

Voucher Programmes and their Role in Distributing Public Services

By
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This paper is concerned with a number of conceptual and practical issues associated with the use of vouchers to distribute public services. Section 1 proposes a definition of vouchers and considers the position which voucher distribution occupies in the spectrum of possible mechanisms for the production and distribution of public services; this leads into a discussion of the objectives which voucher distribution might promote. Section 2 classifies the contexts in which vouchers might be applied and types of voucher systems. This permits a preliminary mapping of combinations of policy objectives and characteristics of the public service in question onto alternative forms of voucher distribution. Section 3 provides an illustrative review of the use of vouchers in the distribution of public services. Many of the examples discussed are in the field of education, where discussion of or use of vouchers is most developed, but experience of other public services is included where it is available. Section 4 contains conclusions.

1. What are Vouchers? What are they Intended to Achieve?

1.1. Definition

Voucher systems of distribution are defined as regimes in which individuals receive (pay for or are allocated) entitlements to a good or service which they may “cash in” at some specified set of suppliers, which then redeem them for cash or the equivalent from a funding body. Vouchers are used in the distribution of private goods and services as well as in public services. Consider, for example, arrangements whereby employers give their staffs luncheon vouchers which can be used in a variety of eating places affiliated to the scheme in question. The

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vouchers are an element in a multi-dimensional labour contract between employer and employee, and they affect other elements in the contract, notably the wage rate. In this case vouchers are given in return for some implicit consideration, such as a reduction in the wage rate: since there is no free lunch. This naturally raises the question of why that most flexible means of exchange of all – cash – is not used. The answer lies in terms of some special advantage inherent in the voucher form of distribution, which might be a tax break in some jurisdictions, or the opportunity for the distributor of the voucher to benefit from some price discount in purchasing services from the establishments where the vouchers can be cashed.

In public services, on the other hand, vouchers are usually distributed for nothing and paid for out of tax revenue. In other words, the goal is not to facilitate market exchange but to redistribute income or guide consumption. The inflexibility of the voucher compared with cash – deriving from the fact that it can only be cashed in certain places, and in return for certain services – is part of its *raison d'être*. The distribution of vouchers can be to everybody in a particular population or age group (universal), or confined to a sub-set (“categoric”).

Vouchers traditionally have taken the form of pieces of paper authorising a named person to receive a specified service from a list of designated providers, subject to capacity constraints on the part of the provider. Designation of the recipient ensures that they are not tradable across consumers and designation of the service ensures that they are not equivalent to more fungible means of exchange such as cash. Vouchers can also, of course, take on the more modern guise of smart cards, in which entitlements and cumulative use are recorded electronically.

Vouchers operating through these media are explicit. However, implicit voucher systems are also common, as is shown by the following illustration. Suppose that the parents of a child are entitled – or required – to procure free primary or secondary education for that child, from one of a number of schools. Access to a school is gained by registering the child as a pupil. Subject to capacity constraints, schools must accept any child who registers. In a case like this, the child is a walking voucher.

There is no reason for treating such implicit cases of voucher distribution differently from explicit cases. The illustration does, however, point to a limit in the definition of voucher distribution, that there must be a margin of choice on the part of some or all consumers. This can best be understood in the context of a more general discussion of methods for the production and distribution of goods and services.

1.2. Alternative Resource Allocation Systems and the Place of Vouchers in them

The two polar opposites of mechanisms for the production and distribution of goods and services are the pure market system based upon private ownership and a totally directive system with public ownership in which all resources, inputs

and outputs, are centrally allocated – in the case of consumption by assignment of a particular good or service to a particular individual. (It is worth mentioning that a pure market system – “market socialism” – could operate with public ownership of the means of production, to make the useful point that the decision about ownership is quite different from the choice of mechanism – market or otherwise – through which resources are distributed.)

Except for brief periods of crisis – war economies or short-lived radical experiments – no economy has sought to operate as a whole on the directive basis. Despite this, the production and distribution of non-marketed public services has been an enclave of centralised activity in economies characterised elsewhere by market mechanisms. Because it has been an enclave, the sector has been forced to purchase inputs by ordinary market methods. But the production and distribution of the services have traditionally been achieved in a directive way, in the sense that a public authority uses publicly owned capital to produce services which are then allocated to individual consumers either on a “take it or leave it” basis (medical treatment, for example) or through a system of compulsory consumption (primary and secondary education, for example). This system has often co-existed with a separate private sector where consumers buy services for cash from private suppliers or, more rarely, from public producers.

In recent decades, significant inroads have been made into this centralised system of production and distribution, and it is useful to describe them in ascending order of radicalism.

The first major change is to introduce a purchaser/provider split. This involves creating a public fund-holding agency, which purchases services from producers. Those services may still be allocated to consumers in ways which give them no element of choice: for example, each child may still be assigned to a particular school, but after the purchaser/provider split, that school (or its level of activity) is chosen by the purchaser through a competitive process. The pay-off to this separation is that an element of competition can be introduced on the production side, even if it is not accompanied by an element of choice on the consumption side. For example, the purchaser may introduce a system of competitive tendering for the production of services. If several purchasing agencies are created (in different regions, for example), they may compete in signing up providers, thus introducing competition onto both sides of the market.

This process has the potential to identify low cost providers, as high cost providers will either not get business, or – if they bid below cost – their accounts will disclose financial losses, possibly leading to restructuring or exit from the sector. Depending upon the regulatory arrangements, new providers may be allowed to come into the market, possibly relying upon private sector capital.

Arrangements of this kind are one particular form of what is referred to as a quasi-market (le Grand and Bartlett, 1993). Competition in production is achieved, even though there is no margin of choice for consumers. A distinguishing characteristic of the voucher system is that it introduces that element of consumer choice.

The next step up the ladder of reform is thus to give consumers of the service a choice in the identity of the producer and in the nature of the service delivered. The margin of choice will define the power of the voucher system. If there were no choice – the “voucher” could only be redeemed with one supplier for the provision of a predetermined service – it would not be an authentic voucher system. Allowing a consumer to take his or her voucher to one of a range of alternative suppliers (medical practices or schools, for example) introduces an element of choice even if the range of alternatives is quite small. Producers now have not only to control their costs to maintain commercial viability, but also provide services which consumers want in order to attract their business. Beyond this fairly restrictive voucher scheme there lie a number of alternative methods of development. The range of suppliers can be extended, as noted earlier. More radically, consumers wanting a more expensive service than can be funded by the voucher may be allowed to top it up with cash. These and other alternatives are discussed further in the next section.

Table 1. **Financing and Production Mechanisms**

	Financing		
	Private	Mixed	Public
Production			
Single supplier			
Private	Monopoly privatised utilities		
Public	Monopoly public enterprises		Traditional public services
Many suppliers			
Private	Ordinary goods and services	Voucher 1	Voucher 4
Mixed		Voucher 2	Voucher 5
Public		Voucher 3	Voucher 6

Notes: Examples of voucher schemes:
 Voucher 1 – Food stamps
 Voucher 2 – Nursery education
 Voucher 3 – Higher education
 Voucher 4 – Free bus travel for concessionary groups
 Voucher 5 – Youth training
 Voucher 6 – School choice in public school system

In the end, a voucher system might come to be almost indistinguishable from a system of monetary transfers. This would arise if vouchers became tradable. (A rich person could then buy, presumably, at less than face value, the education vouchers distributed to a number of poorer households, and use them to send a child to a premium school.) More plausibly, as the range of services against which any voucher could be redeemed is extended (health vouchers to cover an especially nutritious food etc.), the system gets closer and closer to a form of redistribution. Even with a system like this, there may be an element of regulation, by establishing an approved list of suppliers or a licensing regime. But this system of regulation would be little different from that which operates in the market for a number of private services, such as private schools or restaurants.

