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Is democracy regressive? A comment on political participation

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1. Introduction

In an article in this journal (Frey, 1971) an attempt was made to explain why political participation is positively correlated with income. It was argued that since higher income people have higher opportunity costs of their time they should participate less in politics. For this reason an opportunity cost argument was at odds with the evidence.[1] The problem was resolved when the productivity of the use of time in political activity was introduced. If education, I.Q. and human capital are correlated with income then high income groups may be more productive in their use of time in political activity. Relatively speaking the rate of return may be greater for individuals with high income even though the opportunity costs are higher.

Whilst not wishing to dismiss this insight it is questionable that the opportunity cost argument should be so summarily rejected. Indeed whilst productivity considerations may be important it is doubtful that they adequately explain the evidence under consideration. Frey (1971: 101) refers to the act of voting as 'the most prominent type of participation', but the basic act of recording preference must surely be the least likely form of participation to which education offers such differential advantage. While ability to write to congressmen and to formulate argument may surely reflect occupation and background, a simple selection process is less likely to prove so discriminatingly demanding.

The purpose of this paper is to re-consider the opportunity cost argument in the light of uncertainty. It will be our contention that such an argument does predict different political participation between different income groups exactly as the evidence suggests. Moreover, to the extent that the argument holds, we raise the question of whether individuals in different income groups are being implicitly taxed in a regressive manner by the costs inherent in the political process.

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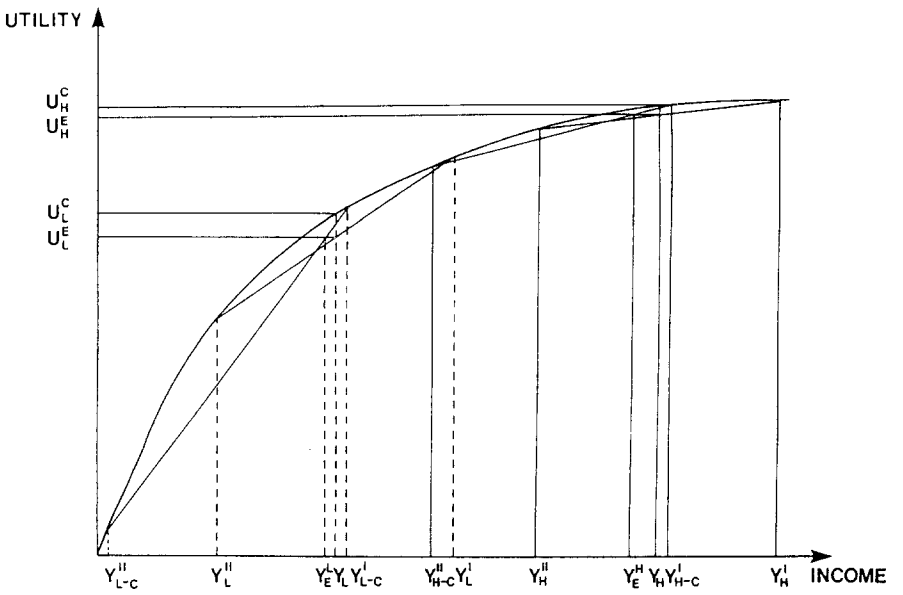

Figure 1. Political participation and income

2. Uncertainty and political participation

Figure 1 illustrates the effect of an uncertain political environment on the welfare of individual members of two income groups, high (H) and low (L). Both individuals have the same utility of income function which exhibits diminishing marginal utility. The choices facing the individuals have been deliberately exaggerated to highlight the cost implications and the principles involved.

Consider an individual with income Y_H. If there is no risk to him then his utility of income is U_H^C. However assume two alternative situations, each with probability of 0.5, confront the individual. In the first case the individual benefits from an expenditure scheme which, if accepted, will be financed disproportionately by taxation on others. The result is a potential increase in this individual's income to Y_H'. Alternatively a policy may be accepted which implies a disproportionate tax on individual H so that, having allowed for his benefits from this proposal, his income would fall to Y_H''. The very existence of this uncertainty means that the individual suffers a utility loss. His expected income remains equal to Y_H but, as he is risk averse his utility is now only U_H^E.

Exactly the same degree of uncertainty is associated with the low income individual L. Initially with certain income Y_L he is faced with two possibilities. A proposal for public expenditure may leave him at Y_L', if

financing is shifted elsewhere, or at Y_L'' if he is faced with a disproportionate tax burden. Again the probability is 0.5 that either of these outcomes will occur. Uncertainty associated with this proposal leaves the low income individual at U_L^E. Comparison of the cost of uncertainty engendered by the political process is possible if certain restrictions are placed on the utility function. If marginal utility diminishes at an increasing rate then the cost to L, i.e. $(U_L^C - U_L^E)$ must exceed that to H $(U_H^C - U_H^E)$. This point is one to which we will return.

