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RADIO FREQUENCY SPECTRUM MANAGEMENT PROGRAM
STUDY #9

ANALYSIS OF THE LITERATURE:
COST RECOVERY AND TAXATION

Background Study

Étude préalable

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inc

Economic Studies

Evaluation of radio spectrum management

Study No: 9

ANALYSIS OF THE LITERATURE: COST RECOVERY AND TAXATION : final report

(CRITICAL EXAMINATION OF THE LITERATURE AND PRESENT PRACTICES)

Final Report

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Final Report

RESUME

Le **mandat de l'étude** est d'analyser de façon critique les écrits et les pratiques canadiennes actuelles quant à la distinction entre taxation et recouvrement des coûts et d'évaluer dans quelle mesure cette distinction devrait s'appliquer à la tarification des usagers du spectre radio et à l'utilisation des fonds ainsi recueillis. Le contexte de l'étude est l'évaluation de la gestion du spectre radio: les présentes règles de distinction entre recouvrement des coûts et taxation constituent des entraves à la gestion.

La perspective adoptée dans ce rapport est essentiellement celle de la théorie économique.

La Loi de l'administration financière est le texte fondamental en matière de tarification ministérielle (en particulier l'article 13); son interprétation est codifiée, de façon encore imparfaite, dans diverses directives émanant du Conseil du Trésor.

Les règles actuelles, telles qu'interprétées dans le cas du spectre radio, disent essentiellement que tout montant perçu au-delà des coûts constitue une taxe et requiert donc d'être intégré au processus budgétaire (ie autorisation du Cabinet); que les redevances perçues par le ministère doivent être versées au Fonds consolidé et déduites des crédits usuels du ministère (donc que celui-ci ne peut pas utiliser ces revenus pour supporter d'autres programmes). L'esprit et la lettre de la dernière circulaire du Conseil du Trésor (juillet 86) permettraient au ministère de recueillir plus que les coûts de gestion, après autorisation et sans pour autant remettre en cause l'attribution inconditionnelle de ces redevances au Fonds consolidé.

Les justifications générales pour réserver au cadre budgétaire, au Cabinet, les décisions en matière de taxation d'un service sont solidement enracinées dans la tradition de l'économique du secteur public et des principes de base d'administration publique et de saine gestion démocratique. Elles reposent sur l'importance de la provision des biens publics et de la fonction redistributrice des gouvernements qui, à leur tour, fondent la césure entre décisions d'allocation des dépenses et de fiscalité. Bref, **les règles actuelles** réservant au Cabinet les décisions assimilables à des modifications de la fiscalité et obligeant les fonds recueillis sous l'égide du recouvrement des coûts à être versés au Fonds Consolidé sans contre-partie nécessaire pour le ministère responsable **sont appuyées sur des principes et une tradition suffisamment forts pour qu'il soit peu fructueux de tenter de les remettre en question dans le cas de la tarification du spectre radio.**

Au sein des règles actuelles gouvernant l'usage de la tarification dans le cas du spectre radio et dans des cas similaires, **le seuil du recouvrement des coûts utilisé pour distinguer le recouvrement de la taxation est essentiellement arbitraire.** Il s'agit toujours d'une forme de taxation. De plus, le fait de limiter celle-ci aux coûts de la gestion du spectre est sans fondement théorique acceptable; entre autres, les justifications en termes de taxation selon les avantages reçus ne sont pas valides étant donné qu'on ne peut pas légitimement croire que a) les coûts de gestion constituent une bonne approximation du total des avantages reçus et que b) la tarification uniforme reflète leur distribution effective entre les usagers. De fait, il est virtuellement certain que ces pratiques garantissent que le recouvrement des coûts ne pourra jamais constituer une façon adéquate de taxer selon les

avantages reçus, de faire en sorte que, pour un bien à faible composante publique comme l'utilisation des fréquences, certains ne seront pas avantagés aux dépens de l'ensemble des contribuables.

Face aux justifications théoriques et traditionnelles qui étayent l'autorité exclusive du Cabinet en matière de taxation et d'allocation budgétaire, existent des organismes publics qui échappent largement aux règles de récupération des coûts/taxation auxquelles est assujettie la gestion du spectre radio. Notamment dans l'univers réglementaire (transport, téléphone, électricité, etc) la pratique de l'interfinancement est bien établie et semble-t-il légitimée par la coutume. Or celle-ci est rigoureusement équivalente à une taxation hors du cadre budgétaire et à une utilisation des fonds ainsi perçus hors des cadres d'allocation budgétaire. Mutatis mutandis, la même situation prévaut pour les sociétés d'Etat en situation de monopoles naturels ou exerçant des fonctions réglementaires.

Les écrits des deux dernières décennies ont vivement (et unanimement) critiqué ces pratiques réglementaires comme réduisant l'efficacité économique et l'imputabilité politique. Par contre, on peur interpréter leur survie et leur légitimisation sur la scène canadienne, possiblement, comme le reflet d'une nécessité (cf étude No 10). Les exceptions réglementaires aux règles sont circonscrites: les transferts s'effectuent en nature (ie sont contrôlés par la consommation d'un service particulier) et l'interfinancement est limité au sein d'un groupe relativement bien identifié (les usagers de tel ou tel service). Dans le cas du spectre radio, cette dernière caractéristique contraindrait l'interfinancement à demeurer à l'intérieur d'une tarification différenciée, par exemple selon la contribution à la culture canadienne, la région, etc.

Les implications de ces résultats pour la gestion du spectre radio sont sans équivoque. Une beaucoup plus grande liberté de tarification (sans autorisation du Cabinet, examen détaillé du Conseil du Trésor et des Finances, modification législative, etc) et, surtout une plus grande liberté d'utilisation des fonds perçus auprès des usagers du spectre radio n'est probablement pas possible dans le cadre ministériel actuel. Elle le deviendrait, sujet aux contraintes mentionnées au paragraphe précédent, si la gestion du spectre devait s'effectuer à l'avenir dans le cadre d'une société d'Etat ou d'un organisme réglementaire.

Vu le caractère arbitraire du seuil de recouvrement des coûts comme frontière entre taxation et récupération, il est possible de modifier les façons présentes d'établir les frais imposés de façon à les rendre plus conformes à l'esprit de la taxation selon les avantages reçus (avec autorisation du Cabinet), ie tenant pleinement compte des rendements différents des diverses fréquences, des différences de congestion, de coûts associés, de possibilités concurrentes, etc. De tel changements devraient nécessairement comporter l'abandon du système actuel de tarification uniforme. Une telle approche ne permettrait pas au ministère de jouir automatiquement de ressources additionnelles pour ses autres programmes; elle rendrait la tarification des usagers du spectre plus conforme à l'esprit des règles générales actuelles en même temps qu'elle assurerait une utilisation plus rationnelle du spectre et une situation de concurrence plus correcte entre le spectre et les modes alternatifs de communication.

