Objectives and Concepts of Highway-User Taxation

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● ALONG with the growth of motor-vehicle transportation in this country, a highly specialized but not fully articulated theory of highway finance has been developing over the last three decades. Many of the concepts that have evolved in this effort to deal scientifically with problems of highway financing have found their way into public policy but others, corollary in nature, have not. As a matter of fact, there is no full agreement, even among highway specialists, on certain fundamental objectives and concepts of highway-user taxation. And where there is agreement on principle, there often is no economic or engineering calculus to translate it into practical application.

What is more disconcerting than the fact that all aspects of user-tax theory have not been publicly adopted is the fact that the basic premises of user taxation are questioned and even rejected by many. It may seem somewhat futile for highway specialists to worry themselves over theoretical refinements and mathematical formulas under these circumstances. For it is not alone among the uninformed that the logic of user taxation is neglected. The requisites which highway specialists seek to ascribe to user taxation are denied in highly respectable quarters, especially among students of public finance.

For example, it may seem self-evident to the highway specialist that costs should be apportioned among the several beneficiaries of highways and that special taxes on highway users should be used exclusively on highways that benefit them most, but public finance students are more than a little reluctant to embrace even such simple propositions without reservation. Many will agree with Groves, "The highway dollar has (or should have) to compete with dollars needed for other governmental purposes" (1), or with thoughts of similar nature which are often regarded as heresy in highway circles.

Perhaps we can discover why this is so. For it is the purpose here, in dealing with objectives and concepts of highway-user taxation, to reexamine and perhaps restate some of the fundamental premises of the current theory of highway finance. It is also intended to consider the relationship between highway finance and public finance in general. For while highway specialists are critical of those whom they think fail to grasp the basic principles of user taxation, they are themselves vulnerable in dismissing general taxation as no concern of theirs.

Actually, a firm foundation for user taxation can be established in economic and political theory which is consonant with current thought on general taxation.

NATURE OF USER TAXES

Before we go further into theory, it may be useful to distinguish between a user tax and a general tax. A user tax has been defined economically as one paid incident to the ownership and operation of a motor vehicle which has no significant counterpart among taxes that apply to other transportation agencies or to the general public. Stated another way, user taxes have been defined as those which motor-vehicle operators are required to pay for highways, over and above their obligations for support of the general government.

Now, these statements permit us to identify major user taxes, but in some cases the distinction between a general tax and a user tax is not easy to make. Outstanding examples are found in the federal excises on motor fuels and motor-vehicle products, about which there is debate over their proper classification.

We need not here become exercised over the finer distinctions between user and general taxes, for our main interest lies in establishing the more basic fundamentals. We can generally agree, I think, that the family of state taxes consisting of gasoline and diesel excises, annual license taxes on motor vehicles, and the diverse group of special imposts on motor carriers, which are reported annually by the Bureau of Public Roads, are, for the most part, highway-user taxes, both in an economic sense and in legal contemplation. In 1952 these particular taxes produced about $3 billion, nearly all of which were used by state or local governments for highway purposes. In addition about $2 billion was made available for highways through federal aid and local taxes.

BACKGROUND OF USER TAXATION

History reveals that no carefully worked out theory anteceded the adoption of user taxation as we know it today. The theoretical foundation, such as it is, was built after the framework was erected.

It is often thought that user taxation was developed primarily in response to the demands for better roads associated with development of the motor vehicle. However, a good-road movement of considerable impetus was making forward strides for some time before the motor vehicle was anything more than a novelty. Moreover, a number of states, of which California was one, had adopted state highway systems and provided funds for their "completion" a number of years before any thought was given to the significance of motor vehicles or to their taxation. But certainly, the added burden of accommodating a growing volume of motor-vehicle traffic stimulated the demand for good roads and greatly increased expenditure requirements. And it was soon discovered that the vehicle and the fuel used to propel it provided convenient and apparently equitable objects of taxation in the face of growing needs for highway funds.

Regarding the early history of highway-user taxes, it may be observed that forces not directly related to the transportation problem were at work, which played an important role then and continue to play a part in the development of motor-vehicle taxation. Then, as now, there was considerable dissatisfaction with the general tax structure, particularly with the property tax, from which was derived the major support of highways. This tax was said to have two faults: it was wrong in theory and it didn't work in practice. A third might be added: it was thought to be too high. The situation was of such nature that a leading authority commented, "Practically, the general property tax as actually administered is beyond all doubt one of the worst taxes known in the civilized world"(2).

Under the circumstances it is not surprising that the states were searching for alternative revenue sources in order to relieve the burden on property. What could be more logical than to shift part of the tax burden to the motor-vehicle user in the form of imposts which could produce substantial revenues with convenience and certainty, especially since a ready-made rationalization in terms of highway benefit was at hand. What is somewhat ironical against this background is that even today current user-tax theory, as popularly interpreted, generally calls for substantial contributions from property in support of the highway function.

A somewhat-different view of development of user taxation is suggested by Peterson. He believes the development of motor traffic removed highways from their local role because "the close connection between community benefit and local advantage dissolved"(3). The result, he suggests, was acceptance of "the idea that highway service, unlike other basic government activities, might be developed by ordinary investment standards and financed by specific beneficiaries, rather than the general public." He points out an interesting analogy to the turnpike era of the 18th and early 19th centuries when somewhat similar standards of financing prevailed until, as he notes, "railroad development pushed the highway back into its former local role"(4).