These various arrangements are illustrated in Table 1, which also identifies a number of voucher schemes discussed in Section 3 below. The table does not cover some major and relevant dimensions of allocation mechanism, such as how much pricing freedom is allowed and what are the technological and cost conditions governing production.

1.3. Vouchers and the Objectives of Policy

This discussion of alternative systems of distribution usefully leads on to a consideration of the goals of policy and the ways in which vouchers may help or hinder their achievement.

One goal likely to be omnipresent is *productive efficiency*. It has been argued that the traditional centralised system for the production and distribution of public services is inimical to efficiency. Simple cost efficiency might therefore be promoted by a tendering process among alternative suppliers. The evidence on this question is not unambiguous, but it tends strongly to support the notion that competition in supply reduces costs, although often at the expense of wage levels.

The second objective is *allocative efficiency*. This means ensuring that the overall structure of output and the matching of individual consumers to particular services are in the public interest. In the standard situation of well informed consumers exercising individual preferences, this objective is best achieved by allowing consumers to exercise a full degree of choice over a large range of options – leaving them to decide not only which particular good or service to buy from a given range, but also to determine their overall allocation of spending across different types of service.

In the case of public services, two serious difficulties are encountered. The first arises from lack of information: consumers may lack the knowledge to make an optimal, or even a satisfactory choice. (This is discussed in more detail in the following section.) The second difficulty arises because many public services are “merit” goods – goods where by government policy, the preferences of individuals are overridden or adjusted in order to achieve some government-determined

level of consumption. Compulsory education is an example. Society may also be prepared to cover the costs of medical treatment for a terminally ill individual, but would not give that person a similar sum to finance a final bout of hedonistic expenditure. Both of these difficulties create challenges for wide-ranging voucher systems which give consumers a considerable margin of choice over how to cash in their vouchers.

Note also that, for this better allocation to result, producers in high demand must be prepared to adjust their supply to meet demand. If the incentives to do so are absent (as may well be the case in public sector organisations), they may respond by “cream-skimming” and “shunting”; for example, a school may choose the best students from those who apply, shunting others into inferior schools where their prospects are poorer.

The third objective is *income redistribution*. As well as promoting certain forms of consumption, governments use public services to redistribute income. As some of the case studies discussed in Section III demonstrate (notably that on nursery school vouchers), the mechanism used to distribute public services, or – more narrowly – the details of a particular voucher scheme, may have a considerable impact upon the redistribution of income which is achieved.

Finally, there is the objective of *administrative convenience*, or the reduction of *transaction costs*.

We return to these four objectives throughout this paper.

2. Types of Distribution Schemes

This section reviews in greater detail the differences among alternative ways of formulating voucher schemes and the contexts in which they operate. We begin with a discussion of three key contextual variables. This is followed by a discussion of a range of policy variables.

2.1. Contextual Variables

The discussion in Section I has identified competition and information as two important considerations relevant to the attainment of cost minimisation and allocative efficiency. We examine these further, together with a third consideration – the flexibility of production.

If vouchers are to have any meaning, consumers must be able to exercise an element of choice, either from services provided by a single supplier or – more significantly – from services provided by a variety of suppliers. The feasibility of such choice depends in part upon the cost characteristics of the service concerned. The least favourable case would be one in which economies of scale were such that there was minimal scope for differentiating the service, or (more precisely) the cost

of such differentiation in terms of higher unit costs outweighs the benefits of choice. In such a “one size fits all” world, vouchers have no place, although it would be theoretically possible for the purchaser to organise a competitive system for determining which firm would become the monopoly supplier in a particular area.

Even if service differentiation were possible, a monopoly supplier would have little incentive to produce a range of services adapted to the different needs or preferences of its consumers. Such indifference to customers’ preferences can be widely observed in the area of marketed services, particularly those provided by monopoly utilities.

This implies that, for consumers to be able to use their vouchers in a way which creates incentives for suppliers to meet their needs, some degree of competition is necessary. The problem is that most public services have to be provided near to where consumers live. The risk of local monopoly is therefore very considerable, as can readily be seen from both the education and health sectors. And monopoly restricts consumer sovereignty.

The issue then becomes a classic one of industrial economics: how many competitors are enough? There is no general answer to this question, even though many economists might be prepared to say, under duress, that two is rarely enough, whilst five or six might normally be so.

The second contextual element concerns the degree of information available to the consumer. In the extreme case of a consumer with no information at all about the nature of the service provided by alternative providers, a voucher is of no value. Such consumers will simply cash in their vouchers randomly. At the opposite extreme, a consumer with full information would be able to make a rational choice. More complicated circumstances arise where a customer (say a child) has lots of information, whereas the voucher is spent by the customer’s agent (say a parent).

In the case of most public services, the truth will lie somewhere in between. Part of the problem is that most public services are not so-called *search goods*, with the characteristic that an individual can find out everything about the service before making a choice. More realistically they are *experience goods*, where the consumer only finds out about the service in the course of experiencing it. They may even be *credence goods*, with the characteristic that, even after consumption, the consumer does not fully comprehend what benefits he or she has received. Where experience goods are consumed repeatedly, the problem of lack of information is unimportant. However, many public services are not consumed repeatedly (emergency operations), or it is costly to switch (schools).

In practice, consumers of public services are likely to find themselves in a position where they can readily seek out information about some of the attributes of the service (the visiting hours of a hospital, or the curriculum taught in a school,

for example) but cannot acquire full information about others. Some of their problems can be mitigated by providing further and better information. For example, schools can be obliged to disclose their examination results, and comparative data can be supplied for similarly situated institutions. Hospitals can be obliged to furnish similar information. Nonetheless, to the extent that information about the attributes of a public service is incomplete, the choice provided by vouchers will fail to achieve an optimal matching between consumer and service. However, this is not the relevant yardstick for comparison. A more appropriate one is the allocation which would be achieved without the introduction of vouchers.

The third dimension concerns the flexibility with which suppliers can vary their output or (relatedly) the degree of excess capacity in the system. Ideally, consumers would be able to cash in their vouchers with their first choice supplier. In practice, however, this is not likely to be the case as the most favoured supplier will have, at least in the short term, capacity constraints. Where capacity constraints exist, a selection process is necessary, and the remark on cream-skimming above is relevant.

2.2. Administrative Features of Voucher Systems

Most of these have already been noted, but are discussed here more fully.