EXECUTIVE SUMMARY

The mandate of this study is to carry out a critical analysis of the literature and of Canadian practices dealing with the distinctions between taxation and cost recovery and to examine to what extent the conclusions reached in the literature and/or the observed practices could be relevant for the radio spectrum structure and the management of its fees policy. The context of the study is the overall evaluation of the radio spectrum management; it is felt that the present rules on taxation and cost recovery limit managerial discretion.

Our perspective is essentially taken from economic theory.

The Financial Administration Act provides the basic legislative framework to present ministerial discretion with respect to cost recovery (s 13); its interpretation is scattered through various Treasury Board directives and is still evolving.

Present rules, as understood in the case of the radio spectrum, state that any money collected beyond costs incurred by the department shall be considered as a change in taxation and consequently should be approved through the regular budget process (ie requires the approval of Cabinet); and that sums collected by the department shall be deposited to the Consolidated Revenue Fund (CRF) and deducted from the annual credits allocated to the department (ie the department cannot under its own authority use the funds it obtains from radio frequency users for other purposes and even to augment the resources devoted to the management of the spectrum). Both the spirit and the letter of the latest Treasury Board circular on the subject (July 22, 1986) indicate that DOC could be authorized to collect more than its costs of managing the spectrum although it could not use these funds without going through the usual budgetary requests for additional funding.

Basic principles of democratic government, tradition and the prescriptions of economic theory combine to provide a very solid rationale for these rules. The justifications stem from the importance within government functions and expenditures of the provision of public goods (those whose consumption cannot be readily gauged) and of effecting income redistribution (social programs). These factors, in turn, call for a rigid distinction to be maintained between decisions on expenditures allocation (eg between programs) and taxation decisions (equity, ability to pay, etc). In a nutshell, **the present rules,** which give to Cabinet sole authority to decide on any measure which can be deemed "fiscal" and channel all receipts to the CRF without compensation for the collecting department, **are so entrenched in tradition and so well grounded in theory that it is unlikely that they could be successfully challenged in the case of the radio spectrum.**

The present threshold for distinguishing between cost recovery and taxation (all costs recovered) is essentially arbitrary. Charging for government services always belongs to the realm of taxation. In the case of the radio spectrum, limiting fees collection to the costs of managing the spectrum is theoretically indefensible. Indeed, this cannot be defended in terms of benefit taxation since it is literally unbelievable that the costs of managing the spectrum would just happen to equal the benefits received by its users and/or that the benefits would happen to be equally distributed between users. In fact, it is virtually certain that strict cost recovery using a flat fee structure will never amount to benefit taxation, that it will give some

citizens substantial advantages (essentially wealth for the lucky ones with "good" frequencies in saturated markets).

Notwithstanding the strength of the justifications reserving all fiscal matters to Cabinet and Parliament, governmental organizations can be readily found in Canada which largely escape from the constraints imposed on the radio spectrum management. Chiefly in regulatory agencies, cross-subsidization is practised systematically and seems to have been legitimized by tradition. Cross-subsidization is, in fact, equivalent to taxing outside the budgetary process and to allocating the receipts to specific expenditures also quite outside of it. Mutatis mutandis, the same could be said about certain Crown corporations managing natural monopolies.

Over the last two decades the economic literature on regulations has characterized these practices as both economically wasteful and politically unacceptable given their low level of accountability. However, their survival and legitimacy in Canada could mean that they are fulfilling a real need (cf Study #10), not met within the present public decision making structure. The regulatory practices which do not conform to the taxation rules are nevertheless constrained in two ways: a) they redistribute income in kind (ie the cross-subsidies are a function of the amount consumed of the regulated good or service); b) the cross-subsidization takes place only within a rather well defined set of citizens (eg consumers of electricity or telephone services). In the case of the radio spectrum such a constraint would mean that cross-subsidies would have to remain within the community of frequency users, for instance by charging less for those contributing to Canadian culture, those operating in disadvantaged regions, etc.

The implications of the study for the management of the radio spectrum are straightforward. More freedom in charging for the use of radio frequencies and, more importantly, more freedom for DOC in using the receipts to support additions for its other programs is probably impossible within the present institutional framework. This freedom, within the constraints mentioned in the preceding paragraph, could be obtained only if the present departmental structure were to be changed to an independent regulatory body or a Crown corporation.

Given the arbitrary nature of the present distinction between cost recovery and taxation, it would be relatively easy for the radio spectrum management to obtain the authorizations needed to bring the present pricing policy in line with a benefit taxation approach. This approach would set licence fees with due regard to competitive technologies, costs of complementary equipment, profits which can be generated, etc. Of course, such a change would mean moving away from the present flat fee structure. Such a change would not allow DOC to benefit from additional resources for its other programs; it would nevertheless bring its fees policy closer to the spirit of the present rules (benefit taxation) and would assist in ensuring a rational use of the spectrum as well as in providing a more level playing field for the competition between the spectrum and alternative technologies.

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I. INTRODUCTION

The mandate of this study is to carry out a critical analysis of the literature and of present Canadian practices relating to the distinctions between taxation and cost recovery, and to examine to what extent the current distinctions are justified by economic and public administration theory. More specifically, it seeks to examine to what extent the conclusions reached in the literature and/or the observed practices could be relevant for the radio spectrum structure and the management of its fees policy. The context of the study is the overall evaluation of radio spectrum management; it is felt that the present rules on taxation and cost recovery limit managerial discretion. It was important, therefore, to re-examine the question of whether these rules are necessary and to what extent their consequences can be modified in the specific case of radio spectrum management.

As described in the appendix, our perspective is taken essentially from economic theory, with one minor qualification. At present, the rigorous prescriptions of the normative theory of public finance are not, in the great majority of cases, susceptible to testing. The demands of the theory in determining the optimality of a given change or provision currently go far beyond the data available for consultation and/or manipulation. Consequently, the discussions in this report have been restricted to a much more modest level: prescriptions which, in the majority of cases, will probably ensure the best solution.

The report begins with a review of the federal government's existing rules with respect to the distinction between cost recovery and taxation: legislative and regulatory bases, present practices, reformulation for subsequent analysis. The second section deals with the justifications for these rules. We examine, in turn, those based on the general theory of government budgets, particularly the distinction between expenditures and taxation; those based on the desire to simulate the action of the market, to develop a proper fees policy for the use of a common resource, to tax on the basis of benefits received, to establish an adequate fee structure for public monopolies. Section three deals with Canadian practices, particularly those which represent exceptions to the departmental

rules regarding the distinction between taxation and cost recovery. Examples are drawn essentially from the social sector (pensions and unemployment insurance) and regulation (transport, telecommunications, agriculture). Section four offers a synthesis of the conclusions to be drawn from the previous sections on the management of the radio spectrum. It seeks to answer two questions: a) to what extent can the fees policy applicable to users of the spectrum claim to represent an exception to the present rules, and on what grounds? b) what modifications to its organizational structure would facilitate greater flexibility in the development of a fees policy and the use of the funds thus generated by radio spectrum management?

