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The effect of connection charges on the number of connections and on the prices and rents of houses

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THE EFFECT OF CONNECTION CHARGES ON THE NUMBER OF CONNECTIONS AND ON THE PRICES AND RENTS OF HOUSES

1. (a) Some theory is needed of the prices of private houses and the rents of council houses. For private houses, it is assumed that the system of land planning restricts the land available for housing below the amount which would be used in a free market, so that such land commands a substantial economic rent or 'landowner's surplus'. The price of a house (say, a freehold) is determined by capitalising the services or rents which it will yield, net of expenses. Connections to electricity and gas contribute to such services or rents and so affect the value of a house.

(b) For council houses, it is assumed that rents are below rack rents, so that tenants enjoy economic surpluses. House rents are determined according to some formula which has regard to costs (in the accounting sense) actually incurred by the local authority; disbursements therefore tend eventually to be passed on to tenants in the form of increased rents, although they may be borne temporarily or partially on the rates, which in turn may attract subsidies from central government; the system varies from time to time. In any case, those who pay for a particular item of cost are not necessarily those who benefit. Finally, since local authorities have powers of compulsory purchase and largely control land use, it is assumed that they pay less for their housing land than its full development value in the hands of a private developer. (I am not really sure whether these assumptions are justified by the facts).

2. A theory is also needed of the conditions in which a service is connected to an estate. For simplicity it is assumed that the supplier is always willing to provide a connection if his charges are met - either because they are fixed at an adequate level, or because he has an obligation to supply - so that the only question is whether the developer wants a connection.

(a) A private developer will presumably ask for a connection if the addition to his costs is less than the addition to the value of his houses, (both sums being expressed in terms of present value after discounting at the developer's cost of capital). The addition to the value of the houses is determined by capitalising the flow of benefits (at the subsequent owner's cost of capital). In calculating the addition to costs due to a connection to (say) gas, the developer must count both the charge for connection to that service and any saving on connection charges for other services. Thus the largest amount which the developer will pay for a connection to gas will be greater if the electricity industry charges less for a connection to light and power only than for a connection which includes cooking and heating.

(b) At a first approximation, the decisions of local authorities concerning connections may be regarded as reflecting the preferences of their tenants, so that a calculation of costs and benefits of the usual type applies. But this approach is subject to reservations, because of budgetary limitations and political resistance to increased rents even where better services are promised. Connections which tenants would be willing to finance through annual payments may therefore be rejected if connection charges are levied which must be reflected in rents. Such 'political' resistance is presumably greatest when the

This analysis must naturally be modified if the assumptions are altered; for example, if the planning system in a certain area allows marginal building land to exist, an increase in connection charges would discourage building, and then prices of houses would rise if enough people preferred to live in that area.

(b) In the case of council housing, an increase in connection charges which is reflected in higher rents again acts an a tax on economic surpluses. This time the surpluses are those enjoyed by council tenants who pay less than rack rents, but the tax does not fall only on those who occupy new houses. In any case the increased rents may be reflected in wage claims and so add to general inflation. The analysis is therefore substantially different from the case of private housing. Where connection charges are not passed on in higher rents, the effect is a transfer from the ratepayer to the industry providing the service.

Where a service is not indispensable, an increase in connection charges may obviously lead to a loss of local authority customers. Unlike the case of private development, such losses may occur even if there is a substantial consumer's surplus from the service, unless the local authority which pays the charges can ensure that they are recovered only from the rents of the newly connected houses.

4. The effect of an increase in one connection charge without any other change is not in practice the most interesting problem. Leaving aside the possibility of retaliation, it is necessary to take into account the financial targets which nationalised industries must meet.

A natural problem to consider in this context is the effect of an increased connection charge accompanied by reduced annual standing charges such as to leave the supplying industry's surplus unchanged. (The analysis with a reduced commodity charge would be similar, but more complicated because of marginal effects on purchases).

(a) We begin as usual with private housing, and initially make the unrealistic assumption that the reduction in annual charges applies only to the new houses which pay the increased connection charge. In this case, standard arguments show that the economic effects of the tariff for a given stream of consumption depend only on the net present value of all charges, if it is assumed (among other things) that the markets for property and loans are perfect and that the cost of capital to nationalised industries is the same as that in the private market. If these assumptions are relaxed, the proportion of charges levied on connections may make a difference. For example, if a nationalised industry enjoys a low cost of capital, or anticipates a fall in fuel costs which it cannot currently reflect in tariffs, it may be able to improve the welfare of its customers and to increase the number of connections by eliminating the connection charge, without changing the net present value of all charges per house (discounted at the industry's cost of capital). The detailed analysis of this question would be quite complicated, particularly as a constant net present value of charges is not the same thing as a constant surplus for the supplying industry. This topic will not be pursued, but the points made remain relevant under the headings which follow.

