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To be filed pt.

Warrington Health Authority
2 - OCT 1989

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28 September 1989

Regional Health Authority Chairman
Regional General Managers
District Health Authority Chairman
District General Managers

EL(89)MB/171

Dear Chairmen and General Managers,

IMPLEMENTING THE WHITE PAPER: DISCUSSION DOCUMENT ON PRICING AND OPENNESS IN CONTRACTS FOR HEALTH SERVICES

Earlier guidance on contracting has referred to the importance of avoiding the abuse of monopoly positions by either purchasers or providers. The guidance on "Operational Principles" for contracts that is being issued at the same time as this letter indicates some of the mechanisms that will be used to achieve this end. The attached paper complements this guidance by setting out the Department's preliminary thinking on what minimum regulation of pricing and costing information will be required if provider competition is to meet its objectives.

The paper discusses three main options:

A: Local price negotiation with no central guidance or regulation (apart from arbitration and audit);

B: Local price negotiation with some mixture of guidance and openness;

C: Imposition of a central price schedule.

In the Department's view the weight of the argument points strongly towards option B. However within this broad approach there are at least three distinct sub-options (see paragraph 18 of the paper). The arguments between these are more finely balanced. The Department would welcome your thoughts on the relative advantages and disadvantages of each approach.

DGMs are asked to channel views through RGMs. RGMs are asked to inform the Department of their Region's collective view by the end of November. The issue will then be discussed at the RGMs' regular meeting with the Chief Executive.

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28 September 1989

Comments should be sent to my colleague Andrew Burchell (at Friars House, 157-168 Blackfriars Road, London SW1 8EU; telephone 01 972 3066) who will also be happy to deal with any questions.

Yours sincerely

C H Smee
Chief Economic Adviser

Regional General Managers
District Health Authority Chairman
District General Managers

IMPLEMENTING THE WHITE PAPER: DISCUSSION DOCUMENT ON PRICING AND OPENNESS IN CONTRACTS FOR HEALTH SERVICES

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CONTRACTS FOR HEALTH SERVICES: PRICING AND "OPENNESS" - A DISCUSSION DOCUMENT

Introduction

1. This paper contains a discussion on the pricing and the 'openness' of pricing of contracts for health services. It addresses particularly the issue of what is the minimum amount of regulation of pricing and costing information that will be required if provider competition is to meet its objectives.

Objectives

2. Following the Review of the NHS, the Government has decided that a provider market will be set up in the NHS. The purpose of this reform is to improve the efficiency of the NHS. It is suggested that the pricing system to be adopted in this market should be appraised in terms of the following criteria:

a. efficiency; - ie contribution to the efficient allocation of resources;

b. public accountability;

c. fair competition among providers; ie level "playing fields" both within the public sector and between public and private providers;

d. incentives to innovate (dynamic efficiency)

e. administrative costs - including costs of regulation, negotiation and uncertainty.

3. Working Paper 2 has described three types of contract:

- block contracts
- cost and volume contracts

cost per case contracts.

It has stated that sophisticated costing systems will not be necessary before contracts can operate. It implies that prices will be based on costs and 'comparative national data'. Although some hospitals will not have the data for costing individual procedures at the outset, a timetable will be set for all hospitals to produce individual cost data. Paragraph 2.16 of Working Paper 2 states that, "Hospitals will have scope to charge at marginal cost in order to utilise any spare capacity. It would not, however, be acceptable for hospitals to cross-subsidise in order to enable keener pricing of those services subject to competition. The NHS Management Executive, therefore, consulting with Health Treasurers, will develop a common approach to the principles of cost allocation within hospital services. The principles inherent in this common approach should be explicitly applied in the negotiations on contracts and will be subject to the external statutory audit of hospitals".