II. PRESENT RULES: BASES AND INTERPRETATION

A. Legislative and regulatory bases

The Financial Administration Act provides the basic legislative framework in this context. Section 13, in particular, contains the essential provisions regarding the distinction between taxation and cost recovery.

> Financial Administration
>
> c F-10
>
> 13. Where a service or the use of a facility is provided by Her Majesty to any person and the Governor in Council is of the opinion that the whole or part of the cost of providing the service or the use of the facility should be borne by the person to whom it is provided, the Governor in Council, on the recommendation of the Treasury Board, may
>
> (a) subject to the provisions of any Act relating to that service or use of that facility, by regulation prescribe the fee or charge to be paid by the person to whom the service or the use of the facility is provided, or
>
> (b) notwithstanding the provisions of any Act relating to that service or the use of that facility, but subject to and in accordance with such terms and provisions as may be specified by the Governor in Council, authorize the appropriate Minister to prescribe the fee or charge to be paid by the person to whom the service or the use of the facility is provided. 1968-69, c 27, s 6.

It will be noted that this section appears to relate very generally to the direct assessment of fees for government services. The regulatory interpretations of this provision are currently scattered through a number of texts. The clearest and most synthetic is the Treasury Board circular (July 22, 1986, for reference) reviewing our essential concerns with respect to the provisions in question. The relevant passages of this text read as follows. It will be noted that this text is at once more precise and substantially more restrictive than the legislation itself. The legislation, of course, is very old.

(Extracts from the circular)

[TRANSLATION] When individuals or groups make use of rights or privileges or use resources controlled by the State, the fees charged must, on the whole, permit recovery of the total cost assumed by the government in making these resources, rights or privileges available to them, subject to the guidelines described in sections 6.1 to 6.14 below. When the value of the right or privilege granted to the user exceeds the cost assumed by the government in making it available to him, this value must be determined and taken into consideration in establishing an appropriate fees policy in respect of this right or privilege.

5.2 No fees should be imposed when the arrangements - regardless of how profitable they may be - for administering these fees would be excessive in relation to the receipts collected. In this respect, various options should be considered with regard to the administration and collection of fees (for example, permits, tolls, specific fees), taking into account their relative costs.

6.6 As a general rule, the amount of the reduction in relation to the total cost should depend:

. on the degree to which charging the total cost would reduce consumption to the extent of seriously compromising the achievement of the objectives of the program and other objectives of importance to the government (for example, when the principal objectives are to increase the consumption of certain goods and services in such fields as culture, education, health and public safety and to promote the Canadian identity or to expand access to fundamental rights and freedoms).

"Fiscal" implications

6.12 This policy is intended primarily to encourage the charging of fees in order to recover the costs associated with the provision of specific benefits or services to certain individuals or groups. It is important that there be a direct link between the fees charged and the benefits received, since, without this link, the user fees could correspond to another form of taxation and would consequently require approval through the regular budget process.

When the value of the rights and privileges conferred on users exceeds the total cost

6.13 When the value of the right or privilege granted to the user exceeds the total cost assumed by the government in providing it, fees should be based on this value (for example, market rates or an economic evaluation of the value which this right or privilege represents to the user), or should be determined by explicit decision of the government, taking into account both the full value and the objectives of the policy and the impact of these fees on the individuals or groups concerned. When no relevant regulatory text exists, fees in excess of the total cost of the rights and privileges must be subject to the approval process in terms of orientation and legislation, and when these fees constitute "fiscal elements", to the budget process.

7.1 The collection of user fees for specific benefits, as this circular indicates, is a basic objective of the government's financial administration. The receipts generated under this policy are intended primarily to reduce the burden on taxpayers in financing these goods and services and not to finance new or improved activities at the expense of the users of the goods and services on which costs are recovered.

7.2 In general, any increase in receipts will be credited directly to the Treasury or, where authorization exists to allocate receipts to other purposes (for example, by the net credit method), will be used to reduce the need for credits by that amount.

7.5 While income distribution normally serves to apply a compensatory increase to the reference levels, Treasury Board could, under exceptional circumstances, agree to support a request to seek Parliamentary approval for special arrangements permitting allocation of the receipts to other purposes (for example, the net credit method; renewable funds; "reserve" or special-purpose funds).

7.7 If, as a result of reduced demand or increased efficiency, the introduction of new or increased user fees gives rise to cost reductions, these savings could probably be re-allocated on the basis of the needs of other departments, subject to the usual Treasury Board examination and approval procedures. The MYOP should reflect these savings.

8.2 When these proposals constitute "fiscal elements", the approvals associated with the usual budgetary process should be obtained.

. proposals under section 7 of this circular to use part of the increased receipts from user fees to establish new activities or improve existing activities require the prior approval of the Minister of Finance and the President of Treasury Board. When the entire fiscal framework is thereby expanded, the approval of the Cabinet's priorities and planning committee is also required.

Transfer of receipts to departments

11.4 Receipts from user fees and dues may not be transferred to the credit of the departments unless Parliament has granted specific authorization to do so. In the absence of such authorization, receipts must be channelled to the Treasury as non-fiscal receipts. When allocation of the receipts to other purposes may be deemed appropriate, specific Parliamentary authorization must be obtained by means of separate legislative measures.

B. Key elements

It may be useful to extract from the preceding texts three key elements of the distinction between taxation and cost recovery.

1. Rule of taxation

This relates to the authority to collect receipts on behalf of the federal government: it stipulates that, with certain exceptions, a department may not collect, in exchange for the services which it offers, more than the costs of providing these services. This is how the rule on the collection of fees for use of the radio spectrum fees is seen, and this is how we are to interpret the cautious approach taken by the circular, which, while recommending fees based on the benefits received, remains extremely circumspect with respect to the authorizations required to do so.

2. Rule of expenditure

This rule specifies that all funds collected from users on a quid pro quo basis must be deposited to the Consolidated Revenue Fund, and may not be used as additional resources by the department concerned. Furthermore, the provisions relating to the use of these funds specify first that funds collected by a department are not added to the annual credits allocated to that department but deducted from them and that, where an exception is made to allow the use of these funds to improve services, it is important to ensure that the services in question are in fact those for which the users have been charged; and, even in this case, it is preferable to obtain explicit authorization from Parliament.