It is necessary now to take into account the constraint, which is usually imposed in practice, that the same tariffs apply to both old and new houses. In place of the previous problem, we therefore consider the effect of an increase in the connection charge for a given service to new dwellings, combined with a reduction in annual charges to all domestic customers calculated to leave the supplier's surplus unchanged. Suppose initially that the number of connections was unaffected by this change, and also for simplicity that the proportional rate of growth of connections is the same for private and local authority sectors; (the latter assumption avoids the question of cross-subsidy between the sectors, and is easily removed). With these assumptions, one could suppose at a first approximation that the present value of net benefits to occupiers from the stock of all private houses at each time was unaffected by the change in the system of charging, so that the capital value of this stock would be unaffected also. Within the fixed total, the effect of a change would be as before a lump sum tax on the development value of land for new houses, combined now with a lump sum subsidy to the value of each existing house - the latter obviously being much smaller for each unit.

For a service which is not indispensable, the assumption of an unchanged number of new connections is not in fact justified. For each new house, the increase in connection charges would far outweigh (in terms of capitalised values) the prospective reduction in annual charges - since the latter apply to all dwellings, old and new. Developers would therefore obtain smaller profits from paying for connections, and in marginal

cases would dispense with them. Indeed, if the number of new connections is very small in relation to the existing number over the period considered, the effect on new connections will be much the same as the effect of the simple increase in connection charges (without reductions in annual charges) considered under 3. above.

The effects on welfare of the changes in tariffs and connections just described will not be considered in detail here. In general it depends (among other things) on the entire tariff of the service in question and on the tariffs of its competitors. Very briefly, if everything else is optimal a connection charge equal in each case to the cost of connecting a private development should lead to a correct allocation of resources.

(b) The corresponding analysis for connection charges to local authority housing projects is implicit in what has already been said. If the connection charges were recovered entirely from the tenants of the houses for which the charges were incurred, and if the reductions in annual payments applied to these tenants only, the change would at a first approximation be a matter of indifference. (This statement is subject to various qualifications, as in the case of private housing). In fact, the connection charges will largely be borne by council tenants as a whole and perhaps by ratepayers and taxpayers generally, while the reduced annual charges will be spread over all consumers - old and new, private and local authroity. An authority deciding whether to accept a connection at the new level of charges therefore faces practically

the same situation as that discussed under 3 above, and may well refuse a connection even if there is a substantial net benefit to its tenants. This incidentally means that connection charges equal to the costs of connection may lead in the case of local authority developments to a misallocation of resources.

5. The preceding paragraphs are intended to provide an analytical framework for the discussion of connection charges, without particular reference to problems currently requiring decisions or to the Report of the Monopolies Commission. Of course, if the preceding discussion is anywhere near to the mark, it follows that the Commission - particularly the majority - have missed some important points.

It will now be useful to consider briefly the factors determining whether the number of future gas connections will be greater under the system recommended by the majority report than under that advocated by the minority. I take it as obvious that the majority system would represent an improvement over the system of rebates whereby the charge for a comprehensive electrical connection is less than that for a minimal one.

The great advantage to the gas industry of the minority system of full cost connection charges would be that a developer deciding to install gas could make corresponding savings on the connection charge for electricity. Under the majority system of a uniform charge for a standard electrical connection, the definition of the standard would no doubt be pitched on the high side, and each developer would have available without avoidable charge a connection which is a substitute for a connection to gas. In other words, the minority system would allow a developer to weigh the total benefits from gas against the total

costs less the savings on connection charges for electricity, whereas the majority system would exclude the last item.

But several other points have to be considered. Because of the cross-subsidy effects discussed earlier, high connection charges tend to discourage connection even when other parts of the tariff are correspondingly lowered, and this tendency is particularly severe in the case of local authority developments. Since a change from the majority to the minority system would involve far larger proportional increases in connection charges for gas than for electricity, the effect might well be to reduce the number of new connections to gas ~~and reduce the number of new connections to gas~~ and increase the use of electricity for heating and cooking. Other reasons (connected with costs of capital and information about future tariffs) have also been given above for supposing that high connection charges may eliminate worthwhile connections. These factors also might tell more heavily against the gas industry in a move from the majority to the minority system.[1]

[1] Incidentally, the points made in this paragraph may be regarded as a partial restatement, in theoretical terms, of the argument that "developers would be reluctant to pay two large connection charges and so would tend to eliminate gas".

To sum up: It is not obvious a priori that the minority system would necessarily be detrimental to the gas industry. This system might even increase the number of connections in the private sector, while perhaps reducing them in the local authority sector; and it is possible that some of the lost connections would in any case be unprofitable. The balance of these considerations is of course a quantitative matter, which I am unable to assess.

6. As a final ~~assessment~~ comment, I suggest that the possibility of electricity and gas tariffs with high standing charges for newly connected premises in the early years should receive more serious consideration as an alternative to connection charges. Such tariffs offer a way out of the difficulty of rational pricing in the case of local authority tenants, and more generally increase the scope for individual consumers to express their preferences directly. Problems due to the unwillingness of developers to invest high-cost capital in connection charges would also be avoided. Of course, the supplying industries and developers would still have to take risks in deciding to install connections. The risks to developers would be less than at present, because they would have no capital investment in connection charges. The risks to the supplying industries would be greater in ~~such~~ each particular case, at least where connection charges are now made, since costs would have to be incurred without any immediate revenue. But presumably these risks would cancel out over a large number of cases.

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