Delegation, Competition and the Invisible Hand

4. The objective of increasing the efficiency of the NHS will only be realised if competition delivers more in the value of savings and/or quality improvements than it adds to transaction costs. Can we expect the market to deliver this result? Modern economic theory suggests that the ideal market will be characterised by perfect information (everyone has access to the same market knowledge) and perfect 'contestability'. So long as potential competitors can enter the market costlessly providers cannot risk allowing their prices to rise above minimum opportunity cost for given quality. Even if there is only one provider (a monopolist) or a few (oligopolists who might collude) potential competition will ensure that buyers (at least those with long run contracts) are charged the lowest possible price for given quality. This price will tend to equate to Long Run Marginal Cost (LRMC). This, in turn, will equate to Long Run Average Cost (LRAC) unless there are significant economies of scale - but there is little or no evidence that there are overall economies of scale beyond about 600 beds in DGHs. Any physical economies beyond this size are probably offset by management diseconomies. Thus, putting aside technical change (see paragraph 10 below) an ideal hospital market will tend to enforce prices based on LRAC. Treasury

Guidance on Fees and Charges advocates pricing based on LRMC or 'full cost pricing' in most circumstances for services sold in the public sector (see Appendix). Such pricing ensures that providers cover their expected costs (including depreciation and a return on capital), but no more, provided they sell their expected volume in the accounting period.

5. Perfect contestability will also rule out cross subsidisation by suppliers who provide a range of services or a given service to a range of buyers. Cross subsidisation can only arise when monopoly power enables a provider to exploit differential resistance to price rises among buyers.

6. All this presupposes that capacity is in long run equilibrium and might be deemed as setting ideal standards for the negotiation of long term contracts. We may anticipate that DHAs will want to make long term plans for securing services and hence will want to enter into mainly long term contracts. But, in reality, any market will be subject to expected and unexpected fluctuations in demand and other shocks to the system. This will mean that providers may find themselves with temporary over-capacity or under-capacity. In general, it is possible, and it may be desirable, to have a 'spot' market as well as a long term market. It may also be desirable to cater for peak and off-peak demand by differential pricing. Deals may be struck in the spot market at short run marginal cost which may be either above or below LRMC and LRAC (again, Treasury guidance covers these and other special cases - see Appendix). The essential point is that such deals will be temporary and they may well tend to be small. They do not involve cross subsidisation (but there may well be a need for hierarchy of contracts to govern access to spare capacity). On average, spot market deals are likely to cost more than long term contracts because the supplier takes more of a risk over the utilisation of capacity.

Potential market failure in the NHS

7. Unfortunately, the conditions for an efficient market for long and short term contracts will often be lacking in the NHS.

i. Although there is probably a high degree of competition for services such as elective surgery, where many patients are prepared to travel, and for other services in densely populated urban areas, there will be considerable monopoly or oligopoly power in some services outside conurbations and for regional and supra regional services. Even if buyers are encouraged to maximise contestability by open invitations to tender, both actual and potential competition may be rather limited in such circumstances. For example, constraints on public expenditure and public capital will act as a sort of entry barrier for public competitors. In the private sector, potential entrants may be deterred by the size of the required investments for supplying certain services combined with the perceived political risks. If monopoly power exists it may be abused. Monopolists will have an incentive to restrict supply, to drive up price and either to inflate profits or costs. Buyers will be offered lower quantities at higher prices than would otherwise be the case.

ii. Correspondingly, there will often be monopsony power on the buying side. This may bring its own abuses. On the other hand, where a monopsonist faces a monopolist ('bilateral monopoly') it may be able to strike a bargain close to the competitive ideal, if the negotiating power of the buyer and the seller are reasonably matched or there is 'countervailing power'.

iii. Information about quality and price is generally poor. One of the main problems is that product specification is crude. Work has begun only recently on specifying in-patient care in reasonably homogeneous service categories (diagnosis related groups) and on pricing such services. Little or no such work has been done on out-patients. Little or no work has been done on quality comparisons. Hence buyers are in a weak position to make meaningful price and quality comparisons and to shop around.

