

In the diagram the curve OB shows the per capita cost or disutility of crowding for various sizes of the group while the curve OB_m represents the marginal per capita crowding cost. It may be seen from the diagram that the optimal size of the community is given by ON_2 . At this level, the B_m is equal to A_m determining a size with N_2 members. According to *R. A. Musgrave and P.B. Musgrave*, the size of the community will be expanded as long as the per capita savings from cost sharing with a larger group exceeds the additional per capita costs of crowding. Otherwise, the total welfare of the residents would be reduced and therefore not rational. So governmental units of size ON_2 would be established with per capita costs for each unit fixed at OC . If the total population is P and total service cost is Z in each community, there will be P/N_2 jurisdictions, the per capita costs being Z/N_2 .

Again it may be observed from the diagram that if the service level increases, the curves AA and $A_m A_m$ shift upwards and the optimum size of the group increases further as shown in the diagram. So far a higher level of service wherein the cost is Z' , the per capita cost curve shifts up to $A'A'$ and the marginal cost curve to $A'_m A'_m$ the optimal group size being ON_4 at a per capita cost of OD . Thus after knowing about the optimal community size or group size, we now will examine how the optimal service level is determined.

17.3.1.1.3 Optimal Service Level

In Figure 17.4 various service levels are measured on the x-axis and per capita unit service cost is measured on the y-axis. The individual demand schedule for the service of the entire members of the community is represented by DD as the tastes and income levels of all the members are identical. $S_1 S_1$ shows the cost of the service to the entire community as a whole. As the slope of the curve shows, the unit cost rises as the service level increases. Of course, this depends on the nature and the related production function of the service $S_2 S_2$ and $S_4 S_4$ in the diagram

shows different levels of supply schedule to different sizes of communities of N_2 and N_4 respectively. As the tax structure is given which divides the total cost equally and given the SS schedule, the service level purchased by different sizes of the community will be determined by the intersection of the DD curve with the respective supply schedules. Likewise, the service level purchased with N_1 members corresponding to the intersection of $S_1S_1 - OQ_1$ with DD will be N_2 members will be OQ_2 and the size required by N_4 member community will be OQ_4 , and so on.

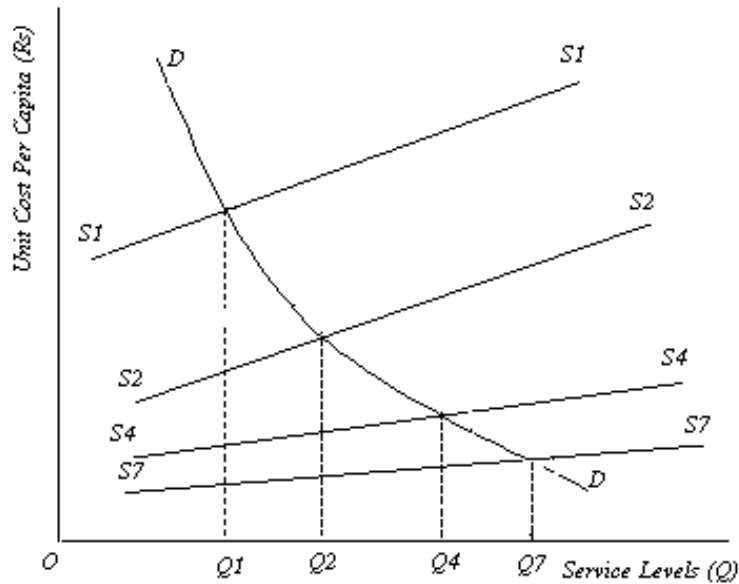


Figure 17.4: Choice of Optimum Service level for given community size

17.3.1.1.4 The Optimal Size of Local Jurisdiction

The optimal solution can be derived from the above two choices of optimum community size and optimum service level. A combination of these two is shown in Figure 17.5. In the figure, the size of the community (N) is measured on the x-axis while the service level (Q) is measured on the vertical axis. The curve N represents the relationship between the community sizes and the cost of service while Q curve explains various optimum service levels for various community sizes. As shown in the diagram, the overall optimal solution is at E , the point of intersection, where the optimal service level of Q_7 and the optimal group size being N_7 . In this way, multiple fiscal units which vary in size and scope come into existence in a federal structure. While some units may be nation-wide like provision of defense while others will be regional or local (such as law and order and street lighting respectively) Besides the allocation function, the other two important functions of redistribution of Income and Wealth and economic stabilization are to be distributed between the governments. Let us see why and to which level of government these two functions are assigned. Before discussing this aspect, let us know the limitations that exist in relation to the determination of optimum community size.

