THE EVOLUTION OF BUDGETARY TECHNIQUES

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I. The Basic Principles of Good Budgeting

A budget is a summary of the outgoings and incomings (in money terms) of any entity for which accurate records are required especially for policy decisions, either in the public sector or (in a mixed economy) in private enterprise. The most interesting techniques are those of the budgets of governing bodies : national (state) and local. It is with these that I shall primarily be concerned.

The first question to settle is what should be the period of reference for a budget? It is natural to take the annual period because of the cycle of seasons and crops (outside of the tropics). Less than annual reference may be unavoidable in times of emergency or rapid change. But a less than annual budget (say six months) can never be complete, since neither does expenditure proceed regularly over the year nor does the revenue from important direct taxes flow in at a regular rate. On the other hand there have been claims that budgets are so upsetting that a budget every two years would be sufficient. But for these to be adequate the entity concerned would have to cover very limited responsibilities, (as some American States which tried this experiment speedily discovered).

But the annual budget in the modern world usually does not supply a sufficient basis (particularly on the outgoings side) for some of the most important (investment) outlays. It may have to be supplemented by an investment or capital budget, depending on the responsibilities and duties of the entity concerned. Some national governments have hived off from the budget first the nationalised and semi-national enterprises, and secondly the social transfers, so that an investment budget is not required. It is sufficient that the net results of these sub-budgets should alone figure in the national budget.

To my mind the three basic principles of a good government budget were laid down (and put into practice) in the last quarter of the nineteenth century (by Gladstone). These are (i) that the budget should be comprehensive (all inclusive) of funds for which Parliament has some responsibility, (ii) that the budget should be both backward and forward looking, the forward estimate depending to an important extent on the experience of the previous year and (iii) that the budget should be two-sided, incomings on one side, outgoings on the other, all arranged in the simplest possible manner. Simplicity implies that taxes are easily and cheaply assessed and collected, and that the purposes of expenditure are clearly defined and identified in operation. It was possible in Gladstone's day to secure complete annuality of the budget and this was strictly enforced. Indeed the major control device was a detailed Appropriation Account at the end of the year, exactly mirroring the Estimates Account at the beginning. If the mirror image was not exact necessary adjustments had immediately to be made. If a surplus (which would be completely fortuitous) had emerged it was strictly applied to the reduction of the National Debt. The genesis of the surplus had to be carefully examined because it might be a signal for a reduction of taxes. A deficit of any magnitude was unlikely to occur outside of war conditions, when Parliament could be relied upon to agree to a loan. Without Parliamentary sanction there could be no borrowing. As the decades passed nevertheless more occasions for loan finance tended to arise, (especially after the first World war). There were not allowed to distort the current budget account (there was no «extraordinary» budget, such as played havock with the control mechanism of many countries, budgets). Instead in the U.K. the non-current items were segregated «below the line». It is hardly stretching things too far to see in this practice the beginning of the adjustment of the budget beyond the limits of the annuality.

Gladstone's two other principles : that the budget should be both backward and forward looking and that it should show both sides of the account are fundamental. Gladstone's budget speeches and those of his successors invariably started with an account of last year's outturn (which had to be available for the purpose) followed by the proposals for the commencing year, and the extent to which the expected incomings at existing rates would be appropriate. Proposals for any necessary tax adjustments or expenditure development were then laid before Parliament. Needless to say it was at that stage compulsory to show an exact balance but this is, strictly speaking, irrelevant to the principle.

The insistence that in the budget discussions the incomings (tax) side must be annually reviewed is of no less lasting importance. In many countries taxes (especially import duties) remain at the same rates year after year, producing irregular (and perhaps embarrassing) surpluses or deficits. (The U.S.A. was particularly plagued by unplanned surpluses because it was politically impossible to reduce protective duties.) Gladstone insured against an inappropriate incomings side by insisting that some taxes should only be voted for a year at a time, thus making certain that there must be a general review of taxes in the budget debates. Even the right of some taxes to existence might be questioned.