ii. There might be a rule that all contracts should be as specific as possible as to volume, service mix, price and quality and should be published once they are signed. In the case of block contracts, it should be feasible using existing information to specify the contract in terms of so many in-patients (differentiated, at least, by specialty), so many out-patients, A and E patients etc, as appropriate, and to specify prices accordingly. Eventually, it may be possible for some or all providers to quote prices for DRGs. It would then be possible to begin to compare prices and, where available, quality, widely across the NHS. External comparisons might be left to individual buyers to arrange or purchase. Alternatively, a central body could be given the task of collating and analysing contracts. Collation and analysis would be desirable to give comparisons a wide base and to adjust for variations between contracts in: service specifications; service mix; geographical input prices; and, where available, quality standards. Either way, buyers and sellers of services lacking contestablity would be able to refer to external comparisons of prices, and where possible the quality of services for specific service categories or adjusted service mix. This is sometimes referred to as 'yardstick' competition.

iii. We might retain the Hospital Financial Returns - suitably extended if and when DRGs were adopted. This would enable their continued use to estimate retrospective unit cost PIs. This would help buyers to identify excess costs arising from abuse of monopoly power, after a lag, and would help providers to identify the existence of differences in cost.

8. The provision for block contracts has been made in recognition of these information weaknesses. Block contracts will be attractive because they help buyers to control expenditure. But if they are expressed in terms of access to facilities in exchange for a lump sum, price comparisons will be impossible, except, perhaps, in terms of per capita rates. Working Paper 2 and recent guidance on Self Governing Hospitals envisages growing specificity in block contracts, including specification of the nature and amount of services provided and hence of price per unit. However, it should be recognised that monopoly providers will have an incentive to resist this and to practice product differentiation so as to inhibit price comparisons.

9. All of this suggests that we will not always be able to rely on actual competition, potential competition or bilateral monopoly to ensure that the NHS internal and external markets work effectively. This suggests that a certain amount of regulation will be required. But given the aim of delegation in the White Paper, we will wish to make sure that any regulation is minimised. Fortunately there seem to be a number of relatively simple ways of tackling this problem.

i. It has already been agreed that guidance should be issued on costing and a Working Party has been set up. We might expect the NHS to follow Treasury guidance on full cost pricing for trading between public bodies (see Appendix). This guidance, in effect, excludes the reaping of monopoly profits. It also recommends against cross subsidisation and is therefore fully consistent with the application of (and audit of) uniform accounting conventions for apportioning and allocating costs between different products - as envisaged in Working Paper 2. The NHS already possesses the basis for uniform accounting conventions in the 'Manual of Accounts' for the Hospital Financial Returns. Such principles could also form the basis for arbitration when disputes occurred.

Such requirements might be seen to some extent as complementary and to some extent as alternatives. This is explored further in the options set out below. In general, the aim would be: to help local negotiators to spot potential abuse of monopoly and monopsony power; to provide bench marks for efficient pricing; and to highlight the possible existence of differences in efficiency. Glasnost would support Perestroika.

10. One issue not yet considered is innovation. Much of the improvement in health services over time and, indeed, much economic growth, comes from technical and organizational change. One drawback of a perfectly contestable market and perfect information is that it may leave providers with an inadequate incentive to undertake risky organizational changes or costly research and investment leading to innovation. In a private market this can sometimes be tackled by granting patents which confer temporary monopolies. In the public sector, the standard approach is to fund research and its service consequences centrally. However, we need to consider whether fear of losing market share and the central funding of research and its service consequences will provide sufficient incentive to innovate. It is possible that some concessions on monopoly pricing (perhaps allowing for R and D where innovation can be demonstrated) may be desirable.

Options for the minimal regulation of provider markets

11. Arising from this, there seem to be 3 major options and numerous sub options for the minimal regulation of pricing in the NHS internal/external market. The major options are:

A. Local price negotiation with no regulation (apart from arbitration and audit);

B. local price negotiation with varying mixes of:

i. Treasury and DH guidance on 'full cost' pricing

ii. openness in pricing

iii. openness in costing

C. imposition of a central price schedule.

Further sub options would mix these major options between self-governing and directly managed hospitals or between core and non-core services. Such sub options are not explored further in this paper mainly because of their number and complexity. However, this is not an area where discrimination between SGHs and DMHs would seem to be appropriate and there are arguments against dual reporting and accounting arrangements between different services.