3. Threshold

The balance point between the costs incurred by the department and the receipts which it collects from users serves as the dividing line between what is considered taxation and what is considered cost recovery. As we shall see later, the selection of this threshold is perhaps one of the most difficult points to justify on the basis of the present rules. This dividing line is discrete in the circular: we mention it essentially because, unless it is defended as a matter of principle, the circular appears to assign it some practical importance as an authorization threshold.

Obviously, these three elements are closely linked. For example, if licence fees in excess of costs were charged, they would, within the spirit of these rules, be considered taxes on the service provided, and consequently the excess would be subject to a budgetary decision (that is, one valid for the government as a whole), in the same way as a change in the excise tax on tobacco, customs duties on automobiles or personal income tax. As in all these other cases, no specific department could then claim privileged access to the funds. Furthermore, the reduction of the usual budget credits by the amount of the fees collected clearly indicates that, in the government's view, the manner in which its revenues are collected must not in any way affect the distribution of expenditures, and that the two types of decisions must remain clearly distinct from one another.

C. Application of the rules

Within government departments and comparable bodies, the rules described above appear to admit of no exceptions. This situation marks the culmination of a tightening-up process which, we understand, began approximately ten years ago and has almost completely eliminated those situations considered "abnormal" by Treasury Board and the Auditor General.

For example, an apparent exception to the rule of taxation, the CRTC, does in fact collect from those under its jurisdiction sums in excess of those it spends. It is, however, entirely subject to the rule of expenditure: its budget allocations are not linked to the revenues it generates. We should also point out that all those with whom we have discussed this situation consider it abnormal; the question to be answered in settling the matter is whether the CRTC's fees should be reduced or its services expanded. Another apparent anomaly is the special fund authorized for airport maintenance. It is provided for in the departmental legislation ("net credit"); moreover, this fund must eventually equal zero for a given level of services. The fact that it is permitted to accumulate sums collected from users in excess of costs is justified by the enormous fluctuations in demand with which this administration is required to deal, fluctuations too unpredictable to be accommodated within the framework of a normal budget cycle. In short, this is a special cash reserve, and not a true exception, given all the conditions surrounding it.

In ordinary cases, for example, patent or trademark fees, the three rules summarized above apply, as we are assured they do in all other cases. It should be noted, however, that while errors in assessing demand (for example) may occasionally distort the rule of taxation, the rule of expenditure, on the other hand, is never violated.

III. JUSTIFICATIONS

A. A general formulation

The essential elements of the justifications underlying the distinction between taxation and cost recovery are based on a number of sources in economics and public administration. As we have seen in the preceding section (the Treasury Board circular), the rules surrounding fees for government services appear to pursue a number of objectives as well: equity among taxpayers, deficit reduction, some rationing of certain services, etc.

We therefore offer a preliminary synthetic justification of the distinction, on the understanding that we will be returning to it in the remainder of this section to add various elements from the literature in various areas of research and reflection.

The existence of these rules is based on the desire to divide the world of government decisions into two entirely separate compartments: the composition of public expenditures and their financing. Obviously, the two are related at the highest level; the overall level of expenditures and taxation must be (and is) decided simultaneously. As regards the composition of expenditures, the traditional Canadian view has been that it must remain independent of the forms of taxation used.

The justification for this approach relates to two essential factors: the provision of public goods and income redistribution. In the first, we refer to public goods in the strict sense, that is, those which, like national defence or the judicial system, offer advantages to all, regardless of their contribution to government receipts. The provision of goods of this nature is one of the essential duties of any government: no market solution can be visualized because, since everyone profits regardless of his contribution to total costs, it would be futile to hope that everyone will voluntarily reveal his preferences by purchasing the share he wants (and will in any event have) of national defence, the judicial system, etc. Similar reasoning applies, *mutatis mutandis*, to income redistribution. Collectively, citizens support a

given level of redistribution on the basis on income, age, region, etc, largely, it appears, on condition that their fellow citizens contribute their "fair share" as well. Here again, we find the same problem as in the case of public goods: the political consensus of the moment determines the level of expenditures to be made and these cannot be linked directly, in terms of financing, to individual consumption. In the case of redistribution, obviously, the opposite would be true.

Thus, the level of expenditures for these government functions will reflect preferences in the area of national security, social solidarity, etc. In financing these expenditures by taxation, governments have traditionally sought just and economically efficient means of collecting public revenues. The criteria used are the ability of taxpayers to pay, the neutrality of a given tax, etc. These criteria bear no relationship to the distribution of individual consumption of public goods and services, for obvious reasons.

If taxes are to meet criteria of this nature and to serve primarily to finance a set of public goods (or a set of functions including the provision of public goods and income redistribution), the level and manner of tax collection must clearly be a function of the government as a whole. Parliamentary and electoral control is exercised over levels and allocations of public goods as a whole and over tax collection as a whole. Since the State's budget forms a whole, the linking of services rendered in any one sector to specific tax revenues contravenes the fundamental principle that it is only at the highest level, for the whole, that taxation and expenditures come together.

Another way of developing this same reasoning, to which we shall return in dealing with the question of taxes for predetermined purposes, is to answer the following question: why not permit exceptions to the principles described above in the case of government-supplied goods whose public nature is minimal or non-existent, that is, goods and services which could quite readily be exchanged on a market basis or, at least, for which it is possible to identify the demand or the beneficiaries?

Following the logic of this argument, the response is reasonably clear. If the minister responsible for Communications is permitted to collect whatever the market will bear from users of the radio spectrum in order to finance an objective relating to the public good (for example, contribution to Canadian culture), authorization is in fact being given to link the amount of a public good (hence one consumed by all citizens) to revenues obtained from a specific group, without reference to the usual criteria for taxation. Examined from the standpoint of expenditures composition alone, such a situation gives rise to absurd results: certain public goods are produced in larger quantities simply because they are, more or less arbitrarily, subject to the authority of a department which provides services for which payment can be required. To take a recent example, the financing of copyright support could have been readily modified, in a sectoral-freedom situation of this nature, if the fees which could have been collected from spectrum users had been greater than those which CCA could have collected from patent holders. A final reductio ad absurdum: if those responsible for government activities for which fees can be demanded could charge what they pleased and use the funds freely to increase the budgets available for these activities (for example, without a corresponding deduction from their usual budget credits), we would find access to resources systematically facilitated for those government activities which are the least legitimately public in nature, those which could most readily be handled by the private sector.

In short, in the most general formulation, the essential justification for the rules requiring the centralization of decisions on matters relating to taxation and to the use of funds collected by way of fees for government services is based on solid foundations: the very nature of public goods, the dissociation between taxation and individual consumption of public goods, etc.

