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<td><strong>Authors(s)</strong></td>
<td>McDowell, Moore</td>
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<td><strong>Publication date</strong></td>
<td>1984</td>
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<tr>
<td><strong>Series</strong></td>
<td>UCD Centre for Economic Research Policy Paper Series; No. 9</td>
</tr>
<tr>
<td><strong>Publisher</strong></td>
<td>University College Dublin. School of Economics</td>
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<tr>
<td><strong>Item record/more information</strong></td>
<td><a href="http://hdl.handle.net/10197/1357">http://hdl.handle.net/10197/1357</a></td>
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<td><strong>Notes</strong></td>
<td>A hard copy is available in UCD Library at GEN 330.08 IR/UNI</td>
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THE COMMISSION ON TAXATION - FIRST REPORT: THE EXPENDITURE TAX, TAX EXPENDITURES AND SAVING

Moore McDowell

Policy Paper No. 9

The Policy Paper series of the Centre for Economic Research consists of preliminary reports on policy-oriented research carried out by members or associates of the Department of Political Economy, University College Dublin. All opinions expressed are those of the contributors and do not necessarily reflect the views of other members of the Department. A list of other publications of the Centre is given at the end of this paper.
INTRODUCTION

The first report of the Commission on Taxation, issued in July 1982, attracted wide publicity and comment, some favourable and some critical. Politically, however, it seems to have been put on ice. Presumably any zeal for undertaking reforms of the scale advocated by the Commission was swamped by the more immediate problems of the public finances. Despite lip service being paid to the ideas contained in the report, no political party is prepared to accept its proposals as one, consistent and indivisible package of reform measures. The Commission itself stressed that the measures were supposed to be adopted in toto, and expressly repudiated the idea of piecemeal implementation of its proposals. In political terms, this was probably sufficient to condemn the report to gather dust. It seems to me, however, that this holistic approach to tax reform is not well founded economically as well as being politically naive. The impression one gets is that the Commission is seeking to avoid "Second Best" criticisms of piecemeal reforms by designing a complete package. Such a stratagem will not, of course, deflect purist second best objections - but does risk rejection of sensible changes by politicians on the grounds that the Commission does not recommend them other than as part of a total reform.

Recently, newspaper reports have appeared which suggest that there is renewed interest in the proposals of the Commission. This policy paper is based on a paper delivered at the Dublin Economics Workshop conference on Economic Policy held in Killarney in October 1982 and on some other work done on the savings proposals of the C.O.T. report. In Part I I consider the desirability and feasibility of the Expenditure Tax proposal. In Part II some observations are offered on the approach of the report to tax incentives to savings, with particular reference to the proposal to abolish tax relief on life assurance premia.
PART I

THE EXPENDITURE TAX PROPOSAL

In common with most discussions of an expenditure tax, the Commission considers it under the headings of equity, efficiency and feasibility, and with a fair degree of enthusiasm recommends its adoption on all three grounds. As will be seen, I believe there are reasons for questioning this recommendation.

A. Equity

Clearly a discussion on equity involves major issues of value judgements. Notwithstanding any reservations I or anyone else may have on the inherent worth of such propositions, I will assume that equity implies some degree of progressiveness and a substantial degree of horizontal equity - namely treating like taxpayers alike.

The Commission cites various sources over the centuries which have advocated taxation on the basis of spending rather than income as more equitable. The one on which they place most emphasis is Nicholas (now Lord) Kaldor's famous book on the subject, published in 1955, developing points made by Kaldor and others arising from existing Irish tax institutions, they list the following reasons for preferring a progressive expenditure tax to a progressive income tax:

(i)* a progressive income tax is a punitive tax when applied to capital gains when realised in the long run: this is because a gain which has accrued over many years is treated as income in one year;

(ii)* a progressive income tax either complicates the corporate tax code unacceptably, or creates possibilities for evation: this arises because of the "imputation" problem with corporations tax;
(iii)* a progressive income tax (along the comprehensive lines advocated by the Commission) treats inheritance or gifts as income received in one year when arguably they ought to be treated as being an accrual to wealth rather than part of that year's annual income;

(iv)* attempts to achieve redistribution via progressive income tax rates have bred a host of avoidance techniques and evasion practices which have made the exercise fruitless; an expenditure tax would not be similarly subject to being foiled;

(v)* the best measure of ability to pay tax is the individual's own living standard as established by his level of consumption expenditure; a tax on expenditure, furthermore, taxes spending out of wealth - and, therefore, achieves some of the aims of a wealth tax.

The original question is now examined under two headings:

(a) To what extent do the arguments outlined in (i) - (v) above stand up to detailed examination?

(b) To what extent do the detailed proposals of the Commission weaken the equity gain to be expected from an Expenditure Tax?

The objection to the present direct tax system contained in (i) and (iii) are substantial. Few would deny that a progressive tax system treats unfairly (offends against horizontal equity) tax payers whose average incomes over a period of years is similar, but whose variance of income differs. To replace such a system with a tax which in effect is levied on something like Friedman's concept of "permanent income" is clearly preferable. When, however, we seek an objective measure of Friedman's concept, we are driven back to some variant of a moving average of annual incomes.

