DEFINITIONS AND ASSUMPTIONS

1. The cost of the three model schemes was estimated on the assumption that all employees would be specifically covered; it was taken that no groups of employees would be specifically exempted or excluded. Moreover, although it is still an open question whether provision will be made for the contracting-out, or partial contracting-out, of those who are satisfactorily covered in occupational or other pension schemes, the costs shown in the Green Paper do not take account of any such possibility. Self-employed classes are not included.

No deduction has been made for possible overlapping or duplication of pensions, either within the scheme itself (e.g., a widow who qualifies for both a widow's pension and a retirement pension is assumed to be entitled to retain both), or as between the State scheme pensions and other pensions.

Although the models have been defined with much precision, e.g., as to the levels of pension, the contribution conditions, the retirement age and so forth, a number of uncertainties remain and further appropriate assumptions have had to be made with regard to such of these as would have a material bearing on the cost.

2. For example, the definitions of the contingencies are not, at present, precise in all respects. What, for instance, is to be understood by "retirement"? Is the payment of a pension to be conditional on retirement from employment? Is it to be also conditional on earnings not exceeding a certain amount — in effect admitting a state of partial retirement? The costings assume that the pension will be paid on the attainment of age 65 as is the case now with the present flat old age contributory pension which is payable at age 67.

Or again, how is "invalidity" to be determined? Is it to be understood simply as long-duration sickness, which would allow for the possibility, or even likelihood, of recovery (e.g., through rehabilitation)? Or is it to be understood as a complete and permanent disability or breakdown in health, admitting no possibility of partial employment, or a resumption of full employment, at any time in the future. The costings assume that the incidence of invalidity will be similar to that of the existing flat-rate invalidity pension scheme, which is an extension of the disability benefit scheme. This scheme provides that where a person has been or is likely to be incapable.

* Actuary, Department of Social Welfare.
of work for a prolonged period, he may qualify for pension if he is permanently incapable of work, or likely to be incapable for at least a further year.

EMERGING COSTS

3. How can the cost be best expressed? One senses a desire to find a "rate of contribution" as if the matter could be reduced to a simple figure. This may spring from the fact that the contribution rate is the principal contact which an insured person or a contributor has with a pension scheme. He is, of course, also interested in the level of benefits, but he is not normally concerned, or even interested, in such figures as the total amount paid out in pensions this year or next year, or what the trend of such expenditure may be. In a State scheme, however, it seems best to start by estimating the probable total outlay year by year without introducing initially the complication involved in considering how this cost is to be met. In this way one obtains what are known as the "emerging costs", the projected figures of expenditure on pensions in successive years.

The costs in the early years of a new scheme will be affected in large measure by the terms which are granted to existing insured persons, what credits are allowed in respect of past employment or in respect of contributions already paid into the present contributory pensions scheme. Apart from such "transitional" features, however, the costs will increase for many years according as new pensioners emerge with title to the new pensions, and they will grow steadily until there is a full complement of persons in receipt of maximum pensions up to the highest ages.

4. The calculations require the use of statistical data and information as to demographic and other trends, and the making of assumptions and projections about the future. The ingredients are many and some of the required material is deficient or even missing! Much judgment has to be exercised and a certain amount of subjectivity and arbitrariness is inevitable. It is ironic that one of the areas where the information is particularly unsatisfactory is that of remuneration, the main new feature of the proposed scheme. A projection is required not of the whole population and not even of the labour force, but of those who work for an employer. This is affected not only by changes in the economic climate but also in a material way by the changing social outlook with regard to the participation of women in the work force. When one considers that it is necessary also to bring into the picture the levels of remuneration, taking due notice of the trend towards equal pay, it seems to be almost necessary to form a comprehensive view of the whole future of social and economic life at least as it may affect the employment situation.

