

User Charges for Public Services: Potentials and Problems

Richard M. Bird and Thomas Tsiopoulos*

PRÉCIS

Les pressions budgétaires poussent les gouvernements de tous niveaux à recourir de plus en plus à la tarification pour financer leurs activités. Adéquatement conçus et appliqués, les tarifs peuvent en effet contribuer de façon importante au financement des services gouvernementaux mais, et ceci est plus important, ils peuvent également amener les gouvernements à produire les services que le public désire en tenant compte du prix qu'il est disposé à payer. Il n'est pas facile de cependant, déterminer les secteurs où les tarifs sont appropriés ni, s'ils le sont, de les fixer et de les instaurer.

Cet article décrit quelques-uns des principes généraux qui devraient être observés à la fois pour déterminer quels services publics devraient être sujets à la tarification et pour établir les *montants* à faire payer. L'article donne également un bref aperçu quantitatif de la tarification au Canada, et examine certains des principaux aspects d'une politique de tarification appropriée dans plusieurs domaines pertinents tant au niveau des provinces que des municipalités, allant des parcs aux soins de santé. Dans chaque cas, la «bonne» politique concernant les tarifs dépend des aspects particuliers de chaque service par rapport à tous les facteurs présentés dans cet article; nous n'essayons pas de décrire en détail l'ensemble des possibilités de tarification applicables aux activités du secteur public. Les brefs tableaux que nous présentons doivent être considérés comme des illustrations, non comme des comptes rendus définitifs. L'article conclut en insistant sur l'importance de fixer et d'instaurer des tarifs adéquats afin de bénéficier pleinement de l'application de mécanismes de prix dans le secteur public.

Nous partons du principe que dans tous les cas où cela s'avère possible et souhaitable, les services publics devraient être payants. La principale raison économique d'imposer des tarifs aux bénéficiaires directs (tant les particuliers que les entreprises) des services publics est

* Of the International Centre for Tax Studies, University of Toronto. This article was originally prepared for the Centre for the Study of State and Market of the Faculty of Law of the University of Toronto. We are grateful to Michael Trebilcock, Director of the Centre, for his support and to him and Almos Tassonyi for helpful comments on an earlier draft of this article, but we are of course solely responsible for its contents.

d'amener les gouvernements à utiliser leurs ressources de façon plus rationnelle. L'idée d'inciter les gouvernements à utiliser le plus efficacement possible les ressources publiques restreintes n'est pas un caprice d'économiste sujet à l'idéologie. Ce n'est qu'une simple question de bon sens: il est dans l'intérêt de chaque société d'utiliser ses ressources publiques de manière à fournir aux citoyens le plus grand nombre de services possible. C'est d'ailleurs pourquoi, l'efficacité est un objectif particulièrement important en présence de contraintes budgétaires.

Donc, la principale raison économique d'avoir recours à la tarification *n'est pas* de produire des revenus, mais de favoriser l'efficacité économique. Les tarifs permettent d'atteindre cet objectif *à la fois* en informant le secteur public de la somme que les clients sont réellement disposés à payer pour des services particuliers *et* en assurant que la valeur que les citoyens attribuent aux services publics offerts correspond au moins au coût (marginal). Appliqués de façon adéquate, les tarifs peuvent améliorer le sort de la société canadienne, en partie parce qu'ils entraînent une allocation plus efficace des ressources que celle qui existe actuellement en l'absence de mécanismes de prix appropriés. Dans la pratique par contre, on observe que plusieurs des efforts de tarification en ce moment au Canada font preuve d'un manque de rigueur. Certains services tarifés ne devraient probablement pas l'être, et un grand nombre de tarifs ne créent pas les «bons» incitatifs économiques. Certaines critiques du public envers les «ponctions de revenu» semblent être justifiées. Par ailleurs, les gouvernements ne réussissent pas à expliquer aux citoyens en général et aux usagers (et directeurs) de certains services particuliers les raisons pour lesquelles la tarification est indiquée et ce qui justifie certains tarifs. A moins d'être plus soigneux dans l'établissement de tarifs «adéquats» pour les services publics, comme nous le préconisons dans cet article, l'avantage potentiel d'une «bonne politique» de tarification, risque d'être perdu à cause d'une mauvaise mise en application (réelle ou perçue).

Des tarifs mal établis dans un secteur peuvent très facilement nuire à l'application d'une bonne politique en général; on a donc intérêt à faire tous les efforts afin d'assurer que l'on impose des tarifs appropriés pour des services appropriés. La tarification est potentiellement un outil très important pour améliorer le fonctionnement du secteur public; par conséquent, elle ne devrait pas être laissée aux caprices de fonctionnaires et de politiciens qui cherchent à obtenir des revenus de toutes les sources possible, de groupes de pression défendant leurs intérêts particuliers en se prévalant de l'intérêt public, de journalistes en mal de titres sensationnels ou, même d'économistes qui considèrent l'efficacité économique comme étant une panacée pour tous les maux de la société.

Le thème principal de cet article est que, dans l'ensemble, les Canadiens ont beaucoup à gagner d'une politique visant à établir des

tarifs adéquats et appropriés pour les services publics, même si certains d'entre nous qui bénéficient de ces services à des prix moindres que leur valeur, risquent d'être perdants. Le thème secondaire est que la seule façon de parvenir à cette situation idéale, est d'être aussi explicites et aussi objectifs que possible en ce qui concerne les questions techniques et politiques parfois nébuleuses et controversées associées à l'établissement et l'instauration des tarifs. À première vue, nous semblont probablement préconiser la perfection. Ce n'est pas le cas : il s'agit plutôt de tenter sérieusement de faire de le mieux possible. Un moyen pour y parvenir, est de recourir davantage à la tarification et de mieux le faire en s'inspirant des suggestions présentées dans cet article.

ABSTRACT

Budgetary pressures are leading governments at all levels to turn increasingly to user charges to finance their activities. Properly designed and applied, user charges can indeed play an important role in providing finance for what governments do. What is more important, they can also ensure that what governments do is what people want and are willing to pay for. Nonetheless, it is by no means easy either to determine the appropriate domain for user charges or to design and implement user charges when they are appropriate.

This article sets out some general principles that should be followed both in deciding *which* public sector activities should be charged for and *what* charges should be imposed. The article also provides a brief quantitative overview of user charges in Canada and considers some important aspects of proper charging policy in several specific areas of current interest, ranging from parks to health care, at the provincial and municipal levels. "Good" user-charge policy for any particular public sector activity depends upon the specifics of all the factors set out in this article; we do not attempt to describe in detail the wide variety of potentially relevant charges for public sector activities. The brief vignettes presented in the article are intended as illustrations, not as definitive accounts. Finally, the article concludes by emphasizing the importance of the appropriate design and implementation of user charges if the potential of "public pricing" is to be realized in practice.

Our starting point is the belief that whenever possible and desirable public services should be charged for rather than given away. The main economic reason for levying user charges on the direct recipients (whether individuals or businesses) of benefits from particular public services is to make government's use of resources more efficient. The goal of maximizing the efficiency with which governments use scarce public resources is not the whim of an ideologically driven economist. It is simply common sense: surely, any society should use its scarce public resources in a manner that will provide its people with as large a bundle as possible of services that they want, and that is all that is meant by

efficient resource use. Efficiency in this sense is an especially important objective in times of budgetary stringency.

The main economic rationale for user charges, therefore, is *not* to produce revenue but to promote economic efficiency. Charges achieve this goal both by providing information to public sector suppliers about how much clients are actually willing to pay for particular services and by ensuring that citizens value what the public sector supplies at least at (marginal) cost. User charges, properly employed, have the potential to make Canadian society as a whole much better off—in part by correcting some of the serious misallocations of resources that result from our current failure to price properly. In practice, however, it is clear that much of what is currently going on across Canada under the banner of “user charges” makes little sense. Some activities that are being priced probably should not be. Many of the charges imposed may not create the right economic incentives. Some of the public criticism of “revenue grabs” may be justified. Finally, nowhere, it seems, is government doing a very good job of explaining either to citizens in general or to the users (and managers) of particular services why charges, and why these particular charges, should be imposed. Unless more care is taken to get the prices charged for public services “right,” along the lines set out in this article, the great potential of good user-charge policy is all too likely to be swamped by its perceived and actual bad implementation.

Bad pricing in one area can too easily become the enemy of good policy in general, so it is worth taking the time and trouble needed to ensure that the right charges are applied to the right services. User charges are potentially too important an instrument in improving public sector outcomes to be left to the vagaries of officials and politicians looking for money from any source, special-interest groups defending their particular subsidies on public-interest grounds, journalists looking for sensational headlines, or, for that matter, economists trying to sell efficiency as a panacea for all of society’s ills.

The central theme of this article is that Canadians as a whole have much to gain—even if some of us in our capacity as current beneficiaries of particular underpriced public services may have something to lose—by ensuring that we charge correctly and where appropriate for services provided by the public sector. The secondary theme is that we are likely to achieve this nirvana only if we are as explicit and as objective as possible about some rather murky and controversial technical and political issues related to the design and implementation of user charges. This may seem at first glance to be a counsel of perfection. It is not. What we urge is not a fruitless search for perfection but rather a serious effort to do as well as we can. One way to do it, and by no means a trivial one, is through more and better use of user charges along the lines set out in this article.

*Shippers, ports angry over fees.*¹

*McKenna raises user-fee spectre.*²

*Province proposes forestry-user fees. Everyone who touches the wood will be charged.*³

*User fees too much for struggling fishery, senators told.*⁴

*Ontario drug fees will have human cost.*⁵

*Tax by any name still costs. City trying to hide levies as user fees.*⁶

*User-fee madness.*⁷

Over the last few years, Canadians from coast to coast have been inundated with headlines like these. Governments at all levels are increasing existing fees and charges, imposing new ones, and considering still others. Nothing is sacred. Parks,⁸ farm services,⁹ lighthouses,¹⁰ libraries¹¹ . . . wherever one looks these days, the spectre of user charges looms. From parks in Victoria¹² to garbage collection in St. John's,¹³ in almost every federal department¹⁴ and in many provinces and municipalities—user charges seem to be everywhere.¹⁵

¹ Oliver Bertin, *The Globe and Mail*, March 16, 1996.

² *The Globe and Mail*, December 8, 1995.

³ Steve Sharratt, *The (Charlottetown) Guardian*, October 31, 1995.

⁴ Kevin Bell, *The (St. John's) Evening Telegram*, October 25, 1995.

⁵ *The Globe and Mail*, July 15, 1996.

⁶ Nick Martin, *Winnipeg Free Press*, November 21, 1995.

⁷ Terence Corcoran, *The Globe and Mail*, January 19, 1996.

⁸ "National Parks To Levy User Fees," *The Globe and Mail*, March 30, 1995.

⁹ Doug Beazley, "Farmers Fear Fee Hikes: Federal Plans To Jack Up User Fees Could Push Many Growers Out of Business," *The (Charlottetown) Guardian*, September 26, 1995.

¹⁰ A recent report in British Columbia apparently recommended that user fees be imposed on boaters if the latter wanted to keep manned lighthouses in operation (*The Vancouver Sun*, as reported in *The Globe and Mail* [date unknown]).

¹¹ "Ontario User Fees for Libraries," *The Globe and Mail*, November 25, 1995.

¹² Richard Watts, "Entry Fee In, Parking Fee Out," (*Victoria*) *Times Colonist*, April 11, 1995.

¹³ Editorial in *The (St. John's) Evening Telegraph*, August 29, 1995.

¹⁴ Terence Corcoran "Bureaucrats' User Fee Hunt Spooks Industry," *The Globe and Mail*, May 9, 1995) put it as follows: "Name a department. Environment was ordered to recover costs attributable to environmental assessments. Transport was told to introduce new cost-recovery measures and increase existing fees. Others searching for new revenue sources include Health, Agriculture, Fisheries, Foreign Affairs, and Indian Affairs." The official rationale for this policy is set out in brief in Canada, *Getting Government Right: A Progress Report* (Ottawa: Supply and Services, 1996), 24, and at more length in Canada, Treasury Board Secretariat, *Cost Recovery and User Fees* (Ottawa: Treasury Board Secretariat, November 9, 1994).

¹⁵ Especially perhaps in Ontario, where Bill 26 (infra footnote 24), which came into effect in January 1996, increased municipal authority to establish fees for municipal services. (The footnote is continued on the next page.)

Given this state of affairs, it is not surprising that some Canadians must feel like the hapless beaver in a cartoon that appeared at the end of 1995 in the *Moncton Times-Transcript*.¹⁶ "1995! What a year!" the beaver exclaims, "U.I.C. cuts! Social program cuts! Medicare cuts . . . !" This representative Canadian taxpayer stares blankly out at the reader, thinking, ". . . So what else could happen!", quite oblivious to a huge truck labelled "User Fees" bearing down on him. The driver of the truck is sound asleep, which is apparently what many Canadians think their governments are in the matter of user charges, when they do not consider them to be actively malevolent or just plain greedy.

Most recent press comment on user charges in Canada has emphasized two points: first, that user charges constitute a "revenue grab" by hard-pressed governments; second, that user charges will impose new and undesirable burdens either on the poor or on some other sector of society that is for some reason taken to be equally deserving (such as commercial fishermen or shippers).¹⁷

But is this all there is to the story? One columnist recently asserted that "whatever rationale exists for user charges, it has long ago been driven off the agenda. What we have today are plain, old tax increases dressed up in pseudo-free-market jargon about the need to bring real-cost and real-price discipline to government spending."¹⁸ In sharp contrast, another columnist for the same paper had argued only a day earlier that "user fees beat taxes," since they lead to greater efficiency (and need not worsen distribution).¹⁹

One purpose of the present article is to demonstrate that the second writer is right, at least in principle. User charges, properly employed, have the potential to make Canadian society as a whole much better off—in part, by correcting some serious misallocations of resources that have resulted from our current failure to price properly (in the area of urban land development, for example²⁰). In practice, however, much of what is

¹⁵ Continued . . .

The substance of this bill will be discussed further later in the article. For two comments in other provinces on Ontario's actions, see Gil Hardy, "User Fees and Harris," *The (Charlottetown) Guardian*, August 25, 1995, and the editorial from *The (St. John's) Evening Telegram*, supra footnote 13.

¹⁶ As reproduced in *The Globe and Mail*, December 26, 1995. Another cartoon on the same theme shows a policeman speaking to a hapless motorist trapped in his upside down and burning car: "To begin with, sir," says the policeman, "are you willing and able to pay user fees for—ambulance, fire department, police force, towing, hospital, drugs, clean up, jaws of life, first aid. . . ." (*Toronto Sun*, December 11, 1995).

¹⁷ Of course, there are some exceptions to this generalization. See, for example, Andrew Coyne, "Why User Fees Beat Taxes," *The Globe and Mail*, January 18, 1996, and especially Steven Mennill, "User Fees Can Help Cities Work," *The Globe and Mail*, February 15, 1996.

¹⁸ Terence Corcoran, "User-Fee Madness," *The Globe and Mail*, January 19, 1996.

¹⁹ Coyne, supra footnote 17.

²⁰ As is clearly recognized in the comment by Mennill, supra footnote 17. Of course, Mennill's point has been well known for decades: see the classic analysis by Wilbur (The footnote is continued on the next page.)

currently going on across Canada under the banner of “user charges” makes little sense. Some activities that are being priced probably should not be. Many of the charges imposed may not provide the right economic incentives. Some of the public criticism of “revenue grabs” may be justified. Finally, nowhere, it seems, is government doing a very good job of explaining either to citizens in general or to the users (and managers) of particular services why charges, and why these particular charges, should be imposed. Unless more care is taken to get the prices charged for public services “right,” along the lines set out in this article, the potential of good user-charge policy is all too likely to be swamped by its perceived and actual bad implementation. A second purpose of this article is to suggest some ways in which this undesirable outcome can be avoided.

The next section below offers a few further introductory remarks. The third and fourth sections set out some general principles that policy makers should follow in deciding both *which* activities should be charged for and *what* charges should be imposed. The fifth section provides a brief quantitative overview of user charges in Canada, and the sixth considers some important aspects of proper charging policy in several specific areas of current interest, ranging from parks to health care, at the provincial and municipal levels. Unfortunately, it is much more difficult to describe how to establish good user charges in any particular area than it is to prescribe, say, good tax policy—and consider how much ink has been spilled on that question! “Good” user charge policy for any particular public sector activity depends upon the specifics of all the factors set out in this article, which cannot possibly prescribe in detail for each of the wide variety of potentially relevant public sector activities. The vignettes presented in the sixth section of the article are intended simply as illustrations, not as definitive accounts. Finally, the article concludes by again emphasizing the importance of the appropriate design and implementation of user charges if the potential of “public pricing” is to be realized in practice.

Bad pricing in one area can too easily become the enemy of good policy in general, so it is worth taking the time and trouble needed to ensure that the right charges are applied to the right services. User charges are potentially too important an instrument for the improvement of public sector outcomes to be left to the vagaries of officials and politicians looking for money from any source, special-interest groups defending their particular subsidy on public-interest grounds, journalists looking for sensational headlines, or, for that matter, economists trying to sell efficiency as a panacea for all of society’s ills. A central theme of this article

²⁰ Continued . . .

Thompson, “The City as a Distorted Price System,” in Oliver Oldman and Ferdinand P. Schoettle, eds., *State and Local Taxes and Finance: Text, Problems and Cases* (Mineola, NY: Foundation Press, 1974), 127-36, and the related discussion in the Canadian context by Richard M. Bird, *Charging for Public Services: A New Look at an Old Idea*, Canadian Tax Paper no. 59 (Toronto: Canadian Tax Foundation, 1976), part 3. What is striking, however, is how seldom the efficiency aspects of urban pricing (or any other form of public pricing) are mentioned in Canada.

is that Canadians as a whole have much to gain—even if some of us, in our capacity as current beneficiaries of particular underpriced public services, have something to lose—by ensuring that we charge correctly and only where charging is appropriate for services provided by the public sector. The secondary theme is that we are likely to achieve this nirvana only if we are as explicit and as objective as possible about some rather murky and controversial technical and political issues related to the design and implementation of user charges. This may seem at first glance to be a counsel of perfection. It is not. What we urge is not a fruitless search for perfection but rather a serious effort to do as well as we can. One way to do it, and by no means a trivial one, is through more and better use of user charges along the lines set out in this article.

THE CHALLENGE

For much of the post-war period, the scale and scope of government activity in Canada, as in most other countries, has expanded—sometimes rapidly, sometimes more slowly.²¹ At first, the growth of public expenditure was financed relatively painlessly by the increasing stream of tax revenues that accompanied rapid economic expansion. More recently, the growth of government has been not only halted but reversed. In the current economic and fiscal environment, there is little chance that governments will be able to finance any significant new expenditures out of general tax revenues. Indeed, there is likely to continue to be increasing pressure on all levels of government to reduce not only deficits and expenditures but taxation as well. In these circumstances, close examination of the rationales for, and the structures of, all expenditures and revenues becomes particularly important.