A. No regulation

12. This option would involve leaving pricing matters to take care of themselves in the NHS provider market (apart from arbitration and audit). It would be closest to private sector practice. There would be a demand, of course, for information on comparative prices but it is unlikely that this would be complete (buyers and sellers might collude and do secret deals) and it is unlikely that any one actor (even the Audit Commission?) would have an adequate incentive to collect and analyse all the available pricing data on an NHS-wide basis. We would rely mainly on local competition, local potential competition and local bilateral monopoly to prevent abuse of monopoly or monopsony power.

13. The advantages of such an approach would be:

i. its concordance with the aim of delegation (particularly for SGHs);

ii. some saving of regulation costs; and

iii. the establishment of a 'level playing field' with the private sector.

The disadvantages would be:

i. the risk of abuse of either monopoly or monopsony power where actual competition, potential competition or countervailing power are inadequate;

ii. the likely lack of a reasonably uniform information base for analysing and disseminating price and quality information with a consequent loss of opportunities for local negotiators to shop around and monitor the market. Service choices could be poorly informed. There would also be a loss of public accountability.

B. Local price negotiation with openness and guidance

14. It is convenient to consider the merits of each of the three measures listed under 11 B, above, separately before considering whether they might be adopted separately or together.

i. Guidance on pricing

15. A Working Party on Costing has been set up but its conclusions are not available at the time of writing. Treasury guidance on 'Fees and Charges', appended, advocates full cost pricing (with short run marginal cost pricing in certain circumstances) and avoidance of cross subidisation. It is thus not inconsistent with the extract from Working Paper 2 quoted in paragraph 3, above. Although full cost pricing itself is not mentioned in Working Paper 2 subsequent guidance on SGH's suggests that they will be expected to make no more or less than a real rate of return of 6% on their work for the NHS, taking one year with another. This will place them on all fours with directly managed hospitals and seems to imply full cost pricing by all NHS providers on NHS business in the long run. An ideal (truly contestable) market would, in most respects, have the same effect on the pricing decisions of providers as would the adoption of this and Treasury guidance. In other words, abnormal profits (over and above normal rates of return on capital) would be ruled out and cross subsidisation would not be possible. Thus, the advantage of promulgating Treasury guidance, suitably adapted, for the NHS provider market would be:

i. it would steer pricing decisions in the 'ideal' direction;

ii. it would help deter the taking of monopoly profits;

iii. it would provide a useful body of guidance for auditors and arbitrators;

iv. it would indicate the circumstances in which short run marginal cost pricing is appropriate;

v. it would explain and amplify the remarks of Working Paper 2, quoted in paragraph 3, above.

The only disadvantage would be:

i. there would be some curtailment of the freedom of providers (but only in the direction of discouraging predatory pricing, unfair competition etc.).

ii. Openness in pricing

16. If all contracts were as specific as possible and were published, it would be possible to develop NHS-wide pricing (and perhaps quality) PI's and for negotiators to refer to these 'yardsticks'. The advantages would be:

i. an improved prospect of detecting abuse of monopoly and monopsony power; and

ii. better choices based on value for money comparisons across the NHS.

The only disadvantage would be:

i. certain regulatory and administrative costs and a small diminution of delegation.

iii. Openness in Costing

17. We already have retrospective openness in costing for all NHS hospitals. What is envisaged under this option is that the Hospital Financial Returns should be continued, suitably enhanced to report DRG costs if and when these become available. PIs based on hospital costs should also continue. The advantages would be:

i. that it would assist buyers to identify inflated costs arising from abuse of monopoly power;

ii. that it would help providers to identify the possible existence of inefficiency;

iii. that it would at least maintain the existing level of public accountability.

The disadvantages would be:

i. differential treatment of public and private providers competing for the same contracts (but it could be argued that this would be in the taxpayers' interest);

ii. no savings in the cost of submitting returns to DH.