At present our task is to consider the response of these individuals to the uncertainty with which they are faced. Neither can secure the most preferred outcome as a result of voting, but it is assumed that at the margin each believes that the most preferred outcome is more likely when they participate. It is recognized that with large numbers the probability of effectiveness associated with individual action is reduced (Downs, 1957) but, for analysis, neither believes that such a probability is zero. The costs in voting, C, are assumed equal for the two individuals and are deliberately considered to be large in order to illustrate the argument. The proposition is that, for given costs of voting, the high income individual will be more likely to participate than the low income individual.

In Figure 1 if individual H votes the alternatives are either Y'_{H-C} or Y''_{H-C} and the expected outcome is Y_E^H. For illustrative purposes the expected outcome has been set so that it generates the same utility as that expected from not voting, i.e. U_H^E, so that this individual can be considered exactly on the margin with respect to voting.[2] The probability of a successful outcome has to be $\dfrac{Y_E^H - Y''_{H-C}}{Y'_{H-C} - Y''_{H-C}}$ to make this outcome so. Clearly had the probability of success been greater then we might have monitored the consumer surplus associated with the act of voting. However here the voter is paying the maximum he would be prepared to pay to secure a more favourable probability of a successful outcome.

The same analysis might be applied to individual L. At the margin he must perceive that the probability of a successful outcome contingent on voting is $\dfrac{Y_E^L - Y''_{L-C}}{Y'_{L-C} - Y''_{L-C}}$ to agree to participate. However given the utility function, it is clear that $\dfrac{Y_E^L - Y''_{L-C}}{Y'_{L-C} - Y''_{L-C}} > \dfrac{Y_E^H - Y''_{H-C}}{Y'_{H-C} - Y''_{H-C}}$ so that, ceteris paribus, when costs of voting are equal, a high income individual will be prepared to vote when the probability associated with his action is less than that associated with the action of the low income individual. Conversely, given an equal incremental change in the probability of a successful outcome, a

high income individual will be prepared to incur higher costs of voting than a lower income individual. Consequently the assertion that costs of voting are higher for high income individuals is not at odds with the evidence that high income individuals have a greater turnout.

Despite different costs of voting there are marginal utility functions which lead to the prediction that high income individuals are more likely to vote than low income individuals. When political participation is broadened to include lobbying and leadership then the productivity argument of Frey (1971) simply adds to the expected differential participation rates. The costs in this instance assume a different perspective but the prediction remains. Of course, sociological arguments of belief and ideology may similarly predict differential participation rates but here a clear economic argument relates to income.

3. Redistribution and the political process

While the opportunity cost argument for voter turnout is dependent on the nature of the utility of income function, there is reason to proceed with the analysis as outlined. For the act of voting per se the productivity argument loses some of its thrust. Moreover the observed correlation between income and voter turnout has become increasingly more obvious. Frey (1971) documents the relationship with reference to Lane (1966). More recently Cavanagh (1981) analyses voter turnout in the USA between 1964 and 1976. In 1976 turnout was: 46% for voters with a family income less than $5000; 53% for the $5000 to $9,999 cohort; 60% for $10,000 to $14,999; 70% for $15,000 to $24,999 and finally 77% for those with $25,000 and over. He notes that, while there had been a general net turnout decline across all income groups, this 'has been concentrated most heavily among lower-income voters' (Cavanagh, 1981: 59).

It is difficult to dismiss the previous analysis as being inconsistent with the evidence. As such it is interesting to pursue the attendant implications. These relate to at least two themes. The first is the uncertainty cost associated with increasing government activity. The second is the way in which such costs fall on different sections of the community.

The above analysis is set in the context of a one issue voting dimension where uncertainty is generated by the alternative options of government. It does not explicitly address the issue of multiple votes nor does it consider uncertainty associated with the non-government sector. Within these limitations the discussion nevertheless suggests that if government commands greater authority it will increase uncertainty by increasing the range of possible influence on each individual's income. In this scenario it can be alleged that the growth of government has attendant uncertainty costs. These costs

in utility are recognized in Figure 1 and of course increase as the range of alternative outcomes for income increases. It has been shown that individuals may incur costs to redress this uncertainty. In this way the response to the uncertainty within the political system is perceived in membership of pressure groups and lobbying. The resource costs inherent in this process reflect the uncertainty losses contingent on government growth as defined above. To the extent that this activity can be interpreted as a response to uncertainty and given that perfect insurance is rarely permitted by such activity, these resource costs are an underestimate of utility loss.

While hesitating to impute too much to the basic formal analysis described above, it would be deemed a mistake to totally ignore the possibility that increased governmental options may generate uncertainty. One aspect of this has been commented upon in the UK. The presentation by the Chancellor of the Exchequer of tax changes on 'budget day' is an occasion where only the Prime Minister is consulted. The Chancellor does not necessarily inform other Cabinet colleagues, while for the public 'the Chancellor's new tax proposals are a bolt from the blue' (Walters, 1984: 270). Speculation may lead consumers to undertake defensive purchases to minimise tax payments. Pressure group activity will be generated to mitigate tax costs for different groups. However Walters (1984) claims that the degree of uncertainty limits lobbying.