In view of all these difficulties, one might be pardoned if the emerging cost calculations were limited to the first few years of a new scheme. To do this, however, would cloak the full financial impact of the scheme and would therefore be less than frank, as the growth of the figures indicates.
5. The emerging costs of new pensions run from £119 million in the 5th year to £406 million in the 35th year for Model A, from £138 million to £469 million for Model B, and from £106 million to £372 million for Model C. In other words, Model B is the most costly and Model C the least costly and the outlay in all models would increase over a period of 30 years to about $3\frac{1}{2}$ times the original amounts. These figures relate solely to a new scheme and they are indicative of the order of the costs involved rather than accurate estimates. Pensions at present in payment under the existing contributory schemes run at something over £100 million a year. Their cost would run down steadily, and virtually disappear after 35 years.*

6. No allowance is made in these figures for changing money values, i.e., for inflation. This enables the trends arising from biological and demographic causes to be observed without the complications and obscurities which assumptions about inflation would entail. Projections on the basis of constant monetary values are, in all conscience, speculative enough without attempting to incorporate the future of inflation. Who is to say what the rate of inflation is likely to be even next year, not to speak of the following years and for a generation ahead? Even if agreement could be reached with regard to an assumed rate (the necessary calculations could be made readily) what meaning would the resulting figures have? High figures in the years ahead would represent in real value no more than the lower figures which obtain today, and their juxtaposition would be unintelligible and misleading.

Incidentally, as no allowance is made for inflation in the costings, the resultant figures represent what could be expected if there was, in fact, no inflation. This being so, there is no need to provide specifically in the costings shown for the inflation-proofing element in the benefit structure, and if the financial burden of the scheme is appraised by reference to the rates of contribution required to meet the costs, these rates, if expressed as percentages of renumeration, should produce income broadly in line with the expenditure and therefore should not require to be altered radically.

**PAY AS YOU GO**

7. At present there are two national old age pension schemes in operation and both are financed, to all intents and purposes, on what is known as a "pay-as-you-go" system. One is a non-contributory scheme which is financed wholly by the State and the other is a contributory scheme financed through the social insurance fund by means of contributions from insured persons and employers and with a subsidy from the State. This fund does not purport to be anything more than a form of contingency or buffer fund.

*Prima facie,* there seems to be no reason why this pay-as-you-go system should

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* See Tables VII and VIII on pages 97 and 98 of the Green Paper.
not be adopted for an earnings-related scheme. The relevant contribution rates would no doubt be expressed as percentages of remuneration in tune with the fact that the benefits are pay-related, and it has been assumed, for the purposes of the calculations, that the same rates would be payable by men and women, which means that the total expenditure can be measured against the estimated income in respect of both sexes combined. If the figures in respect of the two sexes were separately computed the rates would not necessarily be the same, as there are a number of factors which are not "equal", e.g., the higher expectation of life for women (the latest Life Tables show this to be 20% more for women than for men at age 65) or the difference in the incidence of invalidity. And there would be other problems, e.g., in relation to sharing the burden. For example, even though widows' pensions are a benefit payable to women and not to men, it would be just as unfair to expect women to carry the whole burden of them as for men to do so.

8. The calculation of the relevant contribution rates involves an exercise in projecting the insured population and its remuneration of a kind similar to that which was required for obtaining the emerging costs. Due account has again been taken here, not only of the growing participation in the labour market, especially in the case of women, but of the increasing tendency of young people to take up employment at later ages than heretofore because of improved educational opportunities. Pay-as-you-go contribution rates are shown in the Green Paper at 5-yearly intervals over a period up to 35 years. For Model A the figure ranges from 8.8 per cent in the 5th year to 14.4 per cent in the 35th, for Model B from 10.1 per cent to 16.6 per cent and for Model C from 8.2 per cent to 13.2 per cent. It is evident from the trend of the figures that the rates would continue to increase, on the assumptions taken, for perhaps a considerable period further into the future. The rates shown are again indicative of the order involved rather than precise figures. They cover the total expenditure including the declining outlay on existing pensions, which would presumably be financed in this way. Some comments are made later on the question of apportioning the total figure between the three main parties — employers, insured persons and the State.