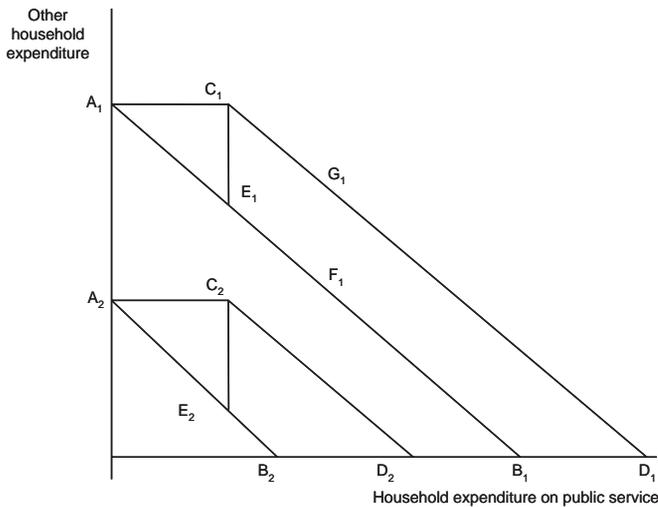
2.2.1. Which Suppliers are Entitled to Redeem Received Vouchers from Consumers?

This key issue determines the extent of competition among suppliers. Restrictions could take various forms based upon ownership (can private sector organisation provide the service?), location (is there a geographical restriction?), regulation (has the supplier been inspected and found to be satisfactory?), and so on. (On the first issue, see Hansmann, 1996.)

2.2.2. Can the Voucher be Supplemented by Other Payments?

Preventing vouchers from being topped up represents a serious restriction on choice, and has a major impact on the distributional consequences of the system, as Figure 1 demonstrates. It shows the expenditure options available to two households before and after the introduction of alternative voucher schemes. Before any scheme is introduced, household 1 can split its expenditure between purchases of a public service and other expenditure by choosing any point on $A_1 B_1$. The poor household 2 has options on line $A_2 B_2$. A voucher scheme is then introduced. Supposing that both households receive a voucher (financed from another source) entitling them to amount $A_1 C_1$ (or $A_2 C_2$) of the public service free of charge. They can then top up their consumption of the public service by using other income. The options available to each household are then, respectively, $A_1 C_1 D_1$ and $A_2 C_2 D_2$. If household 1, previously consuming at F_1 now chooses G_1 , the voucher has simply enhanced its income and imposed a burden on the public finances.

Figure 1. Impact of vouchers, with and without top-ups, on income distribution



Now suppose, alternatively, that the household wishing to consume more of the public service than is allocated under the voucher must pay out of its income for the whole amount consumed, and not just the excess. In that case, the expenditure option now available to the household are, respectively, $A_1 C_1 E_1 B_1$ and $A_2 C_2 E_2 B_2$. Thus, if household 1 chooses to opt out of the public provision financed by the voucher, it loses the benefit of public subsidy. Hence the redistributive effects of any voucher scheme depend crucially upon whether topping up is allowed.

To summarise this analysis, a voucher distribution system in which no top-ups are allowed redistributes income against those households which opt out of the basic provision. Secondly, introducing top-up vouchers where expenditure is correlated with income benefits rich households without necessarily changing their consumption patterns.

2.2.3. Do All Consumers Receive a Voucher to the Same Value?

To the extent that public services are funded out of taxation, they already embody an element of income redistribution, whether a voucher distribution system is used or not. That redistributive element can, however, be enhanced by further measures. For example, the monetary value of a voucher can be made subject to income taxation, which will work to the disadvantage of those with relatively high marginal tax

rates. Or vouchers of higher value can be distributed to particular groups in society, for example those with low family incomes or suffering from a disability of some sort.

2.2.4. *How Are Shortages Coped With?*

If consumers' choices cannot be accommodated because of capacity constraints, an allocation process has to be employed. This could be "first come, first served", or a random allocation, or appeal can be made to some other criterion. This might simply be proximity to the point of supply, or the allocation could be on the basis of need, with, for example, patients with the most complex medical conditions being entitled to use their vouchers preferentially at the best equipped medical facility. But as rationing expands, the element of consumer choice diminishes and voucher distribution loses its force.

2.2.5. *Are There Tight Restrictions on What the Voucher Can be Spent on?*

Some voucher systems restrict the type of service on which the voucher can be cashed. For example, a primary education voucher might only be redeemable by an organisation providing a very tightly defined educational curriculum. Alternatively, individuals might receive vouchers which could be spent much more flexibly. For example, 18-year olds might receive a voucher entitling them to receive up to the equivalent of X months full-time training or tuition, which they could cash in at any time in their working lives with a variety of suppliers.

This discussion enables us to identify in a preliminary way circumstances which are likely to help and to hinder the attainment of the objectives noted in Section 1 by voucher distribution. Productive efficiency will, other things being equal, be promoted by a competitive framework with multiple suppliers. And, the form of voucher provision chosen can accentuate the redistributive impact of the system of financing public services.

The most interesting result, however, relate to the attainment of allocative efficiency. The discussion above enables us to identify factors which assist and factors which restrict an efficient allocation of public services to consumers (assuming their preferences count for something):

Factors which promote the exercise of choice:

- Many Suppliers.
- Service Differentiation.
- Absence of rationing/capacity constraints.
- Good information about services available.
- Each voucher can be cashed against a range of services.
- Top-up payments generate choice of quality.

Factors impeding the exercise of consumer choice under a voucher system:

- Few Suppliers.
- Little variation in service type.
- Significant levels of rationing/capacity constraints.
- Poor information about service quality.
- Tight restrictions on the services which the voucher can fund.
- Prohibition of top-up payments.

3. Vouchers In Practice

This section gives an account of a number of experiences or proposals for the use of vouchers in the distribution of public services. Following the analysis of the previous two sections, it focuses upon:

- The objectives of the public service in question.
- Characteristics of production (economies of scale, etc.).
- The balance of public/private provision at the starting point of the voucher proposal.
- The extent of information problems restricting the application of consumer choice.
- The characteristics of the voucher system proposed.
- The effects, if the proposal were put into operation.

3.1. Vouchers for Nursery Education

The availability of pre-school child care places has been a major pre-condition for increases in female labour force participation. In the United Kingdom (as elsewhere) such care is provided in a variety of forms, either formally or informally (Duncan and Giles, 1996). Where child care is paid for, there is also a substantial variation in price. Nursery schools and local authority nurseries are either free at point of use or have very low fees, whereas other forms, such as child minding, have a substantial average cost per hour. (For a discussion of the US case, see Leibowitz, 1996.)

There are also considerable differences in the hours of care provided under the different modes. In the United Kingdom, local authority nurseries and play-groups typically provide 10 hours of child care a week and nursery schools 20 hours. The average for child minding is 30 hours. Together with the observation that hours of child minding are positively related with the hours worked weekly by mothers, this creates a relationship whereby the hourly child care price for providing up to 20 weekly hours is constant, while the hourly price then rises sharply as the number of weekly hours exceeds 20. Objectives for subsidised child care fall

into two categories – market failure and redistribution (this section draws heavily on Duncan and Giles, 1996). The market failure arguments fall into three strands:

- i) *Externalities*. This involves the controversial argument that non-parental child care or nursery education provides children with a better start than solely parental care. It is thus part of an argument widely applied to education that some or all of the benefit is of a public rather than a private nature, in the sense that individuals who are better socialised and/or more competent can benefit the whole of society, in addition to the benefits which they derive themselves, either through higher wages in the labour market or through more satisfying personal lives.
- ii) *Information failures*. The argument here is that families fail to perceive the financial losses which they incur as the result of career breaks, and hence underestimate the decline in national output of which those financial losses are a reflection.
- iii) *Capital market imperfections*. If the above argument is correct, then families may have to borrow from the capital market in order to finance the child care which permits them to maintain continuity of employment. Yet the capital market may not be up to the challenge, partly because of the difficulty of providing security for the loan.

