

THE ECONOMICS OF SUBSIDIES: SOME TAXONOMIC AND ANALYTICAL PROBLEMS¹

by JACK WISEMAN

I. INTRODUCTION

When we look at the size and pattern of subsidy-type activity, in U.K. and, I suspect, in any other country that one might choose for study, it is impossible not to be struck by the inadequacy of economists' models to explain the observed facts.

This paper attempts to uncover some of the reasons for this inadequacy, and suggests, though very tentatively, some ways in which progress might be made.

II. PROBLEMS OF DEFINITION

It may seem odd to begin with definitional problems in attempting to elucidate our difficulties in dealing with observed phenomena. Definitions are a matter of convenience : it would seem that we should be able to adopt as broad or as narrow a definition as we find operationally useful. But in the case of subsidies life is not so simple. It is practically very difficult to isolate a set of economic activities to be called subsidies, which can be distinguished analytically from other activities which are excluded. For example, Professor Prest has pointed out that the failure to impose a tax on congestion has similar economic characteristics to positive policy measures of an «orthodox» subsidy kind. We ourselves have tried to escape this problem, following Prest, by defining subsidies as measures affecting relative prices in the commercial sector. But this still leaves us with a formidable range of measures, distinguishable by what seem to us to be policy-relevant economic characteristics. We have identified sixteen relevant distinctions, and the list is clearly not exhaustive².

Subsidies and Transfers

It is common to distinguish subsidies, which affect relative prices, and transfers, which give recipients additional purchasing power at existing

price ratios. But it is very difficult to imagine any transfer which does not affect some price ratio - notably, the choice between work and leisure. (Readers will observe the analogy between this problem and that of the «classic» arguments for marginal cost pricing for public utilities : if marginal cost pricing generates a deficit, there is no way to raise the necessary «subsidy» that does not alter some choice at the margin. The commonly - favoured poll tax affects the work : leisure relationship).

Cash or kind?

Transfers in kind might be regarded as synonymous with price - subsidies, while cash transfers can be regarded as equivalent to income - subsidies. But there is a good deal of confusion in the way the terms are in fact used. Often, the designation «in kind» appears to be reserved, implicitly or explicitly, to transfers/subsidies in the form of goods provided to recipients at zero price. Thus, a meal provided free to a school child would count as a transfer, but a meal sold at below the free market price would not. In terms of the kind of problems that interest economists, such a distinction is not very useful : our concern is with such questions as whether and how the rights to the benefit concerned are rationed, whether they can be traded : and so on. Whether the good concerned is given away free, or provided below market price, is surely a second order problem.

(It is an interesting implication of this argument that cash payments may be a characteristic of what are effectively transfers in kind. The payment of a rent allowance to poor tenants of rented housing provides an example. The money transaction is a reflection of a «tied» transfer of (real) housing consumption.)

Open - ended or limited?

A subsidy may attach to all units of a commodity or factor group purchased (e.g. a general food subsidy), or may be «rationed» in a wide variety of ways (e.g. limitation on the total subsidy one person/family may receive, limitation on the type of consumption which qualifies, etc.).

Marginal or Infra - Marginal?

Subsidies can be designed in ways that have a variety of combinations of marginal and infra - marginal effects. For example, policies have been used in the U.K. to encourage the renovation of owner - occupied houses. Effectively, these contributed to the cost of renovation up to a specified upper limit. Beyond this, the total cost fell on the householder. Thus, the incentive for a householder to spend more than would attract maximum grant was unaffected by the legislation, save for possible income effects from receipt of the grant.

Conditional or Unconditional?

Prest rightly criticises the distinction commonly made between conditional and unconditional subsidies on the grounds that «all transfers are conditional on something or other — even if only on being alive». But it is also true that some subsidies/transfers are more conditional than others, and in ways that are policy-relevant. In general, policy instruments tend to be more conditional, the more specific the objectives of the policy. Given the difficulties of identifying the objectives of subsidy policy (IV below), conditionality is thus a useful characteristic for study with a view to specifying policy objectives by inference.

Discretionary or Non - Discretionary?

Qualification for some subsidies rests on fulfilment of easily-identifiable conditions. Others rest upon the exercise of a wide range of discretion left with responsible officials. The distinction can be important, both in evaluating the impact of a given policy within a country, and in comparing the experience of different countries with what may seem superficially to be similar policies. (E.g. France is much more willing to pursue discretionary policies of industrial subsidisation, down to the level of the individual firm, than is the U.K., where otherwise not dissimilar subsidy policies are constrained in their application by a convention of «equal treatment».)