Undoubtedly, the Expenditure Tax in most cases acts very well in
principle in meeting this difficulty. Unfortunately, it also raises certain issues of principle concerning equity in this connection, and may well impose further inequities. Furthermore, it is possible to achieve the same result without an Expenditure Tax.

First of all, insofar as individuals derive satisfaction from the ownership of wealth rather than consumption, the Expenditure Tax offends against horizontal equity. This is not a trivial point: wealth confers security (and eliminates the need for precautionary saving); it also confers political power. Neither of these "dividends" on the individual's wealth stock is taxed by an Expenditure Tax. In the words of the Canadian Carter Commission of 1966:

"We can see no reason on equity grounds to discriminate between the dollar destined for consumption and the dollar destined for the acquisition of property rights and interest."

If, of course, the Expenditure Tax was simply part of a personal tax package which included a wealth tax, this argument would not apply. The Irish Commission, however, for a variety of reasons, came down against a wealth tax.

The Carter Commission in fact accepted the Haig-Simons definition of income as the basis for an ideal comprehensive income tax. This may be summed up as the money value of the nett accretion to one's economic power in a given period. This was, with minor amendments, accepted de facto by our own Commission as the basis for a single rate income tax for equity purposes. In the light of the above, it is difficult to see why a tax based on expenditure is to be preferred in principle to one based on a proper definition of income for the reasons put forward in (v) above. The issue of spending out of wealth would be irrelevant if the acquisition of wealth for whatever purposes were taxed.

The problems dealt with under (i) and (iii) can in fact be dealt with by a system of averaging - as is pointed out by the Commission in the chapter of the report dealing with this topic, which follows
immediately after the one on Expenditure Tax. Indeed, the Commission recommends that an averaging system of at least 6 years be adopted for tax during the transitional period until full implementation of its package of reforms.

This, of course, begs the question: if the problems raised by lumpiness of income can be solved by averaging, why bring in an Expenditure Tax instead of simply reforming the income tax? The Report refers briefly to the scheme put forward by William Vickrey in 1947²/ - but not to the subsequent development of that scheme.⁵/ This scheme is not described, but is dismissed as "impracticable under present circumstances." It is certainly a sophisticated scheme - but not in my view impracticable, and is capable of being made operative on a relatively easy to understand basis. It does not, as the Report suggests, require in practice a cumulating process over the tax-payer's entire life's earnings to date (para 19.13).

The difficulty with a progressive income tax raised under (ii) above arises because the existing system of corporate taxation, with partial imputation of tax paid by the corporation creates possibilities for avoidance through retention of profits, and treats low income recipients of dividend income unfairly compared with high income recipients. But, as the Commission points out, a system of 100% imputation of corporate tax with full credit for tax paid by the corporation eliminates this entirely. An Expenditure Tax is, once again, unnecessary.

We come now to the alleged superiority of the Expenditure Tax on equity grounds because it obviates avoidance and evasion problems - cited at (ii) above.

Unfortunately there is little evidence either from theory or experience elsewhere to suggest that an Expenditure Tax per se is less open to avoidance and/or evasion than an income tax. It
must, of course, be said that the Irish Commission's proposed Expenditure Tax would give rise to less avoidance, and just possibly be more difficult to evade, than the existing income tax system. That, however, is not the point, since the Commission's income tax proposals have a similar effect, so that the correct comparison is between a comprehensive Expenditure Tax and a comprehensive income tax.

The (quite reasonable) proposal for assessment for Expenditure Tax involves requiring a statement of comprehensive income for the relevant period, plus a statement of nett wealth at the beginning and end of the period. Assessable consumption is defined by the identity:

\[ \text{CONSUMPTION} = \text{INCOME} - \text{CHANGE IN NETT WORTH} \]

Clearly, if room remains to fiddle on declarations of income (implied by the Commission) this applies to liability to Expenditure Tax. If, as is possible via balance sheet window-dressing, it is possible to increase the apparent value of nett worth, then, since there is no wealth tax, it is possible to reduce the taxable residual, consume and postpone taxation at will.

The Commission does not cite the quite substantial literature which has been published on Expenditure Tax in India and Ceylon in reaching this conclusion.\(^6\) The general conclusions of this literature do not support the quite un-substantiated assertion on avoidance and evasion contained in para. 18.13.

Moving to the effects of the detailed provisions of the proposed Irish Expenditure Tax, it is disappointing to notice that various proposals contained in them further weaken the equity-orientation of the tax - once again in precisely the same manner as has been emphasised by critics of its implementation elsewhere.

\( \text{(i) The tax is not a comprehensive Expenditure Tax, such as was advocated by Kaldor, but a limited tax on expenditure out of incomes} \)
above a certain level. Not only, therefore, can direct understatement of expenditure be profitable - but understatement of income leads to a reduction in the level of liable expenditure in the first place.\(^7\)

(ii) The proposed tax is a progressive one - which seems reasonable - based on a family unit, with adults and dependants being accumulated as weighted units. For large high-income families it is at least arguable that increasing the numbers of children will, initially at any rate, increase family real income per head under such a system. The reason for this is that there may well be substantial scale economies in provision for extra family members at high income levels, while extra allowances at 100\% or 150\% or 200\% will materially increase the level of real income.\(^8\)

(iii) The Commission proposes exempting certain types of spending from the Expenditure Tax. Why health or housing spending should be exempt is not clear if (a) this is a tax on spending out of income above a certain level - i.e. is supposed to be progressive; (b) there is some evidence that among the exempt categories of spending are items which have a high income elasticity of demand. In any case, the exemptions increase for room for evasion.