In the case of the second and third argument, there appear to be other ways of correcting the market failure than providing a subsidy. Information campaigns and guaranteed loans might deal directly with the information and capital market problems. The first argument based upon an externality does, however, provide a better foundation for a subsidy.

The argument based on redistribution can be made in various ways, relating to the parent, the child, or both. If child care does provide a head start for children, then there may be a distributional ground for subsidising it, to ensure that all children start off on level terms, with an equal chance of earning higher wages and achieving higher positions in the social hierarchy. A separate argument applies in relation to the parents. Since it is the mother who typically has a career break in order to look after a child, women are subject to a systematic disadvantage, which child care can redress. To the extent that many households are headed by a single mother, subsidies may also prevent the transmission of disadvantage from one generation to the next.

As far as the supply of nursery education is concerned, a variety of public and private sector providers are in place although households in rural areas may have limited choice (Sparkes and West, 1998). The kind of economies of scale observed in educational institutions where specialised teaching takes place are not present. Moreover, users are likely to place a high premium on locational convenience. The

prospects for having a number of alternative suppliers seem good except in the most sparsely populated areas.

In 1996, the UK Parliament passed a Nursery Education and Grant Maintained Schools Act, which created the basis for phase I of a nursery education voucher scheme which started in four local authority areas in April 1996. The aims of the scheme were to:

- i) Increase provision so that all four year olds whose parents wanted it could have three terms of pre-school education before compulsory school age.
 - ii) To ensure that all the places were of good quality.
- To improve parental choice by building on the present diversity of pre-school provision in the maintained, private and voluntary sectors. (Department for Education and Employment, DfEE, 1996*a*.)

Under Phase I of the scheme, parents could apply for vouchers worth £1 100 covering three terms of nursery school education with a registered provider. Possible providers included private schools, privately run play groups, and state schools or day nurseries.

Providers had to confirm that they would work towards desirable learning outcomes for four year olds recommended by the School Curriculum and Assessment Authority; private and voluntary providers had to agree to their educational provision being inspected by nursery education inspectors, appointed and trained by the Office for Standards in Education (OFSTED) and to agree to publish certain information about their educational provision (DfEE, 1997*a* and *b*).

Private or voluntary providers could require an additional monetary payment from parents, but there would be no user charges in the public sector. If a state school redeemed a voucher, the previous funding which it received would be reduced pound for pound up to the value of the voucher, so that it was no better off if pupil numbers remained unchanged. But it would benefit from new money to the extent that it attracted additional four year olds or extended the amount of pre-school provision received. There is evidence of such so-called “voucher maximising” behaviour by local authorities (Sparkes and West, 1998)

The scheme came into operation nation-wide in April 1997. However, following the accession to power of a new government in May 1997, it was abandoned with effect from March 1998. The strategic principles for early years school provision adopted by the new government include the target of providing a good quality place by April 1999 free of charge for all four year olds whose parents want it, and an intention to extend that entitlement to three year olds over time. Local provision would be planned through the establishment of an Early Years Forum representing a wide range of interests. Local education authorities would have responsibility for securing places in partnership with private and voluntary sector

and with employers. Plans must take account of parental choice, and where places combine education and day care, parents can be asked to contribute to the cost of day care. Parents would not be required to pay additional fees for education, but can opt to do so.

It appears at this early stage that the new plans involve a considerably greater role on the part of local education authorities in shaping provision. But some features of the former arrangements are maintained – the continued availability of subsidies for public and private or voluntary provision, a continued opportunity for parents to exercise choice and the maintenance of opportunities to top up the subsidy. What seems to be at stake is not elimination of the voucher scheme but, in the terminology developed above, the replacement of an explicit voucher scheme involving considerable choice with an implicit scheme involving more co-ordination of provision.

Because the initial voucher scheme was quickly abandoned, there are limited opportunities to evaluate its effects. However, even before the scheme came into operation, it was possible to anticipate some of its distributional consequences. If we assume that, in the short-term, the supply of child care places and their prices are fixed, then the effects of the scheme are largely restricted to subsidising existing purchases of private child care services. Duncan and Giles (1996) show that the distribution of expenditure on child care is heavily skewed in favour of families with a four year old enjoying higher net incomes. The implied annual gain from the government voucher scheme for the highest quantile of such families is £350, while the gain for the lowest quantile is less than £25. Its redistributive effects were thus regressive – a result (as noted in Section II) which one would expect to see whenever vouchers are used to subsidise private provision which had previously been wholly unsubsidised and used predominantly by better-off households. In the medium term, we would expect some impact of the scheme on labour supply: this might be positive in some cases but (because of the income effect) negative in others. Private providers of child care might also raise their prices and capture some of the benefits of the subsidy.

Duncan and Giles also show that alternative measures involving the targeting of subsidies would be more effective in achieving redistributive objectives. This could be done through the tax regime, for example by allowing recipients of certain benefits to deduct a proportion of child care from their income before it was means tested, or by means-testing the vouchers.

3.2. Primary and Secondary Schooling

The use of vouchers for compulsory primary and secondary schooling has attracted more interest than any other illustration (see Johnes, 1993). There is general agreement on the necessity for some kind of publicly funded provision of this

service, the justification being both on distributional grounds (to allow children of poorer households access to highly paid or high status occupations) and on efficiency grounds (in the light of the general recognition that basic education is both necessary for individuals to play a role in political and social life and a powerful engine of economic development). Most school systems are based predominantly on public schooling free at the point of use, often accompanied by a private sector in which differential fees are charged. Publicly funded schooling is typically supplied directly by the state sector (for example, a municipality or local authority), although funding is sometimes channelled through a third party, such as a voluntary organisation or religious group.

The matching of students to schools takes place through mechanisms which involve different degrees of parental or student choice. This can vary from a “no choice” assignment based usually on geography, through the expression of preferences for places which then feed into an allocation of students to a given supply of places, to a higher level of choice, in which demand is catered for through the appropriate expansion or contraction of providers. These last two cases are an implicit voucher system, with a limitation of providers to a specified set of institutions and no opportunity for top-up.

An early and very influential case in favour of education vouchers was made in 1955 by Milton Friedman (see Friedman, 1962). He introduced the then unfamiliar notion that publicly-funded education did not necessarily have to be publicly provided. He recognised that primary and secondary schooling have high “public benefit” components and that, because not all households are able to finance their children’s education, there is a case for the selective issuance of vouchers to defray some or all of the costs, combined with compulsory attendance rules. Competitive provision would promote both efficiency and innovative schooling practices, and there was an independent merit in relying upon decentralised rather than collective decision-making because the latter tends to strain social cohesion.