In particular, as we have already noted, the current pressure on budgets is leading governments at all levels to increase their use of user charges²² in order to finance their activities. Properly designed and applied, user charges can indeed play an important role in financing what governments do. What is more important, they can also ensure that what governments do is what people want, and are willing to pay for. Nonetheless, it is by no means easy either to determine the appropriate domain for user charges or to design and implement user charges when they are appropriate. Nor has the task been made any easier by the incorrect assumptions that underlie much recent discussion of this subject by both proponents and opponents of user charges.

Here is an example. Last year, Winnipeg's city council proposed to freeze local property taxes and to make up the revenue shortfall by increasing

²¹ For the most recent analysis of the growth of government in Canada, see G.C. Ruggeri and D. Hermanutz, *Leviathan Revisited: The Growth of Government Spending in Canada Since 1961* (Avebury Publishing, forthcoming).

²² Although user charges are often referred to as "user fees," the latter term is used somewhat more narrowly in the present paper to encompass only one variety of "user charges" more broadly defined. See the discussion of terminology in the next section.

a variety of user charges—water usage rates, library card fees, gasoline taxes, and so on.²³ The Ontario government has urged Ontario's municipalities to adopt a similar course, in order to make up for cuts in provincial transfers to municipalities.²⁴ The defect of this approach is that it simply assumes what has to be demonstrated—namely, that what governments are now paying for is what their people want and are willing, service by service, to pay for themselves. This faith in the wisdom of past government decisions may be unjustified. Nonetheless, the same faith seems to underlie many critiques of user charges as unfair and unwarranted. It is true, of course, that some services currently provided by public agencies cannot and should not be financed through user charges (see the next section). But it is equally true that the user-charge option may sometimes be employed as an excuse to maintain activities in the public sector that might more appropriately be privatized. As one part of the needed rethinking of government in Canada, this article provides a closer look at both the promise and the limitations of user charge financing of public sector activities.

User charges ranging from water rates to airport landing fees have of course existed in Canada for many years.²⁵ In the current fiscal environment, in which governments are looking for funds wherever they can find them, it has become even more important to ensure that the *right* prices are being charged for the *right* services. To achieve this aim, the principles underlying user charges need to be more transparent, more clearly articulated, and better understood than they are now. As the preceding account of recent discussion in the press suggests, there is much to be done in this respect. Specifically, three important challenges to user-charge policy must be met.

The first challenge is the technical one of determining what user charges should be imposed for what services. In practice, as we have already suggested, this task is seldom simple. Each specific public sector activity requires careful and detailed analysis in order to determine *whether* charges should be imposed and, if so, *what* charges should be imposed.

²³ *Winnipeg Free Press*, November 15, 1995.

²⁴ Bill 26—which has the magnificent official title of “An Act To Achieve Fiscal Savings and To Promote Economic Prosperity Through Public Sector Restructuring, Streamlining and Efficiency and To Implement Other Aspects of the Government’s Economic Agenda” (SO 1996, c. 1)—clearly empowers municipalities to impose fees on any services they are authorized to provide. Moreover, the legislation makes it clear that fees are not limited to cost recovery but may be used simply to raise revenue. (But it does not, despite some initial confusion on the matter, authorize municipalities to engage in new activities and charge fees.)

²⁵ For lists of existing user charges, see Karin Treff and Ted Cook, *1995 Finances of the Nation* (Toronto: Canadian Tax Foundation, 1995), chapter 7, and Mark Sproule-Jones, “User Fees,” in Allan M. Maslove, ed., *Taxes As Instruments of Public Policy* (Toronto: University of Toronto Press in cooperation with the Fair Tax Commission, 1994), 3-38, at 6. Table 6 in the present article indicates the user charges permitted by legislation in Ontario before Bill 26; as we noted earlier, this list may now be longer.

Broadly speaking, if an activity can and should be priced like any good or service sold in the private market, its provision should probably be in private hands. The public sector does (or should do) things that the private sector cannot or will not do at the level or in the way that public policy (as expressed through the political process) desires. Charging for public services is thus inevitably a political and administrative as well as an economic decision. To put the matter in another way, public pricing is too important to be left to economists—which is not to say that economists have little to contribute, or that their contribution has been adequately taken into account in the current discussion of user charges. It clearly has not.

Nonetheless, the second challenge to user charges arises from a simple fact of political life: if charges are imposed on a service previously provided for free, then however rationally the charges may be designed those who previously benefited from “free” (or subsidized) provision will see them as just another “tax.” This reaction is natural, especially since there is most unlikely to be any reduction in the general taxes that the former beneficiaries have to pay.

Overcoming this opposition is likely to be especially difficult when any one of three conditions holds: (1) client groups are strongly organized; (2) they are able to use general “public policy” arguments—for example, that charges will adversely affect income distribution—to support their case; (3) no apparent benefits offset the new charges. A critical question in user-charge policy, therefore, is how to sell user charges both to the public at large and to those who stand to be directly affected by them.

The third challenge to user charges is closely related to the second. Even if the public can be brought to accept user charges, it may not be in the interest of those responsible for providing a particular public sector service to impose economically efficient charges. For example, if user charges arouse client opposition, as they are likely to do, the lives of public sector managers will be made more difficult. If the charges discourage some users of the service (as they should if the charges make sense—a point we shall discuss below), managers will lose clients and may have their budgets reduced.

At a deeper level, however, proper user-charge policy can and should form part of the new managerial environment needed to deliver public services effectively and efficiently in the changed economic and fiscal environment of the present day. Client responses to user charges can provide public sector managers with vital information about what they should be doing and how. Ideally, user charges would create a new dynamics of “client responsive” management, particularly to the extent that agency budgets were made revenue-dependent, as we shall discuss later.

No matter how strong the case for user charges may seem to analysts, however, to many Canadians the very idea of charging for public services may seem ridiculous. If an activity is carried out by the public sector, presumably the Canadian public has decided through the political system that it is unwilling to rely upon the market to perform that activity in the

way and at the level they wish. If something could and should be priced as if it were provided by a private market, it would presumably already be so provided. In the absence of persuasive argument to the contrary, attempts by governments to charge for services traditionally provided for free (such as most parks) or to raise prices for services provided below cost (such as roads) are likely to be viewed by the public at large, let alone by those more directly affected, as little more than a “revenue grab.” And, as we have noted above, this is exactly how much of the public has regarded most of the recent attempts to introduce user charges in Canada.

These views may be widespread, but they are often also misconceived. Governments in Canada are engaged in a vast array of programs. Some of these programs cannot and should not be “priced” in any meaningful way.²⁶ Yet “prices” of one sort or another are already charged for many government services, and for many others there are good reasons why they too should be priced. Moreover, there are equally good reasons why some of the prices already charged (such as for roads) should be changed significantly. As a rule, what is currently priced by government, and how it is priced, reflects historic accident and administrative convenience as much as—or more than—it reflects rational policy. Those who currently benefit directly from the unpriced (or underpriced) provisions of certain public services will no doubt be unhappy if proper charging policies are adopted. Canadians as a whole, however, should welcome the adoption of a well-designed policy of cost recovery and user charges in the public sector. The key to this kingdom lies, of course, in those innocuous words “well-designed.” As the next two sections show, it is essential first to decide what can and should be charged for, and then to decide how to set the charge, and neither of these tasks is a simple one.

THE RATIONALE FOR USER CHARGES

One view of the public finance system in any country is that it constitutes part of a quasi-constitutional contract among citizens.²⁷ From this

²⁶ As discussed in the next section, the service may be a “public good” (a technical term, explained later), or it may provide substantial external benefits (which means that it should be subsidized, but not necessarily provided for free), or the imposition of charges may be too costly, or, finally, the service may be a “merit” good in the sense of satisfying specific political and social objectives that cannot otherwise be achieved. The last of these arguments is, as we note later, particularly tricky and must be used with care to avoid justifying the subsidized provision of anything a government wants (for whatever reason) to provide: hamburgers (a quintessential “private good” available from numerous private outlets) could, if desired, be defined as a “merit good” and each Canadian given one each day—whether or not he or she wanted it!

²⁷ This argument is developed in John G. Head and Richard M. Bird, “Tax Policy Options in the 1980s,” in Sijbren Cnossen, ed., *Comparative Tax Studies: Essays in Honor of Richard Goode* (Amsterdam: North-Holland, 1983), 3-29, at 4-7. A similar approach has recently been adopted by theorists considering such issues as the financing of social security and possible tax switches between income and consumption taxes (for example, Charles B. Blankart, “Income Taxation, Consumption Taxation, Intergenerational Transfers, and Government Behavior” (1993), 48, supplement *Public Finance* 10).

perspective, it is not surprising that major changes in this social contract, such as financing through user charges public services that were formerly provided for “free” (that is, not paid for directly by those who receive them), may generate extended, confused, and sometimes acrimonious discussion of the sort that Canadians are already all too familiar with, thanks to the debate about constitutional change. Our aim in the present section is to contribute to this discussion by setting out as clearly as possible the rationale for charging where charging is appropriate and the conditions under which it is appropriate.

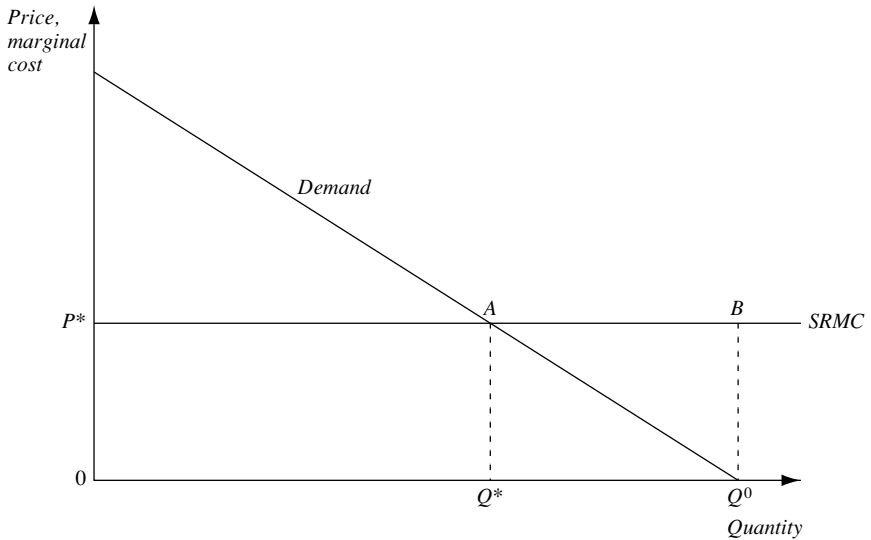
We shall argue that whenever it is possible and appropriate public services should be charged for rather than given away. The main economic reason for levying user charges on the direct recipients (whether individuals or businesses) of benefits from particular public services is to make governments’ use of scarce public resources more efficient. The goal of maximizing efficiency is not the whim of an ideologically driven economist. It is simply common sense: surely, any society should use its public resources in a manner that will provide its people with as large a bundle as possible of services that they want, and that is all that is meant by efficient resource use. Efficiency is an especially important objective in times of budgetary stringency, when less and less general-fund financing is available.

The main economic rationale for user charges, therefore, is not the generation of revenue but the promotion of economic efficiency.²⁸ Charges promote efficiency in two ways: (1) by providing information to public sector suppliers about how much clients are actually willing to pay for particular services and (2) by ensuring that citizens value what the public sector supplies at least at its (marginal) cost.

A simple example may clarify the efficiency argument. Figure 1 depicts a situation in which the provision of a particular good or service may be financed through either general taxes or user charges. If the expenditure is financed through general taxes, rational consumers will choose to consume it to the point at which their marginal costs (which are of course equal to zero when consumers are not explicitly charged for consuming the service) just equal the marginal benefits they receive: that is, quantity level Q^0 in figure 1 (assuming that demand for the service in question is as shown). In reality, however, nothing in life is free, and there are real costs in providing any service. Suppose that these costs are

²⁸ Economists the world over have sung this song for years. See Bird, *supra* footnote 20; Selma J. Mushkin, ed., *Public Prices for Public Products* (Washington, DC: Urban Institute, 1972); A. Seldon, *Charge* (London: Temple Smith, 1977); and Gerald M. Meier, ed., *Pricing Policy for Development Management* (Baltimore: Johns Hopkins University Press for the Economic Development Institute of the World Bank, 1983), for four representative examples of book-length treatments of user charges in different countries and contexts. The current discussion of user charges in Canada, as described in the introduction to the present article, is a remarkable comment on the general ineffectiveness of economists as public educators.

Figure 1



depicted by the line SRMC (short-run marginal cost), which is greater than zero. The cost of providing Q^0 is, therefore, the rectangle P^*BQ^00 . If a charge equal to costs (SRMC) were imposed, society would choose to consume only Q^* level of service, paying P^* for each unit of consumption.

Note that when no charge is imposed consumption is greater than society as a whole would really be willing to pay for if it had to take the real costs into account. In other words, from a social point of view, “underpricing”—the free (or subsidized) provision of services—results in the “overconsumption” of such services.²⁹ The pernicious effects of this situation on both rational resource allocation and government finance may be aggravated if the resulting “crowding” is taken as a signal that government should provide even more of the underpriced service; this often occurs in the case of public infrastructure such as roads and airports. The point is discussed further later in the article.

Alternative Ways To Finance Public Sector Activities

Governments may finance their activities in a variety of ways, ranging from taxes (or borrowing) to prices. These financing options may be classified as follows:

²⁹ In figure 1, the welfare (efficiency) loss to society from the overproduction of this service when financed from general taxes may be measured by the triangle ABQ^0 . This amount of resources is “wasted” by the overconsumption of the service in the sense that society values the resources used in producing the service at level Q^0 by this amount more than it values the services produced. As it were, these resources are poured into a “black hole”: something goes in—the resources used in producing the “excess” services—but nothing of value to society comes out.

- *Taxes* are mandatory levies that are not related to any specific benefit or government service.³⁰ Examples of taxes are the federal and provincial income taxes and the provincial retail sales tax. The essential feature for present purposes of general tax revenues collected by the government is that it is not possible to relate the taxes paid by individuals to the benefits they may receive in the form of public services.³¹ General taxes may appropriately be used to finance, for example, redistributive transfers, general public goods, or subsidies to achieve socio-political objectives.

- *Earmarked revenues* are difficult to define with precision, since there are many different types of earmarking. The type depends on two factors: the degree of specificity of the taxes and expenditures defined, and the existence or not of a “benefit” linkage.³² Essentially, earmarked revenues are revenues that are generated from a specific source and targeted at the financing of specific expenditures. Social insurance contributions that are limited to financing unemployment insurance or pensions are examples. In principle, and quite contrary to normal Canadian practice, it can be argued that most revenues other than general tax revenues—a category that includes benefit taxes, fees, user charges, and prices—*should* be earmarked.³³

- *Benefit taxes* are defined here, rather arbitrarily, as compulsory levies applied to individuals (or institutions such as corporations) who are

³⁰ Although the point is not discussed here, (most) government borrowing is also unrelated to the provision of specific services. The possible exception concerns what are called “revenue bonds,” which may be issued to finance particular infrastructure works and serviced by charges paid by the users of those works (see Andrew Willis, “Revenue Bonds Get a Workout,” *The Globe and Mail*, March 20, 1996, for a recent example). Variants of this approach involving different degrees and modalities of private sector participation are currently in vogue—for example, to finance some new highway construction (such as Highway 407 north of Toronto and a new road in northern Nova Scotia). For an extensive review of both the literature and of Canadian experience with these methods of infrastructure finance, see Enid Slack, “Financing Infrastructure: Evaluation of Existing Research and Information Gaps,” draft report prepared for Canada Mortgage and Housing Corporation, April 1996.

³¹ At a more general level, however, it is possible to argue for various “benefit” rationales for consumption taxes or proportional or progressive income taxes, depending upon what one assumes about, for example, the income elasticity of demand for public services and the various demand-revelation mechanisms at work in the public sector. Although a discussion of these points is well beyond the compass of this article, we would call attention to Albert Breton’s recent detailed analysis of what he calls the “Wicksellian Connection” between the quantity and quality of the services supplied by the public sector and the “tax-prices” citizens pay for them. See his *Competitive Governments: An Economic Theory of Politics and Public Finance* (Cambridge, Eng.: Cambridge University Press, 1996).

³² For a more detailed look at earmarked taxes, see Wayne R. Thirsk and Richard M. Bird, “Earmarked Taxes in Ontario: Solution or Problem?” in Allan M. Maslove, ed., *Taxing and Spending: Issues of Process* (Toronto: University of Toronto Press in cooperation with the Fair Tax Commission, 1994), 129-84, and Richard M. Bird, *Earmarked Taxes* (Washington, DC: International Tax and Investment Centre, forthcoming).

³³ Important exceptions, which cannot be discussed in detail here, are levies designed to collect economic rents and to discourage the generation of negative externalities (for example, pollution charges): see Thirsk and Bird, *supra* footnote 32, at 166-70, and the third section of the present article.

assumed to benefit as a group from certain government services. These taxes are not directly related to the receipt of specific services by particular individuals. Taxes on gasoline are an obvious example.

- *Fees* (or “user fees”) are defined here, equally arbitrarily, as payments levied to recover the cost of a particular government service that is received by a specific person but mandated for public purposes. Unlike those who pay benefit taxes, those who pay fees receive a particular service; but they do not have the choice of paying the fee or not, and government is the monopoly provider of the service in question. Examples include marriage licences and automobile registration fees. These charges are distinguished from user charges, as the latter are (narrowly) defined below, primarily by the fact that either the government has a monopoly (death certificates) or use of the service is mandatory (vehicle licences).

- *User charges* are defined here narrowly as charges levied on consumers of government goods and services in relation to their consumption. Elsewhere in this article, we sometimes use the term more broadly to include both benefit taxes and fees as they are defined above. The narrow term is intended to include charges to individual users for services (such as water) that may be consumed voluntarily and for which there may be competitive providers. Such charges may be based in part or wholly on costs, but they should take into account demand and willingness to pay to the extent possible.³⁴

- *Prices*, as distinct from user charges as we have defined them above, are levied for goods and services supplied by government agencies that are nevertheless essentially private in character.³⁵ If the correct “user charge” for a particular service is exactly the same as the price that would be levied by a competitive private producer—that is, if there is no externality or social objective connected with the provision of the service in question—then in our view there is no reason for the public sector to be involved in providing the service in the first place.