The trouble about budgetary policy has always been that it tries to serve too many objectives at once. We can discern two already in Gladstone's day; now there are many more, not least the demand for greater equality of incomes. Gladstone's first objective was the elimination of fraud and corruption, through the mirror image system (called by our tax people «stewardship control»). His second objective concerned the limits of the influence of the public sector in the economy. In the first of these objectives he was extremely successful. Malfeisance and fraud were banished from the British system then and for many decades. (Unfortunately we can no longer be so confident of this. The temptations of inflationary deficits have laid a heavy hand on stewardship control-we must return to this question later.) In respect of the size of the public sector Gladstone was chary of increasing expenditure, except in respect of Education, rightly (at that stage) preferring to leave it to private enterprise to secure any necessary growth.

II. The Effect on the Budget of the Expansion of Public Sectors

The first big expansion of the public sector in most countries (including the U.K.) occurred as a result of World War I, but this led to no immediate change in budgetary techniques for some time. Indeed in one way there was a backsliding in the U.K. since the new (and rapidly expanding) social transfers were entirely excluded from the budget on political grounds, thus damaging the principle of comprehensiveness. The adjustments to budgetary techniques which the new situation called for came in a bunch with the depression of the early '30's. They were due (in the first place) to the realisation of the deflationary effects of a balanced budget in times of depression and high unemployment. The economic analysis of how this effect could (respectably) be avoided came in the first instance from Sweden. The Swedish economists boldly argued that it would be right to run a temporary deficit in bad times to be compensated by an overbalance when things improved. For this purpose they advocated a double budget : current and capital, the current budget alternatively drawing from the capital budget or feeding it, according to the economic situation. (The trouble about this particular solution is that it is not easy to agree on which are the good times and which the bad.) But it was undoubtedly a first step in modernising the budget.

It was Keynes who systematically set out (with the aid of the new National Accounting technique) how the budget could be used directly as an instrument for both stability and growth. For this to be effective two new fiscal techniques were required : (i) a sharp distinction throughout the system between current and investment outlay (as the Swedes had argued) and (ii) a clear dichotomy between «real» expenditure on goods and services and transfers (between one pocket and another). The first entered clearly into the national income, (GNP) the latter did not. The enormous growth in social transfers (including pensions) made their identification obviously necessary and proved relatively easy statistically. The current/capital distinction is no less necessary, but its operation is more tricky, because of the fundamental difficulty of getting an agreed definition of «capital». But the dichotomy can nevertheless be carried through so as to make reasonable sense.

Once these two additions to budgetary technique had been carried out three things became possible : (i) to present a consolidated account of the public sector at all levels, eliminating double counting (for instance transfers between governments), (ii) after slight reorganisation of the public accounts, to bring the public sector in line with the other sectors of the economy (not excluding relations with the rest of the world) in the national accounts. The G.N.P. of the whole economy could then be estimated, and hence its growth or decline. (The «League Tables» of this calculation have been taken up with such enthusiasm that it has become somewhat of a nightmare in international comparisons). (iii) The new possibility which interests us here particularly, is the ability to estimate (by means of the surplus or deficit of the current budget) the extent to which fiscal policy is inflationary or contractionary.

Keynes' new use of the national accounts for budgetary decisions first saw the light of day in the budget of 1940. The wartime application of the technique had the simple objective of ascertaining how much of the nation's resources would have to be reserved to keep the home economy in reasonable (minimum) comfort, the whole of the rest of the available resources being transferred to the war effort. Keynes' contribution was thus essentially a stability policy. He had little to say about the way in which the budget might contribute to growth, partly no doubt because a general growth policy was impossible in wartime, partly because his own interests were mainly short period.

