The Contestability of the U. K. Interurban Bus Market

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ABSTRACT

An examination of the nature of the market for interurban bus provision in the United Kingdom is offered. It is sought to establish the extent to which this market exhibits those characteristics generally associated with contestability. The 1980 U.K. Transport Act, which essentially deregulated a large part of the interurban bus industry, provides an important dynamic component to the analysis and permits an examination of whether the industry behaved as one would expect if it were contestable in the face of a major shift in regulatory controls. Some general comments are offered as to the direction future policy may take if the economic efficiency of the market is to be enhanced in the longer term.

Concern about the realism and policy relevance of traditional economic models of market structures led to considerable research efforts in the late 1970s to improve the understanding of how particular types of markets function. Of specific relevance to the transport sector was the development of a body of theory explaining the behavior and offering policy prescriptions for what have been termed "contestable markets" (1-4). Evidence has been forthcoming from the United States that many transport markets are, by their nature, essentially contestable (5). Further, the theory offers an intellectual underpinning for the recent phase of deregulation in the United States (e.g., as exemplified by the Airline Deregulation Act, 1978; the Motor Carriers Act, 1980; the Staggers Rail Act, 1980; and the Bus Regulatory Reform Act, 1982) given that the policies being pursued broadly follow those that would appear to maximize efficiency in a contestable market.

Interest in the theory of contestable markets and deregulation policies has attracted somewhat less attention in the United Kingdom, partly because the majority of entry and pricing controls that historically related to transport activities were relaxed well over a decade ago under the 1968 Transport Act and related legislation. The justification for these changes was normally couched in terms of pure theories of competition rather than contestability and debate centered on traditional concerns over "excessive competition" and "monopoly exploitation." In consequence, minimal work has been conducted to examine the extent to which U.K. transport markets exhibit characteristics of contestability. The passing of the 1980 Transport Act, however, now provides an important watershed in policy that offers scope to examine the degree of contestability that exists in one, albeit rather limited, U.K. transport market. More specifically it permits an examination of the interurban express bus industry and provides an opportunity to see to what extent this conforms to the much more subtle theories of multiproduct, natural monopoly that recent work has advanced. The dynamics of change brought about by the switch from the highly regulated environment of the pre-1980 situation to the much more flexible regime now prevailing provides the type of circumstance that is likely to highlight those characteristics of the market (if they exist) that point to contestability.

The paper is divided into a number of sections. The two sections that follow provide background material by offering, first, a brief outline of the development of regulatory policy with respect to the U.K. interurban bus sector and, second, a summary of the main elements of contestability theory. Next the nature of the U.K. interurban bus industry is examined against the background of the criteria established, to test for contestability. This analysis is, however, static and it is the penultimate section that, by examining the events following the 1980 Transport Act, offers a more thorough analysis by seeking to see whether the changes that occurred correspond to those one would anticipate, a priori, if a contestable market were suddenly freed from entry and exit restraints. The final section offers both some concluding comments and some suggestions as to how remaining regulations may be modified to further enhance the efficiency of the industry.

REGULATION OF THE U.K. BUS INDUSTRY

There are numerous readily accessible detailed histories of U.K. interurban bus activities (6-8) and the intention here is simply to provide a superficial overview for background purposes.

Before 1930, regulation of bus transport was exercised through the Town Policy Clauses Acts of 1847 and 1890, which were designed initially to control taxicab activities and subsequently those of horse-drawn buses. The acts enabled local authorities to obtain powers (they were not automatic) from central government to license vehicles and operators offering carriage service but not those operating on a private-hire basis. The legislation was intended to cope with the problems of horse-drawn transport and was not designed to confront the problems associated with the greater speed and distance afforded by the development of the motorized bus.

The 1930 Road Traffic Act laid the foundation of official policy for the next half-century. The legislation was brought about in part as a device to improve safety standards and increase the stability of the industry (which was seen to be weakened by "excessive competition") but also, in part, to cause the development of a comprehensive network of services to meet social as well as commercial criteria.