Following Peterson's thesis, historians may conclude the mid-20th century toll-road movement we are now witnessing is a response to similar forces. Phenomenal growth of traffic, new and costly conceptions of highway design, failure to adjust user taxation to investment requirements, and possible misuse of user-tax funds from the motorists' standpoint may, in concert, have given rise to the modern version of an old method of getting capital for highways and the means of repaying it.

Transportation requirements, of course, stimulated the adoption of user taxation, but it is unlikely that more than a few people foresaw such emerging problems as competition among transportation agencies when user taxes were born. On the other hand, the tax situation provided a favorable atmosphere for the development of user taxation and appears to be the motivating force of the continuing trend towards greater reliance on user taxation for support of the highway function.

It may be immaterial whether the primary force for adoption of user taxes resulted from a new conception of the highway function in relation to overall transportation policy on the one hand, or on the other from the desire to better the tax system by introducing alternatives thought to be superior to existing tax bases. The significant fact, as has been suggested, is that even now transportation specialists and tax students view user taxes with different perspective, and not infrequently find their basic conceptions in apparent conflict. Surely, reconciliation of basic views on general public finance and on highway finance is a prerequisite of enlightened public policy.

In any event, we must agree with Peterson that, "There was not, and has not been, any general and explicit adoption of the view of highways which would exclude them from that category of public functions in which we put the defense of the realm and the preservation of order." And yet, the whole theoretical foundation of user taxation is grounded upon a conception of the highway function as fundamentally different from other functions of government. And the fact is that state governments are raising more than $3 billion a year in taxes ostensibly based upon principles which differ from those underlying the general tax structure. What, then, do they seek to achieve through user taxation?

OBJECTIVES OF USER TAXATION

On first impression the sole purpose of user taxation seems to be to raise money with convenience and certainty in order to finance highway programs. Stated in terms that have more meaning and broader implications, the purpose of user taxation is to recover for government some part or all of the costs of supplying highway service through direct charges on those using the service. But these statements do not suggest why user charges instead of some alternative should be used. Some answer must be found in the purported objectives of user taxation.

One of the first questions that may be asked is why the highway function should be treated differently than most other functions of government. One economist joined the issue bluntly in these words: "It seems incredible the extent to which highway people have buffaloed the general public and the legislature into believing that highways are a distinct problem in government finance and taxation" (5).

Tax Equity

As a partial answer it may be suggested that (1) highway services are not distributed uniformly throughout society and (2) society does not deem it desirable to underwrite the uneven distribution of services through normal tax channels. The kind of socio-political judgment which has decreed community support of education, for example, without consideration of differential individual or group benefits is not now accepted for the highway function. In the absence of such a judgment, since highways still must be provided by government, a question arises as to the most-equitable system of raising revenue for highways. Is the imposition of direct charges for highway service more equitable than alternative methods of financing? As Owen says "The question raised is whether . . . it is desirable to include transportation facilities in the same category with general governmental services, such as education and defense, or whether transportation should rather be looked upon as similar to the supplying of food and clothing, of which it is a part, and therefore financed by the user" (6). If the latter decision is made, it appears that a convincing basis for user taxation is established solely on grounds of public policy in terms of the equity of fiscal alternatives.

Tax Neutrality

But there is another and, perhaps, more-compelling ground for distinguishing the highway function from other governmental functions. Government is furnishing one element of a full-scale transportation service competitive in major respects with other transportation media which are privately managed and financed. Ordinary economic prudence dictates that each transportation agency bear full economic costs if traffic is to be allocated among them in relation to the economy and fitness of each. The assessment of user charges against highway carriers is a direct means of charging against them, and hence against their customers, the costs of supplying highway service. Thus, user charges may be designed to remove all or the major subsidy elements involved in government provision of highways, thereby promoting the economic allocation of resources. This might be called the transportation argument or neutrality standard of user taxation.

Investment Criteria

Although equity among taxpayers and neutrality among transportation agencies are the more obvious objectives of user taxation, its rational use may serve other purposes. Government is faced constantly with difficult expenditure questions, both with respect (1) to the level of all governmental services and (2) to the allocation of funds among its various services. In most areas, the decisions must be socio-political rather than economic in nature, for there is no direct connection between those called upon to pay the bill and those enjoying the services. Highway-user taxation tends to establish a direct connection between the costs of supply and effective demand. This connection serves to provide criteria for establishing appropriate highway expenditure levels in two ways.

First, it is possible to estimate, at least in a general way, the value of a given highway program to those who will pay for it. Thus, we can calculate tangible economic savings to highway users in terms of reductions in vehicle-operating costs, in accidents, and in time which might accrue to users from a highway program. The computed relationship between user-tax requirements and highway benefits in terms of savings or other values indicates whether a program is economically justified. Owen has summed it up this way:

"Since economy in transportation relates to the sum of both highway and vehicle-operating costs, we can afford to increase our highway program as long as additional expenditure for this purpose reduces the outlays required for gasoline, tires, accident insurance, and other vehicle-operating items. Further additions to the highway program would be warranted to the extent that improvement in service, not readily measured in monetary terms, were judged to be worth the expenditure" (7).