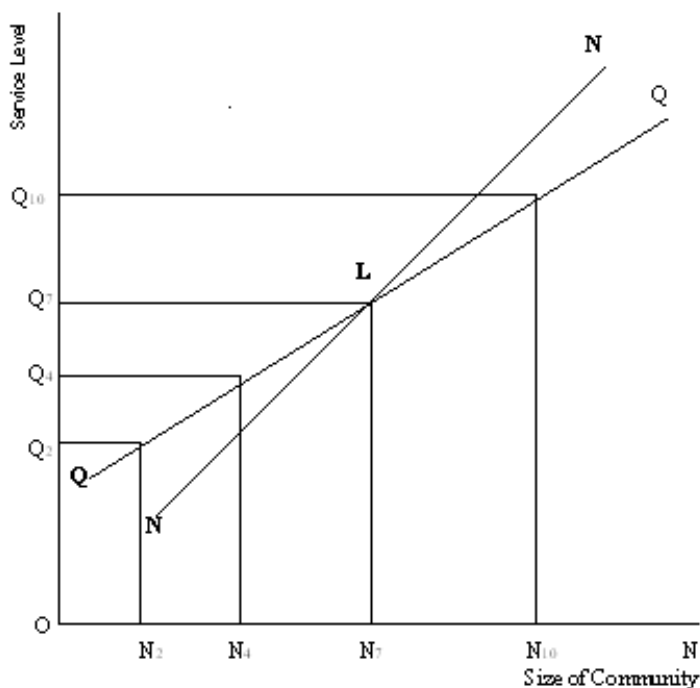


Figure 17.5

Limitations

- It is assumed that tastes and preferences to be the same. But in reality tastes and preferences of the people need not be the same. So the system will contain multiple units, some similar and some different with regard to size and composition.
- Assumed that the social goods consumption is non-rival. The government provided goods and services like fire station, a school of given size, a sewage disposal plant does not satisfy the consumption characteristics as non-rival. In all these cases, there will be congestion costs to the previous users.
- Technical economies of scale need to be taken into consideration while determining the optimal community size.
- Spillover benefits which are very common in between sub-central governments may result in inefficient provision of social goods output in the absence of any federal governments intervention by a system of grants-in-aid.
- The *voting on their own feet* hypothesis may become unrealistic as besides fiscal factors several non-fiscal factors such as job opportunities and housing.

17.3.1.2 Distribution Function

When this function is to be assigned the question does arise is whether multi units of government can render this function at different levels in a federal set-up. If the same logic of decentralized provision of spatially limited public goods is applied to this function, citizens who are willing for a high degree of redistribution may favour jurisdiction *A* while those who will oppose may prefer jurisdiction *B*. So the unit government *A* may adopt a highly progressive income tax coupled with a transfer system while the other jurisdiction *B* would use benefit or head taxes for financing public services. Though it looks sound and logical, there is every chance of its

breakdown. For example, high-income people who oppose redistribution of income, on the assumption of free mobility of citizens would migrate to *B* while high-income people who prefer redistribution of income and wealth and poor people would choose to reside in *A*. Thus, people with high incomes find that the entire burden of taxation falls on them at the same time the degree of equalization would become small as large number of poor people congregate in *A*. So, the redistributive process becomes a failure if the local governments render the distribution function.

It is to be noted that the consumer mobility which is beneficial to sub-central governments as far as the provision of public goods tends to limit the redistributive function to be given to these governments. So it needs to be carried out by the Central or federal governments. In other words, a national government appears to have greater latitude than the sub-national governments in carrying out redistributive programmes. Though the redistribution by the decentralized government cannot altogether be ruled out, the Central or national government is more capable and effective in carrying out the redistributive policies in the absence of the influence of any non-fiscal factors such as job location, prohibition of in-and-out-migration etc.