THE FUNDING PRINCIPLE

9. The proposed introduction of an earnings-related pension scheme, however, provides us with an opportunity of discussing whether the system of financing should be changed from the pay-as-you-go system to a system of funding similar to that of most of the occupational pension schemes which operate in the private sector. Such schemes are self-financing and in general they aim at achieving solvency by building up adequate funds systematically. In effect, the funds are seen as representing the interests of the members and this more or less tangible and independent status has considerable psychological merit.

* Table IX on page 98.
The corner-stone of the financial philosophy of these schemes is what may be called the "actuarial contribution" which may be said to be the "right" and equitable one for a new entrant. When a scheme is introduced, however, existing personnel are usually allowed at least partial credit for past service and it has been the usual practice for employers to meet this liability by means of a separate "deficiency contribution" on a term-annuity basis. When the fund is in a mature state the total income (derived from contributions and from the proceeds of investments) would meet the outgo, and the size of the fund would be equal to the total net liabilities for existing members. The liabilities for future members would be met by the actuarial contribution so that a state of equilibrium would be maintained.

Increasing pension levels — and in particular, final salary benefits — and the growth of employer-financed schemes have made the attainment of fully-funded schemes more difficult and partially-funded schemes have become respectable. More attention is being paid to cash flow problems and perhaps less to the rapid attainment of the large capital reserves which are necessary for solvency. Inflation has also added seriously to the problems of funded schemes and if it continues for long at its present high level many such schemes will be in serious trouble.

FUNDING A STATE SCHEME

10. In the case of a State scheme, however, the insured person has, in effect, a State guarantee that his pension will be paid and there should be no need to see that an adequate fund is maintained to ensure the solvency of the scheme which is tantamount to saying the solvency of the State! Continuity is assured by a steady and compulsory flow of new members, and the State has the power of taxation to provide whatever resources may be required to meet any shortfall in income from other sources. The merits and de-merits of funding a State scheme have been debated for many years and the conclusion appears to have emerged that the requirement of establishing funding arrangements for long-term liabilities which is desirable, even essential, for private insurance is not really appropriate, and is certainly unnecessary, in a State scheme.

This is not to say that all State schemes are now run on a pay-as-you-go basis. Different methods of financing and combinations of methods are to be found. This causes a certain amount of bewilderment. In most cases the pension systems have evolved — and are still evolving — from sectional schemes in both the public and the private sector, and in many cases their present state and their systems of financing are the resultant of different pressures and strengths and perhaps compromises. A country's ideological background may be involved, as well as its economic situation and its social organisation.

11. However, even if the funding of a State scheme is not required from a financial or actuarial standpoint, a case can be argued for its desirability as a means of obtaining
resources for national investment. It stands to reason, however, that this objective cannot be attained unless the rates of contribution are higher than are required to meet current pension expenditure, and so they must include an element which, in effect, is a compulsory contribution towards national investment. It is interesting to note that none of the various pension plans which were considered in the United Kingdom over the past decade or more envisaged a funded scheme, if one excepts the fall-back Reserve Pension Scheme which was provided for in the Social Security Act, 1973 and was subsequently dropped. The scheme which is due to come into operation in 1978 will be on a pay-as-you-go basis. Much interest is taken, however, in the current Swedish scheme in which substantial funds have become available for investment, despite the fact that at least the basic benefits are financed on a pay-as-you-go basis. This appears to have been achieved by special methods of financing second and third-tier pensions established in co-operation with insurance institutions and other interests.

12. Calculations have been made to indicate, for each of the Models, the order of magnitude which a fund might attain if a contribution rate of 15 per cent were charged, this being of the same order as rates currently in operation in the pension world. An interest rate of 2 per cent per annum was chosen somewhat arbitrarily and is to be understood in the sense that the investments would yield a margin of about 2 per cent over and above the rate of inflation as reflected in wage and salary increases. Any other rate desired could, of course, be assumed and some might argue that a negative rate would be more appropriate at the present time. However, the logic of such an assumption would imply that so far from funding being a remunerative activity it would require to be subsidised!