Imputed or Explicit?

Many subsidies involve an identifiable cash transfer. Other policies, not obviously different in their economic characteristics, do not. Ubiquitous forms of imputed subsidisation are the provision of loans at favourable interest rates and the provision of guarantees which transfer risks to the guarantor. Because subsidies of this kind are not paid out, they commonly escape classification with similar measures whose economic effects are clearly similar (e.g. subsidised house rents and tax relief on mortgage loans).

Broad - based or Narrow - based?

While any subsidy may be studied in terms of its micro-economic consequences, there are some (such as subsidies to wages, consumption, or investment) whose impact is so general that their broader effects on the economy cannot be ignored, however narrow the specific interests of the researcher.

Regional or Non - Regional?

Regional qualifications for subsidy are one type of the conditional transfer described above. They deserve separate mention both because of their very general importance, and because of the equally general overlap between regional

subsidy policies and industrial subsidy policies : the latter commonly being concentrated in regions of economic difficulty, so that policies of industrial subsidisation may differ more in designation than in objective from regional policies.

Social or Industrial?

This is an extraordinarily difficult distinction. In principle, one might postulate that «social» subsidies are concerned with equity — that is, with redistribution and/or with the implementation of interpersonal utility relationships — while «industrial» subsidies are concerned with economic efficiency — the correction of divergences from a Pareto - optimal outcome. But the distinction does not carry us very far : «social» subsidies clearly affect «industrial» problems — such as e.g. the work/leisure relationship discussed above. Equally, «industrial» subsidies affect «social» objectives — e.g. regional employment premiums affect relative wages. This particular distinction exemplifies the taxonomic problem facing those who would study «subsidies» : a broad interpretation would require us to include everything from accelerated depreciation to progression in the income tax. The restriction of subsidies to policies affecting prices in the commercial sector helps with this : but the consequent arbitrariness in the treatment of «social» and «industrial» subsidies is obvious.

Factors or Products?

A subsidy may reduce the price of an input (factor) or of an output (product). The same results for the product market and for consumers may be achieved by either : but the intermediate effects clearly may be different.

Received by Buyers or Sellers?

Subsidies may be received by sellers (e.g. food subsidies paid to producers) or by buyers (final consumers). The two types of subsidy may have similar objectives (if these could be identified), but there are clear possibilities that use of one method rather than the other may be significant for such matters as (e.g.) investment decisions.

Capital or Current?

The distinction of principle is between a once-for-all «current» payment and an obligation to a time-stream of future payments (e.g. a commitment to unfunded payments under a government pension scheme). Once again, the distinction has an arbitrary element, in that «current» subsidies frequently incorporate conditional future commitments, and «capital» subsidy policies usually contain escape clauses (e.g. the level and conditions of state pensions can be varied by new legislation).

The analytical significance of the distinction lies in the fact that capital sub-

sidies (e.g. the writing-off of the debt of a nationalised industry), have different implications for marginal decisions from current subsidies which have a direct impact e.g. on output prices.

Public or Private Supply?

How should we treat goods supplied (but rationed) by the public sector at zero price (e.g. health and education in U.K.)? Prest and others would treat these as «social goods», and exclude them by a definition of subsidies which concentrates on the «commercial» sector. But such policies do have resource-allocation and redistributive consequences, and they are alternative to other policies for delivery of education or health care which would be treated as subsidies. We face the danger that an «exclusive» definition would (e.g.) show heavy subsidisation of such goods in countries with a relatively decentralised system of provision, but no subsidies in the case of countries with free provision.

Public goods and Private goods?

Our definition of a subsidy as a policy which changes relative prices is conceptually clear for private goods (though less than adequate as a guide to research and analysis) : it runs into some difficulties in the case of public goods. Summarily, if we cannot identify what a consumer «ought» to pay for consumption of a public good, we equally cannot identify the extent to which the consumer is being subsidised. We might postulate that a subsidy exists if the total payments of consumers are less than the outlay needed to provide the public good at the level concerned : but this tells us nothing about the position of individual consumers.

The practical relevance of this long (but clearly not exhaustive) list of conceptual/definitional complexities is not that economists should stop studying subsidies, but rather that they should not expect the broad generalisations they derive from simple Pareto-type models to carry much practical weight. It will be clear from a perusal of the above list that a taxonomy of subsidies based on the characteristics of subsidies is likely to be more intellectually rewarding than a taxonomy related to objectives. But it is the latter that economists must pursue, if they are to hope to «explain» the size and character of subsidy provision.