17.3.1.3 Stabilization Function

Another important function to be assigned in between governments is stabilization function. Stabilization policy, the process of macro-economic equilibrium, cannot be entrusted to local and regional governments as these unit governments will become ineffective in dealing with certain macro economic issues like unemployment and inflation. For example, if a sub-central government say a local government follows a fiscal policy wherein it makes budget proposal to stimulate demand in the local economy. Accordingly it increases its public expenditure and does reduce taxes. Such a fiscal exercise tends to develop several problems. Firstly, it is difficult to finance such a budget deficit. Secondly, the fiscal multipliers may become very small and close to zero. Any fiscal policy determined by a single or a group of local governments tend to be impotent. Moreover, it may lead to unnecessary and avoidable competition among different local governments. Truly speaking the local governments do not have instruments for macro economic control relating to money supply, interest rates, prices, incomes and imports. But the Central government is better equipped with several instruments to carry out an effective fiscal policy and also to coordinate with other policies such as Monetary Policy. The sub-central governments are neither efficient nor effective in using the fiscal and monetary instruments with regard to employment and price levels. So the national government must be entrusted with the responsibility for macro-economic stabilization.

The above analysis explains that certain functions can best be rendered by the Central Government. But the real issue is to determine which functions can best be performed by the local governments and which one by the federal/central government. Hence the need and purpose of the discussion so far. After assigning different functions to different levels of governments in a federal structure, it is necessary to know how and what type of tax powers are to be assigned to different units of governments. The following section deals with these issues:

17.3.2 Division of Tax Powers

On the basis of '*voting on their own feet*', members of each benefit region or jurisdiction should pay for the amount of services that are provided by the respective jurisdiction. This simply suggests that nation-wide taxes to finance nation-wide services and taxes by the sub-central governments for financing the services provided by the

sub-central governments. The federal or national government can impose broad-based taxes like income tax since all the citizens irrespective of their residence get all the benefits rendered by the national government and so they should contribute. Similar logic can be applied to the tax structure and instruments to be entrusted to decentralized governments. For example in India taxes like sales tax, state excises, motor vehicle tax, land revenue are entrusted to the state governments while property/house tax, profession tax etc. are levied mostly by the local governments.

For division of tax and non-tax powers between the federal and states, for instance, E.A.R. Seligman states three important principles for each of the competing tax jurisdiction. The three principles are (a) *efficiency* (b) *suitability* and (c) *adequacy*. K.T. Shah says that financial resources placed at different levels of government should correspond to the functions and obligations assigned to each of them. B.P. Adarkar states that for an efficient working of the federal financial system three essential principles of independence, elasticity and administrative economy are needed. The principles generally agreed upon for the division of resources between the federal and state governments are the principles of (i) *independence and responsibility* (ii) *adequacy and elasticity* (iii) *equity* (iv) *integration and coordination*. (v) *accountability* (vi) *uniformity* and (vii) *fiscal access*. Of all these principles the most vital aspect is efficiency and it is related to the administration of the tax. It may be noted that the base of the tax jurisdiction is the most important element which has a bearing on administrative efficiency. If the tax base is more and more extended, a broader tax jurisdiction should be assigned to that tax. For example, the base of a property tax is narrow, so it is given to the local jurisdiction. Similarly, a tax on commodities of mass consumption with its broader tax base should be entrusted to the federal or national government. So is the case with customs duties, income tax, corporation tax in several federal economies including in India. So when tax powers are divided on efficiency and administrative economy considerations, the phenomenon of non-correspondence emerges in almost all federations.

17.3.2.1 The Non-Correspondence

When tax powers are assigned mainly on the basis of efficiency criteria among different layers of government, it may violate the principle of adequacy. As a result, the revenue assigned to each government is not adequate to carry out the functions entrusted to it. One reason for non-correspondence is lack of a clear-cut division of functions in a federal country. The other reason is that the revenue yield from same taxes varies among the federating units including the local governments. Another reason is the wide differences of financial needs of states due to their natural and economic conditions. The term non-correspondence which was first used by Anthony D. Scott in 1964 exists universally in almost all federations. This non-correspondence results in vertical and horizontal fiscal imbalances.

17.3.2.2 Vertical Federal Fiscal Imbalance

If there is no adequacy between revenue resources and expenditure responsibilities of a government is known as fiscal imbalance. Fiscal imbalances are of two types – Vertical and Horizontal Fiscal Imbalances. In a federation, vertical fiscal imbalance means the existence of non-correspondence between the revenue resources and expenditure commitments of the federal governments vis-à-vis the state governments put together. In almost all federations the central governments are having surplus fiscal resources compared to their expenditure commitments. They make fiscal transfers on the basis of constitutional provisions or agreements, in the form of shared

tax revenue and grants with a view to reduce vertical fiscal imbalance. Mere increase in the volume of fiscal transfers to states would reduce this fiscal imbalance. But the other type of fiscal imbalance is horizontal fiscal imbalance which is more acute in several federations.