However, this logic of Cabinet responsibility for taxation and for the use of funds does not apply perfectly to all aspects of the rules reviewed above. In fact, it could be argued that all fees for services rendered by the government relate, in this context, to taxation. Justification for the recovery threshold and for the attendant consequences must therefore be sought elsewhere.

B. Recovery threshold and emulation of the market

One possible justification of the recovery threshold is that it could represent a condition under which government services would be provided on the same basis as private services. This possible justification may appear plausible in the case of the radio spectrum, with its relatively minor public-good component.

In balance over a long period on a given market, production costs (interpreted broadly to include capital, entrepreneurship, etc; that is, as broadly as the current measurement of costs in spectrum management) should equal receipts. This situation is valid on a competitive market.

From this standpoint, the recovery threshold rule would attempt to subject spectrum management to the logic of public goods (since it is not really a public good). The rule would then lead to the development of a policy under which users receive no subsidies in kind (as on a market) and under which frequency consumptions are a function of the individual participants' calculations and decisions, with prices established on the basis of management costs.

In this context, it becomes logical to consider as a tax only the excess collected and to apply to it the rule of centralization described above. Use of radio frequencies becomes a transaction of the same nature as the use of telephone services, and any excess of receipts over costs becomes comparable to a sales or excise tax.

This justification, attractive as it is at first glance, must however be examined somewhat more closely. First, it should be pointed out that equality between costs and receipts is not a sufficient condition for emulation of the operating results of a market. In the case at hand, the distortions of the other conditions are quite evident: absence of exchanges on the market because of the non-existence of property rights, semi-monopoly, etc. Secondly, as explained in the following subsection, the actual system of fees collection for use of the spectrum is so far removed, in terms of its other characteristics, from the operation of a market that it is unrealistic to assume that cost recovery alone can provide even a rough approximation of market results.

C. Present fees policy and market simulation

Users of the spectrum are charged a flat fee. According to the logic of the "market" justification, the service rendered should be uniform as well. This is clearly not the case. Equipment constraints and costs differ with band position, potential returns differ with the region, and the costs of providing service vary widely with the locality.

In fact, the department charges only the costs of policing the spectrum and ensuring minimum interference and compatibility with foreign systems. These services are comparable to others sold privately: insurance, performance guarantees, customs brokerage, etc. In all these cases, however, the price varies systematically with the risk and/or with the quantity of resources required to offer the service.

If we wished to emulate the market in terms of fees policy, user fees would vary on the basis of region and locality, and on that of band position (congested or uncongested). In addition to these market deviations, all of them relating to the supply side, there would be others relating to demand, that is, anticipated returns from the use of the spectrum, and these will be dealt with in the following subsections.

In short, the cost recovery threshold can scarcely be justified as a method of market simulation in the presence of the other currently employed approaches to fees policy, unless it is demonstrated that they are technically or economically the only feasible solutions. This is highly unlikely. Justification for this recovery threshold must therefore be sought elsewhere, for example, as a method for management of a common resource, benefit taxation, etc.

D. Management of a common resource

Under this heading we classify those techniques used to correct the imperfection of property rights (externalities) and, by extension, serving to justify certain methods of fees collection for the use of a resource which, by political decision, is to be removed from the market and remain common to all,

for instance, to ensure its enjoyment by future generations. The two examples selected are the imposition of charges on polluters in the first case and the charging of fees for the use of national parks in the second.

In this context, the questions posed become: to what extent can the rules governing the collection of fees for the use of the spectrum (as currently practised) be justified as analogous to accepted practices in the fields of pollution and park use?

In the case of charges imposed on polluters, the objective is to ensure that, in calculating production expenses, the polluter takes all costs into account, including, for example, the value of the use of a river of which he deprives his neighbours, just as if the polluter had had to purchase the right to use the river, in the same way that he purchases his electricity or his land. The objective is, of course, to ration the use of a resource which has no owner in the usual sense of the word: the greater the value of the uses of which he deprives others along the river, the heavier the charge imposed on the polluter, thus limiting the amount of pollution.

This eminently classical prescription of traditional economic theory is not relevant in the case of management of the radio spectrum, except to the extent that the fees are intended to prevent congestion, to ration the use of frequencies (on the basis of their desirability in terms of region and band position). It seems clear to us that, from this standpoint, the present rules and practices with respect to fees policy have nothing in common with justifications of this nature. In fact, according to the logic of the classical prescription that "the polluter must pay", the charge must be based on the value of the services of which other potential users are deprived, that is, including their demands; in the case of the spectrum, including the returns which these potential users could derive from the frequencies involved. From this standpoint, the charges would vary as if the frequencies were auctioned off; they would have no necessary link with the costs of spectrum management (essentially policing and administration services).

The perspective of management of a common resource of the "national parks" type is more relevant. In this case, the charges must permit maintenance of the

resource and thus are clearly linked to costs. On the other hand, however, this approach poses another problem: to the extent that the fees imposed do not adequately ration demand, overutilization of the areas involved raises the cost of maintenance and reduces the value of the services rendered. There is no reason to believe, a priori, that the collection of fees based on average maintenance costs will produce a cost which will adequately play this rationing role. In the case of the spectrum, the problems are identical, particularly in view of the flat fee charged for all frequencies.

In short, while certain elements of the approach to the collection of fees for the use of a common resource are found in the rules governing cost recovery/taxation with respect to the radio spectrum, they are elements which can only be considered administrative precedents, and not solid justifications.

E. Benefit taxation

This is the simplest form of taxation, and one which eliminates most of the difficulties associated with the determination of the preferences of voters/consumers of public goods. If it were applicable to all government spending, it would, for all practical purposes, eliminate the need to formulate a specific theory of public finance. In a universe of this nature, each group of citizens would consume public services on the basis of its own preferences, and would adjust its consumption by purchasing more or less; the State would simply be another producer providing goods virtually indistinguishable from private goods. It will be readily seen why benefit taxation generally occupies only a few lines in treatises on public finance. Even the most enthusiastic proponents of reduced government intervention in our economies never go beyond stating that benefit taxation could be used to a slightly greater extent than is presently the case.

The circular quoted at length in the preceding section states clearly that one of the principal objectives of cost recovery is to ensure that the beneficiaries pay, to minimize the subsidies in kind which they receive from other taxpayers. This is clearly, then, an attempt at benefit taxation.

From this standpoint, however, it seems clear to us that the rules governing

cost recovery (in particular, the limitation of recovery to costs incurred) are counterproductive. As its name indicates, benefit taxation is designed to ensure that the beneficiaries pay compensation based on the benefits they actually receive. These might possibly equal the costs incurred by the government (or at least an acceptable approximation of such costs), but do not necessarily do so. Indeed, the radio spectrum offers a perfect example of a case in which this condition is not met. In fact, by applying a flat fee structure when the profitability of the frequencies varies and when the costs of complementary equipment vary with the frequencies, and by prohibiting transactions involving frequencies, we guarantee that certain users will receive substantial advantages, including large revenues, courtesy of the government. The costs may be equally distributed, but the benefits are not.