Although this calculus can be made irrespective of user taxation, direct charging for highway services makes the relationship more obvious.

The second way in which user taxation aids in reaching expenditure decisions is related to the first but stems from the reaction of the users themselves, rather than from economic calculations. The latter, when dealing with a comprehensive program rather than with individual projects is still in a formative stage.

But as Dearing and Owen have observed: "Willingness to pay for improvements provides a rough indication of the desirability of undertaking them" (9). Taxation that bears directly upon those who demand services furnishes a test of their willingness to pay. It might be added that the imposition of direct user charges provides a built-in restraint to highway demands that would be absent if only general taxation were used for highway support. Highway-user groups by following their self interest will play an active part in highway management and improvement programs and thereby aid in the development of enlightened public policy.

The third objective of user taxation, then, is to provide some basis for correlating the effective demand for highway service with the economic costs of supplying the service. And by this means, user taxation tends to promote the economic allocation of resources as between highways and alternative uses.

Budgeting Criteria

As a related proposition, but one which is more political than economic in nature, it may be observed that user taxation facilitates the sound budgeting of highway funds, first, by providing a continuing source of revenue upon which the general treasury has no outright claim and, second, by providing a logical basis for the allocation of funds among alternative highway projects.

Any comprehensive program of highway development involves long-range planning and stage development which are greatly facilitated, to say the least, by having available dedicated revenues rather than having to depend upon the possible capriciousness of annual or biennial legislative budgeting. Moreover, the budgeting decisions of the highway agency may be guided by the principle that expenditures of funds collected in compensation for highway service should be made to provide maximum service and economy for those who pay the bill, rather than by broader but less-definitive principles of public expenditure.

Summary

Owen (10) has summed up the major objectives of user financing in few words as follows: "First is the objective of obtaining the necessary funds and of doing so on a sound basis. Second, since the productive resources absorbed are extensive, the method of finance should encourage their careful and economical employment. Again, since public facilities will assist private transport undertakings, but assist them unequally, it is desirable to finance in such a way as to offset any unfair competitive advantages which might lead to an uneconomic division of traffic among agencies. . . ."

The several objectives of user taxation appear to be salutary. No one would doubt that user taxation is a highly desirable tool for the economy to the extent that it encourages optimum allocation of economic resources as it purports to do (1) among transportation agencies when the neutrality standard is honored and (2) among all economic activities to the extent that economic investment standards are made applicable. And if user taxation also appears to promote tax equity when considered in the light of alternatives, the case could seem to be incontrovertible. What, then, are the obstacles to full public adoption of user-tax theory and its ramifications?

LIMITED PUBLIC ACCEPTANCE OF CONCEPTS

Peterson suggests "the main economic issues concerning highways seem to have their root in a vacillating allegiance to the procedures of typically governmental activities on the one hand and, on the other, to the principles and standards which operate in the private economy (11). In describing the latter, he points out that two features dominate: "(1) Goods are supplied, activities are expanded and contracted, on the basis of market demand and production cost. The demand sums up the interest of individuals in various products, the cost reflects the value of all resources, human and material, used in providing them. On this basis private decisions are reached regarding investment and production. There is thus no overall collective judgment of what the public requires, of what a socially desirable assignment of productive resources would be. (2) Goods are paid for by the individuals who get them and have the use of them. This payment is based presumably on their cost—that is, on the value of the productive resources that go into them" (12).

Now the objectives of user taxation, over and above that of equity in terms of alternatives, seek to apply to the highway function insofar as possible these standards which control in the private economy.

But as Peterson has observed: "Effective changes in policy do not come through formulating new theories and imposing them. Insofar as highways have been subjected in recent decades to the principles which operate mainly in the private economy (as distinguished from those applying to typically governmental activities), the change has come through the pressure of new problems. . . . Changes so induced go no further than the impelling circumstances require; so that there has been no clear break with the older way of viewing roads or of providing them (13).

And if there are impelling circumstances in the area of transportation economics that decree unusual treatment of the highway function, there are also impelling circumstances in the area of general public finance which retard, if they do not forestall, the full acceptance of a commercial concept of highway financing which would be essential to the simultaneous fulfillment of the several objectives of user taxation we have suggested.

However, it is not fair to charge apparent neglect of a user-tax discipline solely to extraneous circumstances. Sweep away the public lethargy, the barriers of law and tradition, the combat of self-interests, the compromise of the political forum, and there remain basic issues which have not been resolved. The techniques of user charging are themselves exceedingly crude. We have not yet formulated a model system which would be workable as a practical matter and would still bear a close resemblance to the ideal suggested by the objectives.

PRACTICAL APPLICATION OF USER-TAX CONCEPTS

Consider the ideal user charge system. Sufficient funds would be raised to supply the highway services required to meet the effective demand of users. Charges would be so assessed against users that an appropriate share of the economic costs of supplying the service would be recovered from each. On the one hand, users would not be expected to pay for services that would be enjoyed by future users. On the other, individual users would not be expected to pay for facilities they did not use. It is not being facetious to say that an ideal system of user charging based upon a commercial concept would require (1) the use of credit financing and (2) the establishment of toll gates on every road.