17.3.2.3 Horizontal Federal Fiscal Imbalance

This imbalance refers to the non-correspondence between the fiscal resources and expenditure commitments across sub-central (State) governments. This arises mainly due to the differences in the size of geographical area, population, climate, endowment of natural resources with uniform tax powers and functional responsibilities. Horizontal equity can be achieved in a federation with a system of fiscal transfers especially of grants-in-aid provided to states on the basis of an equalizing and rational criteria.

As long as the tax powers are distributed between the Centre and the sub-Central governments on the basis of efficiency, equity aspects assume importance. Besides these equity issues, the following aspects are to be noted with regard to taxation in relation to decentralized system especially of the local governments.

Check Your Progress 2

- 1) Write four sentences about the Optimal Service Level.

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- 2) Explain why distribution function be given to the Central Government.

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- 3) State the reasons why stabilization function cannot be given to sub-central authorities.

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17.4 ISSUES OF TAXATION WITH A DECENTRALIZED SYSTEM

17.4.1 Base and Elasticity of Local Taxes

In a multi-level government structure some taxes with relatively narrow base are to be assigned to enable the local governments to raise the required resources to finance

its public services. In such case, the revenue raising capacity of these governments would be limited due to partial migration of the tax bases from one jurisdiction to another. In several countries the local governments recognized the fact of induced locational effects as far as their tax bases are concerned. The only exemption in general, is the property taxation in almost all countries including the USA. However, unrestrained property taxation results in reduced economic development of a local jurisdiction which in turn reduces the real property tax base. So the local governments need to use the tax bases as well as the tax rates very carefully. What is important is the elasticity of the local tax base with respect to the rate of taxation.

In fact the efficiency of the local tax policy depends upon the knowledge of elasticities of tax bases of different taxes. It is to be noted that an increase in the tax rate of any tax base yields increased revenues only if the tax base is inelastic. The elasticity of the tax base is determined by factors such as the degree of mobility of tax resources, the rates of similar taxes in the surrounding jurisdictions, the amount of public services provided by neighboring communities etc. Any extra taxation, as felt by the individual economic units, would lead to relocation and diversion of business and industry and even the residents, other things being equal.

17.4.2 Tax Competition

When some taxes are assigned to the decentralized governments, may be states or local governments, in a federal economy, these governments often develop competition among themselves to increase their respective tax bases. They often compete to attract the residents, business, industry etc. whose economic activities increase the value of the tax bases of the respective jurisdictions. Such competition often leads to competitive reduction of tax rates, as it happened in the case of Sales Tax of State governments in India before the implementation of uniform floor rates by all the states since January, 2000, ultimately acting as a constraint on the size of their respective budgets. In other words, state or local tax jurisdictions hesitate to increase the tax rates for fear of loss of business and industry given the levels of public expenditure and public services. So the possibilities of locational effects of different tax bases are to be considered before assigning the taxes to lower levels of governments.

17.4.3 Tax Exporting

Another important issue relating to taxes of decentralized governments is tax exporting. It is a common feature among state and local governments in several federal economies including the USA and India. Tax exportation arises in different ways. Some taxes imposed by a state reduce the income of input-owners of some other state who employ their inputs in the states' taxing jurisdiction. It does also occur when a state raises the taxes of goods manufactured within the state but purchased by out-of-state residents. The importance of tax exporting is that it has a bearing on the willingness of the residents of a jurisdiction to pay higher taxes. In other words, a Re.1/- increase in taxes tend to be valued less than Re.1/- by the local tax payers, if they know that part of the additional tax will be borne by the people of other jurisdictions. All these issues discussed above are to be kept in mind while assigning the tax bases to different levels of government in a federal economy.

Efficiency and equity issues always assume importance in almost all the federal economies with reference to the division of functional responsibilities as well as assignment of tax powers among different levels of government. What is required is

a rational mix of efficiency and equity with regard to assigning of functions and tax powers and a continuous adjustment with a view to maximize welfare gains of the people.

Check your progress 3

- 1) Write about *Vertical Federal Fiscal Imbalance*.

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- 2) Explain the important reasons for the emergence of *Horizontal Federal Fiscal Imbalance*.

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- 3) What do you mean by *tax exportation*.