The country was divided into traffic areas, each with a licensing system administered by traffic commissioners. The licensing regime was designed to affect levels of service as well as to ensure each vehicle's fitness. Services were divided into stage carriage and express carriage for fare-setting purposes; the latter was distinguished by the setting of minimum rather than actual fares. As far as this study is concerned, however, the key element introduced in 1930 was that relating to service licensing. In this context, when considering an application, the commissioners were required to take into account

1. The suitability of the routes on which a service may be provided under the license,
2. The extent, if any, to which the needs of the proposed routes or any of them are already adequately served,
3. The extent to which the proposed service is necessary or desirable in the public interest, and
4. The needs of the area as a whole in relation to traffic (including the provision of adequate, suitable, and efficient services; the elimination of unnecessary services; and the provision of unremunerative services) and the coordination of all forms of passenger transport including transport by rail.

Even if the application was granted, the commissioners could lay down conditions to licenses regarding fare levels, publication of timetables and fare schedules, and the exact location of pickup and set-down points for passengers.

The result of the legislation was that entry into and exit from particular services proved extremely difficult. In general, there is evidence that the commissioners tended to favor larger undertakings in the granting of licenses (7), which made market penetration by newcomers particularly difficult. The commissioners' interpretation of licensing item 4 in the foregoing list resulted in high levels of cross-subsidization (by route, by distance, and by time of day) because bus operations frequently had to take up unprofitable services in order to obtain licenses for more lucrative ones; they had to be seen to be meeting "the needs of the area as a whole." The idea of what constituted a bus service also tended to be rigid with only limited scope for innovation on the part of operators.

Although the 1930 act, essentially unchanged, formed the basis of regulation before the 1980 Transport Act, there was a brief period in the late 1940s and early 1950s when there was experimentation with a somewhat different approach. The 1947 Transport Act established the British Transport Commission (BTC) with the remit to provide a coordinated, multimodal transport system. The commission took over, mainly by purchasing, a substantial range of interurban bus operations, which gave it, by 1952, a fleet of some 14,000 vehicles operating across the country. A near-monopoly of BTC services existed over large parts of the United Kingdom. The key point about BTC activities was that they were not the subject of traffic commissioner control; essentially it was intended that the BTC would act as its own regulatory agency. Unfortunately, this period, because of both the gradual nature of BTC acquisitions and the phased changes in the law, provides no real clues as to the type of market that would, in the longer term, have emerged. A change of government in 1952 and the passing of the 1953 Transport Act resulted in the reinstatement of the traffic commissioners with their pre-1947 powers.

Legislative changes in the 1960s (Transport Acts of 1960, 1962, and 1968) did little to change the powers of the traffic commissioners with respect to interurban bus services, although the establishment of Passenger Transport Executives (PTEs) in the larger combinations tended to result in a de facto removal of their influence in urban areas. The legislation also resulted in some changes in the organization of the nationalized interurban bus fleets.

The recent phase of deregulation was, in many ways, in complete contrast to the 1978 Transport Act that immediately preceded it. The 1978 legislation permitted the introduction of car sharing and community bus services outside traffic commissioner control and thus effectively increased the flexibility of the sector. This effort, however, was relatively marginal. More important, the traffic commissioners were given new criteria on which to base the award of licenses; in particular, they were now to take into account

1. Any transport policy or plans that had been made by the local authorities concerned and had been drawn to the commissioner's attention by those authorities,
2. The transport requirements of the area as a whole (including both the commissioner's own traffic area and, so far as was relevant, adjoining traffic areas) and of particular communities in the area,
3. The need to provide and maintain efficient services to meet these requirements,
4. The suitability of the route on which a service may be provided under the license, and
5. The convenience of those who are disabled.

In effect this extended the coordinating role of the commissioners in license allocations and placed more emphasis on the need to take account of the views of the local governments involved. Fare policy was also modified so that the commissioners were to consider the nature of the service concerned as well as the public interest. The act represented, therefore, something of a retrenchment of policy and a strengthening of regulatory control.