But the state is faced with inalterable facts. No one would accept ubiquitous toll gates. Law or tradition may preclude credit financing. User charges as we know them are uniform throughout the taxing jurisdiction. Highway costs in terms of costs per mile, and more significantly in terms of costs per service unit, such as the vehicle-mile, vary tremendously on different segments of the plant. The state is operating a dynamic highway plant. Let us consider concessions to reality which have to be made to accommodate these facts.

The Neutrality Standard

Neutrality is honored when users meet economic costs. Such costs include amortization of the existing highway plant, operation and maintenance expenses, real or imputed interest, and property-tax equivalents. But they include no funds for plant expansion.

Prudent management dictates that the state anticipate future traffic demands and design highway facilities accordingly. When investment requirements exceed funds made available by assessing costs, in theory credit financing would be necessitated. When they are less, presumably an excess of user-tax funds would be collected which might be allocated to the general treasury.

Now, no state embraces the full logic of this approach, despite popular preoccupation with the subsidy issue which underlies much of the discussion of user taxation. In a time of needed highway expansion, constitutional or institutional obstacles frequently stand in the way of credit financing. If the time should come when highway costs exceed the legitimate demand for highway expenditures, the assessment of interest charges and tax equivalents may, it is feared in some quarters, lead to uneconomical investment in highways, because constitutional or traditional barriers will preclude the allotment of the excess funds or "profits" to other government functions.

Though formal public-aid studies, such as the Federal Coordinators' report and the Board of Investigation study, deal with highway costs, finance studies made in many states in postwar years deal with expenditures.

Practical considerations are largely responsible for this approach. One is the obvious difficulty of estimating annual highway costs with any reasonable precision. Moreover, highway problems are dynamic. There appears to be a continuing need for highway improvement, and no end is in sight. Few engineers now have the temerity to predict "completion" of the highway plant, though there is still talk of catching up with the "back-log." When we add to all of the imponderables of financing on a cost basis the radical departure from established policy involved, it is not surprising that the expenditure basis is used.

It does not seem unreasonable under the circumstances to include with charges to users amounts for expansion of the plant. An analogy is found in the accumulation of capital out of earnings by private industry. Moreover, as long as savings to users resulting from highway improvement exceed the charges, the investment is clearly advantageous from their viewpoint, even though they pay more than costs.

Even so, to charge current users either more or less than annual costs involves a departure from a neutrality standard of user taxation. Over time the seriousness of the departure is mitigated because costs and expenditures tend to balance, but it is never completely rectified, for there is no reasonable identity of users over time in such a highly volatile field as motor transportation.

In an event, in a period of great highway expansion, such as we are now witnessing, it would appear that users will be called upon to bear more than highway costs as long as states continue to rely heavily on pay-as-you-go financing. Under these conditions consideration of imputed interest or property-tax equivalents is academic.

Investment Criteria

Current practices of user taxation also limit its usefulness as an investment guide. Again we are confronted with the costs-versus-expenditures issue. Investment in a highway facility may be justified if estimated annual savings to users exceed estimated annual costs. But the particular facility cannot possibly be financed on a pay-as-you-go basis with its own user-charge earnings. What pay-as-you-go financing requires, then, is that earnings on other segments of the highway plant yield sufficient surplus to permit improvement of the facility in question. After it is in operation it may yield a surplus to permit expansion of other facilities.

The unfortunate fact from the standpoint of theory is that the costs of different highway facilities vary tremendously, even when reduced to some unit of use such as the vehicle-mile. On the other hand, user taxes for administrative reasons are imposed upon a uniform basis throughout the taxing jurisdiction. The result is that many roads and streets would not earn enough in user revenues to defray their costs, even if the level of charges were high enough to meet costs of the entire plant. This fact has been given considerable attention with respect to roads and streets carrying little traffic and has been advanced as one argument in support of supplemental financing of highways from nonuser revenue sources. However, it is becoming increasingly clear that high-traffic-volume roads of expensive design and right-of-way requirements may also fail to meet costs out of user earnings and must depend upon surplus earnings of the plant if they are to be financed by traditional methods.

In this connection we might consider again the current toll-road movement. Not only does modern toll financing through the use of revenue bonds permit a closer correlation of charges to costs, but it permits a differentiation of the charges for the high-cost facilities which is not possible under a uniform user-tax structure. It seems quite clear that when current toll charges, upwards of a cent a vehicle mile, are necessary to sustain a toll road, the facility could never be financed on a "free" basis without a substantial "subsidy" from roads that have excess earnings, even if credit financing were used. When toll financing is used, of course, the facility which might have been a drain on the rest of the systems yields a "profit" if user taxes continue to be collected without allocation to the toll facility.

A great deal of thinking about investment criteria has not been adapted to the realities of the user-tax structure. In general, highway specialists deal with estimated cost-savings and cost-earnings relationships for an individual highway project but have found no way to relate the values produced by the entire plant to the costs (or tax requirements) of the entire plant. For the present, at least, user-tax analysis provides no more than a rough guide to the economic justification of any proposed future highway program. Its principal merit, as we have suggested, is that it incites the active interest and participation of users themselves in the highway function.