B. Efficiency

By efficiency is meant the minimisation of excess burden. In general, the expenditure tax has been advocated paradoxically on the basis of inefficiency - viz that is discourages current rather than future consumption. This is usually expressed in terms of an income tax involving double taxation of savings. This view is shared by the Commission (paras. 18.12, 18.16).

Unfortunately, there are reasons for suspecting that the "neutrality" of the Expenditure Tax as between consumption and saving may have been overstated.
At first glance it may seem obvious that, *cet. par.*, replacing an income tax by an expenditure tax should increase savings. To support this view, one would argue as follows: consider an individual faced with the option of paying either an expenditure tax or an income tax on a given income; assume that equivalent rate taxes are charged, i.e. that the expenditure tax rate, \( T \), is defined as

\[
T = \frac{t}{1-t}
\]

where \( t \) is the percentage tax rate on income. We assume further a known and constant return to saving, which for ease of calculation we will set at 4%. The income tax rate is similarly set at 50% - and the expenditure tax at 100%. Saving is presumed to take the form of the purchase of an annuity.

Assume he opts for the income tax: if he spends all his net income his consumption (present value) is £50, and his tax liability (present value) is £50. Should he opt to save his net income, his consumption (present value) is approximately £25, while his tax liability is approximately £75.

Now assume he opts for the expenditure tax: if he spends all his net income, his consumption if £50 and his tax liability is £50. If, however, he saves his income, his consumption (present value) is £50, and his tax liability is £50. The expenditure tax is neutral as between saving and consuming, while the income tax, because it taxes the return to saving as it accrues, penalises saving, and implicitly favours consumption.

Unfortunately, this argument, or variants on it, can be attacked at several levels of sophistication of analysis.

First of all, notice that if replacing one tax with another results in the taxpayer being able to reduce the present value of his tax liability despite the imposition of equivalent tax rates, this clearly implies that the present value of Government receipts has to fall. The tax change in other words, improves the net worth of the taxpayer at the cost of reducing the Government's receipts. From this, two problems emerge:-
(a) It is more usual to analyse taxpayers' behaviour when faced with different taxes on a constant yield (i.e. constant real income) basis. The obvious reason for this is that we assume a constant level of revenue for the Government.

(b) At a more theoretical level, if savings increase while the nett worth of the taxpayer also increases, it is not clear to what extent the change in savings reflects a real income change rather than a relative price change.

A completely different source of disquiet with this kind of analysis is to be found in the assumption of a constant pre-tax income - which has curious implications if indeed a tax change causes individuals to alter the manner in which they dispose of their incomes.

Income, presumably, is derived either from claims on wealth or from supplying labour. It may be reasonable to view the individual's stock of wealth claims as pre-determined - but not his hours of work (at least quality adjusted). Leisure, consumption of which is untaxed under either regime, is a substitute for work/income/expenditure.

Under what conditions is it legitimate to assume constant income (i.e. hours of work) if, as a result of a relative price shift, individuals decide to opt for future rather than present consumption? The answer is - only under some highly restrictive assumptions concerning the form of the individual's utility function.11/

If, however, we move to consider the issue of the effect of an Expenditure Tax seen as a tax on all consumption (including gifts and bequests) much of the preceding argument becomes irrelevant. We start from the identity.

\[ C + B = Y + I \]

where \( C \) = life time consumption, \( B \) = gifts and bequests, \( Y \) = life time earned income (from labour and acquired assets) and \( I \) = inherited wealth. This is the individual's budget constraint. If an income
tax is replaced by an equivalent yield expenditure tax, the constraint is reduced equally, whichever side is taxed.

If, however, equivalent rate taxes are imposed, then unless the income tax is confined to income other than that arising from savings, different results arise.

If this income tax is confined to wage income, then an equivalent rate income tax reduces the budget constraint by the same amount as its expenditure tax counterpart. There is no differential impact on savings via an alteration at the rate of which present and future consumption can be traded. If rates are equivalent, an expenditure tax has the same impact as an income tax which exempts income arising from nett saving.

If the income tax is applied to interest on savings, then its replacement by an equivalent rate expenditure tax increases the rate at which current period consumption can be turned into future consumption.

Much of the Commission's Report is given over to an analysis of the peculiarities of the present income tax system - especially its extraordinary number of "tax-expenditures". Of these, an important number have the effect of exempting wholly or partially the return to savings from income tax: examples are the exemptions from tax of certain levels of bank deposits, the favoured treatment of dividends on building society deposits, the partial exemption of term, life and health insurance, the exemption of the real return on owner-occupied houses and, of course, the arrangement whereby income from saving can be taxed at lower rates than wage income via tax avoidance relying on the lower rate of tax on capital gains and corporate profits than on marginal slices of high incomes.