The 1980 act substantially changed the emphasis and nature of licensing laws. Although there were changes in the public service vehicle operator's license system, the important change from the point of view of this paper relates to the road service license. First, the legislation reclassified types of bus transport and abolished road service licenses for express carriage. Second, it made it easier to obtain licenses in general and limited the power of the commissioners to impose conditions. Finally, trial areas were designated where road service licenses are not needed for stage carriage services.

The exemption of express services from road service licensing is of considerable importance. The definition of such services under the act is couched in terms of the distance every passenger travels--this must exceed 30 miles. In effect, therefore, long- and medium-distance interurban bus transport is no longer subject to entry and regulation, although operators are still required to deposit particulars of services with commissioners responsible for the areas in which the services commence. It is this market, and the impact of the changed regulatory environment governing it, that provides the basis for much of the subsequent discussion.

THEORY OF CONTESTABLE MARKETS

The theory of contestable markets argues that under certain conditions (notably that potential entrants have access to all production techniques available to incumbents, that potential entrants are not prevented from trying to attract the incumbents' customers, and that entry decisions may be reversed without costs) there may exist a socially efficient competitive equilibrium with only one active firm in the market. Quite simply, if the essential conditions prevail, the fear of potential entry into the market by a new entrant will so contain the existing supplier that no abnormal profits will be earned in the long term and prices will be set to ensure that they equate with marginal cost (i.e., are socially efficient).

There is no intention here of trying to lay down all the subtleties of argument underlying the theory of contestable markets [this is fully covered by Baumol et al. (1) and a critical review is offered by Brock (9)]. Nevertheless, one or two features and definitions of specific relevance to this study justify comment.

A contestable market may exist if there is only a single product, but it may also occur if there are multiple products. Interurban bus activities are essentially multiproduct by nature: not only do services provide a variety of potential pickup and drop-off point combinations, but a return route is essentially different from the outward journey. The multiproduct nature of the industry presents the possibility of exploitation of economies of scope. These differ from economies of scale in that lower unit costs result from providing a range of outputs, which is different from the more conventional scale effect where one is concerned with the costs of increasing the output of a single product. The notions of economies of scope and scale are central to ideas of sustainability, that is, the ability of a firm to remain the sole supplier of a service even when market entry is open. Essentially, the monopoly is sustainable if (a) the supplier covers his costs and (b) there is no other combination of outputs that a potential competitor could supply at lower cost without making a loss. In other words, economies of scope in a contestable market imply that a monopoly supplier offering a service will, while still recovering only his costs, do so in the most economically efficient manner possible.

The important question here is to determine the extent to which the U.K. interurban bus industry conforms to these ideas of multiproduct contestability. Baumol et al. (1) provide a useful set of guidelines as to the features to look for in practice:

- Establish which of the sector's outputs can be provided most economically by a monopoly and which are naturally competitive,
- Determine the degree of contestability in the market,
- Determine the obstacles to contestability and evaluate the problems of their elimination,
- Determine whether sustainable combinations of output exist,
- Quantify (and qualify if necessary) the sustainable configurations,
- Identify any second-best or externality problems that may influence one's view of efficiency, and
- Check for potential institutional inhibitions that may influence the way the market is viewed.

Although some of these features can be sought in a static examination of an industry, if there has been a long period of stringent regulation, it is unlikely that an undistorted picture would emerge. Thus although a simple examination of the nature of the U.K. interurban bus sector may offer guidelines as to the extent of contestability, these are unlikely to be more than broad indications. A study of the impact of regulatory reform (as embraced in the 1980 act) provides important confirmations and scope for further analysis. Therefore attention is focussed mainly on express services, because this is the area where deregulation can provide supplementary evidence as to the extent of contestability.

THE U.K. INTERURBAN BUS INDUSTRY

The main feature of most interurban express services is that outside factors influencing the demand on each route tend to be relatively constant and also, in many instances, potential total demand is relatively thin. To meet this demand a supplier has a range of alternative technologies available--most notably a variety of vehicle sizes, each with a specific operating cost profile. In general terms (assuming, for example, that vehicles of the same vintage and other characteristics are concerned) the costs of providing a seat mile of service decrease with the capacity of the bus used. [Figure 1 shows the relevant cost curve (10).] There are thus economies of scale to be enjoyed from using larger vehicles. Such economies, however, do not constitute a barrier to entry into the industry because buses are readily available, both purchased and transferred from other services. All technologies are openly available. The sector therefore meets the criterion of a contestable market in that although economies of scale of the type outlined may exist, they do not present technical restrictions on free entry into or exit from the market. (Exit is facilitated by the ability of any supplier to transfer vehicles to other services should profits not be forthcoming from existing ones.)

