today are a "welfare service" under which expenditures are fixed arbitrarily and indiscriminately at the whim of administrators and politicians. No account is taken of the failings of the present road system on financial grounds, and few investment decisions are taken on the basis of economic benefits from road improvements. Revenues are equally unrelated to specific costs arising from the use of different types of road. This state of affairs, says Mr. Roth, can be corrected only by a commercial approach to revenue raising and the investment of surpluses in accordance with economic principles that govern the optimum use of resources.

Looking for a method of charging for road space, Mr. Roth first rejects "average cost pricing" on the grounds that to spread costs evenly without discriminating between users of high cost and low cost facilities leaves no ceiling on demand for road space in congested areas. It would be like the Electricity Boards dividing their costs between all their consumers without regard to the units actually consumed by each customer.

Charging on the basis of the cost of additional units only, or "marginal cost pricing," is discounted by Mr. Roth for a number of reasons—the probable low yield; the fact that such a system does not take account of costs borne by third parties, e.g., congestion costs; and the fact that marginal costs can fluctuate widely, e.g., a small road widening compared with a motorway extension.

Ideally it would seem that a true "market in roads" should be aimed at, but this is not possible because of the monopoly characteristic of roads and the waste that would result from duplication. Roads can, however, be put on a market basis by adopting a system of "user cost pricing."

Under this system the true costs of road provision and up-keep (including returns on capital and the payment of rent for the use of land) can be linked with a rent-like charge to ensure that the highest use is made of scarce road space. In this way all true costs are carried by road space users, the comparative alternative costs of other transport systems can be clearly seen, and roads would tend to be improved only where high revenues justified high expenditure.

Mr. Roth's studies have led him to the conclusion that under a system of user cost pricing the 1964 road revenues could have been:

Fuel tax (suggested 10d per gallon) ..	£163 m.
Licence duties	£32 m.
Congestion taxes (a vehicle meter system) ..	£624 m.
Ratepayers (contributions for pedestrians, service roads, etc.) ..	£205 m.
Payments by public utilities	£18 m.
	£1,042 m.

The result would have been a surplus over costs of £604 million, which would have been available for re-investment. In reality, in 1964, a national surplus of £407 million was made from road revenues, £211 million of which was appropriated to other than road expenditures. Unfortunately the 1964 revenues were raised in a manner which did not reflect the true costs caused by the road users themselves. Mr. Roth's system, with income based largely on congestion costs, would introduce a sliding price scale for the use of scarce space.

There are obvious administrative and technical difficulties to be overcome if user cost pricing is to be considered seriously, but the suggested reform has some merit. As Mr. Roth explains, people who book hotel

rooms in August have to pay high prices and put up with discomfort—yet they still do it. There are indications, however, that if such a pricing system was applied to roads, a much more rational use would be made of them.

An interesting side comment is the suggestion that the accounts should include a payment of land rent foregone from alternative uses. Under a land tax system these rent payments for road space would flow back to the community at a rate of £40 million a year.

Space is too limited to give detailed consideration to the economic concepts involved, but this book will be particularly interesting to those who believe that road costs should be met by the consumer and that toll systems are the only way of raising revenues fairly.

Technique or Gimmick?

BY PETER RHODES

OF ALL THE fashionable tools of economic appraisal, "cost-benefit analysis" is enjoying a current boom. With mounting expenditure in the public sector (local authorities, the national government and the nationalised industries account for 40 per cent. of the gross capital formation in the economy), there is political concern over the "rule of thumb" and "muddle through" methods of allocating funds between competing projects and agencies.

To justify preferred projects and even greater expenditures, Ministers and corporations, together with their advisers, have been looking for a statistical method that will give a "scientific" appearance to public spending. Since direct comparison with market returns on capital in the private sector is not possible (how do you calculate the return on a motorway?), the need for some measure of benefit in relation to cost is necessary if decisions are not to be arbitrary.

* *Cost-Benefit Analysis and Public Expenditure* by G. H. Peters. Eaton Paper No. 8. The Institute of Economic Affairs Ltd., 7s. 6d.