III. Adjusting Budgetary Techniques for Growth

Even in wartime «growth» through research and development of particular services may be of immense importance. With the enormous expansion of projects and programmes extending well beyond the confines of the annual budget this became an urgent control problem. It was reinforced by the beginning of attempts at formal period national Planning for growth in some countries. The new budgetary adjustments which would be required for this objective (and also for the increasing demand for greater equality of incomes), were presaged during the war in a micro setting by a research team at the U.S. Defence Department (Pentagon). Foremost of these was the cost/benefit (or closely related cost/efficiency) analysis, as a method of selecting between two alternatives, it being clear that the adoption of one would exclude the other. In the simple defence case with which the researchers were concerned the problems were such as the selection of the most appropriate type of aeroplane (or its equipment) for its destined service (bombing or fighting for instance) and for the safety of the crew. In the course of these researches it became evident that what was needed was not limited to any one branch of defence considered alone, but required an integrated programme of a particular area of defence strategy, (for instance the whole field of guided missiles from the air and from the ground). The consequent rationalisation of defence programmes was not merely more efficient but led to a great reduction of competitive provision and overlapping between the different Departments, and hence to substantial savings.

Thus considered the cost/benefit programming techniques seemed to be of very wide application, (to civilian even more than to defence), choice. Although it received a very hesitating welcome from some economists, the exercise is now so universally used (admittedly not always appropriately) that it is unecessary for me to expand on it particularly in face of such a sophisticated audience. The two basic snags in its application have proved to be : (i) the choice of the optimal discount rate to bring the cost and benefit streams to present value and (ii) concering the treatment of non-quantifiable costs and benefits. In respect of (i) it seems to me (at least in a less developed country) that a good deal of weight should be given to Social Time Preference. In respect of the non-quantifiable costs and benefits, to leave them entirely out of account may distort the whole conclusion. They need to be examined and carefully discussed. Moreover the mere exercise of parading the costs and benefits which may accrue is in itself useful and educative.

Cost/benefit analysis thus appears not only as a technique for optimum growth choice, but as a new contribution to budgetary control. In many senses it has left annuality and the simple mirror image far behind. But for projects and programmes to which the budget relates it is very useful to forecast the quota of costs (and perhaps interim benefits) which are likely to accrue to successive annual budgets. This exercise will on the one hand give rise to the same types of questions to which a less-than-perfect mirror image gives rise, and on the other will give a better current indication of the undertakings to which the public sector is committed, than if no such exercise is undertaken. Such forecasts of cost incidence do not imply any necessity for a formal period Plan (and if such exists it needs to be annually rolled over to keep it in touch with current conditions). But it is essential that there should be an integrated short period (say three years) «forward look» as the (Plowden) Committee in the U.K. called it, to supplement the annual budget. For purposes of inter-period comparison the forward looks have to be in standard year (not current) prices. The picture should nevertheless be sufficient for Parliamentary choices, as well as giving an opportunity for checking that technical constraints (such as incompatibility of input/output forecasts) have been taken into consideration.

IV. The Measurement and Control of Costs

It will be evident that for these new techniques to work it is important that costs should be estimated and recorded with the greatest possible accuracy. One contribution to this end is the use of unit costing. For all services and processes for which meanigful and relatively self-contained units of output can be identified unit costing is a highly useful device. The exercise can take the form of costing a defined output, or of the personnel required for a particular activity (work standards). It has been used for instance to compare hospital running costs (with a patient-bed-night unit), in respect of processing forms (for social security payments and pensions), and many others. Standard costs can reliably be estimated and local deviations from them investigated, asking the same types of question as the mirror image post mortem. Naturally there are many activities for which unit costs cannot be sensibly identified, (for instance interviews with foreign diplomats and other administrative activities at the national level). Nevertheless the range to which unit costing can be applied is large, and gradually expanding.

In the traditional budget structure the mirror image technique was applied separately to the different lines of expenditure. From this two things followed. The order in which the different subjects (Votes in the U.K.) were arranged was a matter of no economic or budgetary significance. (Thus British colonial budgets invariably started with the salary of the Governor, and the expenses of his household, detailed officer by officer.) Secondly, when it became desirable to amalgamate the subheads of Votes (which always tended to proliferate) similar «inputs» were lumped together (for instance use of telephones, or taxis) irrespective of their location and significance. In this arrangement the one that pleased me most was the Army Cavalry Vote «hay for horses» irrespective on where in the then far flung British Empire the horses might happen to be.