In other words, we have at present an income tax structure which, while progressive in name, in fact provides a series of exemptions for returns from savings. It is proposed to replace this by a comprehensive income tax plus an expenditure tax, the yield of which
should approximate that of the present income tax. The first part of the package would by this logic reduce the return to saving by abolishing all these exemptions; the second part of the package would then move to reverse this effect - in the name of greater equity. But - the comprehensive income tax at a single rate would apply to most taxpayers and, on any reasonable assumptions would lower the return to savings to the lower and middle income taxpayers. The expenditure tax would, in turn, increase the return to saving to the upper income groups. Is this what in fact was intended?

In one other respect it seems to me that the views expressed by the Commission on the efficiency of the expenditure tax are at variance with at least one earlier recommendation (see Part II). It is clearly implied that the expenditure tax does not penalise savings. True or false, this would be irrelevant if the flow of savings were not responsive to the return to savings. What is involved here is the question of the interest elasticity of savings - a matter, admittedly, of empirical controversy. In chapter 11, the Report claims in effect that savings are not interest sensitive. If so, the non-neutrality of the income tax is of little consequence.

It should, however, be said of the expenditure tax proposals that criticisms up to this point have been in fact based on a tacit assumption of perfect capital markets. Once that assumption is dropped, the possibility of its seriously affecting savings, especially at the level of the small business or individual capitalist cannot be discounted. This point was emphasised by the 1977 Meade Report: not only does tax exemption for the purchase of earning assets encourage investment and accumulation, but the comprehensive income tax enables capital losses to be offset against any income (in contrast to the present system) which removes a distortion whereby the State only participated in risk ventures to the extent that risk-related profits were fully taxed, while losses could not be fully written off.

In all this, the emphasis has been on the incentive effect of equivalent rate expenditure taxation on the savings of a single
hypothetical (and presumably representative) taxpayer. Suppose, however, we ignore this effect, and, concentrating on equivalent yield, assume that the Government fixes expenditure tax so as to raise a given volume of tax from a population showing varying but price insensitive average and marginal propensities to save.

High consumption units pay more, and high savers pay less - this has interesting equity implications in terms of life cycle savings behaviour. More important, however, are the following propositions which can be demonstrated:-

(1) The redistribution effect leading to increased savings will rise, *cet. par.* with the level of the income tax being replaced up to about 50%, and decline after that.

(2) The redistribution effect varies positively with the variance of the income distribution.

(3) The redistribution effect will vary positively with the average propensity to save (assumed equal to the marginal).

(4) The redistribution effect will vary positively with the progressiveness of the expenditure tax.\(^{13}\)

Finally, it would be a pity to leave the question of the impact of an Expenditure Tax on savings without at least some reference to the literature on optimal taxation and tax reform. It is clear from this literature that it is not sufficient to identify a distortion arising from the effect of an income tax on savings to argue for its replacement by an expenditure tax: optimality is not reached simply by reducing the absolute number of distortions in an economic system. Second-best considerations raise further questions about the efficiency properties, in a global sense, of dealing with one distortion in isolation. There is no guarantee that, *cet. par.*, reducing the degree to which a tax distortion affects saving will increase welfare. In fact, it can be shown that in order to achieve a local improvement in overall welfare, production inefficiencies may be necessary.
In other words, there is no guarantee that reducing the tax distortion or saving, such as it is, will increase welfare. At its simplest it may be seen by considering that the existing level of savings may be non-optimal, and that, whether or not this is the case, removing or reducing the distortion which affects it may introduce another distortion elsewhere.

C. Feasibility

Desirable or not in principle, the introduction of an expenditure tax must presumably depend on its practical feasibility. Here there are grounds for serious misgivings. The Report itself (para 18-20) refers to the Indian experience. In that country the tax had to be withdrawn. In fact, the tax was also introduced at more or less the same time, and on the advice of the same Mr. Kaldor, in Ceylon.

Kaldor's Report on Indian Tax Reform led to the introduction of a watered-down version of his tax proposal (that contained in his book - see footnote (1) above) in 1957. Serious difficulties with the tax led to its suspension (after modifications) in 1962. It was re-introduced in 1964 and abandoned again, seemingly finally, in 1966.

In Ceylon, a similarly weakened version of Kaldor's proposals were introduced in 1959 - but abandoned in 1963.

The difficulties encountered in relation to these experiments have been fairly extensively covered in the specialist literature on the subject - although this does not appear in the reference in the Report of the recent Irish Commission. In India the Direct Taxes Enquiry Committee investigated the question of re-introducing the tax again in 1971, and recommended against it. This conclusion was backed by academic articles.

The tax was found to be ineffective in restraining conspicuous consumption, disappointing as a source of tax revenue, immensely costly to administer and open to wide scale evasion.
While Kaldor had accepted the likelihood of high administration costs, the other failings were in large measure due to the failure of the proposals to stick close to the original proposals:

- it only applied to very high incomes (Kaldor recommended wide applicability);
- there was provision for substantial exemption for some forms of consumption expenditure;
- there was a wide scope for evasion due to the "balance sheet" method of assessment which permitted personal consumption to "vanish" as business costs (Kaldor had urged the need for detailed expenditure statements);
- the exemption of gifts permitted substantial evasion through fictitious gifts to low income "relatives".