What exists, therefore, is a potential in an unregulated market for suppliers to compete for that market. The total market may be limited in its scale (i.e., each route is sparse) and thus efficiency suggests that competition between firms within the market may not minimize costs (the advantages of employing large vehicles cannot be reaped) but equally a monopoly supplier would not be in a situation to exploit his position for fear that competitors might move in.

Sunk costs are seen by those who developed the theory of contestable markets to be one factor that could lead to monopoly rates. In the context of urban bus operations these relate mainly to track, garaging, and terminal costs. Track is provided centrally and access is open to all bus users on payment of the requisite tax. However, the method of charging may be distortive in the United Kingdom, because a substantial part of the fee is based on an annual (not use) levy. Thus a new firm entering the interurban bus market, if it is not transferring vehicles from other routes, meets a financial barrier that the incumbent bus operator who has paid the annual exise fee does not. From a policy point of view this method of recovering fixed costs of track, therefore, results in a potential distortive

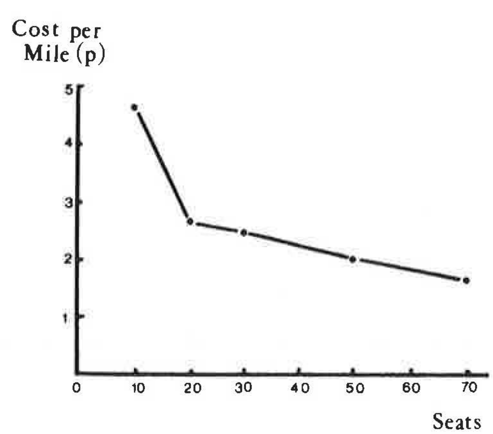

FIGURE 1 Economies of scale in bus size (10).

situation, but this is an institutional factor, not an intrinsic characteristic of the market.

Other costs that may a priori be considered sunk, such as the provision of necessary garage facilities, appear from the available empirical evidence to actually vary directly with the mileage of service provided. Glaister and Mulley (7), for example, find a direct linear relationship between garage size and costs in their examination of bus operations in eastern England. There would appear, therefore, to be little evidence that such costs pose a barrier to entry.

Problems may arise in the U.K. interurban bus industry in the cost of providing terminal and access facilities for travelers. If there is one suitable pickup facility in an area and this is controlled by the existing operator, potential new operators who are refused access are de facto confronted with an infinite cost. In a different context, Laker Airways encountered this problem when they tried to obtain gate and terminal space at Kennedy Airport for trans-Atlantic flights; airlines with surplus capacity essentially refused to give Laker access (11). As seen in the following discussion, in terms of the situation that emerged following the 1980 Transport Act in the United Kingdom, the control of terminal facilities and the very high sunk costs associated with providing new, duplicate facilities (where possible) reduces the ease with which potential competitors can enter a monopolized market.

A final consideration in static terms is the basis on which interurban bus operators compete with other modes of transport. In the U.K. context this is essentially competition with the private car and rail (there are few routes on which air transport competes with bus modes). For minimum distortion and maximum efficiency, the terms of competition should be equitable and prices should be determined by costs. In practice, questions may be raised about the extent to which railway services are subsidized as opposed to that for express bus transport (given the problems of allocating joint track costs of passenger and freight services on the rail mode, the answer is not clear cut) and the degree to which the private motorist pays his full track costs (12). Distortions in the pricing of competing and complementary modes clearly affect the mode split and may thus result in greater or less demand for bus services on specific routes than efficient, across-the-board pricing would produce. The effect on the interurban bus sector is that economies of scope may increase or decrease as a result of this (technically the minimum cost vector of services will be affected) and influence the optimal nature of supply.