The size of the fund on the stated assumptions runs from £1.6 billion in 10 years to £4.4 billion in 30 years in the case of both Models A and C and from £1.6 billion to £3 billion in the case of Model B. It may be noted that the total national debt is over £3 billion at the present time and the gross national product is over £4 billion.

APPORTIONMENT AND INCIDENCE OF CHARGES

13. The pay-as-you-go* contribution rates which have been calculated are those which would be required to meet the total expenditure. A further question to be considered is what proportion of the burden should be met by the employees, by the employers and by the State. The question of apportionment is not new. Traditionally, in this country social insurance has been financed on a tri-partite basis and for a long period it was on a roughly equi-partite basis. In recent years, however, the State's proportion has been falling and at the present time it represents about one-fifth of the total outlay.

It may be desirable to review the situation now when a substantial increase in
the contribution rate is under consideration and when the benefit structure is to be based on remuneration which is outside the direct control of the Government. It might, for instance, be argued that the State's contribution should be limited to that part of the expenditure which would cover pensions at a satisfactory basic level, such as would meet a first-tier pension, if more than a single-tiered system were to be decided upon. The employer's contribution could be seen, over a wide area, as a production cost which is passed on to the consumer. As regards the employee's contribution it is to be remembered that for good administrative reasons, it has been the practice to place on the employer a legal responsibility to make a deduction in respect of both his own and his employee's contribution in the first instance. Because of this, the employee plays a somewhat passive role and he does not really feel the same sense of participation and loss as he would if he had to make a contribution positively. Many, if not most, people are concerned only with take-home pay and they do not distinguish between a compulsory contribution and PAYE taxation.

14. This might also be a suitable time to consider whether it is possible to enunciate any principles or to provide guide-lines as to

(i) how responsibility for the provision for old age should be shared in the broadest sense, — to what extent it should be borne by the individual himself, by his family, by his employer, and by society as a whole and

(ii) how the organisation of such provision could best be effected — e.g., whether through voluntary agencies, occupational pension schemes, insurance companies, or a State pension scheme.

Among the underlying objectives would be to ensure that adequate provision from whatever source it comes, is available for all old and dependent persons in the community, and that unnecessary or wasteful duplication should be avoided. Included in this aspect of the subject is the question of the respective roles to be played in respect of pensions by the State and by the pension industry.

**ECONOMIC IMPACT**

15. A State earnings-related pension scheme would be an important step forward for this country in the field of social security. It would mean a redistribution of a sizeable part of the national income in favour of a sector of the population which, by and large, is unable to provide adequately for itself. The order of the costs involved shows that the financial impact would be great enough to cause major economic repercussions.

Adequate provision for the contingencies of old age and dependency is now widely accepted as a priority social commitment which, willy nilly, must be met,
the only matters to be settled being the size of the provision, the mechanisms required and the distribution of the burden. It has to be faced that this is an expensive burden involving legal commitments which are not easily reversible.

If this is a correct reading of the situation it would be desirable if studies were undertaken to see exactly how such developments might affect the economy. An increasing number of studies are being made — both at national and international level — to ascertain the influence which social security — and its separate branches — has on the working of economic forces and on economic development — its impact on savings and investment and on production, its influence on the supply and demand for and the mobility of labour and its effect on the level and distribution of costs, on the price structure, on public finance and on the redistribution of income. There is a wide field here for such specific research. The conclusions which may be drawn from the experience in other countries could not be accepted without question as being applicable to this country.

For example, what about the validity of the frequently-heard argument that pension provision discourages personal savings? Personal observation would hardly support the view that those who are well-provided with pensions expectations are the poorest savers and that those who are badly-circumstanced with regard to pensions are the best savers. Capacity to save must also be a factor in the matter. But if the hypothesis were true, logic would suggest that pensions should be discouraged generally on the ground that if they were adequate, there would be no need for further personal savings, which would not therefore be forthcoming. Surely the need for savings does not depend solely on the call for personal savings based on the "rainy day" concept.