On balance, it seemed that the expenditure tax offered even wider scope for ingenious evasion techniques than did direct income tax.

The experiment in Ceylon was similar in all but the smallest details to that introduced in India in 1957. Like the Indian tax, it suffered from evasion because the double-check system was inherently defective - and, as in India, because the incentive to evade was in some cases even higher than under an equivalent rate income tax (i.e. a 66% income tax, or 200% expenditure tax, is a 200% incentive to evade; if, additionally income tax, at 25%, is evaded, the combined incentive to evade approaches 300%). Admittedly, the Ceylonese experiment was vitiated by the decision to exempt jewellery, wedding and funeral expenses amongst a horde of other items.

After suspending the tax in 1962, the Indian Government re-introduced it in an amended form in 1964. This time they reduced the number of exemptions - and lowered the degree of progressiveness in the tax rates.
In both India and Ceylon the experience with the Expenditure Tax was extremely disappointing. The revenues, already below what Kaldor intended, fell below the Governments' expectations: in India the Expenditure Tax yield never exceeded \( \frac{1}{4} \) of 1% of total Government revenue; in Ceylon it achieved a ceiling of 1.1%.\(^{15}\)

Why?

Despite the fact that both countries introduced a nett wealth tax simultaneously (in contrast to Ireland) there was wide-scale evasion and avoidance. In practice, the administrative costs of the tax, coupled to Government pressure on the tax administration to achieve a revenue flow rather than improving equity, produced a near breakdown of the assessment system - which in most ways was similar to that proposed for Ireland, but without even the help of a wealth tax as a checking aid.

The general conclusion - which led to the decision to abolish the tax - was that for the tax to yield any substantial revenue it would be necessary both drastically to increase the rate at which it was applied, the number of liable taxpayers, and the rights of the inspectorate to investigate individual spending patterns. This last, of course, would not only incur serious political opposition, but would be administratively costly.

It is obviously true that the ability of a relatively advanced economy such as Ireland's to absorb such a tax change would be considerably greater than that of India and Ceylon of twenty years ago. One could not with any confidence, therefore, say that such a tax would not be feasible in Ireland. But one can say that the detailed proposals of the Commission would actually involve greater problems for the Revenue Commissioners than the Indian case - because of the absence of a wealth tax. In terms of revenue yield, the system of limited liability to tax coupled to substantial exemptions means that the revenue to be expected would be relatively small. These issues are clearly outlined in the comments of the Revenue Commissioners as quoted in the Report.
The absence of a net wealth tax would make an Expenditure Tax in Ireland more difficult to administer - but not impossible. Obviously it leaves a loophole for evasion by overstating savings without incurring a tax liability. But steadily increasing reported savings without a corresponding increase in taxable income would be hard to explain. It should also be said that the Expenditure Tax could improve detection of income tax fraud - since it uses returns of nett worth: his income returns must be sufficient to cover his observable pattern of consumption plus his stated return of additions to nett worth.

PART II
SAVINGS AND TAX REFORM

Although the C.O.T. report deals with savings flows in several places, the main discussion of the issues involved is contained in chapter 11. It has to be said that in this chapter the principal conclusions of the report on the impact of taxation and tax concessions on saving are confused and inconsistent. The report manages to suggest within this one chapter that

(a) tax concessions ought in principle to have no long term effect on the composition and volume of saving (II.3 - II.6);

(b) life assurance concessions have a potential impact on the composition of investment, which is only possible if they affect savings (II.67 - II.72).

The argument offered by the Commission in support of (a) seems seriously analytically flawed. Its central thesis is the content of para. (II. 4), which is quoted here in its entirety to avoid any possibility of misunderstanding reflecting selective quotation.
"11.4 To consider the effects of differential exemptions (or rates of taxation) on savings behaviour, a distinction must be made between the stock of savings and the flow of savings. The stock of savings is the existing pool of resources comprising all past savings. This is vast compared with the flow of savings which represents the increase in the stock of savings in any given period. A tax subsidy on one form of saving would make that form of saving relatively attractive. The working of the capital market would result in a reallocation of resources up to the point where all rates of return are equalised, once more, at the margin. Once this happens, the tax concession is fully capitalised in the price of the assets and forms an integral part of the return to the form of saving which it is desired to encourage. There is some loss of economic efficiency corresponding to the resources which are put to less productive use. This loss persists for as long as the preferential tax treatment exists. When the adjustment to the existing stock of savings is completed, the tax subsidy has no effect on the flow of savings. These will be distributed according to the rates of return to be obtained on the market and will depend on the productive potential of alternative forms of investment. A lasting effect on the flow of savings requires not merely the introduction of tax subsidies but their continuous improvement. We conclude that differential tax subsidies on savings are economically inefficient but the inefficiency is confined to the allocation of existing resources and does not affect the efficient allocation of future savings."