18. To what extent would these three measures (B i.-iii.) be complements and to what extent substitutes? They would all be mutually re-inforcing but there might be some redundancy, especially since they would be additional to audit and arbitration arrangements. Given that the adoption of guidance on pricing seems to be going ahead there would be 3 main sub options involving one or more of these measures.

a. Rely on guidance on pricing alone. This would have the effect of curbing the pursuit of monopoly profits and cross subsidisation but it would not in itself assist comparisons of prices and quality and would leave monopolists relatively free to protect or develop high costs and inefficiency, and hence high prices.

b. rely on guidance on pricing and openness in pricing. This would help to deter both monopoly profits and monopoly inefficiency in the longer run (as the market took effect) but it might leave monopolists with high costs in the short run because abolition of the hospital costing returns would hinder direct comparisons of costs.

c. Adopt guidance on pricing and openness in pricing and retrospective openness in costing. This would additionally hasten the application of direct, downward pressure on costs and aid learning about reasons for price differences and inefficiency. It would provide the strongest set of signals for buyers, sellers and auditors to negotiate convergence on ideal prices in the early days of the NHS provider market when there was little comparable price data. It would, however, perpetuate a certain inequality with the private sector.

C. Imposition of a Central Price Schedule

19. The imposition of a central price schedule might be regarded as an extreme form of yardstick pricing. It would almost certainly have to start with national average specialty prices but it might well be possible to move to DRG prices eventually, using American, or adapted American, relativities. National (or Regional) price schedules have been adopted in the US Medicare program and in experiments with provider markets in the USSR. The advantages of such an approach would be as follows:

Conclusion

20. It is not easy to make a recommendation between these options. The subject combines technical complexity with political sensitivity. Nevertheless, there seem to be substantial objections to options A (no regulation) and C (a central price schedule). Option A would leave many buyers ill informed about price comparisons and vulnerable to monopoly pricing. Option C, by contrast, seems inappropriately interventionist, rigid and centralised.

21. The preferred option is likely to be one of the versions of Option B in paragraph 18. Ba. (guidance on pricing) is going ahead already, although the precise guidance has yet to be decided. Bb. (which would add openness in pricing to guidance on pricing) has considerable appeal because it would help the process of competition, help to arm buyers against monopoly power devoted to devloping or protecting inefficiency, and help to promote public accountability.

22. The addition of retrospective openness in costing (Bc.) to such a set of measures may have less appeal as a longer term measure. Whereas it would help to promote the identification of inefficiency, it would do so partly by tipping contract negotiations in favour of the buyers. Also, it would perpetuate differential treatment of public and private providers. However, in the short term while comparable contracts and prices are few and far between, it could be the only sure way of providing both buyers and providers with yardsticks against which to judge the competitiveness of prices.

23. If Bc. were rejected, it would imply abolishing the Hospital Financial Returns. These have been used in the NHS and the DH for a number of purposes including: estimation of PI's; analysis of the determinants of hospital costs to inform policy (eg on size of hospital); and the calculation of SIFT. It would be necessary to mount a specific study of the advantages and disadvantages of abolishing the Hospital Financial Returns before taking any decisions, here.

i. national DRG pricing could probably be achieved more quickly than local DRG pricing.

ii. there would be savings in negotiation costs;

iii. the scope for abusing monopoly or monopsony power would be considerably curtailed from the outset.

iv. negotiators would be free to turn their attention to quality differences in negotiations (meeting some criticisms of the White Paper).

The disadvantages of such an approach would be as follows:

i. resources would not be allocated efficiently, ie according to relative opportunity costs.

ii. many hospitals would be faced with deficits or surpluses. This would lead to violent changes in expenditure if current financial control regulations were not relaxed. In particular, a central price schedule would often clash with the financial regime set for self governing hospitals.

iii. those hospitals anticipating surpluses would lack adequate incentives to seek further efficiency and they might be tempted to reduce efficiency.

iv. cross subsidisation would be encouraged for some providers because they would not be full cost pricing.

v. such a solution would clash markedly with the principle of delegation.

On the whole, the disadvantages of adopting a central price schedule would seem to outweigh the advantages.

APPENDIX

FROM: FEES AND CHARGES; HM TREASURY, DECEMBER 1983

SECTION 2: SETTING CHARGES - THE BASIC PRINCIPLES

General

2.1 This section describes the basic principles for deciding what the level of a charge should be. It is intended mainly for officers deciding what basis to use for setting a new charge, or reviewing an existing charge. It is not essential reading for those requiring guidance only on the application of an established charging policy: the accounting and procedural guidance needed for this purpose is in Sections 3 and 4 and the relevant annexes.

