**Public Economics Essay**

**Explain the problems involved in trying to assess the incidence of the public sector budget. Does the UK budget redistribute income to any significant level?**

**The Issue**

For as long as governments have existed, they have proceeded to impose a tax upon their constituents in order to create a public sector budget with which they can provide services to all of those in need. However, although this idea is commendable in theory, how easy is it to actually achieve economic equity? Does the money collected get distributed fairly? The question is an important one as we must be able to assess the impact of government policies on the way income is distributed.

The question is essentially an empirical one and it's answers can seem increasingly difficult to comprehend as there are many practical and quantitative difficulties to obtaining the results. The basis of concern is trying to determine who ultimately pays the tax? The office of national statistics states that the person who pays the tax is the one who is actually bearing the brunt of economic incidence, but is this actually the case? For example if the government adds a levvy on fuel then common sense suggests that the person who pays the tax is the motorist. But is that true? If the tax is very noticeable then the motorist will cut back on their milage. That in turn effects the Petrol Station owners who will begin to order less fuel from their suppliers. BP, Shell and ESSO are then effected, experiencing a reduction and demand and a fall in profits. This, again effects shareholders and the demand for employees etc… So you can see from this example it is hard to see who ultimately bears the cost of a tax. In the rest of the essay I will try to identify the problems involved in trying to assess the incidence of the public sector budget and finally despite these difficulties can we identify any way in which the UK does seem to redistribute income.

**Problems of Measurement**

Economic equity is first and foremost, hard to measure. Ideally, it would be looked at with everyone treated as an individual. However, this information is hard to obtain. The lifetime purchasing power of an indivual is currently being created and appropriate discount rates are being applied to give basis for common comparisons, but to date this information is not ready, so how do we measuring wealth. Various views have occurred over the years. Problems such as how to encapture income, which is essentially a flow and wealth which is essentially a stock, have been debated and theories have been postulated. Lyndall presented work which was overly sophisticated in its attempts to explain phenomenon that were perhaps not quite true, causing economists Becker and Mincer to create the so called "Chicago" human capital approach which in essence undersimplified things by assuming econmic inequality was merely a reflection of current investments in human capital and returns to past investments. Finally a more eclectic approach arose combining factors of both but as you can see, even without going into too much detail government and economists alike have struggled in their efforts to agree on suitable measurements so they can assess economic inequality.

**A popular measure of inequality**

Two common methods used to measure inequality are the Lorenz curve and Gini Coefficient method and the McClements equivalence scale. We will start first by briefly looking at the equivalence method. Using information on household wealth and then use an equivalence scale to rate them more fairly we can begin to better understand income distribution. An example of this is illustrated bellow the.

**Figure 1**
**Type of Household member Equivalence value**

| | |
|---|---|
| Married head of Household: | |
| (i.e. a married or cohabiting couple) | 1.00 |
| 1st additional adult | 0.42 |

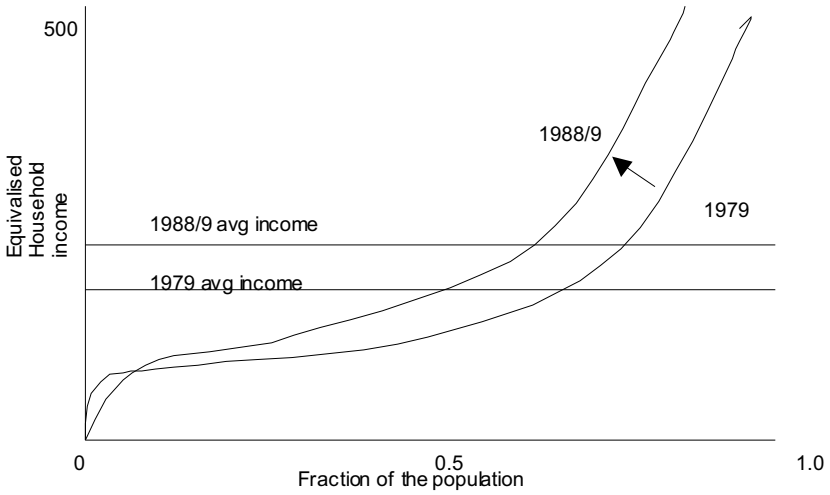
| | |
|---|---|
| 2nd (or more) additional adult | 0.36 (per adult) |

| Single head of household: | |
|---|---|
| (adult) | 0.61 |
| 1st additional adult | 0.46 |
| 2nd additional adult | 0.42 |
| 3rd (or more) additional adult | 0.36 (per adult) |

| Child aged: | |
|---|---|
| 16-18 | 0.36 |
| 13-15 | 0.27 |
| 11-12 | 0.25 |
| 8-10 | 0.23 |
| 5-7 | 0.21 |
| 2-4 | 0.18 |
| under 2 | 0.09 |

Then in order to calculate the equivalised disposable income you take the households total disposable income and divide it by the rating the houshold has in total. For example say the households disposable income is £20,000 and its equivalence rating is [1.0 + 0.21 + 0.23 + 0.42 =] 1.86 then the equivalised disposable income is £10,753. To make this income into weekly or monthly portions then you simply divide by 52 or 12 respectively.