This argument on the impact of tax concessions to particular forms of savings is incorrect. It is simply not, in general, true that:

"A lasting effect on the flow of savings requires not merely the introduction of tax subsidies but their continuous improvement."

Despite distinguishing between stocks and flows, the report is in error by applying the conclusions for stock equilibrium relative prices to flow equilibrium conditions. The report is correct in saying that asset prices will adjust to discount the capital effects of differential tax treatment, given a fixed stock of assets (the "pool" of savings to which the report refers being assumed fixed, the yields/prices on the different financial instruments representing it will adjust accordingly). But it
is incorrect in drawing the further conclusion that the flow of savings (which determines whether the "pool" expands or contracts) will be unaffected by the existence of tax concessions. Starting from an initial stock/flow equilibrium, in which there is a given set of relative asset prices, and a rate of change of the stock of assets determined by equality between the rate of return to initial savers and the cost of funds to final borrowers plus the cost of intermediation, consider the impact of the introduction of a tax concession on one asset or group of assets.

In an efficient and costless capital market as envisaged in the Commission's Report, the impact may be broken down into two components.

First, the relative price shift to which the report refers will take place; the pre-tax yield on the favoured asset(s) will fall, and that on the rest will rise. Note however, that the average yield on a portfolio must rise (after tax), and the average cost of funds to all institutions taken together must fall.16/

The second component is the impact of this change on the flow of savings and the rate of expansion of the "pool". It is normally and reasonably assumed that in competitive financial markets, a fall in the average cost of funds will lead to increased lending activity by intermediaries. If we may assume that the volume of savings by primary lenders is positively related to the return to savings,17/ the result, then of a differential tax concession is to increase the demand by those lenders for the liabilities of financial intermediaries which in turn increase the supply of loanable funds to final borrowers; thus savings and investment are increased up to the point where the after-tax yield on savings plus intermediator costs equals the marginal efficiency of investment.

Note that both savings and investment are flows per unit of time. Nett saving and investment will continue as long as the optimal capital stock exceeds the current capital stock. Both the size of the optimal stock and the rate at which the current stock is increasing are inversely related to the rate of interest. Under
these assumptions, then, savings is affected by a once-for-all tax concession.

The Commission's confusion is based in the end on a failure to distinguish between the marginal efficiency of investment and this marginal product of capital. Its concept of a savings flow with a fixed stock of assets implies zero nett saving, with gross saving equal to capital depreciation. In a full stationary state equilibrium this is acceptable. In such an equilibrium, the only impact of a tax concession will be to raise the optimal capital stock. Once this new optimum has been realised, nett savings will again decline to zero. This model, however, is not applicable to a world of continuing change, positive investment costs and returns, and positive nett savings. In such a world the view that a continuous improvement of tax concessions is necessary to increase investment in quite unacceptable.

Later in the same chapter, the Report turns its attention to the partial tax deductability of life assurance premia and superannuation contributions (paras. 11.46 - 11.53 and 11.61 - 11.72). In paragraph 11.49 the Commission draws attention to the different tax treatment afforded "voluntary private" savings and savings through pension funds. Such a distinction would be irrelevant if indeed savings were price-insensitive. Leaving that aside, however, the Report notes that the dominant position of pension fund contracts implies price-insensitive compulsory saving. This view is short-sighted. The fact that most employment contracts contain a pension element, and that this is standard procedure even though it is not legally obligatory cannot be taken simplistically to mean that the volume of saving is to that extent insensitive to the rate of return.

The Commission unfortunately did not seek to inquire as to why, in the absence of legal obligation, employment contracts have increasingly contained employer/employee pension contribution schemes. If it had done so, it would have discovered that there are substantial reasons for which firms are anxious to conclude such contracts, and that the willingness of employees to enter them depends on tax treatment. Indeed, it can be shown
that the existence of tax-deductible employer/employee pension schemes can materially affect the time path of money wage costs to firms, as they provide a means of increasing employee real life-time incomes more cheaply than by a straightforward wage increase.\textsuperscript{18} From the firm's point of view, in addition to possible gains through increasing employees' real income without increasing wage costs proportionately, employment-related pension schemes have added advantages through their effects on labour turnover and hiring/firing costs.\textsuperscript{19}

In 11.61 - 11.72 the Commission summarises the history of life assurance premium relief and comes to the conclusion that tax relief on such contributions should be abolished. At no stage during this discussion of the issues involved does the commission address itself to the problem of what the effect on aggregate saving might be if this relief were to be ended. In fairness, it should be said that the issues involved are complex - but it seems that the Commission is relying implicitly on the view expressed in 11.3 - 11.6 that the level of saving is not sensitive to the return to saving, or, alternatively, that changes in the level of saving via pension fund contributions and/or life or term assurance will be 100\% substituted for equal and opposite changes in other, usually non-contractual, forms of saving (11.72).

It has already been pointed out that the Commission's \textit{a priori} reasoning in 11.3 - 11.6 is defective, and that one cannot conclude from first principles that saving, in the aggregate, is insensitive to the return to saving. What now remains to be considered is the question of whether changes in life/pension savings is a gross substitute for or complement to, other forms of saving.