Apportionment of the Highway Burden

Exponents of user-tax principles are ordinarily unwilling to accept the view that the highway systems should be considered as an integrated plant for purposes of financing solely with user taxation. Part of the reluctance to embrace fully a commercial concept of highway management stems from the observation made regarding the variability of costs and the uniformity of taxes. "It is for this reason," Owen says, "that property owners, for example, have been charged a sum over and above their user-tax contributions to defray the higher-than-average unit costs of the local facilities in which they have an exclusive or special interest" (14).

But many highway specialists expound reasons other than problems of collecting and spending user taxes in making a case for nonuser-tax support of highways. They would not grant, as Owen does, "that the benefits derived from highway development are not to any significant degree something apart from the user of highways by motor vehicles. . . ." (15). They continue to cling tenaciously to a benefit doctrine of taxation, often carrying it to extreme lengths. For example, in a recent publication it is said: "Roads and streets serve all the people, directly and indirectly. The costs of these facilities should be fairly allocated to the various beneficiaries" (16).

In expanding upon the benefit thesis, it is observed (17): "Our 3,300,000 miles of roads and streets serve all the people generally whether or not they own motor vehicles. Highway facilities are needed for national defense; fire and police protection; sanitation and health; delivery of the mails; school buses and transit lines; conduits for gas and electricity; telephone lines; and pedestrians. Roads and streets add appreciably to the value of property, both in urban and rural areas.

Perhaps the more-critical students of highway affairs would not go as far in benefit apportionment as the above statement implies; but if the benefit principle is admitted at all it is difficult to fix any limits or for that matter any basis of measurement. Moreover, it appears that the case for a division of highway costs between users and others is grounded on some preconceived notion of tax equity. But since highway specialists rarely consider the equity of tax alternatives, their arguments are often discredited by those who must deal with the tax universe.

No one would seriously contest the wide-spread beneficial effects of highway improvement or deny that highways create social economic values which may be distributed unevenly throughout society. But these facts do not in themselves justify general tax support of the highway function.

In the first place, any precise tracing of the benefits to ultimate beneficiaries is virtually impossible, a fact which has long been recognized in other areas of government finance. Even the highway benefits ordinarily associated with motor-vehicle use are, it would appear, shifted to other members of society. Strangely, the economic implications of shifting are recognized with respect to highway taxes but are virtually ignored with respect to benefits. For example, lower transportation costs resulting from highway improvement eventually benefit consumers. In another paper, I have suggested that the enhancement or stabilization of property values which we attribute to highway improvement is largely a result of shifting of benefits enjoyed by users to owners of property (18).

But the real weakness of the benefit argument stems from the fact that all public and private expenditures affect the economy. Indirect benefits of material value will flow through the economy to others than those who directly consume the products or services for which the expenditures are made. A feature of the private economy is that the consumers are expected to defray the full costs of the product or service irrespective of indirect benefits to others and independent of the creation of general social and economic values.

What is more essential to the population than water? Would any property have value without access to water? Does this mean that water should be supplied with general tax support? Railroads and steel mills are essential to the national defense but this fact is not ordinarily used to justify general tax support of the facilities. The same is true of the telephone system and its value to police and fire protection.

When public policy decrees that principles applicable in the private sector of the economy should generally control, a case for subsidization with general tax support is found only when products or services deemed desirable by society either now or in the future will not be forthcoming without such assistance. Thus, subsidization of the railroads, highways, or airways may be deemed advisable until the industries reach maturity. Or again if the national defense requires facilities such as highways which would not otherwise be available if financed solely by users, general tax support would be warranted.

To grant that there may be reasons to supply highway facilities over and beyond the facilities which would be supplied to meet the effective demand of users is quite a different thing from justifying general tax support of highways on the basis of benefit apportionment. For the latter would mean that, if a highway would serve military or school requirements as well as user requirements with no additional outlay, some portion of the cost should be borne by the general taxpayer, a principle which would be summarily rejected if proposed for other sectors of the economy.

Basic criteria of user taxation become illusory if benefit apportionment is undertaken. With respect to neutrality, if some portion of all highway costs is borne by general taxpayers because of defense benefits, then some portion of railroad costs should also be borne by the general taxpayer. With respect to investment, if some portion of the highway cost is warranted on the ground of inestimable general benefits, then we are left without any guide to the economic justification of a specific program.

Conclusion

The fact that user taxation cannot be precisely molded to a theoretical ideal does not vitiate its usefulness as a fiscal and economic tool. Certainly user taxation is the way to greater neutrality and more-rational investment decisions, even if expenditures instead of costs must govern changes. If perfect tax equity is not done does any alternative yield superior results?

Perhaps the greatest weakness of user taxation is that it cannot be adapted to the variability of highway costs in terms of service units. In my view, greater progress will be made in mitigating this weakness if highway specialists will forget old bromides about highway benefits and abandon a futile quest for their measurement. In the final analysis, apportionment of the highway burden must rest upon informed judgment. This judgment can be favorably influenced by stressing cost-earnings relationships.

The essential public decision to be made is the point at which the disparity between costs and earnings on particular facilities is so great that it is unreasonable to draw earnings from the rest of the highway system to make up the entire difference. If such facilities are still demanded to serve particular interests or what is deemed to be the general welfare, a legitimate claim to general tax revenues or a case for special assessment or toll financing might then be established.

