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WORKING PAPER

The Optimum Size of Welfare Expenditure

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I have been asked to address an interesting and challenging question: how big should the Welfare State be? Ultimately it is a question of costs and benefits: tax revenue is needed to finance welfare expenditures. The benefits of the welfare expenditures have to justify the cost - the imposition of taxes. But I think we can get a clearer view of the issues if we first see the system of welfare expenditures in three parts:

(a) Expenditures that do for people what they would have wished to do for themselves, if they could, or if they properly understood the risks and prospects to which they are subject. Unemployment insurance and pension schemes are examples.

(b) Expenditures that meet pure need. Caring for abandoned children, or for people incapacitated from birth come under this heading.

(c) Progressive redistribution, as when contributions vary with income, and benefits do not, or, most obviously, subsidies to families with low income.

The magnitudes of these three parts are very different. In my view, expenditures of type (a) are and should be the largest. Expenditures of type (b) are a small part of the GDP. And expenditures, or rules governing contributions, that bring about an increase in lower incomes, are intermediate in magnitude.

Compulsory Beneficial Expenditures

Let me expand the argument that many welfare expenditures are doing for people what they would or should want to do for themselves. People run a risk of unemployment, a risk that should be insurable. It is true that the insurance industry does not offer this kind of insurance, for reasons that we shall come to. But the government can offer the insurance, on a sound actuarial basis, and it seems clear that people should all want to take it. At least those with a high enough risk of unemployment should do so. And there lies a difficulty, because the risk varies quite considerably from person to person. In particular, the risk of episodes of unemployment is considerably greater for people in low-wage jobs. The cost of the insurance should therefore be greater to people with lower incomes. That does not happen in practice. Actual unemployment insurance therefore is partly of type (a), providing for the individual what the individual should choose for him or herself; and partly of type (c), with higher-income people cross-subsidizing lower-income people.

Apart from that element of progression, people should not regard payments for unemployment insurance as taxes, but desirable expenditures. True, it is customary to make the unemployment insurance programme compulsory: choice is not exercised. Maybe some people enjoy the excitement of periods of unemployment (though it seems unlikely) and would not choose to take the insurance if they were not forced to. For them, if any, it is an imposition. More important, there is no choice about the level of insurance. Countries vary considerably in the level of benefits, but within each country, there is no choice. If you get 90 per cent of your last wage for six months, and then some lower figure, you have no choice, though you might have preferred less than 90 per cent., for a longer period. Perhaps that is unreasonable: I want to come back to that issue later, when I put a figure or figures on the optimum size of unemployment expenditures.

We would generally regard social security, the provision of pensions by the State, in the same light, as providing people with what they would want anyway. In this case, governments usually also introduce special tax rules for private pension plans, that may come close to offering participants the same rate of return as is available to government if it runs a funded State pension scheme. Thus it is not only possible for social security to be privately provided: it is actually done, sometimes in part, sometimes as the whole scheme with compulsory membership imposed by government. I do not myself see much advantage in having social security done by private firms, since there are often costs of advertising and competition, and a need for excessive funding to avoid bankruptcy risk. But it must be acknowledged that, apart from the risks just mentioned, private contracts may be more reliable than the vaguer promises of State pension schemes.

Provision for incapacity and illness, and the provision of medical care, can clearly be regarded as examples of category (a) as well, except when the need happens too early in life for there to be any possibility of insurance. Even in these cases, we could conceptually think of the expenditures in the same way, imagining what kind of insurance might have been taken out for the person before birth, though no such insurance market seems to occur in reality.

The advantage of thinking about welfare expenditures in this way is that one gets a handle on what level of expenditures is appropriate. The question is now this: if the rate of return available to government were available to individuals, and risks were correctly and accurately assessed, how much insurance would we expect an average person to take out, granted that the law of large numbers would allow the risks to be aggregated as an average over the whole population? This is not quite so easy to answer aright as it may seem at first sight, because I have neglected to point out that there are usually incentive issues. It is plausible that people would like take out unemployment insurance that provided income when unemployed equal to the current wage. But that might be thought to create an incentive to stop working at once. The imagined choice by the individual of the optimal level of insurance has to be taken subject to the deeper economic constraint that it take account of changes in behaviour brought about by the insurance. As we look at the different kinds of welfare expenditure, we shall have to take account of these incentive constraints.