It must first be realised that savings in the aggregate and the composition of savings, can both be materially affected by the provisions of tax law in an inflationary environment - a matter which is inadequately recognised by the Commission. For example, it has been shown\textsuperscript{20} that under reasonable assumptions, existing U.S. tax laws have the effect of shifting savers' demand from claims to real corporate capital into owner occupied housing.
In addition, there is substantial evidence to suggest that changes in inflation have considerable impact on non-contractual savings, while contractual savings is more invariant with respect to cyclical economic fluctuations.

Over the past few years considerable theoretical and empirical work on the impact of taxation procedures on savers' behaviour and on the level of aggregate saving has been published. It is surprising that no reference to this work is made in the section of the Report dealing with proposed changes in tax law in relation to life assurances and pensions contribution especially in view of the fact that the Report does deal with some of the issues involved when considering the taxation treatment of interest paid and received (11.7 - 11.20).

Of particular importance in this area is the work of M.S. Feldstein, some of the relevant conclusions of which are as follows:-

(i) In an inflationary environment the type of tax regime at present operational in Ireland substantially reduces (and may make negative) the real rate of return to savers (a point accepted by the Commission).\(^{21/}\)

(ii) The impact of standard tax/accounting procedures in an inflationary environment has depressed business investment.\(^{22/}\)

(iii) Similarly, equity prices have been depressed by accelerating inflation coupled to existing tax laws.\(^{23/}\)

(iv) The tax treatment of pensions and life assurance contributions is of major importance in sustaining the level of long-term saving (as opposed to accumulation of precautionary balances during a recessionary inflation).\(^{24/}\)

In relation to (iv) it is important to note that because of the tax treatment of income and capital gains on equities in pension, etc. funds, adverse impact of inflation on yields to savers is lower in these funds than when the equities are held directly by savers.
The same holds true for the yield on fixed interest stocks. This clearly implies that the cost of funds to industry is reduced by the tax treatment of pension and life assurance funds.

On an a priori basis, then, it would seem reasonable to conclude that the existence of the present tax concessions to life and pensions funds stimulate savings; at least, they provide an increased return to savings in general via their impact on one particular form of savings (see the argument in section 3 above). It is, of course, possible that savings are in the aggregate insensitive to a change in the rate of return, and, therefore, that any increase in the level of savings effected through these channels is merely a substitute for other forms of saving. This is a matter for judgement based on empirical observation. As it happens, however, and acknowledging that there are some counter-indications, the balance of the evidence available suggests that life and pension saving is either a complement to, or at best an imperfect substitute for, other forms of saving. This implies that insofar as tax concessions encourage life, etc., savings (accepted as realistic by the Commission) the nett result is a rise in total savings out of disposable income.

Recent work done in the U.K. has been widely cited as evidence of nett complementarity between life/pension savings and other savings. In 1978 a study published by the Bank of England gave strong support on this proposition.\(^{25}\) Not only did the evidence suggest nett overall complementarity (or less than perfect substitutability) between life/pension saving and other forms of saving, but the complementarity was stronger for employers' contributions than for employees'. While this last conclusion paradoxically supports the view of the Commission that employers' contributions are not regarded as savings by employees, it clearly implies that any change in the tax regime leading to a shift from employers' to employees' contracting savings would have a negative impact on aggregate saving.

The Commission questions the value of incentives for private provision for retirement and/or death in view of the proposal to
introduce a National Income Related Pension Scheme (11.66). The evidence from the U.K., however, suggests that whatever the equitable arguments for substituting NIRP for life/pension saving (and however socially costly in terms of reduction in self-reliance and the creation of state dependence), the introduction of NIRP would reduce aggregate saving under any realistic assumptions about financing of such a scheme:-

"...a switch from funded pensions to a state unfunded scheme...would result in a fall in personal sector saving at any given level of income." 26/

The work just cited has the inherent weakness of being based on time series analysis, and not being grounded in a consistent model of rational savings behaviour, at least explicitly. It is, however, backed up by related theoretically based work, also concerned with the U.K. In an article published just before the Bank of England study, R. Hemming of Brunel University developed a conventional life-cycle model of savings behaviour and derived testable hypotheses from it on the impact of a non-funded state pension scheme on personal savings.27/

The model suggested that while the introduction of such a scheme would have an indeterminate effect on personal savings, increases in contributions and benefits would reduce aggregate savings. While some of the empirical results were mutually in conflict depending on whether gross or nett definitions of state pension wealth were used in the equations, the results unambiguously confirmed at least one of the predictions - increasing contributions under such a state scheme depresses personal savings.

More recently, a U.K. study aimed at testing certain aspects of the Life-Cycle hypothesis by examining some of its implications for substitutability between pension saving and other forms of saving.28/ A priori reasoning would suggest a high degree of substitutability, ceteris paribus, between life pensions saving and other vehicles for contractual long term saving. The author, Francis Green, concluded from his results that:
"...pension saving does not substitute with other type of saving, and...this concurs with the U.S. results of and others".