V. PPBs

For modern budgeting two things are wrong with this traditional arrangement of the Votes : the items are not isolated phenomena : they are destined to be related to particular programmes, (as we saw they were so careful about at the Pentagon). Their order cannot consequently be random. Secondly, it is not really the *cost* of the inputs which is relevant, but rather the *outcome* of their application. what is essentially needed is a change over from input to output budgeting. This I think was the original significance of the famous PPBs in the USA. This is now interpreted as Planning and Programming Budgets, but it seems to me to be much more meaningfully interpreted as Programming and Performance Budgeting. (For the most part Planning will take place outside the actual budget). The (as yet not fully solved) question is whether it is possible to gear the whole budget onto a programme and performance basis without sacrificing stewardship control. In the U.S.A. President Johnson was so impressed with what they were doing at the Pentagon that he sent an urgent advice to all lower level governments that they should as soon as possible chage over to the new form of budget. A number of them tried to do so; but in most cases the result was chaos. They got so snowed under by piles of statistics that they were unable to get anything going, and stewardship control (which was in many places very weak initially) went by the board. The wiser authorities (such as the unique joint town and country government of Nashville/Davidson County in Tennessee) are carefully studying the whole field and improving their stewardship control before making the plunge into PPBs

When I visited the USA lately I found state and local governments greatly disenchanted with the whole technique of PPBs. This raises the question as to whether it is in fact feasible to change a whole budget from an input to an output basis, with complete performance checks. A great deal depends on the type of entity for which the budget is planned. So far as a national budget is concerned a first step can be the reorganisation of the Votes in a functional sequence.

This can form the basis for programming. In the UK we have tried to take two steps towards budget modernisation in this direction : the Votes are now in a functional sequence, and we are trying the experiment of putting under one umbrella a number of Ministries which were formerly separate, although their duties were related. The leading example is the giant Ministry of the Environment. This policy seems right in principle, although it has not yet borne all the fruits that were anticipated. It calls for a super Minister who can delegate but at the same time keep his eye on everything. Experience in working more closely together can only be acquired gradually. There has also been introduced a new form of Presentation of the government Accounts which may be claimed as a step towards an output budget. To avoid damaging stewardship control items can be traced from one form of presentation to the other by means of what the Americans felicitously call «cross walks».

In respect of other branches of the public sector in the U.K. progress is being made by improved performance checks, and other methods of reporting, as well as by better forward looks. The new Water Authorities (organised by river catchment areas) and the reorganised National Health Service, designed to give (among other things) a more even distribution of medical facilities over the country, have both been strongly urged to keep what amounts to PPBs. While the government cannot force this technique on them it presents them with a list of compulsory questions which (it would seem) coul only be answered on the basis of PPBs.

By far the most interesting experiments in the PPB direction in the UK have been among the more adventurous Local Authorities. One illustration of the change (which was summarised in the Journal «Public Finance and Accounting») relates to the moderate sized town of Stockport, a District in the Metropolitan County of Greater Manchester. It is one of the eleven Districts of the County and is itself an amalgamation of four or five previous Districts, some urban, some rural.British Local Authorities work on the Committee system with a «Chief Executive» (formerly called the Town Clerk) who is responsible to them. (The «mayor» is purely ceremonial.)

The most important element of modernisation has been the reorganisation of the Committees on a rational basis for programme and performance checks. Budgetary responsibility is concentrated under the central «Policy and Resources» Committee. Seven Programme Committees report to this. Briefly they are (1) Education, (2) Environmental (including public health, pollution and all that), (3) Housing (45 % of the British public now lives in accommodation provided by the local authorities), (4) Developmental. (5) Recreation and Culture, (6) Social Services (this is largely concerned with the rapidly expanding needs of geriatrics, but also looks after awkward teenagers, and what we call «deprived children» who are at risk of becoming awkward teenagers in a few years' time, and finally (7) Transportation and Works. In Stockport P and R reports that all committees are doing well except Recreation and Culture, from whom they find it difficult to get a positive reaction. As well as these Programme Committees P and R has three sub-committees of its own : Finance, Personnel and Property (many British Local Authorities are substantial property owners). Within Stockport District, but outside the town there are also Area Committees in the various small town and villages, who report regularly on the situation in their localities.