It is, no doubt, harder to find a way of calculating the optimum level of expenditures of category (c). It amounts, indeed, to determining the optimum degree of redistribution from higher-income people to lower-income people in the economy as a whole. I think it is helpful, at least, and may be the way to a full answer, to imagine what choices people would make if they entered into a social contract before birth, before knowing in what kind of a home they would be born, far less what kind of a job they would have, what state of health they would enjoy, and how many children they would have. Many philosophers and economists have imagined this original position. It is a truly helpful standpoint for answering the question insofar as people in different circumstances have similar tastes, responding to similar circumstances in similar ways. That seems to me a good account of most people, in a normal state of health. People with serious disabilities do not fit easily into this way of looking at choices, and it is perhaps not very easy to see how the imagined decision-taking embryo would allow for serious differences in taste, say for alcohol or for risk-induced excitement. Doubts of that kind do not, I think, greatly impede us in thinking about the broad issues of progressive taxation and subsidization.

Expenditure Levels in the United Kingdom

As a preliminary to looking at the different types of welfare expenditure, to deal with idleness, illness, old-age, special need, and poverty, it is interesting to see how much is spent on them by governments now. There is considerable variation. As you might expect, I shall take the United Kingdom as my example. Currently, expenditure on unemployment benefits are well below one per cent. of GDP. Benefits payable for incapacity or absence from work through illness amount to somewhat less than three per cent. The National Health Service costs a little over five per cent. (considerably less than the corresponding figure for other European countries). Social security benefits, for the elderly, amount to ten per cent. Expenditure on other special needs, such as children in need, are quite small. It is harder to measure the extent to which progression in the tax and subsidy system involves payments to families with low incomes. A figure of not more than three per cent. seems to be fair. In total, that comes to 22 per cent. of the UK GDP.

Turning now to look at these different types, and to consider the optimal levels, we shall find reasons to think some of the UK numbers smaller than they should be; but not all.

Unemployment Benefits

In some ways it should be easiest to determine the optimal level of unemployment expenditures, while recognizing that it will vary greatly from one year to another. But there are difficult issues to do with incentives. Many people who lose jobs will find that their next job has a lower wage attached to it. If, as I suggested people would like, the unemployment benefit level were equal to the wage previously earned (net of taxes), a significant number of people would lose financially by taking a new job. The pain of being unemployed is sufficiently great for many that they might still take a new job, even at the cost of reduced income, but convention and family need is against it. There is, I think, no question that the benefit level must be below the previous wage. We do not know enough about the effectiveness of job search, and people's eagerness to secure employment, to put a firm number on the level, but 75 per cent. seems a reasonable replacement level. When, as in the Netherlands for a time, it has been higher than that, there was serious suspicion that unemployment was significantly increased.

The next question is how the benefit should vary with the length of the period of unemployment. Those who remain unemployed for longer are perhaps likely to be employed at a lower wage when they do get a job. That is a reason for having the unemployment benefit fall over time; but it is hardly a reason for have the benefit disappear entirely, as in a number of countries. I cannot see a case for the benefit ever being smaller than half the previous wage, or smaller than a general minimum income level, of which I shall speak later. Supposing that on average, over the years, unemployment might be five per cent. (in the case of Korea, experience might make one more optimistic), an average expenditure of 3.5 per cent. of the wage bill, say 2.5 per cent. of GDP might be warranted. This is much higher than the UK figure mentioned.

Incapacity and Illness

The number of people who are, in some degree, incapacitated, is surprisingly large. In the United Kingdom, nearly three and a half million (out of a population of sixty million) receive disability living allowance - not in itself a very large allowance, but the figure gives an indication of how many are quite severely disabled, by injury, congenital condition or severe illness. (The figure does include some retired people.) A significant proportion of those who are incapacitated will nevertheless be able to do some work. Yet in almost all cases, there is good reason for a welfare benefit. The argument is that people, if rational and farsighted, would provide such insurance for themselves.

This is an area where a private insurance market exists, and is used, but not extensively. As so often, the terms of the insurance are not very good, actuarially; but probably that is not why so few people use disability insurance, except when forced to do it to cover a mortgage. It is hard to resist the conclusion that people are quite irrational about this, at least at the time in life when they should take out the insurance. People simply do not appreciate how high is the probability of becoming seriously disabled. Government on the other hand does know, broadly, the probability. It is not in a position to allow for individual variations, which are surely significant, but it can provide a uniform system of disability insurance, which well-informed individuals should indeed have provided for themselves.