It may be concluded that the accomplished fact of highway-user taxation not only has productivity, convenience, and certainty on its side, but also has a solid foundation in economic theory, particularly to the extent that it promotes neutrality and encourages optimum resource allocation. But we have yet to consider the relationship of user taxation to the general tax system. For without denying anything we have said about user-tax theory, the general tax student may remain skeptical of efforts to impose a portion of the highway cost upon the general treasury. He may not be at all convinced that spreading any portion of highway costs by general taxation will be more equitable than spreading the entire amount by taxes on users. In fact, he may go further and suggest that part of the costs of general government might be spread by user taxes or, more accurately, taxes similar in nature to user taxes as equitably as by the general taxes now in effect. To understand this attitude it is necessary to give some consideration to the general tax problem.

GENERAL TAXATION

First, it is important to know that few if any theorists now embrace any single criterion of tax equity. The "overworked shibboleths" of benefit and ability-to-pay as tests of equity in taxation were being discarded by many authorities, even under the comparatively light burdens of the prewar years. With today's huge budget requirements, complicated intergovernmental fiscal relationships, and growing appreciation of the inevitable fact that tax policy is an instrument of economic control which should be intelligently used, probably only the unsophisticated would advocate any single standard of taxation. However, because of the popular notion that user taxation is based on a benefit theory, while ability-to-pay is the accepted standard for general taxation, it may be useful to explore each concept a little further.

The Benefit Principle

The idea of benefit taxation is an apparent anomaly when governmental activities are viewed in a limited way, for it directly conflicts with the essence of the tax obligation. All government expenditures are presumed to serve the public benefit. But government services are usually nondiscrete. The benefits may be incapable of measurement or of rational assignment to individuals or to identifiable groups. Benefits may be shifted and diffused throughout society. Moreover, government functions are often undertaken to achieve a wide distribution of services that, it is believed, will advance the public good. Thus, government provides public education, external and internal security, protection of health and morals, unemployment and other kinds of relief, all of which run directly counter to a benefit theory of taxation.

On the other hand, the cavalier dismissal of benefit taxation by many theorists seems to have been somewhat ill-advised, or at least premature, in view of the broad complex of government operations today. Government undertakes many activities where the objective is not broad and impartial distribution of services but is to provide service which cannot be provided privately or cannot be provided as effectively privately. In such circumstances, it may be appropriate to assess the cost directly against those who enjoy the services. It is not quite realistic to dismiss charges so assessed as fees, public prices, or insurance premiums and thus, by careful use of semantics, maintain the thesis that taxation according to benefit is contrary to public policy.

Many will agree with Groves that the benefit principle "is not nearly as antiquated and obsolete as many recent critics would have us believe" (19). With respect to certain activities of government, it is possible to associate benefits in a rough way with individuals or identifiable groups of individuals. Still, in most areas of government service, benefits cannot be measured or apportioned in any scientific manner, and most students have given up the attempt. Certainly the benefit principle standing alone does not furnish an adequate standard of tax equity.

The Ability-to-Pay Principle

The second principle of burden distribution advanced most often is ability to pay. As a single standard, it too has theoretical weaknesses. As a general rule it conflicts directly with the benefit principle. Economists generally hold the view that ability to pay must be regarded as a personal concept. Over the years ability to pay has been enlisted to support taxation that is progressive in terms of net income. Economists have endeavored to support it with one or another of several sacrifice theories derived from an assumption of diminishing marginal utility of income, but without conclusive results. It appears that the ability-to-pay theory is based upon an over-simplified view of the modern economy and the impact thereon of public finance.

Thus, while ability to pay strikes a responsive chord of justice in the public mind and has come to be deeply imbedded in political and social conceptions of tax equity, economists do not find it satisfactory as a controlling principle of burden distribution.

The Socio-economic Principle

With the partial rejection of both the benefit and the ability-to-pay principles and an apparent conflict between them, tax students have sought a realistic substitute. Buehler (20) sums up the issue: "With the evolution of ideas of justice in the distribution of tax burdens, the costs and benefits of government services have been found inadequate as principles of tax distribution, and the popular principle of ability to pay has arisen. This theory has proved to be inconclusive, however, and it is being suggested increasingly that the justice of taxes depends on their effects upon the whole community."

Fagan (21) has suggested that the problem be approached this way: "A strong case can be made for defining equitable taxation as taxation which will increase to the maximum the objective criteria of welfare, i.e., the basic economic, political, and social conditions under which there would be the optimum opportunity for the fullest development of the intellectual, moral, and physical capacities of every member of the state."

Although such an approach to the tax problem is sometimes regarded as the abandonment of principle to expediency, it certainly opens the way for realistic consideration of the economic, political and social consequences of alternative tax policies. As Groves (22) observes: "The proponents of the social-expediency theory take the pragmatic view that those revenue sources and that revenue system are best which work best. In order to determine what sources such a theory would support, the specific taxes must be examined and their operation observed."