The implications of this situation for the radio spectrum are that a recovery threshold set at the level of costs is indefensible in terms of benefit taxation. In order to establish true benefit taxation, it is essential that the fees paid be determined by the benefits received, that the State not create windfall profits for the fortunate few, that is, those with "good" frequencies. In a situation of this nature, receipts would probably exceed the costs of spectrum management alone, since these costs (see above) cannot constitute a reliable measure of benefits, which are dependent essentially on the local monopoly guaranteed on a given frequency.

In short, either we limit the fees collected to costs and satisfy the rules or we establish a differential fee structure (for example, one based on bidding and resale) and thus apply a form of benefit taxation, accepting the essential condition of collecting more than the costs of management. From this standpoint, the distinction between cost recovery and taxation is largely meaningless. The circular quoted above recognizes this point, moreover, in recommending that fee structures be based on value received when value exceeds costs.

F. Public monopolies

Under this heading, we classify studies on fees policies applicable to natural monopolies administered or regulated by the State. Traditionally, studies in

this area have dealt primarily with the problem of the decreasing marginal cost encountered in natural monopolies, such as electrical utilities. Since it is difficult in this case to establish a fee structure which would produce prices constituting reliable indicators of resource scarcity, the research has concentrated on the economic impact of current practices in this field, that is, fee structures based on average cost.

This practice (equivalent, in fact, to the rule of full cost recovery through a flat fee structure) has been examined primarily to determine the extent to which it had, in point of fact, permitted the establishment of prices for electricity, for example, which indicate the relative scarcity of this form of energy compared to others. For example, the Economic Council's study on electricity has demonstrated that the prices charged by provincial Crown corporations and regulatory bodies were far too low. For example, these prices were systematically lower than the real costs of producing additional kilowatts. Consequently, they encouraged overconsumption of electricity in relation to other forms of energy. Mutatis mutandis, analysis of American regulatory techniques in the same sector has produced identical results. In both cases, the causes of this economically inefficient fees policy lay in the faulty inclusion of capital costs (historical costs instead of additional costs required) and the lack of differential fees based on costs (for example, depending on time, region, etc).

These studies advocate that flat fee structures based on average cost should be replaced by more finely nuanced methods (differential pricing, consideration of additional capital costs required, etc). This approach is essential if fees are to play an adequate economic role: that of guiding consumption in terms of the costs to society of producing the good and in terms of the consumption of other forms of energy.

The relevance of this body of research to the question of cost recovery as opposed to taxation of the radio spectrum relates to three elements.

To the extent that average cost pricing still constitutes the most common approach adopted by public utility monopolies in Canada, we can see some legitimization by tradition of the current methods of setting fees for spectrum

management. It should, of course, be noted that the studies referred to above demonstrate the considerable shortcomings of this tradition. Particularly with respect to differential fee structures, the conclusions of these studies are essentially identical to those of the preceding subsection. More precisely, while a fees policy based on benefits received would demand the abandonment of flat fees and the return to the State of the revenues surrendered to certain parties, the recommendations proposed by the studies on fees policies for public monopolies suggest differential fees reflecting the true relative scarcity of the various frequencies. The principle is the same; only the terminology differs.

Secondly, as regards the use of the spectrum as opposed to other communication techniques, the studies considered in the case of electricity suggest that, where frequencies have the greatest value ("good" frequencies in areas of high demand), the current fees policy discriminates against the alternatives and encourages overutilization of the spectrum. This is an inevitable result of a fees policy based on the costs of spectrum management and flat rates.

Thirdly, as Study No 1 of the present evaluation demonstrates, it is extremely unlikely that spectrum management constitutes, technically, a natural monopoly. Justifications for the restrictions imposed on fees collected for the use of the spectrum based on Canadian tradition in this area are thus of dubious relevance.

On the whole, then, the studies on fees policies for public monopolies offer no justification for the rules limiting fees for the use of the spectrum to the costs of its management. Even more important, as in the case of benefit taxation, the distinction between cost recovery and taxation appears to be essentially artificial. It should, however, be noted that these results offer no indication as to who should have the authority to establish fees in excess of management costs; since the distinction in this area is arbitrary, only those justifications mentioned in III.A remain (applicable to all fees and not simply to the excess over costs).

G. Interim conclusions on the justifications

The present practices reserving to Cabinet the authority to impose user charges in excess of costs (rule of taxation) and to assign receipts to the Consolidated Fund (rule of expenditure) without any specific consideration of the needs of a given department are solidly grounded. The justifications for a dissociation between expenditures composition and taxation, in terms of the need for explicit central negotiation when public goods and income redistribution constitute a major proportion of expenditures, are coherent and convincing.

On the other hand, definition and application of the recovery threshold is difficult to justify, either in determining the decision centre (artificial distinction between taxation and recovery) or in limiting the receipts which can (should) be collected from users of certain services provided by the government, in particular those associated with the use of the radio spectrum. In fact, this limitation on fees (and their flat rate) make it impossible to implement true benefit taxation, to promote more efficient allocation of resources through the emulation of market solutions and to ensure that no individuals or groups receive revenues or privileged treatment as a result of government action.

This result is equivocal in terms of its implications with respect to the problem of the locus of responsibility (department or Cabinet) for fees policy. On the one hand, the present distinction is arbitrary and probably economically perverse; on the other, there are solid justifications for considering the collection of all fees (and the use of all receipts) a fiscal matter, and hence a Cabinet responsibility.

IV. EXCEPTIONS IN CANADIAN PRACTICE

As we have just seen, the literature on the economics and administration of public finance provide a solid rationale for the rules of taxation and expenditure. This section examines practices in Canada which represent clear distortions of these rules, yet go entirely (or virtually) unquestioned. We shall limit our examination to the most important of these extremely legitimate cases.

In general, the most obvious distortion of the principles developed in the preceding section is taxation for predetermined purposes. This form of taxation assigns to specific expenditures the receipts from a specific tax. The best-known example is the American Highway Trust Fund, which receives the direct proceeds of gasoline taxes and uses them to finance highway construction and repair. If the spectrum management could dispose freely of the receipts collected from users, this would be a case of taxation for predetermined purposes in which the rule of expenditure is not observed. Note that the rule of taxation (central legislative authority) is in fact observed in cases like that of the Highway Trust Fund: the level of the tax is subject to the usual approvals; only its disposition escapes the usual budget negotiations.

We shall look first at this category of exceptions, which, in Canada, are found most explicitly in the social field.