In summary, there is some evidence from the static analysis that the interurban bus sector does exhibit many of the features of a contestable market. Where there do appear to be deviations, these stem rather more from the effects of government policy toward both the industry and related industries than from the nature of the market per se.

THE IMPACT OF THE 1980 ACT

Static analysis may be enlightening, but it must be viewed from the position of an established regulatory environment. When a regime of regulation has been in place for a long period of time, it is extremely difficult to separate out the inherent nature of the market from that induced by the details of the regulations.

Any change from a regime involving major restrictions on market entry to one of greater liberalization is going to result in a period of transitional disequilibrium. There is also an inevitable problem in examining both the nature of the elements of this transitional phase and the final outcome: Deregulation essentially means that one of the major sources of information--details contained on license applications--ceases to exist.

The immediate effect of the enactment of the Transport Act in October 1980 was a considerable reorganization within the express bus sector. Six major private companies combined to form a consortium, British Coachways, offering services from London to a range of major destinations. (The actual number of companies involved subsequently varied, averaging about 10, but later, from 1981, declined sharply.) The companies accepted the deregulation enthusiastically and the consortium was intended to provide a major competitor to the publicly owned National Express, embracing the express activities of the National Bus Company (in England and Wales) and the Scottish Bus Group. In particular, it was intended to provide a high-speed, no-frills network service at low fares (often at 50 percent of the National Express level before deregulation). The public sector replied by both reducing fares and improving service quality.

In addition, several small independent operators (formerly specializing generally in stage or contract work) initiated new express services, usually from their base area to London. The number of genuinely new entrants was, however, extremely small (12) and concentrated on specific routes, for example, Stagecoach operations between Scotland and London-Blackpool.

The effect of this reorganization was an initial overall increase in supply of interurban express services (Figure 2) and a decrease in the prevailing levels of fare (Table 1). In addition, the quality of service improved, not simply in terms of the speed and frequency of services but also in terms of the comfort and range of facilities offered on vehicles. On-board toilets became more common and, in some instances, premium services such as the Rapide offered hostess services and video-TV entertainment. Some general idea of the effect of deregulation on the nature of the vehicle fleet may be gleaned by looking at its composition. In 1978 less than 40 percent of newly registered vehicles were heavyweight (i.e., most suited to use on high-speed

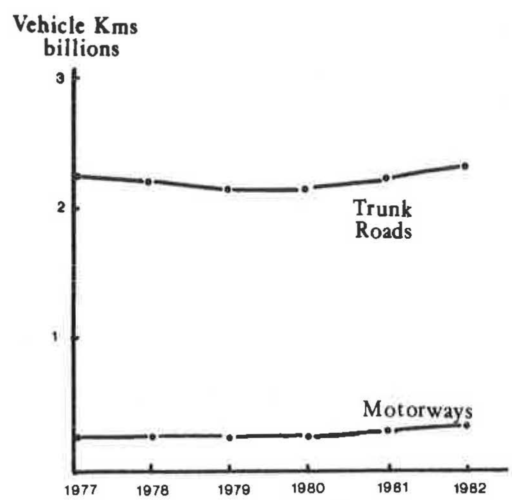

FIGURE 2 Trends in interurban bus kilometers, 1977-1982.

TABLE 1 Guide to Fare Charges on Selected Routes in the East Midlands *(12)*

Route	Type of Ticket	Index of Fare Charges[a] 1978	1980	1983
Nottingham-London	Single	142	89	100
	Return	135	84	100
Derby-London	Single	128	83	100
	Return	115	69	100
Nottingham-Norwich	Single	212	152	100
	Return	227	149	100
Nottingham-Blackpool	Single	109	135	100
	Return	243	134	100
Nottingham-Oxford	Single	147	97	100
	Return	146	96	100
Nottingham-Skegness	Single	167	111	100
	Return	159	107	100
Nottingham-Clacton	Single	157	110	100
	Return	148	107	100

[a]After July.

motorways), but by 1982 this number had risen to 67 percent.