The implications of such an approach are manifest. The taxation of business as such, which finds no support in the ability-to-pay principle and very little in the benefit concepts, may be found to be not only necessary to raise revenue, but also desirable as compared to alternatives. In the evaluation of alternatives, weight is given to such obvious factors as administrative cost, certainty, and compliance problems. The approach gives opportunity to consider the tax system as a whole, intergovernmental fiscal relationships, the political and economic facts which require diversification of tax sources. Recognition is given to the advisability of reconciling ability-to-pay considerations with the sequential effects of progressive taxes on incentive, investment, savings, consumption, and the like. The nonfiscal effects of taxes are accorded proper treatment. The way is open to harmonize tax and expenditure policies.

HIGHWAY-USER TAXATION VERSUS GENERAL TAXATION

On first impression, there appears to be nothing at all inconsistent between this approach to the general tax problem and the theory of highway-user taxation. As a matter of fact, user taxation meets the general approval of tax authorities, because it bears a closer relationship to the benefit principle than can usually be established in other areas of public finance. It gives diversification to the tax system and produces revenue with certainty and convenience.

What, then, are the possible grounds for conflict between general tax policy and highway-user tax theory? The basic issue appears to be whether taxes imposed upon highway users as such may legitimately be used to meet nonhighway expenditures.

The Diversion Controversy

Highway groups vigorously oppose diversion of user-tax funds to nonhighway purposes as "the enemy of good roads." Along with this policy they also decry "dispersion," by which they mean the expenditure of highway-user taxes on roads which they do not believe to be the responsibility of highway users.

On the other hand, specialists on government expenditure policy ordinarily object to earmarking of public funds and vigorously oppose efforts to tie specific revenues to particular expenditures as contrary to public policy. Their case rests on the proposition that the state should be free to expend its resources to maximize returns. In making up the general governmental budget, the problem is resolved theoretically by comparison of the return from the marginal expenditure for Function A with the return from the marginal expenditure for Function B. The objective being to maximize returns, it is accomplished when marginal returns are equal. Stated another way, the maximum advantages of total public expenditures are obtained only when financial support is so distributed among different functions that the last dollar spent on each returns service of equal value.

Granting that such an approach to budgeting is sound with respect to general functions of government, is it sound with respect to the highway function? It could only be so if we rejected the concept of user taxation based upon the general objectives we have described. For the state has no legitimate claim to revenues derived from highway-users under this concept, except for highway purposes.

Possibly circumstances may arise in which optimum expenditures for highways should not be made even when justified from the users' viewpoint because of general fiscal considerations. Dearing (23) describes such a situation and provides a good answer in the following:

"This might occur when it is found necessary to utilize a relatively larger portion of the state's taxable resources for other governmental objectives. This does not mean that the amounts which could be exacted from motor-vehicle owners as a charge for the mobility values of a technically optimum general-purpose road system may be used appropriately to supply budgeting deficiencies incurred on account of the necessary expansion of such other governmental activities as education and public welfare. It merely means that through the reduction of special levies for highway purposes, the taxable capacity of motor-vehicle owners as general taxpayers will be relatively increased."

In my view, Dearing's argument effectively disposes of the general expenditure case against diversion, but the issue of general tax policy cannot be summarily dismissed.

Clear thinking on the issues posed by the apparent conflict of views between highway users and general tax students is needed. In the first place, there is no agreement as to what constitutes diversion. It is generally conceded that highway users should not be excused from general tax responsibilities by virtue of highway-user-tax payments. Thus, the use of general retail-sales taxes collected on automobiles for nonhighway purposes is not usually questioned. But what of concessions made to users in the general tax system presumably because of user tax imposts?

Nearly all of the states which have general retail-sales taxes exempt motor fuel from the tax base. Many of the states in which tangible personal property is taxed specifically exempt motor vehicles. In drawing up any economic balance sheet of user-tax contributions and highway expenditures, it may be contended with strong force that estimated-sales-tax and personal-property-tax components should be deducted to determine net-user-tax contributions. But highway users who decry diversion are not inclined to recognize such adjustments.

Even when a particular tax is fairly well defined in legal and economic contemplation, as is the case with the California "in lieu" tax, user groups sometimes claim it is a user tax and publicize its diversion. Certainly it must appear to general tax students that highway groups sometimes want to have their cake and eat it too. Diversion is a sin but exemption from general taxes is tacitly approved.

Other grounds for controversy arise. For example, many tax students will argue that there is no diversion unless user taxes exceed total expenditures on highways, roads, and streets. The narrower interpretation embraced by highway users is that there is diversion if the proceeds of recognized user taxes are used for nonhighway purposes, regardless of whether other tax funds are used on highways.

But this narrow view is not especially enlightening. One state may use all of its user-tax collections for highway purposes and have virtually no general tax support for highways, either at the state or local levels of government. Another may use user taxes for, say, school purposes and yet derive considerable support for roads from local taxes. The latter is said to be practicing diversion, and yet highway users may be paying a larger part of the highway burden in the state with no diversion.

The key to the controversy lies not in the use or misuse of particular tax dollars but in the relationship between total user taxes and total highway expenditures. User groups would, I imagine, support this view but defend an antidiversion policy on practical political grounds. They may be able to stop diversion, though they may not be able to control the amount of nonuser revenues used for highway purposes. They argue that diversion is a "breach of faith" with highway users and, at the same time, emphasize the critical inadequacy of the highway plant, particularly the facilities of major importance to users.

Special Imposts on Users For General Purposes

In my view, the basic economic issue does not involve the narrow question of diversion. The true ground for differences of opinion lies in the propriety of special highway users which are justified on grounds having no connection with the highway function.