The Domain of User Charges

Determining the proper domain and design for user charges is a challenging task. Some important public sector activities cannot and should not be financed in this manner. Others *can* be. Still others *should* be. In determining the appropriate domain for charging, one must take into account both the nature of the activity in question and the nature of the market for it. To some extent, the continuum between pure “public” goods and pure “private” goods matches the continuum between general-fund financing

³⁴ Where appropriate, positive (non-priceable) externalities should be financed separately, by pre-determined subsidies. (The case of negative externalities is discussed briefly later.) Exploitation of monopoly positions via discriminatory pricing is generally not advisable: this point too is developed briefly later.

³⁵ Those who are not familiar with this terminology are referred to the later discussion of “publicness.”

by taxes and prices charged to specific users for specific services. The match is not perfect because the “public good/private good” distinction is not the only factor to be taken into account in determining the applicability of user charges. Indeed, there are at least six distinct characteristics of public sector activities that are relevant to this determination:

1) *Publicness* (sometimes called “non-rivalness” or “subtractability”) is a technical term that refers to the impact of one more user of a particular service on the consumption opportunities of all users. At one extreme is the so-called “pure public good.” In this case, the addition of one more beneficiary has no effect at all on how much anyone else consumes: an additional spectator at an uncrowded fireworks display does not reduce the enjoyment others receive from watching the show. At the other extreme is the “pure private good.” In this case, consumption by one person leaves nothing left for anyone else: if one person eats an apple, no one else can eat that apple.

Since one of the main economic rationales for government is precisely to provide citizens with the amounts of public goods they wish, it is not surprising that many important government activities exhibit a marked degree of “publicness.” Examples of such activities at the level of local government are traffic signals and—up to the point of congestion—roads. But government activities may be found at many points along the spectrum that runs from pure public goods to pure private goods. Examples of the latter at the local level are water distribution to households and bus services. Broadly, the less public an activity is in the sense used here, the more desirable (in efficiency terms) it is to charge for it.

2) *Excludability* refers to the feasibility of restricting the consumption of a service. If a particular activity is highly “excludable,” it is relatively easy—that is, not very costly—to prevent anyone who has not paid for access from obtaining it. Buses, for example, are highly excludable, and traffic signals are not. The publicness of an activity determines to some extent whether pricing is desirable; its excludability determines whether pricing is feasible. Neither publicness nor excludability need necessarily reflect any inherent characteristic of the activity. The extent to which these qualities are present or absent may depend upon the nature of the means used to deliver the service, and the nature of the means may in turn be a function of policy choice.³⁶

³⁶ To illustrate, TV signals delivered by broadcast are basically both public goods—the fact that I receive the signal in no way diminishes your ability to do the same—and non-excludable. But of course it is perfectly feasible to exclude those who do not pay from receiving TV signals delivered by cable (or scrambled broadcast). Note that this example also demonstrates that even services with a high degree of both “publicness” (in the sense discussed above) and excludability—unscrambled TV signals—can sometimes be effectively delivered by private rather than public sector agencies. The possibility of private provision of public goods is not further discussed here. See, for example, Gabriel Roth, *The Private Provision of Public Services in Developing Countries* (New York: Oxford University Press for the World Bank, 1987).

3) *Economies of scale* and

4) *Sunkness of costs*. The first two characteristics referred to the nature of government services in terms of consumption; the next two refer instead to their nature in terms of production. They are particularly relevant to programs that require significant capital investment in infrastructure.³⁷ In Canada, a traditional argument for the public provision of certain services has been the sheer size of the initial investment required. If the unit costs of a given service decrease as scale increases, efficient private sector provision of service can be difficult to achieve; this is so essentially because efficient pricing in decreasing-cost industries will not recover full costs.³⁸ Broadly speaking, the less “sunk” the costs are—that is, the less is the difference between the long-term and short-term incremental costs of providing an additional unit of service—and the less important are economies of scale, the easier it is in principle to determine and apply economically efficient charges for the use of infrastructure such as roads and transit systems.³⁹

5) *Externalities* are benefits or costs of services that are not priced—perhaps on the ground of publicness or excludability—and hence may not be fully taken into account by private producers. Education is one example of a service characterized by positive—that is, beneficial—externalities. Transport systems are another. As each additional user is linked to a network, all users presumably benefit from the resulting increase in the range of potential interchange. If society puts a high value on this positive externality, then below-cost public provision of the service (or, possibly, explicit subsidization of private provision) may be warranted.

³⁷ For an extremely useful categorization of a wide range of infrastructure services along the lines sketched here, see Christine Kessides, *Institutional Options for the Provision of Infrastructure*, World Bank Discussion Paper no. 212 (Washington, DC: World Bank, 1993). Another relevant document from the same source is W.F. Fox, *Strategic Options for Urban Infrastructure Management*, Urban Management Programme Policy Paper no. 17 (Washington, DC: Published for the UNDP/UNCHS/World Bank Urban Management Programme by the World Bank, 1994).

³⁸ The point is described further below. Another relevant production characteristic may be the need for a high degree of coordination, as in most transport and communication networks (see Kessides, *supra* footnote 37). An example would be the traffic signals mentioned earlier. If a high degree of coordination is required for the efficient use of the system, there is often need for a public sector role, if not to provide the service then to establish the rules needed to ensure that it is provided in a coordinated and efficient way.

³⁹ For example, it is now technologically possible to impose efficient road pricing through “smart cards” and similar electronic means. For further discussion, see Richard Arnott, Kenneth Arrow, Anthony Atkinson, and Jacques Drèze, eds., *Public Economics: Selected Papers by William Vickrey* (Cambridge, Eng.: Cambridge University Press, 1994), part 4; Timothy Hau, *Congestion Charging Mechanisms for Roads*, World Bank Working Paper no. WPS-1071 (Washington, DC: World Bank, 1992); and K.A. Small and J.A. Gomez-Ibanez, “Road Pricing for Congestion Management: The Transition from Theory to Policy,” paper presented at TRED conference, Cambridge, Mass., 1994.

User charges may be appropriate, but their design must take the externality into account.⁴⁰

6) *Social and political objectives* are presumably satisfied to some extent by everything government does, or else it would not (or should not) do it. But of course this consideration applies more forcefully to some activities than to others. Perhaps the clearest case is that of programs whose only objective is redistribution.⁴¹ Obviously, it would make no sense to charge the beneficiaries for the benefits they receive. Probably most government programs have at least some redistributive effect, and often this effect is intended. Where it is intended, there would seem to be no point in imposing user charges unless the non-distributive aspects of the program can be separated from its distributive aspect.⁴²

As we shall show in a later section, the economically efficient price for *any* good or service is the price that would be charged in a perfectly competitive market. A market of this kind is one in which there are many buyers and many sellers, all of whom have full information not only about the price and cost of the item in question but also about all possible substitute and complementary products. To be socially efficient, the goods in question must have no “public goods characteristics”—or, to put the matter in another way, the prices of all products must fully reflect all external costs and benefits. Moreover, any distributional issues must be assumed to be dealt with in other ways (such as through lump-sum transfers). Almost by definition, not all these conditions are satisfied by the provision of goods and services by the public sector. Of course, some of the conditions—such as the competitiveness of markets—may not be fully satisfied by private sector provision either. But the problem is more serious in the public sector. Indeed, the economic rationale for most public sector activities arises largely because some or all of the conditions for market efficiency are violated: publicness matters; excludability is not

⁴⁰ “User” charges may have an important role to play in regulating pollution and similar negative externalities, but the role and nature of such prices is quite different from the more general case for user charges discussed in this article. For further discussion, see the third section of this article and Thirsk and Bird, *supra* footnote 32.

⁴¹ It is often difficult in practice to distinguish distributional objectives from what is often called the “merit good” aspect of public sector provision. For example, Fox, *supra* footnote 37, at 78, defines merit goods as “goods or services deemed so valuable by society that they should be made available to people regardless of personal choices or ability to pay.” If one excludes the distributive aspect, what this seems to say is that you have to eat your broccoli (go to school, “enjoy” the services of the army, etc.) whether you like it or not. Why? Because “society” says so. But who or what is “society”? Whatever the political system decides? There are few deeper or more obscure waters in public economics than those covering the real meaning of the “merit goods” concept (see, for example, the extensive discussion in Geoffrey Brennan and Cliff Walsh, eds., *Rationality, Individualism, and Public Policy* (Canberra: Australian National University, Centre for Research on Federal Financial Relations, 1990), 145-244), but no more can be said on this subject in the present article.

⁴² Of course, programs of this kind give rise to costs, but the point here is simply that these cost differentials are by definition not relevant in determining user charges.

feasible; scale and sunk-cost factors result in monopoly provision; non-priced externalities are significant; or distributional concerns are important. Each of these matters merits some discussion.

Public Monopoly

The fact that many public sector activities are inherently provided by a monopoly supplier is particularly important when it comes to setting user charges. Either the scale and sunk-cost factors mentioned above create a so-called “natural” monopoly—that is, given the available technology, it is infeasible (too costly) for competitors to emerge—or public policy itself has, perhaps for good reasons, created a legal monopoly, as in the case of many regulatory programs.

In the case of a monopoly, efficient pricing is a potentially double-edged sword. From the perspective of the monopoly itself, the most efficient prices are those that will extract the maximum return from its clients. This pricing will be discriminatory—that is, it will impose the highest prices on those least able to avoid them. Moreover, if the monopoly is to maintain the prices that allow it to extract maximum profits, it will have to produce less than the socially desirable quantity of its product.

The prevention of undesirable outcomes of this kind is, of course, an important rationale for public involvement in the provision of some services (and the regulation of others). But how should *public* monopolies set prices? In principle, the answer is simple: they should set them as though they operated in a fully competitive market. In practice, however, determining what those prices should be, let alone implementing them, is by no means a simple task.⁴³ The privatization of public-monopoly activities simply changes the problem from one of deciding what the appropriate public sector price should be to one of deciding how to regulate the private sector price: the problem is monopoly, not ownership.

Mandatory Services

An additional problem in the case of many public services is that their use is mandatory, not optional. If motor vehicles must by law be registered annually, determining whether fees should be charged and designing such fees is quite different from setting the price of, say, access to a recreational facility, such as a park, at a given time of day. One may choose not to go to that park at that time. One cannot legally choose to use an unregistered vehicle.

Inelastic Demand

A related but distinct issue is that of the elasticity of demand for the service in question. If a service is mandatory, all of those engaged in a certain activity, or with certain characteristics, *must* use it. If the activity

⁴³ See also the discussion of pricing “rents” in the next section.

is common (such as driving) or the characteristics are widespread, the demand for the service may be close to completely inelastic, that is, no matter how much may be charged for the service, people will have to pay it. High enough charges on any activity will always induce behavioral changes designed to avoid them—whether legal (refraining from engaging in the activity in question), illegal (black market), or in between (offshore purchases or home production). Unless the charges exhibit *some* responsiveness to prices, they serve no allocative or efficiency function.

If there is no price responsiveness—if the demand for the service is virtually inelastic—then any price charged for the service will simply “tax” those who use it. In these cases, user charges may nonetheless be justified on the ground of fairness. Why should the cost of providing a service, even a mandatory one, be paid for by someone other than the user?⁴⁴ But user charges in the context of inelastic demand have no efficiency rationale, since by definition they do not affect choices or activities. Thus the determination of appropriate user charges when demand is inelastic is a quite different task from their determination in more normal circumstances.

Economic Rent

Another important attribute of many government activities is also related to their inherently monopolistic nature. Whenever government has a legal monopoly—for example, to determine the use of land or the exploitation of a natural resource—it controls an asset that may be of considerable potential value to private entrepreneurs. Cost-based pricing is clearly inappropriate in these instances: basically, there are no costs. As far as government is concerned, any return it receives from allocating access to assets under its control to private parties is pure profit—or what economists call, rather confusingly, “economic rent.”

The problem of determining appropriate charges in these circumstances is in one sense the same as the problem, faced by any monopoly, of how to extract the maximum rent (profit)—a motive tempered in this case by society’s interest in reducing unproductive “rent-seeking” activities (such as lobbying) to a minimum. Since there is seldom any good market information available about how much people would be willing to pay for access to an asset controlled by the government, some form of auction is probably the best approach to pricing “rentable” activities, assuming that there are no overriding public policy arguments against selling to the highest bidder. (See the extended discussion of auctions later in the article.)

⁴⁴ This assumes that the “user” receives at least some benefit from the service, which is not always the case. Consider, for example, park users who want to hunt and fish free of restrictions but who are asked to pay for the services of officials hired to prevent them from doing these things. The purpose of the charge is of course to deter such “bad” users for the benefit of good users, but it must be applied to all users because it is not feasible to tell in advance what kind of user a person is.

Clientele and Visibility

Finally, there are two other important aspects of markets for public services that policy makers who concern themselves with user charges must take into account: the nature of the clientele for the services and the degree of visibility of the services. Some services, such as parks, are provided to final consumers. Others, such as truck licences, are provided in the first instance to intermediate producers. Public services may also be highly visible (schools) or basically invisible (regulation of weights and measures). Some public sector agencies serve special client groups that presumably enjoy the service—for example, users of public swimming pools. The clients for most regulatory services, however, can only by a considerable stretch of the imagination be considered to be direct beneficiaries of the services they consume, which are presumably designed to achieve some broader public purpose.⁴⁵

All of these factors should in principle be taken into account in deciding whether a price should be charged, to whom, and what that price can and should be.

User Charges and Privatization

As we argued earlier, if the public sector is providing a service that the private sector could provide equally well, the service should probably be privatized. This conclusion may be valid even if the privatization of a particular activity would require the adoption of supporting public policies, such as regulation of monopoly providers, taxation to discourage negative externalities, subsidization to encourage positive externalities or to serve some socio-political objective (such as support for particular regions), or offsetting adjustments in general tax or transfer systems for distributive reasons. It may prove as easy (or as hard) to persuade or force private enterprises to act to achieve public-policy purposes as it is to alter the behaviour of public sector monopoly providers, who because they have to operate within the rules and limits of the public sector may face higher costs.

On the other hand, there may be good reasons for retaining public sector provision of some services that, in theory, the private sector could provide equally well. For instance, the qualifications mentioned in the preceding paragraph might be important enough to make it unlikely that the service provided by a private firm would in fact be the same as that provided by a public provider.⁴⁶ There might still be a role for user charges in these cases, but the charges would probably neither recover full costs nor match closely the prices that would be charged by an unregulated competitive private provider.

⁴⁵ See, for example, the case set out in the previous footnote.

⁴⁶ Thus public education might be considered to have an additional “civic” value because unlike private education it mixes people from different strata and of different abilities.

Moreover, the simple fact that a service *can* be charged for does not always mean that it should be. To take an extreme example, it is easy to calculate the cost of the monetary benefit received by a welfare recipient. But this hardly means that he or she should be charged exactly that “price” for the service received. To take another example, it might be perfectly feasible to charge for access to an uncongested transport facility—and a private provider would have to do so to recover its costs—but it may not be economically sensible to do so, a point we shall discuss later.

From one perspective, full privatization (or “commercialization”) may in some cases seem to be the logical conclusion of applying user-charge principles. From another, the replacement of declining general revenues by user charges may seem to be a desirable *alternative* to privatization. More broadly, however, both user charges and privatization are best seen as just two of many alternative approaches to the same basic policy objective—getting the most for Canadians out of the resources at their disposal. The alternatives are not simply unregulated privatization and total government financing through general taxes. There is a continuum between these two extremes. It encompasses not only the range of possibilities summarized earlier under such labels as benefit taxation, cost-recovery fees, and user charges but also a variety of regulatory, taxing, subsidization, and public enterprise alternatives that cannot be discussed here.⁴⁷

User Charges and Earmarking

A related issue is that of linkages between revenues and expenditures. In principle, user-charge (and similar) revenue should be earmarked. Earmarking may be tight, as in the case of a self-financing enterprise (or a special operating agency) that links revenue to expenditure through vote-netting or a revolving fund. Or it may be loose—that is, a government may simply take into account, in some more or less formal way, the revenue produced by a particular activity in determining how much it should allocate to that activity in the expenditure budget.⁴⁸ Either approach establishes a budgetary process quite different from the alternative of general-fund financing, which is the norm in Canada.

Under general-fund financing, in principle at least, all government revenues flow into one big pot and all government expenditures are made out of this pot. Specific taxation decisions and specific expenditure decisions are made separately. No linkage exists between the revenues generated by

⁴⁷ For two recent reviews of the range of alternatives relevant to the rethinking and restructuring of government, including both user charges and privatization, see Slack, *supra* footnote 30, and Bryne Purchase and Ronald Hirshhorn, *Searching for Good Governance* (Kingston, Ont.: Queen’s University, School of Policy Studies, 1994).

⁴⁸ For a detailed categorization of earmarking, see Thirsk and Bird, *supra* footnote 32. Other recent treatments in the Canadian context include Hickling Corporation, “Earmarking of Revenue and Program Management,” paper prepared for the Royal Commission on Passenger Transportation, October 1991; and Harry Postner, “Earmarked Revenues,” paper prepared for the Government and Competitiveness Project, Queen’s University, School of Policy Studies, Kingston, 1993.

any particular tax and the level of expenditure on any particular activity. Under general-fund financing, a government that wishes to increase spending on any activity has three choices: it can raise taxes, issue debt, or cut other expenditure. Citizens have no way of knowing which of these options will be chosen. For example, would an expansion of subsidized day-care imply fewer health care services, larger public debt, less foreign aid, higher income taxes, higher sales taxes, some combination of all of these outcomes, or, possibly, none of them? No one can know the answer to this question, but clearly how people feel about day-care (or whatever) is likely to depend in part upon how they think the program will be financed—a question that in the circumstances of the moment probably reduces to asking what other program will be cut. Rational choice by voters (acting through their elected representatives) is thus inherently difficult under general-fund financing, since they do not have information about the true costs of choosing a particular level of spending on any particular activity. Each expenditure proposal is in essence examined independently of how it can be financed.

Strict earmarking reverses the sequence of revenue and expenditure decisions: revenue collections drive subsequent expenditure levels. Taxpayers know that when certain tax (or user charge) payments are extracted from them the funds will be used to pay for certain kinds of services; if they want the services, then presumably they will support the charges. In principle, under this system, taxpayers (and their representatives) have the information they need to make rational expenditure decisions, since they know exactly how the money collected from them will be spent.

How this ideal works out in practice depends upon many specific factors. Experience around the world suggests that widespread recourse to earmarking has in practice seldom been beneficial, both because of the cost and difficulty of controlling many separate funds and because many of the linkages between particular revenues and expenditures have been established for political reasons and are not particularly appropriate.⁴⁹ Moreover, it is clearly more difficult for a government to run a coherent fiscal policy if it cannot determine in advance the level of some major expenditures and revenues. For these reasons, the formal linking of revenues to expenditures has traditionally been shunned in Canada.⁵⁰

Nonetheless, the efficiency argument for user charges—and the probable political acceptability of such charges as well—depends in large part

⁴⁹ See, for example, William McCleary, “The Earmarking of Government Revenue: A Review of Some World Bank Experience” (January 1991), 6 *The World Bank Research Observer* 81-104.