Stockport has established an annual financial routine for the Budget. This starts in January with the consideration by P and R of the Estimates of the Programme Committees, in the light of the resources which are likely to be available. These include to an important extent grants from the National government, which on the average now finance about 60 % of current local outlay. When the Estimates are agreed with the Programme Committees P and R are in a position to coordinate them, and to declare the necessary level of the local tax (called a «rate»), which is the balancing factor in the budget (no borrowing for current account is allowed, other than limited bank advances to bridge a gap between the flow of revenue and of expenditure). This exercise occurs about the end of June. The Council is then ready to start on its performance check, of everything that is being done, or has been accomplished up to that point in the year. So far as possible unit costing is used for these checks. By the end of the year the routine will be complete. But of course many, perhaps most, of the programmes will extend beyond the financial year, even more so than in the case of the national budget. For new projects it is useful to state in advance the target date for completion as a device for checking progress.

The new budgetary techniques which we have been discussing are rational, fully modern and do seem to be working where they have been tried. But until more experience has been gained it is impossible to say whether the new methods of control adequately substitute the traditional methods in respect of stewardship control. Until this is certain the traditional methods should be kept in being. It would be foolish to abandon stewardship control just because we are experimenting with new devices.

VI. Budgeting under High Inflation

For the optimum working of budgetary control steady prices are clearly desirable. The system can also take a moderate (preferably steady) rate of inflation without adjustment. But for high inflation modifications are inevitable. Yet it is just in these conditions that effective control is most necessary. This is a very large and complicated subject, which I cannot hope to deal with adequately here. Especially in respect of social expenditure, the methods used and the extent of the responsibility of the public sector, differs greatly from country to country. Very tentatively nevertheless we may consider briefly some of the adjustments that seem to be called for.

In making decisions on adjustments there are two questions to be faced : first, what are the modifications necessary to preserve the existing relation between the taxpayer and the fiscal authorities? and secondly, in the interests of stability what additional measures need to be taken? The first is mainly a matter of micro decisions of policy in respect of particular taxes or social services. The second is concerned with macro policy and has to be considered in relation to extra-budgetary factors, such as the stimulus or restraint of investment, both by public authorities and by the private sector. The situation is particularly difficult if high inflation is accompanied by high unemployment. The priority of tackling these two evils cannot be settled on purely economic grounds since the valuation of their relative importance differs from country to country. It can safely be postulated nevertheless that without the reduction of the rate of inflation to manageable proportions the wheels of industry cannot be restored to their normal pace and unemployment successfully eliminated.

Generally speaking the effect of inflation is to increase the nominal yield of all taxes related to prices. Thus ad valorem sales taxes are more or less self-adjusting. If the rates have to be increased this would be as a contribution to a disinflationary policy. The more interesting problems are concerned with the taxation of profits and of personal incomes. In respect of profits inflation has usually caused a big increase in (paper) profits and so in firms' tax liability. This may well prevent them from making adequate provision for the maintenance of assets (including debt interest and general reserves). If no adjustments are made their capital will in fact be being taxed away, which is not the business of profits taxes.

The crux of the matter is concerned with the depreciation allowances which are given on the acquisition of assets, and the period over which they are awarded. The longer the period before completion of the allowances the more eroded will their value be under conditions of continuing inflation. Thus the straight line method is a little tougher than the reducing balance method, where more of the allowance comes in the earlier years. The system of 100 % depreciation in the year of purchase of the asset awards depreciation allowance more nearly in line with original cost. But even this will leave a shortfall if we are concerned with a stock which is built up gradually, and gradually taken into use, unless the LIFO method is used. But in all cases there will be some shortfall of depreciation allowances when it comes to replacement, if no adjustment is made.