It is tempting to think that there are no incentive issues in the case of disability, though, as I have remarked, many disabled people do participate in the labour force. To allow for that, benefits should not be reduced by the full amount of labour earnings - the disabled should have an incentive to work, if they can. At the basic level, a first approximation to the optimum level of benefit would be surely be the average after-tax earnings the individual would have expected to receive if it were not for the disability. In some cases, that can be readily measured, as in the case of incapacitating industrial injury. Someone disabled before working age should, on this basis, receive the average after-tax wage.

There is another incentive issue. It is not entirely easy to identify incapacity. A medical examination is required. Some conditions are readily and accurately identified, such as blindness, or the absence of a limb. In other cases, considerable observation might be required. In countries I know of, a significant proportion of people who apply for disability allowances of one kind or another are disallowed (often to their great distress). In the Netherlands, when a more stringent assessment of disability was introduced (not, I understand, a different standard, just a more thorough and frequent scrutiny), the number identified as disabled fell considerably. In some cases, the person being assessed may claim a greater extent of disability than is true; in some, the doctor doing the assessment may err on the side of generosity to the claimant.

It has been suggested that, for these reasons, benefits should be lower than what at first appears to be the optimum level. If there is a significant risk of misidentification, that means there is a risk the benefit goes not to someone fully in need, but to someone for whom the benefit has less value (because of earning capacity). Thus the benefit/cost balanced is shifted, and the level of benefit should be less for this reason. This argument only works if some people may wrongly get the benefit. A little calculation shows that it does not imply a very great reduction in the optimum benefit. Making the extreme assumption that those wrongly identified as disabled get the benefit, and also the average wage; and a rather weak assumption that utility is logarithmic, one can show that the ratio of the optimal benefit to the average wage is the square root of the proportion of people correctly identified. If so many as twenty per cent. are wrongly identified, the benefit should be reduced by ten per cent. With less extreme assumptions, the reduction is less.

I conclude that full disability benefit should be only a little less than the average wage; and that does not count additional payments for special care and medical treatment. For people qualified to receive retirement pension, there is no reason to have a special disability benefit. For a country with five per cent. of the population of working age disabled, half of them fully disabled, a contribution of four per cent. of wage income would be required. As a rough guide, one might say 3.0 per cent. of GDP. This is a figure to which considerable uncertainty attaches, but it happens to be the level in the UK.

Health Care

Left to itself, a market for medical care would provide people with a variety of insurance policies, at somewhat different prices, the more expensive allowing access to better quality treatment, both medical and in support care. People would choose. We know from the USA that many would not take out insurance. Also the prices charged would vary with the age and medical experience of the buyer. It would not be possible to take out perpetual insurance, at a price fixed from an early age. It is therefore more satisfactory to have the cover arranged by the State, with the same facilities for all.

Retirement

People differ somewhat in their desire for income in retirement, but probably they differ most in the extent to which they have an irrationally excessive preference for present consumption relative to future consumption. Such a preference should be overridden. It seems best for the government to lay down a particular pension plan, compulsory for all. What plan is likely to suit people best? The main issue is whether the pension level should be similar to the consumption of an average person at the time when the pension is paid, or similar to average consumption during the recipient□s working life. In a rapidly growing economy, such as the Republic of Korea, these two alternatives may be very different.

Most social security schemes relate the pension level to income levels during the recipients working life, and I believe that is the right way of doing it, though it may imply a considerable difference between the consumption levels of the retired and of current workers. It is then relatively simple to work out the contribution levels that are required for an individual's contributions to finance his or her pension.

Suppose, for example that the wage is constant over time, and the pension also, for the individual question. Then it is easy see what fraction of the wage is required as contribution for the value of contributions, discounted at the rate of return on capital, to be equal to the discounted value of pension payments. With a rate of return of 4%, a working life of 45 years, and a retirement of 15 years, a contribution rate of 8.5% yields a pension equal to the wage less contributions. With a higher rate of return, the required contributions are less; but with rising wages, if the pension is to be similar to wages less contribution towards the end of the working life, the contribution rate may be much higher.