⁵⁰ The common fear that earmarking produces budgetary rigidity is often exaggerated. The earmarking constraint on expenditures may be more apparent than real—what Thirst and Bird, *supra* footnote 32, call “notional” earmarking. Or, as we argued earlier, any constraint that earmarking puts on expenditure flexibility may be a desirable check on the authority of governments to do things citizens may not want. Finally, the assumption implicit in this criticism, namely that general-fund-financed expenditures receive closer scrutiny, does not necessarily accord with reality.

on the extent to which the charges are used to finance the services for which they are levied. Some observers see earmarking as a way of reducing taxpayer resistance to higher taxes. Others see it as a way of achieving greater accountability in the spending of tax dollars.⁵¹ Charging for publicly provided services is important. To the extent that it is possible to attribute the benefits of the services to specific individuals or businesses (or small groups), and in the absence of overriding public-policy arguments to the contrary, the appropriate policy is clearly to charge the correct price (roughly, the marginal cost) *and* to earmark the revenues for the service that generated them. Only thus will the correct amounts and types of service be provided to the right people—that is, to those who are willing to pay for them.

For this reason, whenever there is a strong “benefit” linkage between the tax (or charge) levied and the expenditure financed, the tax (or charge) revenues should in principle flow into a special fund and should be the sole, or at least the primary, source of funding for that expenditure. A larger amount in the special fund, therefore, will generate a larger level of expenditure in the earmarked area, more or less on a dollar-for-dollar basis. Given this system, as noted above, the marginal expenditure decision is in effect in the hands of the taxpayer-voter. Provided there is some logical (benefit) connection between the source of the funds and the services purchased with them—and there is no overriding distributive or other reason to sever this connection—tight earmarking, by introducing the logic of the market into the budgetary process, potentially offers a desirable method of financing public sector activities. In budgetary terms, the establishment of “quasi-private” self-financing special operating agencies is one way to implement this logic.⁵² If such devices work well, they may turn out in the end to be way stations on the road to full out-sourcing or commercialization—but that is another question.

Basically, the key feature of benefit-related earmarking, in whatever form it may take, is that it reveals social preferences for public services and sends a clear demand signal to public sector managers about how much of the service in question should be supplied. Under these conditions, earmarking assists in providing an efficient level of services to households. The supply of services will automatically adjust to the demand for them (assuming that investment decisions are also properly

⁵¹ For an extended discussion of the meaning and importance of “accountability” in government, see Purchase and Hirshhorn, *supra* footnote 47. From this perspective, one argument for earmarking is to overcome the problem of what economists call “incomplete contracts.” Citizens pay taxes on the understanding that government will use the revenues to provide desired services, but they have no way of ensuring that government will live up to this commitment. Earmarking is one way to increase the costs to government of failing to do so. For this line of argument, see Jacques Cremer, Antonio Estache, and Paul Seabright, “The Decentralization of Public Services: Lessons from the Theory of the Firm,” in Antonio Estache, ed., *Decentralizing Infrastructure: Advantages and Limitations*, World Bank Discussion Paper no. 290 (Washington, DC: World Bank, 1995), 98-118.

⁵² For other ways, see, for example, Purchase and Hirshhorn, *supra* footnote 47.

made, a point we discuss in the next section). To the extent that earmarking implements the benefit principle of taxation, it solves in a fair and efficient way the two most important problems in public finance: deciding how much of a public service to supply, and deciding who should pay for it.⁵³ Little more can be asked of any fiscal institution.⁵⁴

Of course, if earmarking is to be considered fair and consistent with public-policy purposes, then it, like the user-charge financing with which it is best associated, must be restricted to where it works best. *Both* earmarking and user charges are appropriate if, and only if, three conditions are met:

1) The public sector offers services that resemble privately supplied services in that each taxpayer's consumption of the service can be accurately monitored (or at least satisfactorily approximated).

2) The marginal costs of extending public services to taxpayers can be reliably measured (or satisfactorily approximated).

3) The demand for the service is responsive to price changes. (As we noted above, charges serve no efficiency purpose if demand is inelastic—although cost-recovery may of course still be the fairest way of paying for the service in question.)

When these conditions hold, it is both fair and efficient to charge each taxpayer broadly in accordance with the marginal cost of providing the service in question. Even when transactions costs make user charges impractical, earmarked benefit taxes may provide a useful approximation of the same result. For instance, it may be possible to attach an excise tax to private goods that are close complements of the public service. An earmarked gas tax, for example, obliges road users as a group to pay for some of the road services that they consume. The argument becomes even

⁵³ Parenthetically, it should perhaps be mentioned that there is an extensive theoretical literature on how to price even "pure" public goods in order to reveal demand (for example, David A. Starrett, *Foundations of Public Economics* (Cambridge: Cambridge University Press, 1988), 268-72), but this literature is too far removed from reality to be discussed here.

⁵⁴ The remarkable agreement on the theoretical superiority of earmarking by the two intellectual parents of much of modern public finance—James M. Buchanan, "The Economics of Earmarked Taxes" (October 1963), 71 *The Journal of Political Economy* 457-69, and R.A. Musgrave, "Separating and Combining Fiscal Choices: Reflections on the Wicksellian Model," paper prepared for International Seminar in Public Economics, Tokyo, 1992—is particularly noteworthy in view of the very different philosophical stances they have adopted on many issues of public policy. For other theoretical discussions, see Charles J. Goetz, "Earmarked Taxes and Majority Rule Budgetary Processes" (March 1968), 58 *The American Economic Review* 128-37; Edgar K. Browning, "Collective Choice and General Fund Financing" (April 1975), 83 *The Journal of Political Economy* 377-90, W.H. Oakland, "Principles of Earmarking," in F. Johansen, ed., *Earmarking, Road Funds and Toll Roads: A World Bank Symposium*, Infrastructure and Urban Development Department Discussion Paper no. 45 (Washington, DC: 1989), 1-19; Ranjit S. Teja, "The Case for Earmarked Taxes" (September 1988), 35 *International Monetary Fund Staff Papers* 523-33; and Richard E. Wagner, ed., *Charging for Government: User Charges and Earmarked Taxes in Principle and Practice* (London: Routledge, 1991).

stronger if one takes the link between pricing and investment into account (see the next section). If no user charge were assessed, consumers would demand more of the service in question, and politicians would face strong political pressures to supply the amount demanded.

Earmarking, however, like user-charge financing, can be applied well or badly. Neither has much of an economic rationale when the benefit link between tax and expenditure is completely severed. If a revenue source is earmarked but has no logical connection with the expenditure function it supports, then from an efficiency perspective the amount of the public service supplied will almost certainly be either too great or too small. In the absence of a clear benefit link between user charges and the service provided, earmarking may be less efficient than general-fund financing. As in the case of user charges, whether or not earmarking is advisable in any particular instance depends upon careful examination of the circumstances.

The Importance of Perceived Fairness

The most common objection to user charges is that they are “unfair” and “regressive.” In reality, however, appropriately designed user charges may be both fair and even progressive. If taxpayers pay for identifiable public services that they consume, and no one either receives a service without paying for it or pays without receiving a service, this outcome would probably be perceived by many people to be perfectly fair. The rich do not, as a rule, pay more or less for bread or milk than the poor. Why should they pay more or less for a fishing licence?

Nonetheless, if less use is made of charges by the public sector than seems warranted, this is so in part because many people think user charges yield adverse distributional effects. If a service that was previously provided free of charge to everyone will now extract the same payment from everyone who uses it, how can user charges not hurt low-income households? This argument is less convincing on close examination, however, than it is at first glance. What happens in the absence of adequate user charges? Who really benefits from a zero-price policy? These questions need to be addressed carefully before the “fairness” of imposing user charges for any particular program can be appraised.

Contrary to common belief, for example, the income profile of the consumers of a large range of government services suggests that upper-income households sometimes benefit disproportionately from the consumption of free, or low-cost, public services. For example, low storage and landing fees at local public docks disproportionately benefit the few households that own private yachts, and most of the benefits from subsidized higher education accrue to upper-income families.⁵⁵ Although

⁵⁵ For an earlier examination of the distributive aspects of user charges in Canada, see Bird, *supra* footnote 20. The issue is reviewed in the context of developing countries in (The footnote is continued on the next page.)

more study is needed of the characteristics of the users of many publicly provided services, there is certainly no reason to presume that zero-priced public services are effective and efficient means of redistributing income, if redistribution is what society wants.

The introduction of a user charge sufficient to cover the marginal costs of a public service would ensure that users of the service placed a value on the resources used to produce it at least equal to the value that would be realized by using these resources for some other purpose. As a consequence, less general taxes—a significant share of which are paid by the poor and which carry their own economic costs—would have to be collected. Thus the result of introducing user charges in this case would be not to raise extra revenue but rather, by rationing the demand for public services, to reduce the size of the public sector. Moreover, if properly designed and applied, a user charge might even extract proportionately more from the rich than from the poor. In such instances—and there may be more of them than seems to be commonly recognized—the introduction of correct user charges should improve both the efficiency *and* the equity of public sector operations in Canada.⁵⁶

DESIGNING USER CHARGES

It is important not just to impose user charges where they are appropriate but to “get the prices right” and impose the *correct* charges. From an efficiency perspective, even where user charges are now levied their design could often be improved. In many municipalities, for instance, water rates are a fixed charge, with no relation to the volume of water consumed.⁵⁷ Consequently, the marginal cost of consumption is zero, and the result is overconsumption of water and overinvestment in water capacity. Even where water consumption is metered, the rate may decline as the volume of use increases, with the result that large consumers of water pay less than the marginal cost of its provision—an arrangement that favours those with large lawns and backyard swimming pools. The fact that sewer charges are usually prorated on the amount of the water bill only compounds this pricing error.

⁵⁵ Continued . . .

Richard M. Bird and Barbara D. Miller, “Taxation, Pricing, and the Poor,” in Richard M. Bird and Susan Horton, eds., *Government Policy and the Poor in Developing Countries* (Toronto: University of Toronto Press, 1989), 49-80.

⁵⁶ Fox, *supra* footnote 37, in the context a discussion of developing countries, emphasizes the importance of enforceability as another factor in determining the feasibility and desirability of user charges. Although the point clearly applies to Canada as well, the enforceability factor is not discussed further in this article.

⁵⁷ For discussions of water pricing in Canada, see Bird, *supra* footnote 20; Harry Kitchen, *Efficient Delivery of Local Government Services*, Discussion Paper no. 93-15 (Kingston, Ont.: Queen’s University, School of Policy Studies, 1993); and J. Frehs et al., “Resource Valuation and Public Policy: The Case of Water Pricing,” paper from Ecosystems and Environmental Resources Directorate, Environment Canada, Ottawa, n.d.

The primary economic rationale for user charges, as we discussed earlier, is to encourage the efficient use of resources within the public sector. Economic theory demonstrates that for the purposes of efficiency the best charges are those that are equal to the marginal cost of supplying the good or service in question—the marginal cost price, for short. If the user charges for a service are set below the marginal cost price, and demand is elastic—that is, sensitive to prices—then society will consume more of that service than it otherwise would. This means, by definition, that below-cost pricing makes society worse off. Properly defined, marginal costs measure the social benefit to be obtained from diverting the inputs used to produce the service in question to their next most valuable possible use. Charging a price lower (or higher) than the marginal cost therefore means that too much (or too little) of the service in question will be produced, relative to the amount that society as a whole wants. Of course, in this analysis what society wants is measured in efficiency terms by “willingness to pay.” Consequently, any application of the marginal-cost criterion to the public provision of goods and services assumes that distributional concerns are dealt with in some other way, such as by lump-sum transfers to households. We shall return to this point later.

Marginal Cost Pricing

Efficient public sector user charges are marginal cost prices. But what is meant by “marginal cost”? The implementation of this simple principle in particular instances can be surprisingly difficult. The difficulty arises for two major reasons. First, the costs of many public sector activities are very difficult to define properly. Second, even when it is possible to define the costs, it is often difficult or impossible to estimate them in the quantitative terms needed to determine appropriate user charges.⁵⁸

Costs as defined by economists who advocate marginal-cost pricing are quite different from the costs with which public sector managers, even those who are operating activities already structured as cost centres, are likely to be familiar. In financial accounting, the notion of cost refers to identifiable monetary outlays incurred in the process of carrying out a particular activity. These costs include, for example, wages, rent, utilities, transportation, and supplies. The figures that report these costs reflect actual financial outlays made in particular period. As anyone who has attempted the exercise knows, it can be difficult enough to allocate these costs to any particular service activity. For example, what proportion of the costs of the director’s office should be attributed to the delivery of a particular front-line service? Nonetheless, accountants have developed various methods, albeit sometimes rather arbitrary ones, for more or less satisfactorily allocating joint or overhead costs.

⁵⁸ For an extended theoretical analysis, see Dieter Bös, “Public Sector Pricing,” in Alan J. Auerbach and Martin Feldstein, eds., *Handbook of Public Economics*, vol. 1 (Amsterdam: Elsevier Science Publishers, 1985), 129-211.

But *economic* costs, as envisaged in the marginal-cost-pricing approach, are not simply accounting costs. The fundamental economic concept of cost is opportunity cost, or the value of the benefits that could have been obtained had the inputs been used for some other purpose. From this perspective, the cost of, say, a park does not consist simply of the tangible construction and operation costs recorded in financial accounts. Instead, the relevant cost is the (highest) value that the land would realize if it were used for some other purpose, such as logging or residential development.

Effective application of the marginal-cost-pricing principle requires the estimation of these social or opportunity costs. Even in principle, this is often a difficult task. Estimation of the marginal cost of providing another unit of a particular service requires the identification of all of the additional costs that arise as a result of this incremental expansion. For example, highway congestion clearly gives rise to real social costs, but it may be hard to convert the costs of waiting in traffic into monetary values. Yet it is not possible to determine efficient prices in this context without calculating these values and adding them to the monetary values for all of the other relevant costs.⁵⁹

Even when the measurement of relevant marginal costs does not involve conceptual problems, there may be problems of measurability. Often, for example, some relevant market price can be found—for example, the value that land used for a park would have if it were logged, or built on. But one can use a market price to measure the socially relevant marginal cost only if the market price is a good approximation of the marginal-cost price. And it will be a good approximation only if the market from which the information is derived is close to being perfectly competitive—that is, if the prices set by private sellers are, in fact, close to the social marginal costs (including a normal rate of return on capital). Of course, similar questions must be answered in carrying out a cost-benefit analysis, but that consideration does not make the answers any easier to find, or more convincing, when it comes to setting prices.⁶⁰

If it is possible to calculate and apply marginal-cost-based user charges for a given service, then by definition the amount charged for providing an additional unit of the service will just equal the benefit that society as a whole obtains from the provision of the unit. The calculation is complicated, however, by the fact that the marginal cost is not necessarily constant. It may very well vary with the level of output. In order to determine

⁵⁹ This problem is discussed in Hau, *supra* footnote 39. See also R. Arnott, “Alleviating Traffic Congestion: Alternatives to Road Pricing,” paper presented to TRED conference, Cambridge, Mass., October 1994, for a more skeptical view of the possibility of congestion pricing.

⁶⁰ Conceptually, cost-benefit analysis (the economically efficient way to determine new public sector investments) and marginal-cost pricing (the economically efficient way to determine public sector prices) are very similar. The underlying economic rationale is much the same—to get the most for public sector resources—and so are the practical difficulties of implementing this simple idea in the complex real-world context of the Canadian public sector.

the marginal cost-based charge that is appropriate at a particular time, it is necessary, in addition to everything else, to estimate the effects of changes in prices on demand.⁶¹ Although there are various ways of obtaining information about demand—for example, by using market information about substitute or complementary activities (for example, travel costs might be used in calculating demand for recreational facilities) or through carefully structured surveys (for example, surveys that use contingent value analysis⁶²)—as a rule reliable information on demand is even more difficult to get than reliable information on cost.⁶³

What To Do When SRMC Prices Are Not the Answer

The task of determining efficient marginal cost prices does not end with the definition and identification of costs. There are several other basic matters that must be addressed as well. One of the most important is the question whether fixed costs (investment costs) should be included in marginal costs. In principle, in order to ensure the efficient allocation of resources, the appropriate marginal cost price is clearly the *short-run* marginal-cost (SRMC) price. Only if SRMC charges are imposed will existing facilities be used efficiently. But if SRMC charges are imposed, then strictly speaking it must be assumed that the size of the facility is optimal to begin with—a most unlikely state of affairs.

If the condition of optimal facilities is to be met, one of three improbable possibilities must hold. Either the initial investment decision was based on correct social cost-benefit principles and took pricing into account. Or the facility will never wear out and have to be replaced. Or, finally, the SRMC price can and will be altered as the level of use changes. That is, when there is excess capacity, no charge will be imposed, but as use increases user charges will increase as well, to reflect increasing congestion costs—so that when the time comes to replace the facility the funds will be available to do it. The problem with this solution is twofold. First, as we noted earlier, congestion costs are difficult to estimate accurately. Second, even if they can be estimated, user charges, once set, tend to be “sticky”—that is, difficult to alter significantly without major political and administrative efforts. Such efforts are particularly unlikely to prove rewarding when the task is to raise prices to pay for a deteriorating level of service.

⁶¹ The interdependence of marginal costs, demand, and pricing has given rise to a complex theoretical literature that cannot be discussed here. See Bös, *supra* footnote 58 and M.A. Crew and P.R. Kleindorfer, *The Economics of Public Utility Regulation* (Cambridge, Mass.: MIT Press, 1986), for further discussion.

⁶² For discussion of such techniques, see Per-Olov Johansson, *An Introduction to Modern Welfare Economics* (Cambridge, Eng.: Cambridge University Press, 1991), chapter 8, and Paul R. Portney, “The Contingent Valuation Debate: Why Economists Should Care” (Fall 1994), 8 *The Journal of Economic Perspectives* 3-17.

⁶³ As Fox, *supra* footnote 37, notes, for example, with respect to the pricing of infrastructure, many relevant dimensions of demand must be taken into account, including accessibility, capacity, diversity, quality, time, and condition.

If, instead, the initial pricing calculation includes the fixed costs—that is, if the basis for setting user charges is *long-run* marginal costs (LRMC)—overbuilt facilities will be even more underused than would otherwise be the case. Moreover, managers will not be able to benefit from the demand information signalled by observed reactions to SRMC prices. A wide range of public sector activities, particularly those that involve large capital investments in infrastructure, may be characterized as facing decreasing average costs. Facilities with large sunk costs and high economies of scale, such as hydroelectric plants and telecommunication networks, are examples. As output expands in such cases, the cost per unit falls—at least up to a point. But if the average cost is decreasing, then the marginal cost—the cost of providing an additional unit of service—must, by definition, be lower than the average cost. The use of marginal-cost pricing in these cases means, therefore, that the user charge will be less than the average cost, and this in turn means that efficient charges will result in financial deficits.