We should not be too optimistic about the possibilities of developing a general theory of subsidies along orthodox analytical lines : there may not be one that goes beyond the standard partial equilibrium propositions with which we are all familiar.

III. PROBLEMS OF COMPLEXITY

Even if we reach agreement about what a subsidy is, there are severe difficulties in the way of discovering what subsidies do. These difficulties once again are the consequences of complexity : so many activities are subsidised in so many

ways that the identification and measurement of the allocative and distributive consequences of any one subsidy poses formidable problems.

My essential proposition is that, when subsidy policies are ubiquitous, complex and overlapping (in terms of e.g. the characteristics listed at II), then partial equilibrium approaches concerned to identify the «proximate» or apparent effects of specific subsidies are seldom to be trusted.

IV. PROBLEMS OF SPECIFICATION : CHOICE OF OBJECTIVES

Normally, economists' models are designed to throw light on the resource-allocation and (perhaps) the income-redistributive effects of subsidies : we are concerned with achievement of some kind of Pareto optimum. But common observation suggests that it is rare indeed for subsidy policies to have no other objective or objectives. A standard defence against this kind of criticism is that the other «apparent» objectives are proximate ones and are ultimately concerned with allocative efficiency and/or distributive justice. Scrutiny of the kinds of subsidy measures commonly adopted by governments does not lend credibility to this kind of defence.

An illustration may reinforce the point. It is possible to evaluate the results of a regional employment subsidy by relating the geographical incidence of the subsidy and changes in local employment levels (though there are formidable technical problems in separating the effects of this policy from the effects of other policy and environmental changes). But it is much more difficult to say whether the policy is «efficient» in some broader Pareto-optimal sense : this would require evaluation e.g. of the effects on employment elsewhere, productivity effects : and so on. Furthermore, it is not legitimate for the economist to dismiss the possibility that the direct effects on employment are not a proxy for other objectives, but are themselves an objective. A politically-sensitive government may see the improvement in regional employment as an end in itself, irrespective of broader considerations of economic efficiency : it is not for the economist to say that this is «wrong».

V. THE WAY FORWARD

There is no easy solution to the kind of problems identified above. No doubt, progress might be made at the formal analytical level by the appropriate development of the theory of optimal tax systems, but it is difficult to envisage an analysis of this degree of abstraction contributing to the solution of practical subsidy problems within geological time.

The following propositions are a personal view of the way ahead :

1. We should accept the need to broaden our specification of the policy problem. There is now a considerable literature concerned with the economics

of politics, from Downs to Breton. This provides insights into the maximising activities of political institutions and bureaucracies which are clearly as practically relevant as the insights provided by orthodox economics. Specifically, we must accept that subsidies may be traded for votes rather than paid to promote economic efficiency, and that the relevant decision-makers (individual politicians, governments, bureaucracies) may have no incentive to reveal their «true» objective function.

2. The proposition at (1) makes an already complex research problem even more intractable. There is no way at present that economists can hope to produce satisfactory general «explanations» of actual subsidy programmes. The most fruitful immediate possibilities would seem to lie in the study of change: an examination of changes in specified «characteristics» of subsidies through time, and an attempt to find the best possible «explanation» of those changes, without ruling out any possible «political» or «economic» explanation a priori.
3. There are formidable difficulties in developing even relatively limited exercises of this kind, by the formulation of testable propositions that can be distinguished by the evidence (e.g. between «economic efficiency» and «political» explanations of regional subsidy policies).

We ourselves have been experimenting with the relation through time between the geographical distribution of subsidies and the political distribution of Parliamentary seats in the U.K., and between railway line subsidies and political characteristics. We are far from confident that we can obtain the data to offer even plausible speculations: the problems of obtaining relevant and quantifiable «political» variables are considerable. But the attempts of this kind must be made, if economists are to make a real contribution to the understanding of subsidy policy.

Notes

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I am indebted to my collaborator, Professor Alan T. Peacock, and our Research Fellow, Martin Ricketts.
2. For an amplification of the arguments with special reference to U.K. conditions, readers are referred to: *The Economics of Industrial Subsidies* (ed. Alan Whiting), Department of Trade and Industry, HMSO, 1976; *How Much Subsidy?* A.R. Prest, Institute of Economic Affairs Research Monograph No. 32, London, 1974; *Sixth Report of the Expenditure Committee 1971-72, Public Money in the Private Sector*, HMSO, London, 1972.