He further argued that it was wrong to claim that vouchers would exacerbate class distinctions, because few households then lived in a small town environment with a single high school which virtually all students attended. He claimed that “... stratification of residential areas effectively restricts the intermingling of children from decidedly different backgrounds. In addition, parents are not now prevented from sending their children to private schools. Only a highly limited class can or does do so, parochial schools aside, thus producing further stratification”. (*Ibid.*)

While Friedman’s ideas were taken up by many conservative thinkers on both sides of the Atlantic, in the US support for vouchers also extended to the liberal tradition. Notably, Christopher Jencks (1966) argued that the excessive bureaucratisation and poor incentives of a unitary public school system bore with particular severity upon the quality of schooling achieved by children in low income areas,

particularly in a city environment. He believed that these problems could be redressed by a voucher system for which private providers were eligible. Other contributors to this debate, on the other hand, argued that the public school system was redeemable and favoured an “internal” voucher which could only be used within the public school system (Fantani, 1973). More recent work by Chubb and Moe (1990) has reiterated the argument based upon the baleful effects of a centralised bureaucracy.

A combination of value judgements and empirical claims underpin these debates. Thus, there is debate about the extent to which fragmentation of students into groups receiving different forms of education in different locations has an adverse effect upon social cohesion. There are also debates about the extent to which a market system would reduce the cost of bureaucracy and the degree to which competition creates incentives to reduce wasteful expenditure, meet students needs and promote innovation.

As emphasised in Section 2 above, the extent of parents’ information becomes a key issue in forming a judgement about the likely implication of greater school choice. An important point here is that it is not necessary for all parents to be well informed for schools to have an incentive to improve performance: a knowledgeable minority can confer benefits on others as well, by raising the average level of performance. However, each parent has to be well informed to match his or her child to the best alternative available.

To a greater extent than is the case in nursery education, economies of scale may limit competition in sparsely populated areas. But it is likely that most urban and suburban dwellers could have a significant element of choice, although the impact of the voucher scheme will depend to some extent upon what transport costs are considered acceptable.

In jurisdictions where decisions about school spending are made locally, and where like-minded households congregate in areas offering preferred combinations of tax levels and local public goods, the issue arises of how the level of voucher payments should be chosen when they can be redeemed outside the area where the child lives. The problem is to prevent households in low-cost school areas redeeming inexpensive vouchers at schools in high-cost areas and thus free-riding on the higher taxes paid there (Manski, 1992; Hoxby, 1996).

We now consider a number of case studies of school choice, dealing first with explicit voucher schemes and then with implicit schemes which extend parental choice without the introduction of a formal voucher. One key point (illustrated in Figure 1) is the introduction of a universal (not means-tested) voucher scheme in an environment where there is a significant element of private and unsubsidised education will involve a considerable dead weight cost to the public finances through the extension of subsidies to households which were already paying for

private education. Because both the UK and the USA have significant private providers for primary and secondary education, the arrangements described below do not extend to private sector providers, with the exception of the Milwaukee scheme, in which participation is capped.

3.2.1. *An Explicit School Voucher Scheme*

A scheme of this type has operated in Milwaukee, Wisconsin, since 1990 (Lamdin and Mintram, 1997). Eligible students (those with a family income up to 175% of the poverty line) are entitled to opt out of the normal public schools system and attend private schools in the city, which must satisfy certain criteria relating to standards and the absence of religious members. If schools are over-subscribed, selection is made randomly. No more than 1% of the students in the school system may enrol in the choice programme in any one year, and such students may not account for more than 49% of those attending any school. In 1996/97 private schools received \$4 373 from the state for each choice student, an amount equal to the state aid per student in the public school system. However, average spending per student in the public school system is much higher than that figure, because it incorporates revenues from other sources as well.

An evaluation carried out by the Witte (1996) examined five outcome measures. In achievement test results, Witte found no statistically significant difference between choice students and a matched sample of others. Attendance in choice school was better, the rate of parental contact with them higher, and levels of satisfaction reported by parents were also higher than within the Milwaukee public school system.

This study is of particular interest because it involves private schools, but its restriction to 1% of the school district population ensured that its fiscal impact was not substantial.

3.2.2. *Implicit School Choice Schemes*

Three experiments intended to enhance school choice within US public schools, and a major educational reform within the UK directed at widening school choice are dealt with here.

The first, inspired by Jencks and colleagues, operated in Alum Rock, California in the 1970s. Parents in voucher school attendance areas were allowed to choose among several "mini schools", or alternative educational programmes organised within schools. During the five years of the experiment the number of such programmes increased from 22 in six schools to 51 in 14 schools. Free transport was provided to non-neighbourhood schools, and a lottery was used to allocate places to oversubscribed programmes. Non-voucher school areas were treated as controls.

The effects on student attainment were ambiguous. There is some evidence that reading scores for the voucher students declined, both compared with the projection of their previous performance and with the scores of students in non-voucher schools while another study concluded that maths scores improved (Rouse, 1997). Other facets of performance such as absence rates shows an improvement.

The second of the US experiments took place within District 4 of East Harlem in New York (Chubb and Moe, 1990). In 1972, the district contained 22 schools, but during the late 70's and 80's about thirty alternative schools were developed. After 1982, all families had to choose a school. The enhanced choice has been reported as being followed by higher scores in mathematics and reading and the schools concerned seem to have enjoyed greater levels of parental involvement than elsewhere.

A much larger experiment of choice within public schools was made by Minnesota, which in 1987 introduced a state-wide plan allowing students to attend any school district, subject to space limitations and other legal restrictions (Lamdin and Mintrom, 1997). Unfortunately, there has been no overall evaluation of the results. Some research concluded that minority students and their families use school choice at the same rate as white students and their families. Districts losing large numbers of students were more likely than districts that had few losses to take steps to attract new students and to discourage existing ones from leaving.

In the UK, a major series of educational reforms carried out from the late 70's to the late 80's brought major changes to the school system in England and Wales, including the creation of new types of secondary schools and new programmes (Bartlett, 1993; West and Pennell, 1997).

The 1988 Education Reform Act also introduced substantial financial delegation to schools. The key implication of this was that most of the funding followed the student according to a centrally determined formula. This was combined with measures to promote open enrolment. The Government decided that all maintained schools should accept students up to the level of their physical capacity. Popular schools would expand as a result of parental demand, and schools were put in direct competition with one another for students.

At the same time, the legislation required local education authorities (LEAs) and schools to publish information about their arrangements for admissions, including the criteria on which allocation decisions would be made if the school were oversubscribed. LEAs and schools are also required to publish examination results, and these are collated and published annually by the Department for Education and Employment, in the form of performance or league tables.

An evaluation of the reforms by West and Pannell (1997) notes that the simultaneous introduction of a National Curriculum for Primary and Secondary Education has limited the extent to which school choice has increased diversity. They also

conclude that “the evidence does not support the view that there has been a significant increase in choice for parents. There is no clear evidence that parents are now more successful in obtaining a place for their child at their first choice school. Indeed, in areas where the quasi-market is most developed, parents may find it more difficult to obtain a place in their local school” (*Ibid.*). They do find, however, evidence of cream skimming and the development of school hierarchies. Because of a number of simultaneous changes in the system, it is not possible to establish the extent to which the enhanced school choice is responsible for the observed increase in overall educational standards.

This selective account of experience with voucher schemes and school choice programmes shows no clear trends. Enhanced choice in specially targeted schemes seems to lead to greater parental involvement, and some parents are prepared to put considerable effort into the process of selecting schools for their children. In universal schemes, there is evidence of cream-skimming and shunting. Even where trials have been conducted, difficulties with experimental design have made it difficult to draw any firm conclusions concerning the effect of the scheme on educational attainment.