For example, Buehler (24) contends: "The automobile is no-more sacred than other property, and taxes against it in excess of the benefits which it enjoys from the highways may be as just and reasonable as taxes on other objects for the general upkeep of government which are levied against taxpayers, without regard to the particular benefits they may enjoy from government services." Groves (25) states the argument more bluntly: "Probably there are better ways of raising general revenue than the gasoline tax, but there are also worse, for example, the retail-sales tax, which includes in its base, as a rule, most of the necessities of life."

Unfortunately, when views along these lines are taken, it is easy to overlook or ignore the fact that the taxes in question may have been imposed in the first instance, overtly or tacitly, as compensation for highway use, in which case there would be no justifiable basis for diversion of the proceeds to nonhighway uses (except possibly for imputed-interest and property-tax components if user charges were actually fixed on a cost basis).

On the other hand, if it is forthrightly argued that, regardless of the highway function and over and above recognized user tax obligations, special imposts on gasoline, on motor-vehicle products or in other ways bearing on highway users may be suitable as general revenues, a new set of issues arises. In this event, the case for or against such taxes must rest squarely on criteria appropriate to evaluation of general taxes without reference to highways. Such taxes cannot be ruled out of consideration, simply because users are already paying highway charges.

On the positive side, it may be argued that taxes of this sort are productive, convenient, and certain. They give diversity to the general tax structure. Considered in the light of available alternatives, they may be believed to be superior to general retail-sales taxes, as Groves suggests, if the ability-to-pay principle is accepted as a guiding criterion. Or again, they may be regarded as superior to heavier impositions on property, in the light of known abuses and weaknesses of property taxation in general.

In this connection, a fact rarely mentioned is that the general property tax itself is a crude instrument for distributing any part of the burden of highway support, even if it is agreed that property owners have some responsibility for highway support by virtue of benefits gained. If property taxation fails to distribute the burden of highway support in some reasonable relationship to benefits to property, it may be felt that it is at least no-less equitable to distribute the burden by special excises on highway users.

Again there are involved the problems of tax administration and inter-governmental fiscal relationships, in the light of which it may be felt that motor-vehicle imposts collected by the state and shared with local governments are one method of improving the financial structure.

Finally, there may be circumstances in which it may be deemed advisable to use taxes of this sort as rationing devices to cut down use of motor vehicles as during war or to reduce the "spill-over" costs of highway congestion when highway facilities are badely inadequate (26).

Against these considerations, negative considerations must be weighed. It should be repeated that highway service or highway benefit is not to be used as a crutch to support the taxes, hence, they must stand on their own merits.

First, regarding the taxes as impositions on consumption, it should be recognized that we are not dealing with luxury products. Nor does there appear to be any rational basis for sumptuary taxation. To the extent that ability to pay is a controlling principle, the taxes are regressive in nature, perhaps less regressive than sales taxes but surely far more regressive than certain alternatives, such as the personal-income tax.

Looked upon as selective excise taxes, the burden of proof of suitability lies with those who support them. Certain adverse presumptions must be overcome. In the first place, such taxes will tend to violate the neutrality standard as it applies to competing transportation agencies, for they single out highway carriers for special burdens and, hence, distort the economic allocation of traffic. Thus, while user taxation may be designed to promote neutrality, additional imposts may violate this basic objective by making the tax structure unneutral in the opposite direction. Then, too, as is common with all selective excises, they tend to distort the optimum allocation of economic resources which would be established by the ordinary forces of supply and demand for various goods and services.

As a matter of fact, it appears that little consideration has been given to the suitability of special imposts on motor-vehicle fuel or products, unconfused by thoughts regarding their desirability as means of defraying all or some part of the highway burden. This is especially evident now with so much confusion existing over future highway policy of the federal government. As Behling recently suggested, the issues deserve much "hard thinking." Either the present federal excises on motor fuels and products should stand or fall on their merits as general taxes, or the need for federal highway-user taxation should be ascertained and the suitability of the existing excises as user charges should be determined.

At any rate, the desirability of special imposts on motor-vehicle users for general purposes should be determined quite apart from all thinking on the highway function. With this issue thus isolated and, in effect, assigned to the general economist and tax student, the highway and transportation specialist is left free to develop a logical basis of user taxation to accomplish the basic objectives we have considered.

SUMMARY

User taxation is a convenient and workable method of financing a vital economic function which government must undertake. Fundamentally, the ground for user taxation is the public decision that highway finance should be governed by principles that apply in the private sector of the economy. User charges as prices bearing a relationship to the costs incurred by government in supplying highway services are believed to be an acceptable means of financing the service which public policy dictates should not be financed through the general tax structure. Within the limits of practicability, forces of supply and demand are permitted to operate. User charges encourage the economic allocation of resources as between highways and other public and private undertakings. They tend to promote the economic allocation of traffic among competing transportation agencies by eliminating major elements of subsidy. The fact that user charges do not serve all possible objectives perfectly is a matter of small consequence. Other measures may be needed to implement public transportation policy. But when we consider that user taxation was conceived of expediency, born of necessity, and nurtured of politics, it is surprising that the offspring is as healthy and works as well as it does to serve sound economic objectives.

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