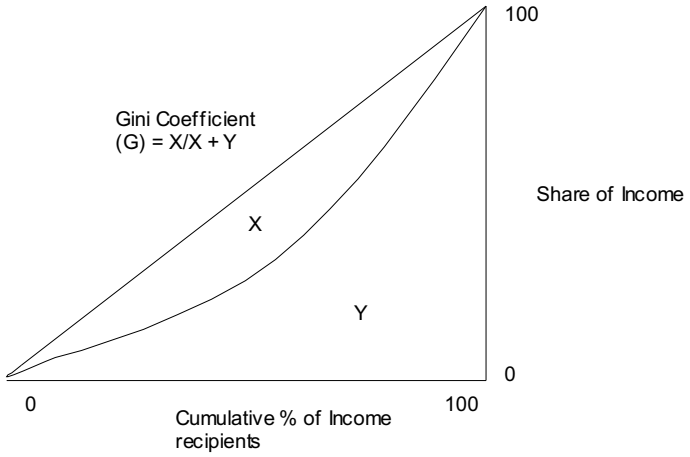
**Figure 2 Changing Income Parade since 1979**




Using this method to calculate income we can see how incomes have changed over time. We can see that the average income has raised from roughly £185 per week in the UK in 1979 to just under £240 a week in 1988/9. The results from this also show that the poorest people were actually slightly more prevalent and worse off in 1988/9 than in 1979.

Another method of calculation is to use the Lorenz curve and gini coefficient. Calculated by ranking household shares of income, the curve sags below the line of complete equality. The gini coefficient is calculated by taking the area from the sag, up to the line of complete equality or, in essence the 45 degree line. The larger the number the greater the inequality. An example is shown below.

**Figure 3 The Lorenz Curve**




Now that we have seen there are reasonable ways to assess income distribution, we can begin to analyse the effect taxes have on redistributing income and whether or not the governments provisions effect those they intend to.

**When should the government redistribute?**

Accepting the fact that there are now reasonable measurements to test inequality what are the normative principles for redistribution. There are six main approaches to providing optimal income distribution. They are Utilitarianism, the uncertainty approach, the social welfare function, the "Rawlsian" social welfare function, interdependent utility finctions and Equity as non-envy. Below I will explain parts of each theory.

**Utilitarianism**

Utilitarianism is the view in which the government try and maximise the sum of utility to the greatest number of people. Utility (happiness) is assumed to be cardinally measured and comparable between individuals. In these conditions the heuristic to maximise social welfare is to equalise the marginal utility from income and set the distribution of income to conform to this.

**Figure 4 Maximizing utility**

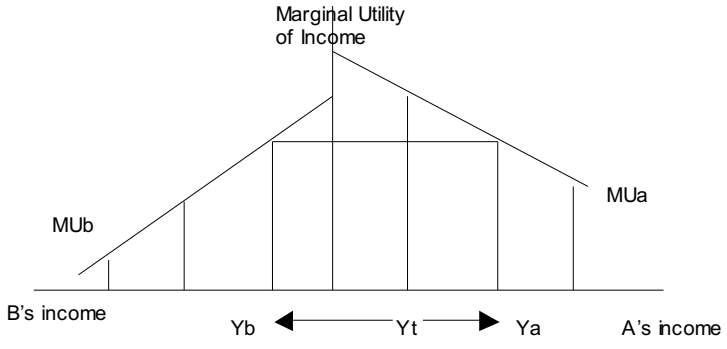


Figure 4 illustrates this point graphically. It depicts two individuals having different but diminishing marginal utility. If the government have Yt to distribute, then the relevant maximising utility allocations are Ya and Yb. Any other allocation would be inferior. The problems clearly with this theory is how can you possibly measure happiness in any cardinal way and then compare it to an other? The answer is you can't. And so therefore, while utilitarianism is a nice idea it is unworkable in practise.

**Uncertainty**

Lerner sheds the unrealistic assumptions of utilitarianism and argues that in an uncertain context the expected sum of utilities would be best maximised by an equal distribution from the government. The problem with this method is two fold. Mathematical proof has been provided that suggests that the benefit people get will not be as great as using the utilitarianism and also part of the theory still suggests that utility can be measured which as we have already said, is impossible.

**Social Welfare Function**

Created in "New" Welfare economics the social welfare function claims there is some function, often already known, that can be used to best distribute the public sector budget. However, how we go about finding this welfare function is very much unclear. Either through reasonable democratic assumptions or by using neoclassical economics and historical data the results it provides are often conflicting and of no real use.