A. Social exceptions

The two Canadian cases most closely comparable to taxation for predetermined purposes are unemployment insurance and the Canada pension plan. In both cases, there is a special tax intended for a single pre-established purpose, the proceeds from which are not subject to budget negotiations. These two exceptions are extremely important, constituting, as they do, our two largest social programs.

These two exceptions do not really offer any insight into the debate over cost recovery/taxation in the area of radio spectrum management. These programs, at least initially, included a large insurance component; their financing can thus perhaps be explained just as well by this fact as by the use of taxation for predetermined purposes.

B. Regulatory taxation

A number of economic regulatory bodies represent exceptions to both the rule of taxation and that of expenditure. For example, the CRTC requires Bell Canada to charge higher rates for long-distance calls and business services and to use the additional funds to subsidize residential users, service to isolated areas or the hard of hearing. This action is, in practice, identical to the imposition of a sales tax on business communications expenditures and the subsequent use of the proceeds directly on behalf of certain groups. The only difference between this situation and a hypothetical case involving fees collected in excess of costs and then used for the purposes of a given department lies in the fact that no money passes through government hands. Even this difference disappears when we observe the same practices within provincially-owned telephone companies.

Naturally, Cabinet approval is required for all decisions by Canada's major regulatory bodies; such approval, however, is a far cry from the very strict control exercised over government departments in fiscal matters.

Prior to deregulation, this cross-subsidization, comparable to non-budgetary regulatory taxation, was equally prevalent in the area of air transport and, to a lesser extent, in that of rail transport. This practice of doing by regulation what is prohibited at the departmental level has been in existence in Canada long enough to be considered entirely legitimate today. Not only has it survived, but no case has been identified in which governments in Canada have either recommended or required that regulatory bodies be bound by the same types of rules as those applicable to departmental fees collection. Even more to the point, the fees charged for electricity in Quebec and for gas in Alberta clearly reflect cases in which cross-subsidization represents explicit government policy. In both cases, they represent implicit subsidies financed by

consumers of these services and offered to certain firms as one of the province's comparative advantages.

The regulatory taxation practised through farm marketing boards and similar organizations is an even clearer example. Through such agencies, the government sanctions a controlled price well above the market price for the explicit purpose of augmenting the income of agricultural producers. This is equivalent to imposing an excise tax on milk, turkeys, etc, the proceeds from which are automatically allocated in advance, with decisions on the distribution of the sums involved delegated largely to a specialized agency funded by means outside the usual framework of budget negotiations.

In short, the regulatory structure in Canada is apparently strong enough to escape all the constraints imposed on departments with respect to fees policy and predetermined utilization of the sums collected, and to operate free of fiscal and budgetary control or, at least, under far less strict control.

For the reasons behind this situation, we refer the reader to Study No 10 of the present evaluation, in which the advantages of the various governmental structures are examined in relation to radio spectrum management. That study concludes that the regulatory context, in Canada, appears to have been favoured precisely because of this "flexibility". In this connection, instances of cross-subsidization are equally common within Crown corporations. However, no further information is available with respect to the regulatory context, since cases of extensive cross-subsidization occur virtually exclusively within monopolies or quasi-monopolies and are identical to those noted above within the regulatory context.

C. Relevance of the observed exceptions to the case of the radio spectrum

As we have already noted, the exceptions within the social field are of limited relevance to the questions associated with the collection of fees for the use of the radio spectrum. With respect to regulatory taxation, the message is a double one: a) research results and theoretical reflections over the past two decades are extremely critical of the practices we have described; b) these practices are so common, so legitimized by Canadian practice that it is

reasonable to ask whether they may not have some value as precedents in discussions aimed at modifying the constraints currently imposed on radio spectrum management. Within this latter context, we shall attempt to define the institutional and operational conditions associated with these practices, and then to examine how and to what extent it might in fact be possible to apply these precedents in establishing a fees policy for the use of the radio spectrum.

1. Criticism of regulatory taxation

Research in this area over the last two decades has condemned these practices as economically unacceptable and, in many cases, even morally dubious. To mention only the most obvious results: these practices result in welfare losses by encouraging poor allocation of resources (prices which are too high [transport] or too low [electricity, residential telephone service]), thus leading to overconsumption or hindering industrial expansion; they result in arbitrary taxation which would be considered unacceptable, if not illegal, if it were proposed within the normal budget context (transfers from the urban poor to the suburban rich in the case of telephone service, support for the handicapped provided by specific taxpayers only, regressive income redistribution and waste in the case of agriculture, etc). Consequently, the literature concludes that, in principle, the practices mentioned in section II (centralization of taxation and budget allocation decisions) are clearly more efficient and equitable than those associated with regulatory taxation. We cannot expect to find any support here, then, for possible modification of the constraints presently imposed on the collection of fees for the use of the radio spectrum.

2. Conditions associated with the relevant exceptions

To the extent that the importance and survival of exceptions to the usual rules on taxation and cost recovery could be invoked in support of relaxation of the constraints presently in effect on the collection of fees for the use of the radio spectrum, it is important to define clearly the conditions under which these exceptions occur.

First of all, the only relevant exceptions which we have observed and which are both important and lasting occur within the regulatory context or in Crown corporations playing the same de facto role (for example, BC Hydro). In terms of discussions on the future organizational status of radio spectrum management, this observation corresponds to those suggested in Study No 10 of the present evaluation. For example, it seems clear that only a Crown corporation (regulated or not) would permit the degree of flexibility observed within the regulatory context. It seems highly unlikely that these operating conditions could be obtained within a traditional departmental structure.

Secondly, in all the exceptions which we have noted, transfers occur within a single group of individuals: telephone users, airline passengers, consumers of electricity. We know of none comparable to the hypothetical case in which funds collected from users of the spectrum are subsequently transmitted to video producers. In addition, in the exceptions observed, the transfers and cross-subsidization are always in kind; a given group of users of telephone or postal services is charged less than it should be, and the amount of the transfers is dependent on consumption of these services. Applied in full to the case of the radio spectrum, this restriction could prove extremely difficult. It would mean, for example, that cross-subsidization could be applied only by charging different rates (or even by providing certain users with free service).

Thirdly, the very concept of regulatory taxation, while long accepted by economists, is still far from a familiar topic of conversation. Consequently, there would probably be some difficulty in using it to support relaxation of the present rules governing fees policy, at least within the existing institutional framework.