One aspect of voucher and school choice schemes which has attracted attention is their cost implications. Levin and Driver (1997) have estimated the additional costs associated with record keeping and monitoring, transport and adjudication which might arise as a result of the introduction of hypothetical voucher plans. (They also consider the public funding costs of providing vouchers for students currently educated in private schools, but we neglect those here.) They estimate the cost of record keeping and monitoring as being equivalent to 1% of total public expenditure on schools, the cost of transport at 16% and the cost of information and adjudication as 1.3%. Clearly extra transport costs dwarf administration costs, which are small, and consideration of any voucher schemes will have to address this question.

3.3. Vouchers for Post-compulsory Education and Training

Because of its non-compulsory nature, education and training offered after the school leaving age creates an opportunity for a market allocation system to operate with less regulatory input. The variety of possible forms of provision also create a basis for the exercise of consumer choice. Such choice might have two effects (Coopers and Lybrand, 1995):

- i) It would provide producers with an incentive to offer a better quality service, geared to customers' needs, in order to attract business.
- ii) It would compel students to think more carefully about the kind of educational training they wanted; having thus been empowered, they may be more committed to whatever programme they undertake.

The name given in the UK to a voucher system of this kind is Learning Credits (DfEE, 1996b). Its predecessor, Youth Credits, was introduced as a pilot scheme in ten areas in England and Wales in 1991, and an evaluation of that scheme (Croxford *et al.*, 1996) found no evidence that the availability of credits encouraged young people to leave full time education at 16. The pilots also demonstrated that credits increased the proportion combining training with employment, for example – employed-status trainees. This was consistent with the aim of making youth training more employment-based. Youth Credits also increased the proportion of young people in work who received government-supported training, although this was largely at the expense of other training. The tentative conclusion of the assessment was that the impact of the pilots in their first year of operation was more qualitative than quantitative. They did not increase overall participation in training, but steered trainees towards employment-based and government-supported training.

In 1996, the government announced its intention to introduce from September 1997 a new Learning Credit entitling all young people aged 14-21 to have access to learning opportunities at levels up to but excluding first degree or equivalent. In particular, all 16-year olds would be entitled to a Learning Credit which entitles them to embark up to the age of 21 upon post- compulsory education or training suitable to their needs (excluding higher education qualifications) and to impartial advice in making best use of their credits.

The form of the voucher is a simple plastic card issued to eligible students. Those students can then cash in their credits with a variety of local providers, including secondary schools, further education sector colleges, employers and other work-based training providers.

It is too early to say whether the Learning Credits programme will achieve its objectives. Of particular interest is the claim that the degree of empowerment which this scheme offers promotes a higher level of commitment to whatever programme of education or training is chosen.

3.4. Vouchers for Higher Education

The massive extension of higher education in most OECD Member countries has imposed severe strains on traditional European funding arrangements, which have often been based upon selective implicit voucher systems, with free tuition for students with specified qualifications or for all those selected by higher education institutions (HEIs). As a result, there is a tendency to move away from universal free or highly subsidised tuition in favour of arrangements whereby students, their families or employers make contributions to fees. This can be justified by the relatively high private rates of return which students earn on first degrees. The evidence that higher education generates an externality, and therefore should be

regarded as a public good qualifying for public funding, is weaker than in the case of primary and secondary education.

At the same time, it is recognised that some students from poorer backgrounds may face capital constraints in borrowing money to finance higher education. Some governments have addressed this question by offering subsidised loans, which may be repaid on an income contingent basis: a graduate with lower earning will be allowed to repay more slowly, and hence benefit more from any interest rate subsidies. An alternative approach is to offer some kind of means-tested benefit, which might take the form of selective distribution of vouchers. Thus one dimension of the voucher debate in higher education concerns the way in which they can be utilised to achieve a government's distributional goals.

The second dimension of vouchers particularly relevant to higher education concerns the degree to which the supply of places is student driven (*i.e.* responsive to student demand) or determined by HEIs, funding bodies or the government. This major distinction can be elucidated by a schematic account of higher education reform in the United Kingdom.

Initially, HEIs received a block grant, in return for which they provided degree programmes, to a considerable extent at their own discretion. In the 1980's, the Government made the obligations on HEIs in receipt of a block grant more explicit, and also introduced elements of competitive tendering into the process of allocating the block grant. This generated a form of quasi-market in which the quantity of places provided by the funding bodies was subject to competitive tendering by universities, while students had to match themselves to the places available. As a result, some institutions and some subjects were oversubscribed, while some were undersubscribed (Cave, Dodsworth and Thompson, 1992).

A full voucher system, in which students could take their funding to any institution with the will and the capacity to accept them, would represent a major reform to this system. It would mean that the structure of places available would, with a lag for supply adjustments, be determined by student demand, rather than by decisions of the funder. Some programmes and some institutions would prosper, while others would wither.

A voucher system of this kind could be configured in various ways. It could be confined to public HEIs, or vouchers could also be cashed in at private institutions. The scheme could permit top-up fees to be paid in addition to the voucher, or such fees could be excluded and a uniform charge imposed. Vouchers could be extended to cover maintenance as well as tuition, and, as noted above, they could be means-tested.

So far, governments have not generally embraced pure student-demand driven voucher systems for higher education. Thus, although the UK government introduced a degree of supply-side competition in the 1980s, when public funding

for higher education was stabilised in the early '90s, that element of competition was largely eliminated. The current UK Government's policies for reform of higher education include a continuation of the block grant, rather than a student-driven method for allocating funding, with a prohibition on HEIs charging top-up fees. The new student contribution to the tuition fee is, however, means-tested. If constraints on enrolment are relaxed, that will introduce greater incentives and prospects for particular institutions to expand with corresponding contraction on others.

A report of a committee of enquiry into higher education established by the UK Government (the Dearing report) contrasted the block grant and demand-led systems as follows:

- The main advantage of a block grant approach, at least in the short term, is the certainty it offers on the level of public expenditure on higher education which would be incurred in each year. As this approach gives the funding bodies the power of being monopoly purchasers – 'monopsonists' – it puts them in a powerful position to push down the cost of higher education, which they can do more effectively than individual student purchasers could. A block grant approach, depending on how it is operated, can offer institutions a degree of stability in their funding. It also gives the funding bodies a strong lever to ensure the maintenance of quality and standard. It empowers the funding bodies to promote particular types of study differentially.
- By contrast, in a model in which public funding follows students' choices, those choices determine the shape of the system and institutions are encouraged to respond in order to maintain or increase recruitment and income.
- The main potential disadvantages of [this] approach are that:
 - the government has no ready means of controlling public expenditure on higher education within a financial year;
 - the individual student will not be as powerful a purchaser as a central funding body, which may reduce the pressure on institutions to be as cost effective as possible;
 - the individual student may not be well informed enough to make good decisions, and in particular may be unable to avoid poor quality on a standard offering. (NCIHE, 1997.)

After noting that alternative methods exist to control public expenditure under the demand-led system, the Committee concluded that the best way forward is by a gradual but steady progress towards more public funding flowing with the students. It therefore recommended a target of distributing at least 60% of total public funding to institutions according to student choice by 2003.