To recognise that uncertainty costs are created raises the issue of their incidence. In Figure 1 they are clearly greatest for those with low incomes (i.e. $(U_L^C - U_L^E) > (U_H^C - U_H^E)$). When pressure group membership and lobbying are responses to this uncertainty there may be implications for equity. For example, should tax expenditures be permitted for expenditures on political participation inasmuch as they are redressing uncertainty? If so should they be income related? Present policy in both the USA and the UK is to offer some degree of tax exemption but in rather an ad hoc fashion. In the USA, for example, a limited income tax credit for political contributions has been available and transfers to political parties are not subject to gifts tax (McDaniel and Surrey, forthcoming). In the UK transfers to political parties on death or within one year of death are exempt up to a specified limit (Tiley, 1984). The above analysis calls in question the appropriate use of such policy.

Given the nature of the marginal utility function implicit in the above analysis, a democratic political process appears to be regressive. Such an observation has been made before but in a different context. Mueller (1979) points to the way in which a majority coalition of voters may impose a tax burden on the poor. It is not clear that such a coalition must occur and clearly the reverse conclusion cannot be discounted. Here however, within the bounds of a plausible utility of income function, a quite different cost has

been highlighted and its incidence is regressive.

Finally, and on a quite separate note, the analysis should be set in the context of conclusions drawn from literature on the median voter theorem. A well-known feature of the size distribution of earnings is its characteristic shape of being leptokurtic normal in the log of earnings (except for the upper tail which approximates the Pareto distribution).[3] In terms of actual earnings the distribution is positively skewed (has a tail on the right) and hence the mean income will exceed the median one. It has long been argued that, given specific assumptions, the median voter will prove decisive (e.g. Downs, 1957). Therefore the extension of the franchise to include more voters below mean income will increase votes for redistribution. Redistribution via the public sector depends positively on the gap between median and mean income. As Meltzer and Richard (1981) observe, the seeds of such analysis lie with de Tocqueville (1835) who related government size to the distribution of property and of the franchise. But they also note that there appears nothing which 'limits the amount of redistribution or prevents the decisive voter from equalizing incomes' (p. 916). One limit suggested by Meltzer and Richard is that the median voter will choose to restrain tax redistribution because of the effect of tax on the incentive to work and on earned income. Here, of course, is another limit to the process. The median voter has an income less than the mean income and therefore would be expected to favour redistributive voters. Yet high income people, on an opportunity cost argument, are expected to pursue greater political participation and hence to offset the prediction of the simple median voter hypothesis. The broad result will be one of little redistribution via the ballot box. Whilst this general conclusion is widely recognized (e.g. Culyer, 1980), it is here explained in terms of the uncertainty limitations to the median voter prediction.

4. Concluding comments

It has been shown that the positive correlation between income and electoral turnout is consistent with an opportunity cost argument. The argument highlights the impact of uncertainty costs generated by a broadening of the powers of government. It has implications for equity inasmuch as such costs are borne differentially. It thereby calls into question public policy with respect to the tax treatment of political participation expenditures.

NOTES

1. The assumption is, of course, that earned income, rather than income from property, is the basis of comparison.

2. The expected income Y_E^H is less than Y_H but for the risk averse individual this is compensated for by the increase in the probability of a successful outcome.
3. A classic work on this, Lydall (1968).

REFERENCES

Cavanagh, T.E. (1981). Changes in American voter turnout, 1964–1976. *Political Science Quarterly* 96 (Spring): 53–65.

Culyer, A.J. (1980). *The political economy of social policy*. Oxford: Martin Robertson.

Downs, A. (1957). *An economic theory of democracy*. New York: Harper and Row.

Frey, B.S. (1971). Why do high income people participate more in politics? *Public Choice* 11 (Fall): 101–105.

Lane, R.E. (1966). Political involvement through voting. In B. Seasholes (Ed.), *Voting, interest groups and parties*, Glenview (Ill.).

Lydall H.F. (1968). *The structure of earnings*. Oxford: Clarendon Press.

McDaniel, P.R., and Surrey, S. *International aspects of tax expenditures: A comparative study*. Netherlands: Kluwer (forthcoming).

Meltzer, A.H., and Richard, S.F. (1981). A rational theory of the size of government, *Journal of Political Economy* 89 (5): 914–925.

Mueller, D.C. (1979). *Public choice*. Cambridge: Cambridge University Press.

Tiley, J. (1984). *Butterworths UK tax guide, 1984–85*, 3rd Edition. London: Butterworths.

de Tocqueville, A. (1835). *Democracy in America*, reprint Edition. Oxford: Oxford University Press.

Walters, A.A. (1984). The United Kingdom; Political economy and macroeconomies. Carnegie-Rochester Conference Series on Public Policy 21 (Autumn): 259–281.