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17.5 LET US SUM UP

In an economy with federal structure issues of efficiency and equity assume importance when powers and functions are to be distributed afresh among different tiers of the government. The level and mix of local public expenditure and taxes are subjected to wide variations among local political jurisdictions. So people will choose a particular community or jurisdiction whose public expenditure and tax level best suits their own preferences for public services on the assumption that people can be mobile across communities. In other words, given the pattern of government’s expenditure and taxation, citizens will maximize their well-being by choosing a community by “*voting on their own feet*.” The Tiebout model explains the importance of mobility of people in a decentralized system of government in a federal structure and concludes that such mobility improves efficiency. According to Tiebout people are assumed to ‘shop’ around the local jurisdictions to choose to live in just like they shop around for any consumer good in a market.

As fiscal federalism requires division of powers and functions among different levels of government, the federal government is best suited to provide services that have a nation-wide benefit incidence and a large number of other public goods can be efficiently supplied at the decentralized level by the sub-central authorities. Stabilization and redistribution of income function can be rendered efficiently by the Central government. Distribution of tax powers on the criteria of efficiency and administrative economy leads to vertical federal fiscal imbalance while the differences in natural resources and other economic factors across the states with uniform powers

of taxation leads to horizontal fiscal imbalances which need to be redressed to achieve equity through a rational system of fiscal transfers. While assigning taxes to the sub-central authorities, issues like tax base and elasticity, tax competition and tax exportation etc., need to be considered as always there exists a trade-off between equity and efficiency in a federal economy. A balance needs to be maintained between the two for a healthy functioning of the federation.

17.6 KEY WORDS

Benefit Region	: Geographical area wherein the benefit of public good or service is confined.
Horizontal Federal Fiscal Imbalance	: Existence of non-correspondence between the fiscal resources and expenditure commitments across State governments.
Pure Public good	: A good produced by the government which is non-rival of its consumption and for which the quality and quantity is not changed even to the last consumer.
Sub-Central Authorities	: Governments operating at different levels below the Central government. Sometimes referred as sub-national governments.
Tax Exporting	: If a tax is imposed on goods and services by State A but paid by non-residents of A either fully or partly, then it is said that A has exported the tax to other non-residents.
Vertical Federal Fiscal Imbalance	: Existence of non-correspondence between the revenue resources and expenditure commitments of the federal overnment vis-à-vis the state governments put together.

17.7 SOME USEFUL BOOKS

Musgrave R.A. & Musgrave P.B. – (1989) - *Public Finance in Theory and Practice*, Mc. Graw Hill, Fifth Ed., New Delhi.

Oates, Wallace E (1972): *Fiscal Federalism*, Harcourt Brace, New York.

Edgar K. Browning & J.M. Browning (1979) - *Public Finance and Price System*, Macmillan, New York, 1979.

David N.Hyman (1987) - *Public Finance, A Contemporary Application of Theory to Policy*, Second Ed., New York.

National Institute of Public Finance and Policy (1981) - *Trends and Issues in Indian Federal Finance*, Allied, New Delhi.

Singh, S.K. (2004) - *Public Finance in Theory and Practice, Sixth Ed., New Delhi*.

Brown, C.V. & Jackson, P.M. (1982) - *Public Sector Economics*, Second Ed., Martin Robertson, Oxford.

17.8 ANSWERS OR HINTS TO CHECK YOUR PROGRESS

Check Your Progress 1

- 1) Study Section 17.2.2. carefully and get your answer.
- 2) See sub-section 17.2.3.
- 3) Get them from sub-section 17.2.4.

Check Your Progress 2

- 1) You can get your answer from sub-section 17.3.1.1.3.
- 2) See sub-section 17.3.1.2. for the answer.
- 3) The sub-central authorities do not have instruments for macro economic control relating to money supply, interest rates, prices, incomes and imports. The sub-central governments are not efficient nor effective in using the fiscal and monetary instruments with regard to employment and price level.

Check Your Progress 3

- 1) Study sub-section 17.3.2.2. and get the answer.
- 2) You can get the answer from sub-section 17.3.2.3.
- 3) Tax Exportation is a common feature in federal economies. There are different possibilities for tax exportation. For details study sub-section 17.4.3.

17.9 EXERCISES

- 1) Explain briefly the Tiebout Model.
- 2) What are the economic advantages of having sub-central governments?
- 3) Discuss how the optimal fiscal community is determined?
- 4) Explain why redistribution and stabilization function should be given to the Central Government?