The answer would clearly seem to be a writing up of the allowances by some appropriate index. But what index should be chosen? A retail price index has been suggested, and this has the advantage of being simple and general. But it does not adequately represent the rise in costs which firms will experience in their assets, because the cost of services forms a very large element in it. A high powered Committe in the U.K. (Sandilands) has recently suggested that the Central Statistical Office should prepare a set of indexes covering all the important things that firms have to buy. But this would be unacceptable on grounds of cost. It would also be extremely confusing. Probably the best solution for tax purposes would be to use the wholesale price index, as more related to the needs of firms. Sensible firms would no doubt make additional forecasts of their particular needs for keeping capital intact.

But all of these adjustments are essentially based on the original or historic cost of the asset. Today there is a considerable demand for the abandonment of the original cost base, in favour of some estimate of replacement cost, which would ensure to firms the sums they require for keeping capital intact. Unfortunately a valid solution cannot be found along this line, for the simple reason that there is no such thing as crude «replacement». The new asset will be different from the old (probably more efficient) so that its cost is no real guide as to the appropriate allowance.

Taxes on capital (including real estate) and capital gains also deserve some adjustment. There is an argument for allowing some similar type of indexing to ensure that the services of the capital can be maintained. On the other hand the effects of inflation is usually a very sharp rise in the prices of houses and land. It would be both wrong and impossibly costly to attempt to revalue all capital assets for what, in respect of their life span is probably only a small item. A more practical approach would be *via* a tax on capital transfers in strictly ad valorem terms. If a sales or capital transfer tax is already in use it would be simple to raise the rate sharply in the interests of stability. But at the same time it would only be reasonable to allow some adjustment to ensure that sufficient funds will be available for maintaining the standards of service provided by the property, (for instance of farm equipment, or the amenities supplied in houses).

There remains to consider the very important case of personal progressive income taxes, (which we may assume to be a purely national responsibility). The effects of inflation is to push all taxpayers into higher tax brackets, irrespective of any change in their real incomes. This effect will be very welcome to the tax authorities, who find that they have more means to meet the costs of the goods and services which they need. They may also be able to help lower level governments who do not normally have rights in such elastic taxes, and who have to meet heavy price rises in the goods and services which they have to buy. The natural increase in the severity of income tax in inflationary conditions may be welcomed as a useful device for the control of consumption, without the onus of changing rates. But there comes a point at which the taxpayers' increased burden deserves to be eased. One way of doing this is by raising the exemption limit. Depending on the tax structure, this may ease the entire schedule, as well as especially relieving those who have the smallest reserves.

In time of high inflation this device may still not afford sufficient relief, so that there is a case for an indexed adjustment similar to that suggested for profits tax. What is implied is that the taxpayers' income should be written down for tax purposes to a level corresponding to his previous position in the income scale. (If that has been altered due to an increase in real income his new position should be taken as the base.) An equitable adjustment of income tax liability in this way might have difficult political repercussions. Perhaps the government might find it useful to set up an independent Committee to advise them. The Committee would naturally take into consideration wider issues than that of the exact fiscal relation between the taxpayer and the revenue authorities.

The most difficult fiscal policy decisions in time of high inflation are by no means only concerned with the adjustment of particular taxes (to preserve equity or to contribute to disinflation). They are the concern of public policy in a macro sense. As soon as inflation really takes hold and it becomes impossible to forecast quite important price changes, normal methods of control become extremely difficult to enforce. The way is opened for casual deficits and with them enter much greater opportunities for fraud and corruption. If in addition there is high unemployment the government faces a very awkward dilemma. To expand may reduce unemployment, but it implies deliberately budgeting for a deficit. This in itself makes control of fraud even more difficult and may well add to the rate of inflation.

The most important factor here would seem to be for the government first to spare no effort to reduce the rate of inflation to manageable proportions and by this means to restore confidence (both abroad and among home industrialists) that the government is in control of the situation. Such a policy is not necessarily in conflict with a policy of deliberately budgeting for a (target) deficit, so long as things are not allowed to slip further and that the target is in fact hit. Clearly situations of this nature call for both more skill and more determination than budgeting in normal circumstances. Nevertheless it will help greatly if there is in existence a sound and well established technique of budgetary control to which the public will expect policy to return as soon as the worst of the emergency has been overcome.