The cost-benefit concept is not new, of course. In the early part of the century Professor Pigou drew attention to the social costs and benefits inflicted on or enjoyed by society as a result of private investment (nuisance from trade effluent and chimneys contrasted with the formation of scenic lakes when dams are built). Many of these costs and benefits are finally reflected in site values. However, these changes in values are generally ignored by contemporary analysts because they are considered as "transfer values" and not true costs and benefits in the cash accounting sense. But problems arise when social costs and benefits are expressed in cash terms. It is difficult, for example, to estimate savings effected through the reduction of road accidents by the building of motorways or to cost the time-saving benefits that result

In recent years cost-benefit analysis has been used for major public projects in the U.S.A. In Britain, studies for the M1 (motorway) and the Victoria underground line were made, and the technique is gaining in popularity.

A timely warning, however, of the limitations of the technique has been sounded by Mr. G. H. Peters of Oxford University.* "The phrase 'cost-benefit' has to some extent become a gimmick expression," he writes. "Eulogising the technique as the latest, and hence the greatest, discovery of pure science is foolhardy. In some applications the attempt to record benefits in monetary terms has already given way to the construction of 'scales of effectiveness' insecurely based on the value judgments of the analysts."

Mr. Peters goes on to point out that because the public sector is not subject to the same pressures of the market as is competitive industry, it is difficult to make accurate assessments of the true costs or benefits that might arise and to compare them with alternative private investment.

In using the technique there is also a danger that only limited alternatives will be examined. Mr. Peters draws attention to the pitfalls, thus: "Both the M1 and the Victoria Line calculations were undertaken against the present background of vehicle taxes and fare levels . . . There would be a substantial difference between the results of an analysis of urban motorways under the present non-pricing policy and analysis after improvements had been made in the underlying structure of charging."

According to Mr. Peters it is of little use looking to cost-benefit analysis to help to decide the allocation of resources between, say, the health service, education and defence. The lack of competitive markets thus puts the onus on political decision, which is unlikely to prove as effective as true price-choice decisions.

As Mr. Peters points out, "The belief that cost-benefit analysis should be applied to public sector schemes is overdue evidence of a desire to bring public spending under closer scrutiny."

It seems unlikely, however, that the technique itself will lead to a decline in state participation in the economic activity of the country, although this is not an impossibility.

They Never Had It So Good

(Extracts from *A History of Income Tax*, by B.E.V. Sabine. George Allen & Unwin Ltd. 40s.)

THE INCOME TAX was desperately unpopular, involving as it did the necessity of Commissioners and Surveyors "searching and prying" into men's estates. John Horne Tooke, cleric, philologist and wit, perhaps expressed this feeling as literally and as caustically as any contemporary newspaper leader in the following exchange of letters:

From the Income Tax Commissioners

May 3rd, 1799

SIR,—The Commissioners having under consideration your declaration of income have directed me to request you that they have reason to apprehend your income exceeds sixty pounds a year. They, therefore, desire that you will reconsider the said declaration and favour me with your answer on or before the 7st inst

I am, your obedient servant,

W. B. NUTTLEY, Clerk

Mr. Tooke replied:

SIR,—I have much more reason than the Commissioners can have to be dissatisfied with the smallness of my income.

I have never yet in my life deserved or had occasion to reconsider any declaration which I have signed with my name. But the Act of Parliament has removed all the decencies which used to prevail among gentlemen and has given the Commissioners (shrouded under the signature of their clerk) a right by law to tell me they have reason to believe that I am a liar. They also have a right to demand from me, upon oath, the particular circumstances of my private situation. In obedience to the law, I am ready to attend upon this degrading occasion so novel to an Englishman and give them every explanation they may be pleased to require.

I am, Sir, your humble servant,

JOHN HORNE TOOKE

Not all rebukes, however, were as dignified as this. When the news spread to the Navy it provoked the following typically nautical reaction:

"January 12th, 1799: This is a horrible war—the rapacity and greed of the Government go beyond all limits—Parliament met on 20 November last year to consider the present financial position—not content with squeezing us dry in February, 1798 (a reference to the Triple Assessment) it is now actually proposed to place a *tax on incomes*! No income under £60 per annum is to pay any duty at all, those from £100—£105 a fortieth part and above £200 a tenth! It is a vile, Jacobin, jumped-up Jack-in-office piece of impertinence—is a true Briton to have no privacy? Are the fruits of his labour and toil to be picked over, farthing by farthing, by the pimply minions of Bureaucracy?"