How can such deficits be financed? One obvious solution is to finance them by general taxes. But why should the beneficiaries of the service in question be subsidized by taxpayers in general? An obvious alternative is to use average costs in setting prices, rather than marginal costs. All costs would then be recovered, though of course the use of higher prices would presumably reduce output, which is (by definition) not socially desirable. Other solutions must be sought to the problem of reconciling the efficiency objective of public sector pricing and the need to recover the financial costs of providing public services in as efficient and equitable a manner as possible. None of the four solutions discussed below is as economically desirable as SRMC pricing, but some of them may be much easier to implement in particular circumstances.

Average-Cost Pricing

In practice, some variety of average-cost pricing is probably the most common way in which user charges are currently set in Canada at all levels of government.⁶⁴ As a rule, moreover, the calculation of average costs takes only financial costs into account. Governments follow this obviously inefficient practice, one supposes, simply because average-cost prices are easier to calculate, and perhaps to justify to client groups, than the more correct, but rather esoteric, marginal-cost prices beloved of economists. Although this reasoning is of course quite understandable, and although in some instances average-cost pricing may be an acceptable outcome, there are other approximations to marginal-cost pricing that should also be considered.

The average-cost-pricing approach, as it is usually applied, estimates the total financial cost of providing a particular service and divides it by

⁶⁴ See the next section below and the discussions of current user-charge policy at the local level in Slack, *supra* footnote 30; Kitchen, *supra* footnote 57; and Sproule-Jones, *supra* footnote 25.

the number of units currently provided to obtain the appropriate user charge. There are two major problems with this approach. First, as we have already stressed, the result will not be efficient. If costs decline as output increases, the price will be too high and the output will be less than society really wants. If costs increase as output expands, the price will be too low, too much of the service in question will be demanded, and resources will again be misallocated—especially if the excess demand at the unduly low price is taken as an indication that output should be increased (by new investment, for example). Only if unit costs are constant, so that marginal and average costs are equal, does average-cost pricing make efficiency sense.

The second problem with average-cost pricing, assuming that costs are not constant, is that setting average-cost prices requires an estimation of the responsiveness of demand to price changes. Making this estimation, as we have already mentioned, is not an easy task. Suppose that a given park has previously been supplied for free, or at a nominal cost well below any conceivable realistic price. Suppose also that the variable costs of operating the park—that is, the financial costs that must be incurred in order to keep it open and operating at some level—can be estimated without great difficulty, and that the number of persons currently using the park (at a zero or nominal price) is also known. Clearly, dividing those costs by that number of people is most unlikely to result in full cost-recovery even of the variable costs, since it is almost certain that fewer people will use the park if the price of using it is increased substantially.

Thus the setting of average-cost prices to recover operating costs requires not only information about how unit costs change as the number of users changes but also information about how the number of users will change as prices change. Information of this kind is not easy to obtain, and even if it is available the resulting prices are not likely to result in either an efficient allocation of resources (because of the difference between average and marginal costs) or any useful information about whether the park should be extended or eliminated (because the fixed-cost aspect has not been factored into the calculation).

Average Incremental Cost Pricing

A compromise approach that may sometimes be useful is average incremental cost (AIC) pricing. Essentially, this approach, like marginal-cost pricing, attempts to calculate the additional cost incurred on the behalf of one additional user, but it does so in a way designed not only to result in full cost-recovery (like some versions of average-cost pricing) but also to be computationally feasible in the real world of public sector managers. The idea is simply to allocate each element of costs, fixed and variable, financial and (to the extent that they are readily measurable) social, to a particular incremental decision that results in the provision of a service and then to assign to each additional user the incremental cost attributable, on average, to his or her usage.

Here is an example. When a vehicle enters a highway at a particular time, the costs attributable to this decision may be broken down into those that arise from the addition of one person at this time at this place (such as congestion), those that are attributable to the place (such as the building of the highway to its particular dimensions), and those that are attributable to the trip (such as wear and tear on the road). An approximation to efficient pricing in this case might be some combination of a time penalty at peak times, appropriate charges for cost recovery for road use (whose elements include wear and tear, which is exponentially related to vehicle axle-weight, and accidents, which are related to driving records), and perhaps some sort of access charge (vehicle licence) to recover the fixed cost of highways. These charges could be levied in part on vehicles (vehicle licences), in part on vehicle use (gasoline taxes, tolls), and in part on drivers (drivers' licences). In each of these cases, one could calculate the appropriate user charge on the basis of available accounting information, supplemented by additional information as needed to take into account important social costs not accounted for in this way (noise, pollution, congestion), and impose the resulting charges on users as a class on an average basis.⁶⁵ This system does not by any means amount to marginal-cost pricing in the strict sense, but it may be about as close as one can get in practice.

Multipart Tariffs

Multipart tariffs offer an approach to pricing somewhat similar to average incremental cost pricing. In their simplest form, the two-part tariff, they impose a fixed access charge—for example, for connecting to a given system—and then an additional charge that relates directly to the amount of use made of the system.⁶⁶ Ideally, for the usual efficiency reasons, the latter charge would be as close as possible to the marginal-cost price. Some public utilities use two-part tariffs to recover the deficit that arises because total average incremental costs exceed marginal-cost-based user charges.

When it is easy to identify the characteristics of the users of a public service, multipart tariffs—in this context, often called discriminatory prices—may be useful in achieving efficiency. Suppose, for example, that two distinct groups of users of the same resource (such as sport fishermen and commercial fishermen) have different degrees of responsiveness to

⁶⁵ For examples of this approach, see Z. Haritos, *Rational Road Pricing Policies in Canada* (Ottawa: Canadian Transport Commission, 1973), and Z. Haritos and D.G. Hildebrand, *Civil Marine Infrastructure: Annual Costs and Revenues, 1955-1969* (Ottawa: Canadian Transport Commission, 1973).

⁶⁶ A variant sometimes found in at the local level is to charge differentially low (or zero) fees to residents for access to facilities on the ground that they have already paid for access through their local property taxes. The argument is very similar to one often made in connection with development charges. See Enid Slack and Richard M. Bird, "Financing Urban Growth Through Development Charges" (1991), vol. 39, no. 5 *Canadian Tax Journal* 1288-1304.

price changes, and that each group's degree of responsiveness is known. On efficiency grounds, the group with the less responsive (elastic) demand should be charged the higher price, since given an increase in prices its members will reduce their demand by less than will the members of the other group, who can more easily switch to other services.⁶⁷ In short, the way to maximize efficiency (and in this case revenue as well) is to charge more to those who have fewer choices.

Charging what the market will bear may not be considered fair, since the rich usually have more alternatives than the poor. Nonetheless, it may provide a useful benchmark against which to assess the costs of deviating from efficient pricing for distributive or other reasons.

Declining Block-Pricing

Another form of price discrimination is declining block-pricing, a practice common in some public utilities.⁶⁸ This method of pricing is closely related to the common practice of imposing lower unit charges on more frequent users (commuters and park visitors, for example). The basic idea is that the more you use, the less—per unit—you pay. This pricing strategy may make sense for a facility with substantial excess capacity, but even then care must be taken to ensure that the extra consumption thus encouraged does not cluster and create a peak-load problem. For example, if a transit system is underused except at peak hours, it may make sense to offer discounts to off-peak travellers, perhaps in the form of a unit price that declines as the traveller's off-peak use of the system increases. But it *never* makes sense to offer similar reductions to the regular commuters who are already straining the system's capacity at peak periods. As this example suggests, the distributional effects of this pricing strategy can be ambiguous—on the one hand, poor people, old people, and students who travel off-peak benefit; on the other hand, poor commuters who must be at work by 8.30 a.m. are penalized. As we have noted elsewhere, however, distributional considerations should not be taken into account, in the first instance at any rate, in deciding the appropriate level and structure of public sector prices.

⁶⁷ Such inverse elasticity pricing is sometimes called Ramsey pricing. Simply stated, the Ramsey rule is that a multiproduct monopoly can most efficiently cover costs by setting prices so that $(P - MC)/P = A/E$, where P is the price of a particular product, MC is the marginal cost of that product, E is the elasticity of demand for the product, and A is a constant. What this means is that the mark-up $(P - MC)$ of price over marginal cost is higher the less elastic is demand—that is, the less consumers reduce demand when price increases. Under this rule, in short, the more essential a service is, the higher the markup should be. There can be few clearer examples of the clash between efficiency and equity issues than this!

⁶⁸ Some public utilities have for distributional reasons introduced what are called "lifeline" block-pricing systems, under which an initial small block of service (for example, so many Kwh of power) is priced much below cost.

User Charges and Investment

In principle, governments should recover the variable costs of providing, say, transport services by imposing charges on the direct users of the services. In certain circumstances, indeed, it may be feasible to establish a separate “transport fund” and run it essentially like any other public enterprise—that is, by charging prices that approximate efficient (short-run marginal cost) prices.⁶⁹ Many countries have experimented recently with “build-operate-transfer” (BOT) systems, under which new transport infrastructure is constructed by private entrepreneurs who are repaid by charging for use of the infrastructure and who subsequently transfer the system to the public sector. These countries’ experience suggests that this “partial privatization” approach is a feasible one.⁷⁰

Whatever method is used to determine pricing and investment for any government program, it is necessary to recognize the critical link between the two. If prices are “too low,” demand will expand to the point at which facilities become crowded. Pressure for new investment in facilities will arise. If this investment is funded from general revenues, the new facilities will be basically “free” to users, who of course will want more of them. But if prices are inefficiently low, expanding the service would be a waste of both scarce public funds and the nation’s resources. The only solution to this problem, obviously, is to impose proper charges on users of infrastructure services in the first place.

In the case of *new* investment, then, the basic principles of linking user charges and investment are simple: (1) Determine in principle what the pricing structure should be. (2) Given that structure, determine (by means of a normal social cost-benefit analysis) whether the investment is worthwhile. (3) If it is worthwhile, make the investment. (4) Apply the pricing structure.

In the case of *existing* infrastructure, short-run marginal-cost pricing will, in principle, ensure the most efficient use of the system. If the existing investment is optimal—that is, if it has been made in accordance, more or less, with the principles just listed—then user charges designed to reflect marginal costs will both induce efficient use of that investment and signal when new investment is required.⁷¹ Once again, however, the existing investment is seldom optimal. In many cases, therefore, efficient pricing will give results very different from those given by “cost-recovery” pricing. Consider, for example, Montreal’s Mirabel airport and Toronto’s

⁶⁹ See, for example, Ian G. Heggie, *Management and Financing of Roads: An Agenda for Reform*, World Bank Technical Paper no. 275 (Washington, DC: World Bank, 1995).

⁷⁰ See Slack, *supra* footnote 30, for a recent review of Canadian experience; also Kitchen, *supra* footnote 57.

⁷¹ As we noted earlier, in order to finance the new investment, SRMC prices would have to increase sharply as facilities became more congested. Of course, the practical feasibility of charging increasingly higher prices for (by definition) an increasingly deteriorating level of service is close to nil.

Pearson airport. Mirabel is underused, so if SRMC prices were used there they would probably be below the levels needed to recover even variable costs (properly measured). Pearson, on the other hand, is so congested that SRMC pricing would probably produce a surplus over current costs (as required to finance the presumably needed expansion). In neither case is full cost-recovery likely to be efficient, since the existing infrastructure is probably not optimal. Indeed, the existing level and pattern of investment is probably less than optimal in most areas of the Canadian public sector, given the inappropriate charging policy currently in place.

How to get there—the right prices for the right infrastructure—from here—the wrong prices for the wrong infrastructure—is a challenging question, even apart from its critical political aspect. But what can be said is that it is better to be roughly “right”—that is, to charge some form of roughly economically sensible price (such as average incremental cost price or multipart tariff along the lines set out above)—than to be clearly wrong, as we often were in the past (when, for example, investment decisions were as a rule made in almost complete isolation from pricing decisions).

Pricing Externalities

Education is easy to price. A large guard could be stationed at the classroom door to keep out those who did not pay. But this does not mean that it necessarily makes sense to charge for education.⁷² Even if it does make sense, it may not be economically efficient to charge the entire cost to the presumed direct beneficiaries—the students. All Canadians presumably gain to some extent from raising the general level of education, and this external benefit should be taken into account in setting the price that should be charged for education. The same point holds for many other public services, at all levels of the public sector. Indeed, as we emphasized earlier, unless there is some element of general public purpose or externality, it is not clear why a particular activity should be provided by a public sector agency in the first place.

The obvious way to take external benefits into account in setting user charges is to estimate the marginal external benefit provided by supplying the service in question to an additional user and set the price equal to the marginal cost less this external benefit. The resulting financial deficit could be funded from general revenues. This simple strategy, however, faces two major problems.

The first problem is that it is almost always impossible to measure external social benefits in a convincing way. Discussions on this point tend to reduce to little more than assertions of individual preferences and perceptions. Nevertheless, the few studies that have attempted to measure

⁷² For a discussion of the possible role of charging in the context of primary and secondary education, see Richard M. Bird and N. Enid Slack, *Urban Public Finance in Canada* (Toronto: Butterworths, 1983). Post-secondary education is discussed briefly below.

external benefits suggest that in most cases these benefits are substantially less than the share of costs financed from general sources.⁷³ For many public services, therefore, it would probably be possible to increase the proportion of costs currently recovered by user charges without significantly reducing any positive externalities that the service may generate.

In the absence of better information, perhaps the best way to deal with the difficulty of measuring externalities would be to put the burden of proof on those who advocate large subsidies for particular services. Given this approach, the appropriate initial position in formulating sound public policy would be that any public service with an easily identifiable direct beneficiary should be paid for by that beneficiary, *unless* sound and convincing arguments in favour of a particular degree of explicit public subsidy can be produced. This approach, however, is in complete opposition to the one that many Canadians seem to have adopted—namely, that the onus of proof lies with the proponents of change. This position may not be logical, but it is one that proponents of user charges almost certainly will have to deal with explicitly if they hope for any success—a point to which we shall return at the end of this article.

The second problem is that existing subsidies are not necessarily paid in the most efficient way. One approach much used in the Canadian public sector (in education and health, for example) is to pay a *supply* subsidy in order to induce providers to lower their charges to direct users. This approach may be administratively convenient, but it has serious problems. For example, if the subsidy paid depends upon the number of users, it may encourage inefficient overexpansion. From the point of view of public policy, moreover, the subsidy may go to the wrong people—for instance, the rich (whose demand for the service is more likely to be elastic) rather than the poor (whose demand is inelastic). Supply subsidies may also result in the provision of “gold-plated” services—that is, services that cost more to produce than society would really be willing to pay, if payment were explicit.

If such concerns are thought to be significant, one possible remedy is to shift from a supply subsidy to a *demand* subsidy. For example, the government might direct a tax credit or a transfer payment related to the consumption of a given service to (the chosen) consumers. Although this possible line of approach is potentially important, we shall not discuss it further in this article. Alternatively, if supply subsidies are to be continued, they should to the extent possible be predetermined in the budget process and hence not be subject to manipulation by suppliers. We shall return to this point briefly later.

In addition to external benefits, both public sector actions and decisions made by private individuals and firms may give rise to *negative*

⁷³For one of the few empirical studies of this question, see Werner Z. Hirsch, Elbert W. Segelhorst, and Morton J. Marcus, *Spillover of Public Education: Costs and Benefits* (Los Angeles: University of California, Institute of Government and Public Affairs, 1964).

externalities. Another important question for public policy, therefore, is how to price negative externalities. Broadly, the possible approaches are similar to those we have discussed for positive externalities.⁷⁴

If a negative externality can be measured quantitatively and attached to a particular action, then a tax or charge can be assessed equal to the marginal costs imposed on those affected, other than the direct beneficiaries of the positive action in question. If the externality arises as a result of the non-priced use of a “common property” resource such as air or water (most pollution, for example), it can in some instances be priced by some variant of the auction technique described below (transferable pollution rights, for example). In other instances, it may best be approximated by some form of “liability-based” tax or charge (“eco-fees,” etc.).⁷⁵

We will not discuss this complex subject further here, except to note that contrary to a widely held view—and contrary to the general case we made earlier in connection with benefit taxation and user charges in general—there is no argument on the ground of economic efficiency for explicitly linking “disbenefit” taxes to the activities that give rise to them. On the ground of efficiency, it is clearly always desirable, if not always practical, to price environmental externalities through taxes and charges. But there is no logical reason to earmark the resulting funds for, say, clean-up activities or for the development of new parks, however desirable these activities may be in their own right. The optimal amount of expenditure on, say, environmental clean-up has no direct relation to the amount of revenue that may be raised from an efficient environmental levy. Nor is there any reason to link the expenditure of the revenue from the taxes or charges to the activity in question in order to maintain or encourage that activity; after all, what society wants in this case is not more of the activity but less of it. Practical politics may require the linking of environmental revenues to environmentally related activities (or to compensate those damaged by pollution). Nevertheless, the economic good that such charges do arises from the simple fact that they are levied, and not from spending the resulting revenue in any particular way.⁷⁶ Indeed, the most efficient use of that revenue might be to lower other, distorting taxes!

Pricing “Economic Rent”

An important area for the application of pricing in the public sector is the area of “economic rent.” Many rents are created by the existence of public

⁷⁴ For a review, see D.N. Dewees, “Taxation and the Environment,” in Richard M. Bird and Jack M. Mintz, eds., *Taxation to 2000 and Beyond*, Canadian Tax Paper no. 93 (Toronto: Canadian Tax Foundation, 1992), 29-60.

⁷⁵ See, for example, B. Cherniavsky, J. Mintz, and S. Traviza, “Eco-Fees and Tax Policies for Waste Minimization,” report prepared for Environment Canada, October 1995.

⁷⁶ For a recent analysis of this issue, see P.B. Sorensen, L.H. Pedersen, and S.B. Nielsen, *Taxation, Pollution, Unemployment and Growth: Could There Be a “Triple Dividend” from a Green Tax Reform?*, Working Paper Series no. 1994-10 (Copenhagen: Copenhagen Business School, Economic Policy Research Unit, 1994). See also below.

monopolies over the allocation of assets that are highly valued by the private sector, such as natural resources, the electromagnetic spectrum, and airport landing rights at peak periods. There may be good public policy reasons either for creating such monopolies or, if nature created them, for putting the determination of who should be able to make use of them in the hands of the public sector. Whatever the rationale, once a government monopoly exists, the question arises of the appropriate charge to impose for private access to the system. This question is quite different from the basic pricing problem we discussed earlier, since in this case (with trivial exceptions) there are really no costs to be recovered. Instead, the issue is how to maximize the monopoly rents that result from the issuance of licences and, at the same time, to ensure that the resulting allocation of resources is as efficient as possible.