The answer is quite sensitive to the particular assumptions made in these actuarial calculations. One might be more radical and greatly increase the retirement age from the conventional 65 (or less). People will retire, of course, when working becomes too difficult or unpleasant: some will retire sooner than others. There is an incentive effect to be considered: the rules for determining pension for those who retire earlier should not too strongly encourage early retirement. Work done by Peter Diamond on a simple model of an optimum pension scheme where people are allowed to choose the age of retirement concluded that pension contributions should decline with the age of the worker, and that the compulsory retirement age should be close to the end of life. We do not know enough about people's probable response to this to estimate accurately the required contribution levels in a realistic model.

All in all, it seems that the average contribution level should be at least ten per cent. of the wage. Indeed ten per cent. of GDP may be a good estimate, so long as there is strong encouragement to retire at 65.

This way of calculating the requirement assumes that the pension scheme is fully funded. That ignores the problem of introducing the scheme, and paying a pension or other retirement benefit to people who have not been making contributions to the scheme throughout their working lives. There is no escape from making special provision for people who join the social security system part way through their working lives. A pay as you go scheme does not have this problem. In effect such a scheme involves a transfer from future cohorts or generations to the earlier ones, which is not in itself undesirable. It may not require larger contributions to the scheme, but the contributions would then be seen as a tax, to finance payments to other, older people. The scheme may become very expensive in periods when older people form a large part of the population, as the continental European economies have discovered, in prospect.

Special Need

The main cases where we would want to make welfare payments when the recipient can have made no contribution to it are payments to people who become disabled early in life, and the costs of looking after children who are not looked after by their parents. The payments must be financed by taxation. These expenditures are important, but they are not large expenditures from the government budget, and I shall not discuss them further.

Supplementing Low Incomes

It is desirable to increase the incomes of people whose earnings are very low. Income may be low because the person can earn only a small amount per hour, or because only part-time employment is available. Payments or subsidies to people with low labour incomes are the reverse of taxes paid by people with higher labour incomes. Taxes and subsidies together create a trade-off between doing work to get earnings, and getting consumption, which is earnings after taxes and subsidies. The incentive to work is greater when additional earnings neither reduce subsidies much nor increase taxes much. In reality, only a part of extra earnings remains with the worker, and work incentives are considerably reduced from what they might have been.

For example, if net consumption were a linear function of earnings, so designed that the minimum consumption level, received when labour earnings are zero, the function would have to be devised in such a way that on average people paid enough tax to cover fixed government expenditure requirements, for education, roads, military purposes, and so on. The average worker would have to be paying tax. It follow that the slope of the straight line describing the earnings/consumption tradeoff must be less than a half. In other words, the marginal tax rate at all income levels would be substantially above fifty per cent.

This example suggests that the proposed minimum income level, of half the average wage, is too high; and also suggests that it might be desirable to have a nonlinear tax/subsidy system, with marginal tax rates starting high and then falling. For people on low incomes, that would mean that the subsidy received would fall quite rapidly as earnings increased.

Conclusions

One should not focus on an aggregate figure for the optimum level of welfare expenditures. Many of these expenditures are best regarded as being undertaken on behalf of the potential beneficiaries, that is to say, as being part of their consumption expenditure, in the broadest sense. Although expenditures of what I have called category (a) are indeed spending from the public purse, financed by revenues raised by public authority, these welfare contributions are not properly to be regarded as taxes. It should be possible to persuade people that they are not! Part of course are, in effect, taxes, when those who pay larger contributions do not receive correspondingly higher benefits; but that, as we have seen, is not a very large part of what is generally measured as the welfare budget, or expenditure on social protection benefits, as the UN definition has it.

It is entirely possible that some of these expenditures will be a large proportion of people's incomes. We must expect that people would choose to spend more and more on health as their incomes rise, and as medicine advances (or appears to advance). There are special problems around the social security system, because of the difficulty of moving into a fully funded system, while providing now for the currently retired. But it is not strange that people should be prepared to put up to 15 per cent. of their income into providing for old age. People's saving rates often greatly exceed that figure.

All in all, one should expect welfare expenditures to be a large proportion of the national income, 25 per cent. not being an unreasonable figure. A minimum income per person of a third of the average wage seems a goal worth striving for, and is, I believe, entirely possible.