**The 'Rawlsian' Social Welfare Function**

Created using a "veil of ignorance" John Rawls suggests that the best way to create this social welfare function and distribute the public sector budget fairly is to have those in charge of distribution dong so but knowing very little before hand. That is, they are ignorant of doing things that will be of best interest to themselves and therefore the only knowledge they have is the most general facts about society. Here, 2 rules arise almost everytime people are asked to come up with this function. The first is that all individuals have the right to the most extensive basic liberty. And the second is that we should be allowed to give more to those who are the least well off. This second rule, however can become highly contentious. Do the people deserve the extra benefit? How do you decide who gets what?

There are two more methods about how best to know when to distribute the budget but I fear that I am getting away fro mthe heart of the essay. Let me just say this. Knowing how to distribute the budget in the first place, is hard enough. Trying to measure how we have done afterwards is even harder and it is little wonder considering how complicated it can seem to collect and distribute the budget.

**Redistributive impact of the budget**

Having looked at the problems of how a government decides how best to distribute the budget I will now look at the problems of how to then assess this distribution.

**The 'Counterfactual' problem**

Studies of the impact of the government budget necessarily presuppose what would have been the case in the absence of such a budget. In this context it would be like having a market economy outcome and imagining what it would be like to have a mixed economy. Or it would be like taking the government activity out of the market to leave only market economy. In the UK the CSO look at the economy in this way. Although, clearly, we live in a mixed economy the CSO decide that in order to draw useful comparisons we must look at how the world would be in a market economy without the state provision. These findings are undertaken and conclusions can be drawn from them but the fact still remains that it is just peoples conjectures of what will happen and so the findings are in no way precise and unless we can create both states we will never be entirely sure of the outcome.

**Extent of Coverage**

Also when studing budget redistribution we need to know, to what degree we are leaving our data collection incomplete. Say we want to carry out a study of the impact of a tax on different income groups and we assess each groups benefits and coststo give us their post budget income. Will our sample of data collection be complete enough to provide an accurate representation of the budget. Also, even if we take a sample of the whole population, how do we account for peoples wealth. As has already been stated income is a flow and wealth is a stock so how can we accurately represent how the tax will effect the inidivual over time. Even discounting rates won't provide a true representation. Also, how can you accurately take account of how much health care someone will need in the next period or how much education someone will use? Again the results you postulate will be sketchy at best.

**The Balanced Budget Issue**

When looking at who bears the economic incidence of a tax essentially we are looking at weighing up the benefits versus the costs that each individual gets from the tax. The extent of coverage problem has already said how hard that is, due to not knowing whether to measure things for now or for the future. However, the balanced budget suggests that we should discount each side the same to provide a more balanced answer. Unfortunately this solution leaves us no better off than where we were before.

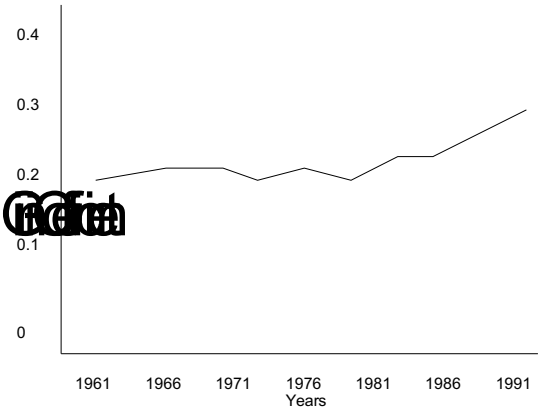
**The incidence and valuation of expenditures and taxes**

This is essentially a summing up of the problems that have gone before. How do you accurately account expenditures and taxes. The answer is that, to date you can't. People do postulate reasonable estimates in their studies but ultimately the way they are accounted for can cause serious problems in the way the data is interpreted.

**Can the Public Sector be properly assessed using the UK as an example?**

Unfortunately it is unlikely that we will ever be able to know who ultimately bears the economic cost of a tax. Problems of measuremnt and distribution make it too difficult. We can however get a rough idea of how we are doing using the equilance scale or Lorenz curve and the Gini coefficient. Clearly every government has to distribute it's taxes in some way or another, and then by using these methods we can see how they are doing. In the Uk's case however, they seem to be struggling a little, in terms of better improving their allocation of the budget. Looking at figure 5 below you can see how the Gini coefficent has risen over the last few years. [Despite the age of the graph it has continued on an upward scale to this date]

**Figure 5 Goodman and Webb's Gini Coefficient (3 year moving average)**



Using this as a guide we can see that the governments provision has went downhill over the last short while and this has happened despite the fact that they should know about all these problems of assessing incidence. The problem in redistributing the budget is mainly down to two problems. How do we measure how well we've done before, so we can get it right the next time? The answer is you can't entirely. And what is the best way to provide for the public. Again we have already assessed that how you distribute the budget in the first place is difficult.

# Public Economics Essay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**Week 8**: **Explain the problems involved in trying to assess the incidence of the public sector budget. Does the UK budget redistribute income to any significant level?**

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**Bibliography/References**