As government agencies in many fields have long realized, the best way to find out how much you can raise from selling access to a monopoly resource is by auctioning it off. Auctioning will, in the right circumstances, ensure that licences go at the highest possible price and to those who value them most. The form of auction traditionally employed by government is the single-round sealed-bid auction, similar to the system used in competing for contracts to supply services to government. Recently, alternative forms of auction have been developed, primarily in the United States, in order to improve the likelihood that the right price is charged and that the right person gets the licence. The sequential auction, in which licences for particular frequencies or whatever are offered one after the other, is one such alternative. Another alternative, and a particularly interesting one, is the simultaneous ascending auction, which was used recently to allocate part of the radio spectrum in the United States.⁷⁷ This rather complex process, in its only field test to date, yielded considerably more revenue than the government had expected to receive and appears to have produced a logical structure of producers in the market.⁷⁸

Whatever the precise means, the best way to price rent-yielding services efficiently is almost certainly through some form of auction. Considerable effort may be needed to design an appropriate process and to package the offerings in the optimal way, but the potential returns from proper pricing of economic rents are usually large enough to make the

⁷⁷ Under this approach, multiple licences are opened simultaneously for public bidding, and bidding remains open as long as there is any form of bidding on any licence. In some instances, the licences offered are interdependent in the sense that two licences may in part cover the same region or the same part of the spectrum. Licences may also be complementary in the sense that a particular licence may be worth more to an operator who also operates in a contiguous region. Bidding occurs over rounds, and the results of each bid are announced to bidders before the start of the next round. The auction is run by a computer, and on-line bidding is allowed. Bidders therefore constantly know both the value of each licence to competitors and the potential aggregation of licences being pursued by different participants in the auction.

⁷⁸ See R. Preston McAfee and John McMillan, "Analysing the Airwaves Auction" (Winter 1996), 10 *The Journal of Economic Perspectives* 159-75.

effort well worthwhile. Auction techniques may also warrant more exploration as a means of selling “pollution rights”⁷⁹ and development rights for land use⁸⁰ at the provincial and local levels, but we cannot explore this complex subject here.

QUANTITATIVE OVERVIEW

To this point, we have argued that in principle user charges can and should be used extensively in the Canadian public sector but that the determination of the appropriate charge for any particular service may sometimes be a complex task—one that requires close attention to the specific characteristics of the service and the demand for it. The present section considers the real-world analogues of these matters by addressing two questions: To what extent do Canadian governments already use user charges? How are these charges determined?

The Use of User Charges

The answer to the first question varies with one’s definitions of “user charges” and “governments.” The figures in table 1, based on two different broad definitions of user charges, are taken from two earlier studies of the use of such charges in Canada. In the context of the present discussion, however, these broad figures exaggerate the importance of the subject, so table 2, based on consistent Statistics Canada definitions, focuses on trends in the two categories—privileges, licences, and permits, and sales of goods and services—that correspond most closely to the concept of user charges used in this article. The table reveals several important characteristics of user-charge revenues. First, user charges are most important by far at the municipal level and least important at the federal level. Second, the relative importance of user charges as a source of government revenue has grown somewhat over the last 30 years. The third and most interesting point, however, is that most of this growth has taken place at the local level and most of it occurred before the 1980s. There is certainly no evidence in these data of a rush to user charges at any level of government in Canada.⁸¹

⁷⁹ See Dewees, *supra* footnote 74.

⁸⁰ The history of policies along this line is not particularly promising, however: see, for example, on experience in the United Kingdom, A.R. Prest, *The Taxation of Urban Land* (Manchester: Manchester University Press, 1981); and Christopher C. Hood, *The Limits of Administration* (London: Wiley, 1976), chapter 7. Canadian attempts to “recapture” land value increments have in recent years taken the alternative route of imposing “development charges.” See Enid Slack, “An Analysis and Evaluation of the Application of Development Charges by Canadian Municipalities,” a paper prepared for the Intergovernmental Committee on Urban and Regional Research, May 1994.

⁸¹ User charges have always been less important in Canada than in the United States, a point discussed in Richard M. Bird and Enid Slack, “Urban Finance and User Charges,” in George F. Break, ed., *State and Local Finance* (Madison: University of Wisconsin Press, 1983), 211-37. For a recent review of user charges in the United States, see Congressional Budget Office, *The Growth of Federal User Charges* (Washington, DC: Congressional Budget Office, 1993).

Table 1 User Charges in Canada, Broadly Defined, as a Percentage of Total Government Revenues

	Bird (1971)	Sproule-Jones (1990)
Privileges, licences, and permits	0.6	1.6
Sales of goods and services	4.2	3.8
Health and social services levies	14.9 ^a	8.1
Other	3.9 ^b	3.5 ^d
Total	23.6 ^c	17.0

^a Includes Canadian Pension Plan, Unemployment Insurance, health insurance premiums, Workers Compensation Board premiums, and earmarked taxes for health and old age security. ^b Includes motor fuel taxes, fire and crop insurance levies, and special assessments. ^c If revenues from government enterprises is included in both the numerator and the denominator, the figure is 4.1 percent. ^d Includes natural resource revenues and other own-source non-tax revenues.

Sources: Calculated from Richard M. Bird, *Charging for Public Services: A New Look at an Old Idea*, Canadian Tax Paper no. 59 (Toronto: Canadian Tax Foundation, 1976), 4 and Mark Sproule-Jones, "User Fees," in Allan M. Maslove, ed., *Taxes as Instruments of Public Policy* (Toronto: University of Toronto Press in cooperation with the Fair Tax Commission, 1994), 3-38, at 8.

For several reasons, however, even the numbers in table 2 are suspect to some extent:

- The table excludes certain taxes with a clear "benefit" rationale (at least in part), notably taxes on motor fuel. This exclusion is justified because (1) there is no evidence that these taxes have been in any sense designed on user-charge lines;⁸² (2) fuel taxes in Canada, contrary to what many seem to think, are not earmarked for road-related expenditures.⁸³
- Both tables 1 and 2 exclude most revenues from natural resources (and other non-tax revenue as well, notably income from investments). At least some of these revenues might be considered equivalent to "charges" for the use of public sector resources.⁸⁴ Nonetheless, they are excluded here because they obviously raise questions very different from those we are considering in this article.⁸⁵

⁸² See the early discussion in Nancy Bryan, *More Taxes and More Traffic*, Canadian Tax Paper no. 55 (Toronto: Canadian Tax Foundation, 1972) and Bird, *supra* footnote 20. For discussion of the extent to which and the manner in which gasoline taxes can be used as road-user charges, see, for example, Hau, *supra* footnote 39, and Heggie, *supra* footnote 69.

⁸³ Although most payroll taxes *are* earmarked for social insurance or, occasionally, health expenditures, they too are omitted from table 2, since there is no conceivable way in which they may be considered to be "user charges." Indeed, even their "benefit" rationale is often questionable, given the looseness of the link between contributions and benefits.

⁸⁴ Sproule-Jones, *supra* footnote 25, for example, includes both of these items in his "broad" characterization of user charges.

⁸⁵ See, however, the brief earlier discussion of pricing "rents." Clearly, fees and charges may in some instances be substituted for, for example, royalties or auctions (this is one of the perennial issues of contention in the unending softwood lumber disputes with the United States), so a more detailed exploration of this question is really needed. But it cannot be undertaken here.

Table 2 User Charges in Canada, Narrowly Defined, as a Percentage of Own Revenues, Selected Fiscal Years, 1965-1995

	1965-66	1974-75	1984-85	1994-95
Federal				
Privileges, licences, and permits	0.3	0.1	0.1	0.4
Sales of goods and services	1.3	3.2	3.0	2.5
Total	1.6	3.3	3.1	2.9
Provincial				
Privileges, licences, and permits	6.8	3.3	2.4	3.1
Sales of goods and services	2.0	3.0	2.2	2.6
Total	8.8	6.3	4.6	5.7
Municipal				
Privileges, licences, and permits	1.5	1.9	1.2	1.0
Sales of goods and services	10.7	14.1	20.8	21.1
Total	12.2	16.0	22.0	22.1
Consolidated				
Privileges, licences, and permits	2.5	1.4	1.5	1.6
Sales of goods and services	2.7	3.8	4.3	4.5
Total	5.2	5.2	5.8	6.1

Sources: Calculated from Statistics Canada, *Public Finance Historical Data 1965/66-1991/92*, catalogue no. 68-512, and *Public Sector Finances 1995-1996*, catalogue no. 68-212-XPB.

- Table 2 largely excludes sales of goods and services by government business enterprises. Although some information on business activities at the federal and provincial levels is available, coverage at the local level is seriously deficient. Some local “enterprise” activities (notably water and sewers and housing) are usually included in local government financial statistics, but others (such as transit, electricity, gas, and telephone utilities) are not. On the other hand, note that adding the gross sales of goods and services such as water to other government revenues exaggerates the importance of this source of revenue. Strictly speaking, the totals should include only the gross profit or value added (sales less purchases); otherwise they misrepresent the extent to which these activities, like taxes, give control over additional resources to the public sector.

- There are three additional reasons why user charges are more important at the local level than table 2 indicates:⁸⁶ (1) The Statistics Canada data treat the property taxes used to finance school boards as municipal revenue, though school boards are not part of municipal governments as such.⁸⁷ (2) Statistics Canada includes special assessments in property taxes rather than in “user charge” revenues.⁸⁸ (3) In some provinces, special

⁸⁶ These points are stressed in Mark Sproule-Jones and John White, “The Scope and Application of User Charges in Municipal Governments” (1989), vol. 37, no. 6 *Canadian Tax Journal* 1476-85.

⁸⁷ On the importance of this tax, see, for example, Harry Kitchen and Douglas Auld, *Financing Education and Training in Canada*, Canadian Tax Paper no. 99 (Toronto: Canadian Tax Foundation, 1995).

⁸⁸ For discussion of special assessments, see Bird, *supra* footnote 20, and Harry Kitchen, *Local Government Finance in Canada*, Financing Canadian Federation no. 5 (Toronto: Canadian Tax Foundation, 1984).

“business taxes,” levied as part of property taxes, take the place, wholly or in part, of the fees for “business licences” imposed in other provinces.⁸⁹

- On the other hand, table 2 exaggerates the importance of user-charge revenues at all levels of government by including sales of services (such as educational or policing services) by one level of government to another.

Despite these problems, the figures in table 2 are the only ones available that are comparable over time and space. Table 2 shows that the importance of user charges has increased somewhat in recent decades, particularly at the local level. Table 3 shows that there is considerable variation across provinces both in the degree of reliance on these sources of revenue and in the “mix” of the two items shown. Thus revenue from sales of services ranges from a low of 1.9 percent of own-revenues in British Columbia to a high of 27.8 percent in the rather unusual case of the Northwest Territories. Revenue from privileges, licences, and permits ranges from a low of 1.5 percent of own-revenues in the Northwest Territories to a high of 4.6 percent in Newfoundland.⁹⁰ At the local level, sales and service revenue is highest, once again, in the Northwest Territories and lowest in Saskatchewan, whereas other user charges are most important in British Columbia and least important in Quebec.⁹¹

As table 3 shows, revenue from licences and permits is most important at the provincial level. The most important sources of this revenue are liquor control, motor vehicles, and company fees. There are similar fees and charges at the local level (for building permits and, sometimes, commercial vehicles, among other things). Sales revenues, which are much more important than licences and permits at the local level, include sales (and rentals) of property, court fees, airport and wharfage fees and charges,

⁸⁹ See Kitchen, *supra* footnote 88, and Treff and Cook, *supra* footnote 25. Among businesses commonly licenced are collection agencies, employment agencies, insurance agencies, loan and trust companies, securities and investment brokers, real estate agents, private investigators, security guards, theatres and places of amusement, and sporting events.

⁹⁰ The territories are not included in the useful survey paper by John R. Livernois, “An Overview and Analysis of Non-Tax Provincial Revenue Sources,” in Melville McMillan, ed., *Provincial Public Finances*, vol. 2, *Plaudits, Problems, and Prospects*, Canadian Tax Paper no. 91 (Toronto: Canadian Tax Foundation, 1991), 344-68; but see Enid Slack, “Yukon and the Northwest Territories: Provincial Public Finances,” *ibid.*, vol. 1, *Provincial Surveys*, 314-42. Slack notes, at 325, that the high revenue from sales in the Northwest Territories reflects the importance of rentals of residential property to government employees.

⁹¹ These patterns vary from year to year, of course. Kitchen, *supra* footnote 57, at 30, for example, compares the provincial patterns of local reliance on user charges for 1975 and 1990 (as a percent of total revenue). His data show an increase in the total importance of charge revenue over this period from 7 to 12 percent, with increases occurring in all provinces. On the whole, the provinces with an above-average reliance on user charges in 1975 (New Brunswick, Alberta, British Columbia, Newfoundland, and the two territories) continued to be in the above-average group in 1990 (apart from Newfoundland). The only province that changed from below-average to above-average reliance on user charge revenues over this period was Ontario, and by 1993, as table 3 shows, it had again changed places with Newfoundland.

Table 3 User Charges in Provincial and Local Finance, as a Percentage of Own Revenues, Revised Estimates, 1993

	Provincial			Local		
	PLP	SGS	Total	PLP	SGS	Total
Newfoundland	4.6	3.9	8.5	1.0	20.8	21.9
Prince Edward Island	2.8	8.2	11.0	0.5	34.9	34.4
Nova Scotia	2.9	4.9	7.8	0.5	21.9	22.4
New Brunswick	2.6	3.4	6.0	0.6	30.3	31.9
Quebec	4.3	2.7	7.0	0.2	18.9	19.1
Ontario	3.3	2.4	5.7	0.8	17.8	18.6
Manitoba	1.6	2.5	4.1	1.0	19.3	20.3
Saskatchewan	2.5	4.8	7.3	0.8	18.9	19.7
Alberta	2.0	2.1	4.1	2.3	32.5	34.8
British Columbia	1.8	1.9	3.7	3.0	31.2	34.2
Yukon	2.3	17.2	19.5	2.5	30.4	32.9
Northwest Territories	1.5	27.8	29.3	1.6	62.2	63.8
Canada	3.1	2.6	5.7	1.0	21.1	22.1

Note: PLP = Privileges, licences, and permits; SGS = Sales of goods and services.

Source: Calculated from Statistics Canada, *Public Sector Finances 1995-1996*, catalogue no. 68-212-XPB.

franchises for passenger vehicles for public hire, park concessions, and fees for recreational facilities.⁹²

Tables 4 and 5 contain some information from provincial sources about the structure and importance of user-charge revenue in Ontario and, more specifically, the Greater Toronto Area (GTA).⁹³ Table 4 shows that the importance of charges varies widely by the type of service. In Ontario as whole, user charges accounted in 1991 for 20 percent of municipal revenue, but for individual service categories charges as a share of total expenditures varied from a low of 2 percent for “protective services,” to 28 percent for transportation (including 73 percent of expenditures for parking and 52 percent for transit), to a high of 55 percent for “environmental services” (water, sewer, and solid waste). In the GTA, as table 5 shows, there is considerable variation among lower-tier municipalities, and between upper- and lower-tier governments as well.⁹⁴ Overall, user charges accounted in 1995 for about 20 percent of GTA revenues, and

⁹² See the detailed listing in Treff and Cook, *supra* footnote 25, at 7:9-13. See also table 6 below.

⁹³ For a discussion of the underlying data, see Almos Tassonyi, “The Benefits Rationale and the Services Provided by Local Government,” a paper prepared for the Ontario Fair Tax Commission, 1993; and Greater Toronto Co-ordinating Committee, “Net Revenue Requirement,” Background Report no. 2, Local Government Finance in the Greater Toronto Area (July 1995). It should perhaps be noted that municipalities do not always accept these data as depicting the true state of affairs. Regional governments, for example, often assert that utility operations such as water and sewers are completely user-funded, apparently because they consider only current operating costs.

⁹⁴ For a discussion of the comparable situation in the Waterloo region, see Thirsk and Bird, *supra* footnote 32, at 147-49.

Table 4 User Charges by Category, Ontario Municipalities, 1991

Expenditure category	User charges as a percentage of expenditures
General government	6.9
Protection to persons and property	
Fire	2.0
Police	1.1
Conservation authority	1.1
Protective inspection and control	12.0
Other	6.5
Subtotal	2.3
Transportation services	
Roadways	7.2
Winter control	6.4
Transit	51.7
Parking	72.6
Street lighting	0.4
Air transportation	36.5
Other	35.5
Subtotal	28.1
Environmental services	
Sanitary sewer systems	47.5
Storm sewer systems	4.6
Waterworks systems	74.0
Garbage collections	17.3
Garbage disposal	72.5
Pollution control	7.4
Other	21.0
Subtotal	54.6
Health services	
Public health services	5.6
Public health inspection and control	5.2
Hospitals	0.8
Ambulance services	0.3
Cemeteries	40.9
Other	7.8
Subtotal	6.0
Social and family services	
General assistance	1.1
Assistance to aged persons	29.3
Assistance to children	0.1
Day nurses	6.8
Other	54.8
Subtotal	6.8
Recreation and cultural services	
Parks and recreation	30.1
Libraries	3.7
Other cultural	25.4
Subtotal	23.2
Planning and development	
Planning and zoning	16.6
Commercial and zoning	7.2
Residential development	23.1
Agriculture and reforestation	10.4
Tile drainage/shoreline assistance	97.4
Other	8.3
Subtotal	20.4
Total	19.6

Source: Almos Tassonyi, "The Benefits Rationale and the Services Provided by Local Governments," paper prepared by the Ontario Fair Tax Commission, 1993, table 3.

Table 5 User Charges by Category and Municipality, Greater Toronto Area, 1993

	Total ^b	General government	Protection	Transportation	Environmental services	Health services	Social and family services	Recreation and cultural services	Planning and development	Water and sewers
<i>dollars per household</i>										
Metro Toronto										
Lower tier ^a	281	15	7	62	11	1	0	40	11	133
Metro	947	10	4	502	29	0	64	67	0	272
Total	1,228	25	11	564	40	1	64	107	11	405
Durham										
Lower tier ^a	214	13	6	87	7	3	0	92	5	0
Region	193	8	0	15	7	1	70	0	3	471
Total	407	21	6	102	14	3	70	92	8	471
Halton										
Lower tier ^a	214	11	6	79	1	6	0	103	6	0
Region	85	7	8	6	8	2	40	0	9	395
Total	299	18	14	85	9	8	40	103	15	395
Peel										
Lower tier ^a	323	24	8	79	23	1	0	101	17	0
Region	64	7	3	1	8	1	29	0	1	402
Total	387	31	11	80	31	2	29	101	18	402
York										
Lower tier ^a	381	19	10	60	61	1	0	143	12	75
Region	120	2	8	5	70	2	28	0	1	336
Total	500	21	18	65	131	3	28	143	13	411
GTA										
Lower tier ^a	328	16	8	79	17	1	0	70	11	84
Region	749	8	4	290	26	1	54	38	1	327
Total	1,077	24	12	369	44	2	54	108	12	411

^a Weighted average. ^b May be minor discrepancy owing to rounding.