He went on to note that this result is in conflict with the Life-Cycle hypothesis - but observed that this could reflect not so much the invalidity of the theory as capital market imperfections. Green's results showed no substitutability at all - which can hardly be explained away by uncertainty and transactions costs in capital markets. What is more important, however, is that such results could be reconciled with rational savings behaviour if there is an indirect (and loose at that) link between employee contributions and expected pension benefits. The most obvious contributory factor is tax treatment of employers' and employees' contributions: the absolute level of tax deductability plus the differential effective treatment of the two forms of contribution, plus the incomplete "vesting" of the employers' contributions (noted by the Irish Commission (11.52,53)) being the most obvious contributors to this complementarity relationship.

Since reference has been made to U.S. work in this area, it may be considered worthwhile to note the conclusions of a recent authoritative study by A.H. Munnell, of the Federal Reserve Bank of Boston.29/ This paper again uses the Ando-Modigliani-Brumberg life cycle model of savings behaviour. The summary of its results, however, is perhaps misleading in terms of the issue of the impact of pension saving on other forms of saving:

"The results clearly indicate that, contrary to work by Cagan and Katone, pension coverage reduces saving in other forms."

Since the Cagan study had suggested complementarity between pensions and other savings, this summary is literally correct. It does not, however, convey the full implication of Munnell's results. This study, using a sophisticated variant of the life cycle hypothesis, examined the data from a Bureau of the Census survey of a sample of 5,000 male heads of household, aged 49-56 in 1966, detailing their
incomes in the period 1966-1971. Munnell discovered definite evidence of substitution - but highly imperfect substitution, so that gross complementarity was observed. She estimated that contributions to pension funds of approximately $21 billion displaced other saving by about $13 billion, and raised aggregate saving by the balance, about $8 billion.

The evidence cited, plus the flawed logic of much of the Commission's reasoning in relation to savings behaviour - all, be it noted a prioristic, with no evidence to support it - must raise serious questions about the wisdom of the recommendation that tax relief be abolished, given that it is agreed that present conditions in Ireland call for an increase rather than a decrease in the aggregate savings ratio.
FOOTNOTES


3 Carter Commission (Royal Commission on Taxation) Ottawa, 1966.

4 William Vickrey: Agenda for Progressive Taxation 1947, Ch. 16.


9 Let t = income tax, and T = expenditure; equibalance may be formulated either 
   \[ T = \frac{t}{1-t} \]
   or \[ (1-t) = \frac{t}{1+T} \]
If \( R = \) tax revenue, then in the two period case, equivalent rate taxes mean that in period 1
\[
R_T > R_t
\]
IFF \( C_{1/Y} \left( 1 + \frac{2}{1+r} \right) = \) (\( \frac{r}{1-t} \))

Since, for any reasonable values for \( r, t \), the expression \( rt/(1-t) \) is very small, this may be written

\[
RT \quad RT \quad IFF \quad C_{1/Y} = 1 + \frac{2}{1+r}
\]
or

\[
IFF \quad C_{1/Y} \quad 3
\]

Example, using nett present values of consumption and tax liabilities, taken from:


If the individual's utility function in a two-period decision case is written:

\[
U = U \left( C_1, C_2, L \right)
\]

where \( C_1 \) and \( C_2 \) represent consumption in periods 1 and 2 respectively, and \( L \) represents leisure - time in period 1 not allocated to work effort, then a sufficient condition for \( L \) to be unaffected by the MRT between \( C_1 \) and \( C_2 \) is that the utility function be additive and separable, so that there are no cross-substitution effects. An alternative assumption giving the same effect would be that

\[
\frac{\delta L}{\delta C_1} / \frac{\delta L}{\delta C_2} = \frac{-dC_2}{dC_1}
\]

Either assumption clearly involves substantial constraints on the form of the utility function. In the absence of some such assumption, the assumption of a constant level of work effort in period 1 implies no change in the tax liability arising from an hour's labour. If this were the case, the tax change could have no effect on consumption or saving. Hence a constant income assumption is incompatible with any change in the taxpayer's behaviour.
12 Exp. Chs. 2, 3, 9, 10, 11.


16 First year price theory shows us that the fall in price of any one commodity in the consumer's choice set must raise his real income, and that this cannot be offset by relative price increases arising from a shift in consumption patterns. Similarly, a once-for-all rise in the yield, pre-tax, of one asset in wealth-holders' portfolios will not be fully offset by a counterbalancing fall in other yields due to changes in the desired composition of portfolios.

17 Some assumption is necessary, as the conflicting impact of income and substitution effects make signing the impact of an interest rate change a priori possible. It must, however, be noted that it is in principle possible to lower the planned level of savings by increasing the yield to saving. If, however, we assert that the tax concession causes people to alter the composition of the portfolio, we are implying non-trivial substitution effects, tending to support this assumption.


".....the persistance of a high rate of inflation is likely to increase the share of total saving that goes into private pensions. Since the tax treatment of pension contributions allows individuals to save in this way.....on the same terms (as).....under a consumption tax, the existence of the private pension system may be one of the few things that prevents the national (i.e. U.S.) saving rate from going even lower in the current inflationary environment."


26 ibid., p. 24.