Higher education is a relatively fertile ground for the application of explicit or implicit voucher schemes. The sector is relatively competitive. The scope for informed choice is at least as great as in other sectors of education. The public element in the benefits of higher education is judged to be smaller than in education at earlier stages, and the capacity which selective distribution of vouchers has to achieve distributional objectives is a major advantage. Finally, if it is considered desirable to have a diverse system of higher education, permitting cost differences from one provider to another, then top up fees, combined with vouchers, can offer students a range of price and quality options, while continuing to maintain a uniform level of subsidy per eligible student.

3.5. Further Areas for the Application of Vouchers

3.5.1. Food Stamps

Food Stamps are a kind of voucher, as they entitle the recipient to spend the stamps on any of a range of permitted foodstuffs in any authorised outlet. Since all households purchase food, there is a greater risk of the development of a secondary market in food stamps, and measures are usually taken to outlaw trafficking in the stamps. This is considered particularly necessary, since one of the stated objectives of food stamp programmes is to ensure that the recipient households use their increased spending power on food rather than – as it is feared might occur if distribution were in cash – choose to purchase less favoured goods such as alcohol or narcotics.

A further refinement which food stamps programmes bring to the analysis of vouchers is that they can be, and are, made available for purchase at a subsidised price rather than distributed free. The degree of subsidy can be varied depending upon such factors as the household income, but, whatever the level of subsidy, the household is restricted to spending stamps on food, unless they break the rules concerning tradability.

Economists' analysis of food stamp programmes has generally been unfavourable. Part of this is due to the opposition to paternalism implicit in the schemes – the requirement that the subsidy be spent on food rather than on other uses. But this ignores the problem of persons with poor life or budget management skills. In addition, many analyses of food stamp programmes in the United States have explained the programmes as a manifestation of political power of the agricultural lobby, rather than as an attempt to redistribute income (Stiglitz, 1988).

3.5.2. Social Housing

In many countries, housing subsidies are channelled through publicly financed accommodation which is made available at subsidised rents to households

qualifying on the basis of their individual circumstances. Both access to such public housing and, in some cases, the rents charged for it are means-tested. This system is clearly a possible candidate for replacement by a voucher distribution regime, in which individual or households receive a means-tested voucher which they can spend on a wider range of housing including public housing, housing owned and operated by not-for-profit organisations such as housing associations, private rented property or owner-occupied housing.

To the extent that information problems associated with housing are likely to be relatively small, a voucher system of this kind has the capacity to be both equitable and efficient. Subsidies are not confined to those in public housing, and individuals can exercise choice over where they live. Subject to planning constraints and other regulatory intervention such as rent control, housing is a fairly competitive market with free entry.

In practice, however, there are likely to be continuing advantages associated with particular forms of ownership. For historical reasons, rents charged for public housing may be lower than those in the free market and, for the reasons given above, there may be considerable inflexibility in increasing supply.

For this reason, housing benefit in the United Kingdom is currently based on the payment of actual costs to qualified persons, in the form either of rents or mortgage payments, rather than some means-tested standard amount (Bramley, 1993). This has a predictably adverse effect on incentives to keep costs down, and has to be accompanied by restrictions on the type of accommodation to which individuals or households are entitled. Public expenditure on housing benefit is also directly linked to prices in the housing market. (For a comparison of UK housing benefits with systems operating in Germany and France, see Evans, 1996.)

3.5.3. *Social Care*

Social care includes a range of services provided to individuals, such as the disabled or the elderly. It may be provided in the individual's home, or in a residential home. The qualification for the care may depend upon both means-testing and other criteria, such as disability (Garber, 1996; Glennerster, 1996b; Hoyes and Means, 1993).

The traditional way for providing social care is through direct allocation. Thus, a disabled person may receive regular visits from a carer who will assist in domestic activities, or an elderly person may be admitted to a publicly-owned residential home. To the extent that individuals or their family can select from a range of such homes in a particular area, this represents a "categoric" implicit voucher system.

It would, however, clearly be possible to introduce an explicit voucher system, at least for certain types of social care. This might be particularly suitable where the care service is provided from a number of possible sources, public and

private. An arrangement of this kind was tried in the UK, where the Independent Living Fund was set up in 1988 to provide cash payments to severely disabled people to enable them to assemble their own package of care, subject to the restriction that the money had to be spent on certain categories of services.

4. Conclusions

This paper has focused upon three aspects of voucher distribution for public services: the objectives of the distribution system – notably allocative efficiency and redistribution (Section 1); types of voucher system and their appropriateness to public services with different characteristics (Section 2); and actual or possible areas for the application of vouchers (Section 3).

Table 2 brings these elements together, by examining the characteristics of seven public services and the probable or most frequently proposed system of voucher distribution for them, based to a large degree on UK experience. Some brief comments on each follow.

In the case of *pre-school nursery education*, customers are likely to be demanding a great variety of services, which are often provided on a small scale and open to fairly effective inspection by the purchaser. The aim is likely to be provision of a basic level of service for all who want it. Because of price variations and an inheritance of public and private providers, it is hard to prohibit top-up fees. High pre-existing levels of privately financed consumption are likely to cause a newly introduced voucher scheme to have considerable dead weight costs to public finances resulting from the replacement of private finance by public finance, unless they are means-tested.

Primary and secondary education are universal and compulsory, and exhibit a significant externality. Except in sparsely populated areas, competition is practicable, but a centrally determined curriculum may limit the scope for product differentiation. Governments show an understandable reluctance to fund expensive and exclusive private schools. This makes implicit voucher schemes such as school choice a natural solution, but, to give more consumers a real choice, it is essential to ensure flexibility on the supply side; otherwise, “superior” schools will skim the cream, inequities will increase, and many households will be unable to exercise choice.

The variety of possible forms of *training* in the period after compulsory education make it a natural area for universal voucher distribution. Since much training of this kind is employer- provided, it is impossible to prevent top-up payments in the form of wages for trainees on certain courses. Top-up payments for non-employer-provided training can, however, be eliminated.

Vouchers in *higher education* can be run on the school choice model. There are, however, no obvious impediments to more flexible schemes involving possibly

Table 2. Probable characteristics of vouchers in a range of services

	Nursery education	Primary/ Secondary schooling	Training/ Lifetime learning	Higher education	Food stamps	Social housing	Social/ Long-term care
Principal objectives	Merit good, redistribution	Merit good, redistribution	Merit good, redistribution	Merit good	Redistribution	Redistribution	Redistribution
Scope for competition	Good	Variable	Good	Good	Good	Good	Good
Extent of information problems	Low	Moderate	Moderate	Moderate	Low	Low	Moderate
Initial structure of provision	Public/Private	Predominantly public	Public/Private	Predominantly public	Private	Public/Private	Public/Private
Extent of differentiation	High	Moderate	High	Moderate	Low	High	High
Voucher likely to be universal (u) or categorical (c)	u or c	u	u	c	c	c	u or c
Voucher means-tested	Probably	Possibly	Unlikely	Possibly	Yes	Yes	Probably
Private suppliers can redeem vouchers	Probably	Probably not	Yes	Possibly	Yes	Yes	Yes
Top-up fees (or equivalent) chargeable	Yes	No	Probably	Possibly	Yes	Yes	Yes

loan-financed top-up fees, with price differentiated by institution and by subject, and a mix of private and public providers.