Source: Greater Toronto Co-ordinating Committee, "Net Revenue Requirement," Background Report 2, July 1995.

again the most important sources were transit, water and sewer, and other environmental charges. Finally, for reference purposes, table 6 lists the user fees that Ontario municipalities were explicitly empowered to enact as of the beginning of 1996. Subsequently, Bill 26 extended this authority in terms of both the services for which fees can be levied and the basis on which fees are determined. At present, therefore, Ontario municipalities have far more flexibility in user-charge policy than they did in the past. As table 6 shows, however, even before this change there was a very wide range of possible user charges at the local level.

As the tables show, user charges are currently used primarily at the local level and primarily for services such as urban transit and water, for which they seem quite appropriate. It may be both possible and desirable to replace some of the present local property tax by user charges—indeed the increasing recourse to “development charges” in recent years is a step in this direction.⁹⁵ In any case, the primary issue at the local level is not the idea of user-charge financing as such, but rather the structure and level of the prices charged. User charges are already well established at the local level in Canada. As we note below, however, this does not mean that the charges now levied are as well-designed as they could be and should be.

At the provincial level, in contrast, user charges have traditionally not played a very important role. Unsurprisingly, therefore, it is at the provincial level that the major policy questions about user charges arise: Should roads be priced? How? What charges should be levied in the health sector? Should a larger share of the costs of post-secondary education be financed by tuition fees? What use should be made of pollution charges or taxes? The answers to questions such as these in the different provinces will largely determine whether user-charge finance will play a substantially more important role in Canadian public finances than they have played up to now. The next section, therefore, considers very briefly the potential for user charges in each of these areas.

What Sort of User Charges?

Whatever the future may hold, it is likely that few (if, indeed, any) of the wide variety of charges currently employed in the Canadian public sector satisfy the conditions for appropriate user charges set out earlier in this article. Given the complexity and diversity of the subject area, it is scarcely surprising that no comprehensive analysis of user-charge policy in Canada has ever been carried out. Nevertheless, every study that has been undertaken, whether a broad survey or a detailed analysis of a specific area such as water pricing, has reached the same conclusion: what is now done in the way of charging for public services is for the most part done badly. As many critics of the recent revival of interest in user-charge finance

⁹⁵ See Slack, *supra* footnote 80.

Table 6 Municipal User Charges in Ontario as of January 1996

Municipal Act

Sewer rate—capital costs
 Water works rate—capital costs
 Sewerage service rate—operating costs
 Special charge to provide additional sewer or water supply capacity
 Sewer and water connection fees (hook-ups)
 Waste management facilities and services
 Transit fares
 Charges respecting use of employees and equipment
 Admissions to facilities, use of facilities
 Charges for roads, sewer and water pipes re condominiums
 Municipal trailer camps
 Permit parking
 Parking meters
 Municipal parking lot rates
 Laying of poles, wires or conduits on street
 Laying piping or conduits for electric wires
 Transmitting steam or cooling energy under highways
 Size and strength of walls, and production of plans
 Plumbing inspection fees
 Excavating trenches—inspection and approval
 Landfill site inspection
 Signs and advertising
 Heating plant and equipment (boilers and pressure valves) inspections
 Building wrecking permit
 Dumping of fill
 Destruction of trees permit
 Inspection and copying of minutes
 Copies of awards, and services rendered by the clerk
 Exclusive right to maintain waste paper boxes on street
 Recovery of costs from school board re debentures and bylaws
 Cost of audit charged to local board
 Harbour maintenance dues
 Animal identification system
 Spaying/neutering clinics
 For support of magazines re explosives
 Market vendor fees
 Use of weigh scales
 Registration of group homes
 Laying of pipes for petroleum upon municipal highways or lands
 Cold storage business
 Leasing of property to doctor or dentist
 Compensation for impounding animals
 Buying and storing fuel and food on Board order
 Snow removal from sidewalks
 Building encroaching on highway
 Use of highway or boulevard during building operations
 Numbering and building of lots
 Placement of telephone booths on municipal lands
 Bus franchises
 Gypsy moth control programs
 Use of highways
 Use of airspace over highways
 Drain connections

(The table is concluded on the next page.)

Table 6 Concluded

Other acts

- Water rates (Public Utilities Act)
 - Public utilities—construction, operation, and maintenance rates (Public Utilities Act)
 - Use of meters (Public Utilities Act)
 - Regulatory power to prescribe maximum amounts that may be charged residents (Homes for the Aged and Rest Homes Act)
 - Day care (Day Nurseries Act)
 - Fees on applications for and issuance of permits (Building Code Act)
 - Right to charge owner with cost of maintenance (Cemeteries Act)
 - Processing of applications for range of planning activities (Planning Act)
 - Environmental Assessment Act)
-

have said, most existing user charges have more to do with the search for revenue than with any economic principle.

In support of these bald assertions, the conclusions of some of the major studies of user charges in Canada may be cited:

In reality . . . prices or user fees are generally set to raise revenue and not to serve as a rationing and demand signalling device.⁹⁶

[A]ll municipalities in our sample used average cost pricing principles; . . . by and large they attempted to cover operating costs only in their charging systems; and . . . they tended not to earmark user charge revenue for the programs and facilities that generated it.⁹⁷

Most fee structures are characterized by complexity and have no real rationale other than expediency.⁹⁸

[P]ricing techniques generally depend on tradition, the type of service, the preferences of residents and the desire on the part of local politicians and administrators to substitute prices for property taxes but they rarely reflect marginal cost.⁹⁹

In the circumstances, it is not surprising that one of the studies cited went on to say that “[g]iven these kinds of implementation practices, we suggest that user charges can be more accurately considered as consumption taxes rather than prices for services offered.”¹⁰⁰

At present, therefore, user-charge policy in Canada leaves much to be desired. Nor will it be easy to change the existing policy in economically desirable ways. Citizens will fear, and not without reason, that any increase in the use of user charges will just be more of the same. Governments that want to introduce new user charges, or even simply to make better use of the user charges they already have, have a major task of education and persuasion to undertake if they are to succeed. Unfortunately, as we

⁹⁶ Kitchen, *supra* footnote 57, at 29.

⁹⁷ Sproule-Jones and White, *supra* footnote 86, at 1477.

⁹⁸ Bird, *supra* footnote 20, at 141.

⁹⁹ Slack, *supra* footnote 30, at 22.

¹⁰⁰ Sproule-Jones and White, *supra* footnote 86, at 1477.

indicated in the introduction to this article, there is little evidence that governments at any level have as yet taken this problem seriously, or indeed that they are aware of any but the revenue aspects of user charges. There is therefore a real danger that the current interest in user charges will make matters even worse, by further souring citizens on the prospects for responsive and responsible government. If governments are unwilling to implement appropriate charges, why should citizens believe any of the rhetoric about the alleged virtues of more “market-oriented” public services?

We shall return to this point at the end of the article. First, however, we will look briefly at a few examples of the potential for *good* user-charge policy in some areas of provincial and local expenditure.

USER CHARGES IN ACTION: PRACTICE AND POTENTIAL

The potential scope for user charges ranges from the possibly sublime¹⁰¹ through the clearly mundane¹⁰² to the faintly ridiculous.¹⁰³ Our aim in this section is simply to suggest a few key characteristics of appropriate user-charge policy through a brief examination of several public sector activities that for the most part fall within the “mundane” part of this spectrum. We shall start at the provincial level with health and post-secondary education, then look at environmental and road services, and conclude with a few comments on the potential for local user charges, illustrating the discussion with the case of parks. Each of these subjects is complex, and we make no pretence to completeness here; instead, we focus in each case on one or two particular points that have some wider relevance.

Health Services

Few subjects have generated more controversy in recent years than the prospect, and to a limited extent the reality, of user charges in the area of health care. A 1994 newspaper headline neatly summed up the differing views on this question: “Canadian doctors vote not to reject user fees. Physicians ‘a greedy bunch’ in defeating resolution at CMA convention, medical reformer asserts.”¹⁰⁴ “Greedy” doctors (and governments) on one side; “reformers” and other enlightened people on the other. This is the

¹⁰¹ See Kevin Cox, “Weather Watchers, Meet User-Pay Forecasts,” *The Globe and Mail*, January 12, 1996, about federal pay-for-use charges for weather forecasts.

¹⁰² See, for example, the study of curb-side fees for solid waste pickup in Apogee Research, “Assessment of Economic Instruments for Waste Management,” a report prepared for Environment Canada, December 1992. Although fees for refuse collection are probably one of the “hotter” topics among Ontario municipalities at the moment, they are not further discussed here. For earlier discussions, see Bird, *supra* footnote 20 and the sources cited there.

¹⁰³ Richard Schmitt, “Pay \$10 a Day, Go Directly to Jail: To Help Cover the Rising Costs of Housing Prisoners, Many U.S. Institutions Are Starting To Charge Inmates for Their Room and Board,” *The Globe and Mail*, March 4, 1995.

¹⁰⁴ Joan Breckenridge, *The Globe and Mail*, August 20, 1994.

sort of black-and-white issue that the press loves, and for the most part it continues to be reported in these terms.¹⁰⁵

As is not uncommon in controversies about public policy, there is nothing new in what is now being said and done by both the proponents and the opponents of user charges for health-care services. Similar discussions have flared up in the past not only in Canada,¹⁰⁶ but in other countries as well.¹⁰⁷ Clearly, it is not possible here to consider in depth any of the complex issues of social and economic policy related to user charges for health care. Nonetheless, we may perhaps comment that it is really rather amazing to see how many different people in how many different situations have ended up advancing completely opposite views about user charges in this area: on one hand, user charges are a necessary step toward the rationalization of public expenditure; on the other, they are the end of civilization as we know it. The second of these views is, clearly, unduly apocalyptic. The first view seems closer to the truth, in the sense that some recourse to supplemental private funding may be needed both to maintain the level of health-sector funding in the face of scarce public resources and to improve the allocation of those resources. But this view too is oversimple: clumsy attempts at introducing user charges for health care, by unduly deterring the poor from using the system (and for other reasons as well), might indeed tear the social fabric in ways that could be hard to repair.

One possibly promising approach to the problem would be to require individuals to include in their taxable income an imputed element equal to the estimated value of the health care benefits they have directly consumed in the previous tax year (presumably up to some limit, to avoid impoverishing the ill). The result would be, in effect, a variable user-fee schedule geared to income levels. Low-income health-care users with no, or low, taxable income would pay a zero or modest user fee and continue to be subsidized by the health-care system. Others would be charged at rates that varied with income and the amount of health services used. The scheme is not a novel one: forms of it were proposed some years ago in

¹⁰⁵ See, for example, Jane Coutts, "User Fees, Privatization Necessary, Survey Finds: Changes Needed if System To Survive," *The Globe and Mail*, June 24, 1995, for an article which, despite its title, argues that the survey of physicians cited is clearly wrong and cites British experience to argue that user charges would kill the public health system as we know it. (For a quite different view of what we might learn from Europe, see "What Chretien Didn't Tell You: Many in Europe Pay To See MD," *Winnipeg Free Press*, March 7, 1995.) See also Margaret Philp, "Ontario Economic Statement: Seniors, Welfare Recipients To Pay User Fees Under Drug Benefit Plan: Ontario's Financial Medicine Includes \$1.3 Billion Hospital Cutback over Next Three Years," *The Globe and Mail*, November 30, 1995, and "Ontario Drug Fees Will Have Human Cost," *The Globe and Mail*, July 15, 1996.

¹⁰⁶ For an earlier discussion, see Bird, *supra* footnote 20.

¹⁰⁷ See, for example, Barbara McPake, "User Charges for Health Services in Developing Countries: A Review of the Economic Literature" (June 1993), 36 *Social Science and Medicine* 1397-1405.

both the United Kingdom and in Ontario. We are not aware, however, that the approach has been implemented anywhere.¹⁰⁸ Perhaps it should be.

In any case, although it is hardly possible to do justice to this complex subject in a few paragraphs,¹⁰⁹ there seems to be little reason to revise the conclusions of an much earlier study

(1) that not all health charges are bad, (2) that, indeed, some health charges are desirable for various reasons, and (3) that unless some change is made . . . in health financing . . . the range of choice open to us in this field seems likely to diminish in the future.¹¹⁰

Little has changed since this was written, except that government finances have now deteriorated to the point where the range of choice has indeed diminished. Canadian governments are probably right, therefore, to experiment both with user charges for certain health services and with other and probably more important forms of restructuring for health-care finance, such as internal pricing for hospital services and the use of demand subsidies rather than supply subsidies. Charges are not a panacea, but if they are properly designed and applied they can help. Unfortunately, improperly designed charges may hurt not only the wrong people but the reform of health-care finance in general. In no area is it more important to ensure that whatever is done is done well.

Public sector health care raises issues for which there are no simple solutions. Unsurprisingly, therefore, the role of user charges in this context raises complex issues in both technical and political-economy terms. Contrary to what some advocates of more direct health charges suggest, imposing a charge every time someone visits the doctor is not the cure for the financial ills of Canada's health-care system. Contrary to what opponents of all such charges argue, however, there is indeed a potentially significant role for a carefully designed user-charge policy as one part of the solution to current problems.

Post-Secondary Education

Another important area in which provincial governments are currently moving to more of a "user charge" approach is that of tuition charges for

¹⁰⁸ See Douglas Houghton, *Paying for the Social Services* (London: Institute of Economic Affairs, 1968), and Ontario Economic Council, *Issues and Alternatives, 1976: Health* (Toronto: Ontario Economic Council, 1976). This is of course a move toward the "demand-side" subsidy discussed earlier in the present article.

¹⁰⁹ For a small sample of some of the many recent studies on Canada's health-care system, see Ake Blomqvist and David M. Brown, eds., *Limits to Care: Reforming Canada's Health System in an Age of Restraint* (Toronto: C.D. Howe Institute, 1994); Douglas E. Angus et al., *Sustainable Health Care for Canada: Synthesis Report* (Kingston, Ont.: Queen's-University of Ottawa Economic Projects, 1995); Monique Jerome-Forget, Joseph White, and Joshua M. Wiener, *Health Care Reform Through Internal Markets: Experience and Proposals* (Montreal: Institute for Research on Public Policy, 1995); and Michael Rachlis and Carol Kushner, *Strong Medicine: How To Save Canada's Health Care System* (Toronto: Harper Collins, 1994).

¹¹⁰ Bird, *supra* footnote 20, at 215.

post-secondary education. Failure to charge full-cost university tuition fees clearly results in an “upside down” subsidy to the rich from the poor. Numerous studies have shown that because university students are disproportionately drawn from the ranks of upper-income families, and because costs not covered by tuition are financed from general revenues, university spending generates significant income redistribution from the poor to the rich.¹¹¹ Properly structured charges would both oblige the rich to pay a fairer share of university costs and produce substantial revenue for educational institutions (presumably largely in replacement of general-revenue financing). Moreover, if the charges were supported by an appropriate program of student loans, they would accomplish these ends without adversely affecting lower-income students’ access to higher education.¹¹²

In short, there are few areas of public policy where the case for more reliance on user charges is stronger than it is in the area of post-secondary education. Yet it is obvious that the benefits produced by universities and colleges do not end with the benefits they confer on their students. Post-secondary institutions also realize important public-policy goals, presumably to the benefit of society as a whole. There are, for example, the “external” benefits that arise from having a well-educated population, and also the more specific benefits that arise from university research activity and capacity. Most students probably should pay more for their education than they have been required to pay by the financing structure set up in the days of relatively painless growth in general government revenues. But this by no means implies that universities can or should be financed entirely through tuition fees. There clearly remains an important role for both public sector finance—notably of non-professional graduate studies and research—and, within limits, other private sector sources of finance (such as for research).¹¹³ As in the case of health care, user charges are only part—though in this case a more important part—of the solution to the financing problem.

“Green” Taxes as User Charges

In what has sometimes been called the “greening” of the budget, governments have begun to make use of fiscal instruments as weapons in the war against pollution.¹¹⁴ In 1988, for example, Ontario increased excise taxes on leaded gasoline. In 1989, it introduced both a tire tax and a “fuel conservation” tax on new vehicles according to their relative fuel efficiency.

¹¹¹ For an early review of such studies, see Bird, *supra* footnote 20; also see O. Mehmet, *Who Benefits from the Ontario University System: A Benefit-Cost Analysis by Income Groups*, Occasional Paper no. 7 (Toronto: Ontario Economic Council, 1978).

¹¹² For a recent proposal along these lines, see David Stager, *Focus on Fees: Alternative Policies for University Tuition Fees* (Toronto: Council of Ontario Universities, 1989).

¹¹³ On some of the many questions concerning the latter, see, for example, Richard M. Bird and Meyer W. Bucovetsky, *Private Support for Universities* (Toronto: Commission on the Future Development of the Universities of Ontario, 1984).

¹¹⁴ This section is largely based on Thirsk and Bird, *supra* footnote 32.

In the same year, it imposed a dispenser disposal tax on non-recycleable vessels for alcoholic beverages. In 1990, the province imposed a “commercial concentration tax” of so much per square foot on commercial property and associated parking within the GTA and increased passenger vehicle registration fees for owners residing in the GTA. (The “concentration tax” was repealed in 1993, but the differential registration fee still exists.)

Private market activity frequently produces unwanted by-products or wastes that impair the quality of the environment and inflict external costs on society generally. The role of an environmental tax is to make producers aware of these external costs and to create an incentive to scale back the costs to the “proper” level.¹¹⁵ But what is the “proper” level of pollution? Clearly, it cannot be zero, since the costs of attaining lower levels of pollution must be balanced against the resulting benefits. Consider a simple case in which there is a fixed relation between the amount of pollution and the level of output produced. At an optimal level of pollution, producers would be subject to an excise tax (or environmental user fee) such that their prices reflected the marginal social costs of production. The price-increasing effect of the excise tax would deter the consumption of pollution-emitting products.

The more closely a tax instrument can be targeted to its pollution objective, the better are the results. For example, if sulphur dioxide is the primary source of the acid rain problem, it is more efficient to tax sulphur dioxide emissions directly than it is to tax them indirectly by taxing the use of coal as an input or the consumption of coal-based products. A given reduction in acid rain pollution may be accomplished at smaller cost by inducing firms to install emissions-reducing scrubbers than by inducing them to switch to an alternative energy source. Similarly, if less lead-laden smog is the goal, a tax on the use of leaded gasoline is better targeted than an alternative tax on large vehicles that use fuel inefficiently.¹¹⁶

A recent survey found that the OECD countries use a wide variety of fiscal instruments to curb environmental abuse.¹¹⁷ Most of them levy

¹¹⁵ See Dewees, *supra* footnote 74, for a recent view of environmental taxation in Canada, and Cherniavsky et al., *supra* footnote 75, for calculations of the appropriate taxes in certain areas. For a more general discussion of the extensive literature on environmental economics see Maureen L. Cropper and Wallace E. Oates, “Environmental Economics: A Survey” (June 1992), 30 *Journal of Economic Literature* 675-740. Recent theoretical analyses of environmental taxes may be found in Sorensen, Pedersen, and Nielsen, *supra* footnote 76, and D. Fullerton, *Why Have Separate Environmental Taxes?*, Working Paper no. 5380 (Cambridge, Mass.: National Bureau of Economic Research, December 1995).