2.2 The principles as presented here do not preclude departmental finance divisions from laying down operationally simpler, tighter guidelines geared to departmental circumstances, provided that they are not substantially inconsistent with this guide.

The objectives of charging

2.3 The main role of charges for the services covered by this guide is to allocate resources efficiently. This is the main role of prices in the economy generally. Charges are part of the "price mechanism" which helps to find the best balance between what consumers want and what it is possible to produce from the resources which are available.

2.4 Charges may also be used to meet objectives of fairness between particular groups of people in the same way as taxes or subsidies, or more generally to reduce public expenditure and hence the need for taxation.

The price required for efficient resource allocation

2.5 To allocate resources efficiently prices should give the correct "market signals". Providing a customer with services uses resources (eg staff, materials and equipment) which have value. The potential customer should not be presented with a price less than the value of these resources; otherwise he may tie up the resources even though the benefit to him is less than their value. Nor should he be presented with a price higher than the value of the

resources, if this dissuades him from using them; in this case he would forego a benefit which would have been greater than the value of the resources used. In either case the nation as a whole would be worse off than it need be.

The normal case: charging at "full cost"

2.6 The value of the resources used is the economic concept of "opportunity cost", which is explained briefly in Annex A. Charges should therefore normally be set to recover this cost. Opportunity cost is sometimes difficult to interpret in practice. However, in most cases, accounting measures of cost can provide an adequate approximation to the conceptual ideal. It is with accounting measures approximating to opportunity cost that this guide is mainly concerned.

2.7 For a service provided on a continuing basis the opportunity cost is usually close to the economic concept of long run marginal cost (lrmc). Lrmc is defined in Annex A. It is the value of the resources released by, say, a small permanent reduction in output. This value may arise from, for example, the disposal of these resources, or from their use in providing a better service to other customers.

2.8 In practice lrmc is in most cases approximately equal to full cost. "Full cost" is a civil service term which is used in either of two ways defined in Annex A. In this guide it is used in both senses; which sense applies is clear from the context.

2.9 Charging at full cost also has practical advantages. Routine accounting procedures can be designed to provide it; it recovers the total outlay on the operation, including a return on capital; and it is generally perceived as treating users of the service fairly.

2.10 These theoretical and practical issues argue for a strong normal presumption that charges should be set equal to full cost.

Special cases

2.11 The opportunity cost of providing a customer with a service is sometimes very different from full cost. There are also sometimes special reasons for setting charges above or below opportunity cost, whether or not opportunity cost is well represented by full cost.

2.12 The principles underlying these special cases are described below. These cases are not mutually exclusive. Of the five cases described in which opportunity cost is not equal to full cost, two or three could arise simultaneously, and any of them could be combined with circumstances justifying charging above or below opportunity cost as described in paragraphs 2.25 and 2.26.

(i) **Cases where opportunity cost is not equal to full cost**

2.13 There may be planned or unplanned excess capacity, such as an underutilised building, computer, or other equipment, which cannot easily be disposed of and has for the time being no other use. The capacity of itself then has no opportunity cost. The opportunity cost of using the capacity is the cost only of those resources which do have alternative uses, such as staff and materials, and perhaps some of the capital equipment. To calculate the appropriate charge, each element needs to be examined separately in the light of the specific circumstances.

2.14 It is important that the setting of charges below full cost because of excess capacity should not mislead any actual or potential long-term users about future charges. The capacity may for example later become more fully used; and it will in any case sooner or later be taken out of service to be replaced, where appropriate, by capacity which should be properly matched to demand at full cost. At that point, charges should be raised to reflect the opportunity cost of the new capacity, which will normally be the full cost level.

2.15 Some departments maintain standby capacity to meet an emergency role. Sometimes this standby capacity can be made available to other users without detriment to

its primary role. The principles of charging in this case are just the same as in the case of excess capacity.