V. CONCLUSIONS

The principal results of this study are:

a) Basic principles of democratic government, tradition and the prescriptions of economic theory combine to provide a very solid rationale for the rules reserving decisions on the taxation of a service to the budget context and to Cabinet. The justifications stem from the importance within government functions and expenditures of the provision of public goods (those whose consumption cannot be readily gauged) and of effecting income redistribution (social programs). These factors, in turn, call for a rigid distinction to be maintained between decisions on expenditures allocation (eg between programs) and taxation decisions (equity, ability to pay, etc). In a nutshell, the present rules, which give to Cabinet sole authority to decide on any measure which can be deemed "fiscal" and channel all receipts to the Consolidated Revenue Fund without compensation for the collecting department, are so entrenched in tradition and so well grounded in theory that it is unlikely that they could be successfully challenged in the case of the radio spectrum.

b) The present threshold for distinguishing between cost recovery and taxation (all costs recovered) is essentially arbitrary. Charging for government services always belongs to the realm of taxation. In the case of the radio spectrum, limiting fees collection to the costs of managing the spectrum is theoretically indefensible. Indeed, this cannot be defended in terms of benefit taxation since it is literally unbelievable that the costs of managing the spectrum would just happen to equal the benefits received by its users and/or that the benefits would happen to be equally distributed between users. In fact, it is virtually certain that strict cost recovery using a flat fee structure will never amount to benefit taxation, that it will give some citizens substantial advantages. In the case of the radio spectrum, these practices ensure the creation and protection of exceptional revenues for some.

c) Governmental organizations can be readily found in Canada which largely escape from the constraints imposed on the radio spectrum management. Chiefly in regulatory agencies, cross-subsidization is practised systematically and seems to have been legitimized by tradition. Cross-subsidization is, in fact, equivalent to taxing outside the budgetary process and to allocating the receipts to specific expenditures also quite outside of it. Mutatis mutandis, the same could be said about certain Crown corporations managing natural monopolies.

d) Over the last two decades the economic literature on regulations has characterized these practices as both economically wasteful and politically unacceptable given their low level of accountability. However, their survival and legitimacy in Canada could mean that they are fulfilling a real need on the part of the government for tools offering greater flexibility than those subject to existing budget processes (cf Study #10). The regulatory practices which do not conform to the taxation rules mentioned in a) are nevertheless circumscribed: they occur only within the regulatory context; they redistribute income in kind (ie the cross-subsidies are a function of the amount consumed of the regulated good or service); and the cross-subsidization takes place only within a rather well defined set of citizens (eg consumers of electricity or telephone services).

The implications of the study for the management of the radio spectrum are as follows:

1. More freedom in charging for the use of radio frequencies and in using the receipts is probably impossible within the present institutional framework. This freedom, within the constraints mentioned in c), could be obtained only if the present departmental structure were to be changed to an independent regulatory body or a Crown corporation.

2. Given the essentially arbitrary nature of the present distinction between cost recovery and taxation and the arbitrary nature of the concept of cost recovery as a principle of fees policy in the case of the spectrum, it would probably be possible to modify the present method of establishing charges (with Cabinet authorization or by legislative amendment). Of course, such a change would mean moving away from the present flat fee structure to a system more in line with a benefit taxation approach, that is, one which set licence fees with due regard to the different levels of costs and returns associated with different frequencies. Such a change would not allow any greater flexibility in the rule of expenditures (ie assignment to the Consolidated Fund without compensation); it would nevertheless bring the fees policy closer to the spirit of the present rules (see a above) and would assist in ensuring a more rational use of the spectrum as well as in providing a more level playing field for the competition between the spectrum and alternative technologies.

APPENDIX: Application of the normative theory of public finance: limitations

The works of the past generation in the area of normative public sector economic theory have been concerned primarily with reformulating, clarifying and generalizing previous discoveries in the light of general equilibrium models. This more powerful tool makes it possible to take into account the impact of all forms of government intervention on the various sectors and, in particular, makes it possible, at the theoretical level, to integrate into a coherent whole factors previously considered in isolation. For example, an optimum may be defined taking into simultaneous account questions of allocation, fiscal impact on both markets and non-market activities, divergent preferences with respect to public goods, etc.

This evolution has made it possible to define much more accurately the conditions under which it can be affirmed that a given modification of government action will represent an improvement. In addition, the developments in second-best theory have led to re-examination of many previously accepted prescriptions. For example, it can be demonstrated that improved resource allocation in one sector (ie a fees policy based on users' marginal costs) does not necessarily approach the optimum if, elsewhere in the economy, monopolized sectors exist and are affected.

This evolution in theory has occurred, for the present at least, largely at the expense of concept operationality, and has been reflected by a reduction in the number of specific prescriptions which the discipline can offer decision-makers. This paradox can be explained both by the demand of the now-dominant models for data (preferences, recreation/work substitutions, competition in the rest of the economy, for example) as well as by the far greater complexity of the conditions to be accounted for before a given prescription can be considered valid. One of the many possible examples relates to indirect taxation. Using the old, relatively simple type of analysis, it could be concluded that an indirect tax on a single good gave rise to distortions and that a presumption existed that a general, uniform tax would be preferable to

a series of taxes providing the same return but varying from good to good. Contemporary analysis has shown this reasoning to be incorrect, both in Pareto-equilibrium and second-best terms. However, as yet it has been impossible to replace the old prescription with one which is either relatively clear or testable on the basis of the information available.

This situation has led an author like Tresch to distinguish the precepts of Pareto or second-best theory from the operational principles which actually guide decision-makers. For the present, he finds two worlds so far apart that the attempt by the American postal system to justify its rate structure on the basis of Ramsay's conditions is the sole example which he offers of the application of the discipline's new conclusions in public sector allocation decisions; the rest (that is, virtually everything else) he sees essentially as an interesting research topic for positive analysis; how likely is it that some of the modern results of economics could be integrated with the decisions of voters and decision-makers!

The current relationship between prescriptive public sector theory and the world of principles accepted as economic considerations by practitioners can be described as follows: although it is now established that these "practitioners' principles" do not constitute valid rules in all cases and that they involve the risk of errors in terms of impact on the rest of the economy, they probably represent generally reliable guidelines. For example, the concept that, in terms of resource allocation, benefit taxation is preferable to all other forms is very old; contemporary analysis can show that the principle is perfectly correct when there are no externalities and the good is entirely private (exclusions) but that its optimality can be assumed only to the extent that we ignore (or assume to be insignificant in terms of real effects) both the distributional considerations and the other distortions introduced by monopolistic power or public goods, distortions which could have been corrected by another form of taxation.

Within the context of an analysis of the literature attempting to clarify concrete decisions, the situation which we have just described leaves us little choice: on virtually every question raised, we must conclude, in the light of

the most advanced theoretical prescriptions, with the old Scottish verdict, "not proven". At the cost of some theoretical rigour, we have chosen to restrict the discussion largely to the level of "practitioners' principles", that is, to prescriptions which can be transposed to specific decisions and which appear to offer the greatest probability of accuracy in the majority of cases. Consequently, we shall not deal in each case with considerations of second-best theory, or with general equilibrium considerations integrating allocational and distributional preferences, etc.

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