¹¹⁶ Similarly, a user charge on rubbish collection is less desirable than a user subsidy (or refund) because the latter gives a stronger incentive to dispose of litter by recycling. A deposit on returned pop bottles, for example, encourages their return rather than their careless destruction. It is more tightly targeted to the anti-littering objective. See Ian M. Dobbs, “Litter and Waste Management: Disposal Taxes Versus User Charges” (February 1991), 24 *Canadian Journal of Economics* 221-27.

¹¹⁷ Organisation for Economic Co-operation and Development, *The Application of Economic Instruments for Environmental Protection* (Paris: OECD, 1989).

effluent charges on discharges of air and water pollutants. Many impose user charges for the treatment of waste products in public sector facilities. Product taxes based, for example, on the sulphur content of the item or on the use of lead-acid batteries are common, as are excise taxes designed to discourage the use of environmentally damaging products such as leaded gas. Subsidies in the form of grants, soft loans, and tax deductions and credits are available for a long list of environment-conserving investments. Finally, the OECD countries make extensive use of deposit refunds to reduce waste and littering and to elicit more recycling.

On the whole, however, this proliferating array of fiscal tools remains a supplement to regulatory action. Indeed, since taxes and charges are often set too low to have significant incentive effects, they appear to be motivated more by a desire for revenue than by environmental considerations. Nevertheless, given the advantages of environmental taxes, there is clearly a strong case for continued exploration of "liability-based" user charges of this kind, although we cannot explore this subject further here. As we noted earlier, however, there is no logical argument for designating the proceeds of environmental taxes for environmental expenditures, as is often done at least notionally, for the purposes of political rhetoric, if not legally. Nor should the proceeds from pollution taxes necessarily be used to compensate pollution's victims for their losses. If compensation were paid, the victims would no longer have any incentive to undertake offsetting action, such as moving away from the source of pollution. Compensation for environmental damage is similar to subsidized insurance for property damage for people who wish to reside on a flood plain. The result is that too many people live in areas that are subject to flooding, and an unnecessary charge on the public purse arises when the inevitable flood occurs.

Road Finance

Another aspect of environmental taxation relates to the ubiquitous motor vehicle. Recent improvements in technology have made it possible to price road use more effectively and efficiently than ever before. It is even possible to take into account the external costs imposed by congestion and automobile-generated air pollution.¹¹⁸ The point made in connection with environmental pricing in general, however, holds here as well: although there is a sound economic case for "pricing out" the externalities associated with roads through taxes and charges, there is no good case for earmarking the proceeds of these environmental taxes to road uses.

More generally, however, taxes on motor vehicles and motor fuels can to some extent be regarded as "road user charges" and thus be appropriately earmarked to the construction, maintenance, and operation of a road

¹¹⁸ For thorough reviews of these questions, see A. Faiz, *Automotive Air Pollution: Issues and Options for Developing Countries*, Working Paper no. WPS 492 (Washington, DC: World Bank, 1990); Heggie, *supra* footnote 69; and Hau, *supra* footnote 39.

system. In principle, the variable costs of providing road services should be recovered by imposing charges on road users.¹¹⁹ One approach is to establish a separate “road fund” and run it in essentially the same way as any other public enterprise—a strategy that Switzerland, for example, is attempting to put to use.¹²⁰ Until recently, the cost of charging was thought to make the direct imposition of road-user charges impractical. The situation is changing, however, as new techniques of electronic vehicle identification, “smart cards,” and so on are developed.

A second-best method of paying for road services may be to levy a tax on motor fuels and earmark the proceeds for the construction and improvement of roads and highways. An earmarked fuel tax is in effect a crude proxy for a price (user charge) that charges road users the marginal costs of providing road services. Although fuel taxes are ubiquitous in Canada, few Canadians seem to realize that they are not earmarked for roads in any province; thus we do not even make a pretence of financing roads on a user-pay basis. In an era of fiscal restraint in which public transit is being pressed more and more to “pay its own way,” it is becoming increasingly important for roads to pay their own way as well. Fuel taxes, vehicle purchase taxes, annual licences, and direct charges all need to be carefully explored in this connection.

For that matter, the pricing structure of the transport sector as a whole needs careful reconsideration, both to correct undesirable distortions and to ensure that public and private sector decision makers alike make the best use of scarce social resources. There are few other areas of public policy where it is so clear in principle what is needed: more and better user charges. Health, education, environmental policy—they all raise much more complex technical and social problems than transport raises. As an earlier study noted,

ignoring the obvious political advantages of hidden subsidies and the nebulous and greatly overworked rhetoric about cheap transport holding the country together, it is hard to see why there should be less than full cost recovery in transport.¹²¹

It is indeed. If there is to be a “user-charge revolution” in Canada, it should probably begin in this field, where the gains are clearest and the means best understood.

¹¹⁹ There are of course many qualifications that must be borne in mind in setting prices for the use of road services, such as the substitutability of other transport modes, but such subtleties cannot be discussed here.

¹²⁰ See the discussion in F.L. Perret, “The Swiss Road Accounting System: Evolution Towards a Better Transparency,” paper prepared for the Royal Commission on Passenger Transport, Ottawa, 1991. Other experiences with road funds, by no means all of them good, are discussed in Johansen, *supra* footnote 54, and Heggie, *supra* footnote 69.

¹²¹ Bird, *supra* footnote 20, at 51.

Pricing Local Services

The greatest scope for more and better use of user charges in general, however, is undoubtedly at the local level, where a number of studies have suggested that much more could be done.¹²² User charges could be employed not simply in the provision of the obvious services provided to individuals, such as water and sewage, but also to some extent perhaps even in such unlikely areas as police and fire protection—for example, by levying charges on companies (and perhaps even households) that have a higher incidence of crime and a higher risk of fire. This may seem harsh, but the evidence is that when no such charges are assessed potential victims of crime and fire are less likely to invest in measures that reduce the risk of these contingencies.¹²³ The failure to levy user charges where they are applicable results not only in government spending that is higher than it should be, but also in a mix of government spending that does not reflect the real needs of society as determined by citizens, rather than by bureaucrats.

On the whole, then, the Ontario government's recent Bill 26 was right in encouraging Ontario municipalities to adopt an appropriate fee-for-services approach to program delivery wherever possible. Of course, it is not enough simply to impose user charges. As we have repeatedly emphasized, it is critically important to "get the prices right" and charge correctly. Even where charges are commonly levied, there are often clear defects in their design, as we noted earlier in the case of water provision.¹²⁴ Distance from the source of supply, for example, should matter in setting an appropriate user fee, as should the time of year if there are seasonal peaks in demand.¹²⁵ Generally, user fees should correspond to the marginal costs of providing service to each consumer. To cover capital or fixed costs, a connection (or admission) fee might be charged. As we noted earlier, a two-part pricing policy of this kind is generally more efficient than a user fee set at the level of average total cost. Many municipal waste management facilities and parking lots, for example, are seriously underpriced on an average (operating) cost basis.

Although it is obviously not practical here to go into all of the complexities of the many activities just mentioned, we can illustrate some of the possibilities and problems of user-charge financing by considering a

¹²² See, for Canadian examples, Bird, *supra* footnote 20, and Kitchen, *supra* footnote 57. Two useful British commentaries along similar lines are A.R. Prest, "On Charging for Local Government Services" [March 1992], no. 133 *The Three Banks Review* 3-23; and S.J. Bailey, *Practical Charging Policies for Local Government*, Discussion Paper no. 20 (London: Public Finance Foundation, 1988).

¹²³ See Bird, *supra* footnote 20, for further discussion.

¹²⁴ See the text accompanying footnote 57.

¹²⁵ The "postage-stamp-pricing" approach (uniform everywhere) almost never makes economic sense, though it may sometimes be warranted when administration and enforcement costs are taken into account.

particular case, that of parks.¹²⁶ Since parks are a good example of a “retail” service, one provided to consumers in a highly visible fashion, they would appear to be as simple to price as any other recreational facility. But the matter is in fact not so simple, or else parks would not have been in the public sector in the first place.

There are at least three factors relevant to the pricing of public parks that do not apply in the private sector: the “heritage” aspect of parks, distributional concerns, and the fact that some services associated with parks (for example, much of the work of park rangers) are not only not sought by specific clients but may be actively resisted by those who would prefer to cut wood, drive off-road, and hunt free of regulations. These factors may affect both the extent to which park costs can and should be recovered directly from users and the way in which they should be recovered. For many parks, moreover, it is difficult to determine how responsive to price changes demand is likely to be. Thus it is also difficult to set prices that will ensure efficient use of park facilities, let alone guide decisions about further investment in this field.¹²⁷

First, to the extent there is a “heritage” aspect to particular parks, the implication is clearly that there is a high degree of “publicness” associated with their existence, which in turn implies that it is not economically desirable to attempt to recover full costs. In this connection, however, it should be remembered that the costs in question are economic (opportunity) costs, not budgetary or financial costs. The opportunity costs associated with an existing park—that is, the economic return the property would yield if it were used differently—largely depend, of course, on the park’s location, but in general they are likely to be greater than the financial costs of operating the park. In that case, a cost-recovery policy may be desirable. If there is reason to think that (efficiently set) financial costs exceed the economic cost, some subsidy from general revenues may be required. As always, any subsidies should be predetermined—that is, not subject to manipulation by recipients.

Second, it is common to have differential pricing of public recreational facilities for distributive reasons. Of course, differential charges often make efficiency sense: different park facilities have different costs; demand patterns vary from park to park; there are generally peak-load problems; sometimes it may cost more to collect charges than they yield; and so on. But the common practice of charging lower-than-usual prices to particular groups—frequent users, local residents, school children, seniors—is wrong from an efficiency perspective and serves little if any

¹²⁶ For discussion of other local services, see Bird, *supra* footnote 20; Kitchen, *supra* footnote 57; Slack, *supra* footnote 30; and Bailey, *supra* footnote 122. The pricing of recreational services such as parks is further discussed in Richard M. Bird and N. Enid Slack, *Urban Public Finance in Canada*, 2d ed. (Toronto: Wiley, 1993).

¹²⁷ It may seem odd that we emphasize the “demand-responsiveness” problem as much as we do. But, as we note later, public sector prices tend to be so “sticky” (difficult to change) that one has to get them right in the first place.

distributional purpose. The first economic function of user charges is to ration access to a scarce resource, so prices are most needed exactly when people, and especially perhaps poorer people, who have fewer private alternatives—they can't go to the cottage—are most likely to use the facility, such as on a hot summer weekend. The second function of prices is to signal how much consumers are willing to pay for access. As a rule, the poor are able and willing to pay less than the rich, so they are more likely to be deterred from using costly facilities.

The problem here is essentially one of unequal income distribution, and it can hardly be corrected by such a trivial matter as a lower park entrance fee. Nonetheless, if it is considered desirable on policy grounds to reduce prices for certain groups, the correct way to do is not to charge more to other users ("cross-subsidizing")—thus in effect doubling the efficiency costs of the policy—but rather, as in the case of the public good (heritage) argument, to pay out of (presumably less distorting) general revenues an explicit subsidy to the facility related to the number of qualifying users.

Third, it may be possible to charge for the basic regulatory services provided by park staff, in part by adding to the entrance fee—on the ground that the immediate benefits of deterring bad users are gained by other users—and in part by such additional means as treating part of hunting licence and fishing licence fees as in effect a "benefit" (or "liability-based") charge. Charges levied for this purpose may not be administratively (or politically) worth the trouble, but the difference between park enforcement costs and park provision costs presumably at least deserves consideration.

Finally, no matter how park prices are set, there will be substantial informational and accounting problems in determining precisely what prices should be set. On the cost side, the determination of prices will require detailed cost-accounting records related to particular activities. More important, on the demand side, some evidence about the elasticity of demand—itself a reflection of the availability and price of substitutes, among other things—should be obtainable from close analysis of the existing revenues, provided that the information available is sufficiently time- and place-specific. Additional information could be obtained by analyzing survey data about the complementary private costs (such as travel costs) that people incur in order to make use of park facilities, and even by conducting special surveys to determine the "contingency value" placed on parks by those who do not make direct use of them in any given year. If this value (or "option demand") is high, then it may be inappropriate to attempt full cost-recovery from direct users. What may be called for instead is either a general fund subsidy, as noted above, or, conceivably, some form of earmarked revenue or benefit tax. To take a somewhat far-fetched instance, a special levy on canoes may be in order if it turns out, for example, that everyone who buys a canoe does so in part because he or she thinks that some day he or she may use it in a provincial park. In reality, of course, a plethora of such small specific

earmarked “benefit” taxes are most unlikely to make sense,¹²⁸ and what the evidence may suggest instead is that when canoeists (or whoever) do become users they ought to be charged prices somewhat higher than the actual marginal costs to which their use of the facility gives rise.

THE COSTS AND PROCESS OF USER CHARGES

The preceding discussion has stressed at many points the often complex and difficult-to-obtain nature of the information ideally required to design appropriate user charges. In some instances, the costs of obtaining the needed detailed cost and demand information may exceed any conceivable benefits from imposing even the best-designed charges. In all cases, these costs, like the actual costs of implementing charges and the (less visible) costs of compliance imposed on those who pay them, should of course be factored into the final determination of what should be charged for and what charges should be imposed. The costs of many public sector activities—for example, the cost of admitting a person to a park in the off-season—are easy to calculate. But the cost of collecting the charge may exceed its amount. If it does, then no charge should be levied. Every road could be a toll road, but the cost of collecting all those tolls—both the administrative and compliance cost and the related social cost of added congestion—means that such charging makes no sense.

The determination of user charges should also take into account the cost of changing public prices once they have been set. The prices set by any public agency will be, to some extent, the outcome of a political and administrative process rather than a pure “market” or economic process. User charges are therefore inevitably a political institution, and like all such institutions they are inherently “sticky” or hard to change. Once set, they tend to prevail until political circumstances permit changes. This point applies to all changes in public prices but especially, of course, to the initial charge for a service previously provided for free. It is important, therefore, to set the initial price as closely as is practicable to the economically efficient price. A mistake at the start can last a long time.

Since user charges are always politically determined to some extent, it is important from the beginning to provide an adequate process of consultation with affected groups and review by both the public and central government agencies (such as the ministry of finance or the management board). Some such process is necessary to ensure both that the prices set are reasonable and acceptable, and that subsequent adjustments will be made when they are appropriate. The details of just how to do these things must of course be worked out with care for each particular area, but a few general principles may be stated here.

- It is important to set out clearly the parameters within which individual public sector managers can determine prices. What should they take into account? Whom should they consult and in what fashion? To

¹²⁸ See the discussion in Fullerton, *supra* footnote 115.

what review, if any, are their decisions subject? Political processes are distinguished from market processes primarily by their emphasis on perceived procedural fairness. It is therefore imperative to set out clearly exactly what procedural fairness means in the context of user-charge policy and how it is to be attained.

- It is important to provide clear and strong incentives for managers to impose efficient user charges. For example, the introduction of charges may give managers a larger budget, or at least one over which they have more control. On the other hand, if the adoption of user charges is likely to reduce the agency's budget, managers will have no obvious incentive to undertake the difficult task of designing and implementing the charges.

- If the prices set by a particular agency are subject to central agency review, then the principles that will guide the review process should be stated clearly and the application of those principles demonstrated clearly to the affected managers and to the concerned public. Public sector managers, by definition, cannot and should not be expected to respond solely to the "bottom line" in any financial sense. Any activity that can be appropriately managed on that basis alone should not be in the public sector in the first place. On the other hand, public sector managers cannot be expected to act efficiently in pursuit of public-policy objectives if the lines and rationale of accountability are not made crystal-clear.

- As a rule, the only public voice to be heard when a policy changes is that of the direct beneficiaries of the previous policy, who are clear losers. It must therefore be made clear to those who are directly affected by the introduction of user charges for a particular service that the real public to which any decision about charges must be referred is in fact the Canadian people as a whole (or the people of Ontario, or of Toronto, or whatever), as represented by their elected officials.

Even full compliance with these principles, however, is not enough: a serious effort must also be made to persuade affected groups that the pricing policy adopted is reasonable. That is, the policy must not only *be* reasonable; it must also be persuasively presented as reasonable to a group of people whose natural interests are opposed to it. One way to do this, perhaps, is to persuade the directly affected users that if they do not pay a price reasonably related to the benefits they personally receive the service will not be provided. If they are not willing to pay it, then probably it should not be provided, and this threat must be credible.

Finally, as we have mentioned at various earlier points, experience suggests that the most important general public concern is that user charges will have adverse distributional effects. Those who are directly affected by the charges may very well raise these concerns in pursuit of their own interests; but the concerns may have a real basis nonetheless. In order to alleviate these concerns, governments must confront them directly. One strategy would be to present a detailed and convincing study of the expected distributional effects of imposing user charges in a particular case. If the effects are not likely to be serious, the point should be demonstrated convincingly. If, however, there are indeed likely to be some adverse

distributional effects, this likelihood should be admitted and it should be made clear what is going to be done to offset the effects.

And what, in fact, might be done? One category of possible offsets are devices such as “lifeline” pricing schemes, which give everyone access to an initial basic quantity of the service at low prices. Compensating changes in general transfer payments are another possible solution. For certain services, some variant of a “smart-card” scheme might be appropriate.¹²⁹ Under such a scheme, all users would obtain access to the service by using a card, but low-income users would be given a certain initial credit on their cards. This arrangement would thus achieve both universality (everyone would have the same card) and targeting (those who need it would have free or subsidized access).

Similar approaches should be taken in dealing with other legitimate public concerns about the possible adverse effects of user-charge policies on the achievement of relevant public policy goals. *Either* people have to be persuaded that the effects will not in fact occur (or will be so small that they will not matter). *Or* they have to be convinced that the goals in question can and will be more efficiently and effectively achieved by explicit budgetary subsidies or in some other way. Close attention to these political-economy issues will be the key to public acceptance of more rational cost-recovery, user-charge, and pricing policies in the Canadian public sector.

¹²⁹ For an early discussion of such schemes, see Marjorie C. Willcox and Selma J. Mushkin, “Public Pricing and Family Income: Problems of Eligibility Standards,” in *Public Prices for Public Products*, supra footnote 28, 395-404. Since the new Highway 407 near Toronto is to be “priced” largely on the basis of a similar technology, schemes of this kind are obviously no longer in the realm of science fiction.