Food stamps are included to illustrate a voucher scheme with private sector providers only. In its US manifestation, it redistributes income flexibly by having the stamps available for sale to households at different prices, depending upon their means. The illustration also raises questions about the appropriateness of directing consumption in a paternalistic fashion in this way, rather than making cash payments.

Finally, *social housing and social care* have a variety of public and private sector providers and customers with heterogeneous tastes. In both cases, subsidies are likely to be selectively available, on the basis of income or needs.

This evaluation shows that vouchers have considerable flexibility as instruments for the allocation of public services. They can be universally available or be used for services which are means tested or restricted in other ways. Their redistributive implications can further be adjusted by permitting or prohibiting top-ups and their capacity to extend choice to the area of public services creates good opportunities for improvements in allocative efficiency, except in cases where the beneficiaries lack sufficient information to make a sensible choice. There is tentative evidence of vouchers promoting commitment on the part of the customer. At the same time, some governments are concerned that voucher systems tend to work against the objective of co-ordinating provision as they encourage suppliers to focus on their own, rather than service-wide issues. These characteristics make vouchers a powerful instrument in public service reforms with both positive and negative consequences.

Bibliography

- Bartlett, W. (1993),
"Quasi-markets and Educational Reforms", pp. 125-153 of Le Grand, J. and Bartlett, W. eds. (1993) *Quasi-markets and Social Policy*, Macmillan, London.
- Bramely, G. (1993),
"Quasi-markets and Social Housing" in Le Grand, J. and Bartlett, W. eds. *Quasi-markets and Social Policy*, Macmillan, London.
- Cave, M., Dodsworth, R. and Thompson, D. (1992),
"Regulatory Reform in Higher Education in the UK", *Oxford Review of Economic Policy*, Vol. 8, No. 2, pp. 79-102.
- Chubb, J.E., and Moe, T.N. (1990),
Politics, Markets and American Schools, The Brookings Institution, Washington DC.
- Coopers and Lybrand. (1995),
Learning Credits Consultancy Study: Final Report, London.
- Croxford, L. et al. (1996),
The Impact of Youth Credits: Round one credits TECS in their first year of operation, Centre for Educational Sociology, University of Edinburgh.
- Department for Education and Employment, DfEE. (1996a),
Nursery Education Voucher Scheme: Report on Phase One, London.
- Department for Education and Employment, DfEE. (1996b),
Learning to Compete: Education and Training for 14-19 year olds, HMSO, London.
- Department for Education and Employment, DfEE. (1997a),
Issue and Redemption of Nursery Vouchers: Summer and Autumn 1996, London.
- Department for Education and Employment, DfEE. (1997b),
Nursery Education Vouchers: an Early Evaluation 1997/98, London.
- Duncan, A. and Giles, C. (1996),
"Should We Subsidise Pre-school Childcare, and if so, how?" *Fiscal Studies*, Vol. 17, No. 3, pp. 39-62.
- Evans, M. (1996),
"Housing Benefit Problems and Dilemmas: "What can we learn from France and Germany?" *Discussion Paper WSP/119 STICERD*, London School of Economics.
- Fantini, M.D. (1973),
Public School of Choice, Simon and Schuster, New York.
- Frank, R.H. (1996),
"Consumption Externalities and the Financing of Social Services", pp. 175-194 of Fuchs, V.R.

- (ed.) *Individual and Social Responsibility: Childcare, Education, Medical Care, and Long-term Care in America*, University of Chicago Press, Chicago.
- Friedman, M. (1962),
Capitalism and Freedom, University of Chicago Press, Chicago.
- Garber, A.M. (1996),
"To Comfort Always: the Prospects of Expanding Social Responsibility for Long-term Care" pp 143-171 of Fuchs, V.R. (ed) *Individual and Social Responsibility: Childcare, Education, Medical Care, and Long-term Care in America*. University of Chicago Press, Chicago.
- Glennerster, H. (1996a),
"Vouchers and Quasi-Vouchers in Education", *Social Policy Review*, Vol. 8, pp. 125-137.
- Glennerster, H. (1996b),
"Caring for the Very Old: Public and Private Solutions", *Discussion Paper WSP/126 STICERD*, London School of Economics.
- Hansmann, H. (1996),
"The Changing Roles of Public, Private, and Non-profit Enterprise Education, Health-care, and other Human Services" pp 244-276 of Fuchs, V.R. (ed.) *Individual and Social Responsibility: Childcare, Education, Medical Care, and Long-term Care in America*, University of Chicago Press, Chicago.
- Hoyes, L. and Means, R. (1993),
"Quasi-markets and the Reform of Community Care", pp. 93-124 of Le Grand, J., and Bartlett, W., (1993) *Quasi-markets and Social Policy*, Macmillan, London.
- Hosby, C.M. (1996),
"Are Efficiency and Equity in School Finance Substitutes or Complements?", *Journal of Economic Perspectives*, Vol. 10, No. 4, pp. 51-72.
- Jencks, C. (1966),
"Is the Public School Obsolete?", *The Public Interest*, Vol. 2, pp. 18-27.
- Johnes, G. (1993),
The Economics of Education, Macmillan, London.
- Lamdin, D.J., and Miintrom, M. (1997),
"Social Choice in Theory and Practice: Taking Stock and Looking Ahead", *Education Economics*, Vol. 5, No. 3, pp. 211-244.
- Leibowitz, A. (1996),
"Childcare: Private Cost or Public Responsibility?", pp. 33-58 of Fuchs, V.R. (ed.) *Individual and Social Responsibility: Childcare, Education, Medical Care, and Long-term Care in America*, University of Chicago Press, Chicago.
- Levin, H.M. (1992),
"Market Approaches to Education: Vouchers and School Choice", *Economics of Education Review*, Vol.11, No. 4, pp. 279-285.
- Levin, H.M. and Driver, S.E. (1997),
"Costs of an Educational Voucher System", *Education Economics*, Vol.5, No. 3, pp. 265-285.
- Manski, (1992),
"Educational Choice (Vouchers) and Social Mobility", *Economics of Education Review*, Vol. 11, No. 4, pp. 351-369.
- Moe, T.N. (ed.) (1996),
Private Vouchers, Hoover Institution Press, Stanford, CA.

- NCIHE. (1997),
Higher Education in the Learning Society: Report of the National Committee, HMSO, London.
- Rouse, C. (1997),
"Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Programme", NBER *Working Paper* No. 5964.
- Sparkes, J. and West, A. (1998),
"An Evaluation of English Nursery Voucher Schemes", *Education Economics*, Vol. 6, No. 2, pp. 171-184.
- Stiglitz, J. (1988),
Economics in the Public Sector, W.W. Norton, New York.
- West, A. and Pennell, H. (1997),
"Educational Reform and School Choice in England and Wales" *Education Economics*, Vol. 5, No. 3, pp. 285-306.
- West, E.G. (1977),
"Education Vouchers in Principle and Practice: A Survey", *World Bank Research Observer*, Vol. 12, No. 1, pp. 83-103.
- Wistow, G.L. *et al.* (1996),
Social Care Markets: Progress and Prospects, Open University Press, Buckingham.
- Witte, T.F. (1996),
"School Choice and Student Performance" in Ladd, H., (ed) *Holding Schools Accountable: Performance-based Reform in Education*, Brookings, Washington DC.

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