2.16 If providing the service to other users would be to the detriment of the primary role the charge should be higher than it would be for excess capacity. The appropriate charge in such cases is usually the full cost of the additional service, but it may sometimes be judged that the detriment is small enough to justify a charge below full cost; or that the detriment is so serious that the charge should be higher or that the service should not be provided to other users at any price.

2.17 Sometimes more of a service is demanded at full cost pricing than can be supplied with the capacity available. There is in other words excess demand.

2.18 The opportunity cost in this case is equal to the market clearing price, ie the price at which demand would just equal the amount supplied, since this is what people are prepared to pay. In some cases of excess demand it may be appropriate to raise the charge to the market clearing level. Alternatively, the cost to users may be increased indirectly by allowing waiting times to increase; or demand might be reduced by direct action such as altering the conditions of eligibility for the service.

2.19 Which response to excess demand is appropriate, and the extent to which it is acceptable, depends upon the nature of the service and how long the excess demand is expected to persist. In the long run, the only alternative, if none of the above responses is acceptable and it remains government policy to provide the service, is to increase the capacity.

2.20 Some services face a fluctuating demand, which varies to a pattern which is at least partly predictable. An example might be the use of a computer at different times of the day. In such cases full cost should usually be recovered over the whole accounting period, but within this period, where it is administratively feasible, it is efficient to charge users

more at times of peak demand and less in off-peak periods. These periods should be priced as if they were periods of excess demand and excess capacity and so that they produce overall the right total revenue*.

2.21 Nearly all cases where opportunity cost is not equal to full cost can strictly be looked at in terms of economies or diseconomies of scale. If the opportunity cost of supplying a little extra output is less than the average cost this is an economy of scale. The cases described above arise from the mismatching of supply and demand, and it is in those terms that they are most easily examined. However there can also be economies of scale for a constant and predictable demand because of technical features of the production process. These may arise if, for example, the cost of setting up a production run means that the average cost of a long run is below that of a short run.

2.22 It is rare in practice for such technological economies or diseconomies of scale to be large enough to justify a departure from full cost pricing. It often appears otherwise. Actual expenditure on overheads, for example, may be unchanged if output is increased. However a small increase in output usually imposes a roughly proportionate extra opportunity cost through the system, arising from the diversion of staff time and other resources from other tasks.

2.23 Where, nonetheless, the opportunity cost of extra output is truly much less, or much more, than average cost such cases require a special estimate of the opportunity cost and hence of the appropriate charge.

*A familiar example of peak and off-peak pricing from outside government is telephone charges.

(ii) **Cases where charges may be above or below opportunity cost**

2.24 Most cases of charging above or below opportunity cost entail some direct loss of efficiency. This loss has to be set against other benefits such as those mentioned in paragraph 2.4.

2.25 The government should not generally exploit a monopoly position to charge more than opportunity cost. However it may be appropriate to set charges above opportunity cost in the following circumstances:

(a) where higher prices can be charged to a particular customer or customers without reducing those customers' use of the service*. In such cases a higher charge should be imposed if it is administratively feasible and considered equitable. This entails no loss of economic efficiency because it only transfers income between customer and supplier without directly affecting market decisions about what to supply and what to buy;

(b) where the customer is outside the UK economy. In such cases charges should normally be set on a commercial basis. This too entails no loss of UK economic efficiency;

(c) where the opportunity cost of providing a customer with the service is below full cost, but it is considered inequitable that the service should be subsidised (the concept of subsidy is explained further in Annex A). In such cases full cost may be charged even though it would deter some customers who would be prepared to pay the opportunity cost of supplying them;

(d) where, exceptionally, the government chooses to charge a price higher than full cost, and so in effect imposes a tax on the service.

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*The technical term for charging more to those customers who are prepared to pay more is "discriminatory pricing". It is widely practised by, for example, British Rail in seeking to charge more to business travellers and less to families.

2.26 Charges may be set below opportunity cost where some political consideration justifies such a subsidy. Some practical aspects of subsidies are explained in paragraphs 3.19 to 3.21.

2.27 These cases for charging above or below opportunity cost do not apply to the calculation of in-house costs for comparison with contracting out or for inter- or intra-departmental charging. Calculations for these purposes should generally be based on opportunity cost.