The impact on the transport market was a marked increase in the use of interurban bus transport (although a part of this must be attributable to the general economic depression in the country, which led to a switch to cheaper modes of transport). Tables 2 and 3 (13) show the official data on express buses relating to passenger trips and receipts, respectively, but a change in definition in 1980-1981 (from one based on fare levels to one based on distance) distorts the picture. A more useful indicator is the impact on specific routes. National Bus, for example, experienced an increase of 186,250 passengers (over a base figure of 175,000) between 1979 and 1981 on routes between the major East Midlands centers and London. By the end of 1980, services between London and Manchester and London and Birmingham experienced an increase of about 200 percent in passengers over the number a year earlier. Because of peculiarities in the licensing system, these latter routes formerly provided services with poor frequency and were thus ripe for expansion, but even on routes such as London-Newcastle, where capacity had not been severely restricted in the past, the number of passengers increased by nearly 50 percent. In some cases the increased number of passengers represented mainly generated traffic (e.g., London-Newcastle) but there was also, in many instances (14), a change in mode share in which traffic switched from rail to express bus. Some 160 express coaches, for example, now carry some 8,000 long-distance commuters into and out of London each day, most of whom formerly used rail.

TABLE 2 Express Coach Passenger Trips, 1974-1982 *(13)*

Year	No. of Passenger Trips (000,000s) National Bus	Municipal Operators	Scottish Bus Group	Private	Total
1974	16	1	-	41	58
1975	18	-	1	39	58
1976	15	-	1	41	58
1977	12	1	1	36	50
1978	10	1	-	33	44
1979	9	1	1	33	44
1980	9	1	-	29	39
1981	8	-	1	6	17
1982	12	-	1	5	18

Note: Discontinuities exist in the series because of changes in legal definitions of bus services in 1976-1977 and 1980-1981.

TABLE 3 Express Coach Receipts, 1974-1982 *(13)*

Year	Receipts (£000,000s) National Bus	Municipal Operators	Scottish Bus Group	Private	Total
1974	14.9	0.1	1.5	11.0	27.5
1975	22.3	0.1	2.3	13.9	38.6
1976	26.8	0.2	2.9	16.4	46.4
1977	26.3	0.3	3.3	17.0	46.9
1978	22.2	0.4	3.4	16.3	42.3
1979	24.6	0.3	3.9	17.2	46.1
1980	29.7	0.4	4.2	21.7	56.0
1981	24.2	-	5.3	11.6	41.1
1982	38.2	-	6.1	13.7	58.1

Note: Discontinuities exist in the series because of changes in legal definitions of bus services in 1976-1977 and 1980-1981.

The immediate impact of deregulation, therefore, is consistent with the idea that the interurban bus industry is essentially contestable. If it had been a traditional monopoly that had previously been restrained by entry controls, it would appear likely that deregulation would have resulted in higher fares, reduced supply, and higher revenue. Alternatively, if it were naturally highly competitive in the conventional way, it would be expected that deregulation would result in lower fares, increased supply, and lower revenue. The actual outcome (lower fares coupled with increased supply and enhanced revenue) does not conform with either of these scenarios, but it indicates that contestable forces are at work. The longer-term effects offer further confirmation.

After nearly 4 years of deregulation, it is clear that the major market supplier, National Express, has become once more a monopoly supplier on many routes on which private operators had in 1980-1981 initially offered new services. Others now operate joint services with National Express (e.g., Whittles). Further, a succession of companies withdrew from British Coachways, and by January 1982 the consortium had essentially collapsed. (In some instances private operators, such as Wallace Arnold between London and South Yorkshire, have combined with National Express and the Scottish Bus Group to provide pooled services.)

Some examples help to illustrate the nature of the withdrawal of private operators from much of the express market. In late 1980 three new operators joined National Express in providing services between London and South West England, but by 1982 they had withdrawn. Similarly, in the East Midlands seven operators announced new services to London to compete with National Express at prices below the scale offered by National. The reaction of National Express in immediately reducing its fares forced almost instant withdrawal of all but four of these. Three of the private operators still provide their regular services (this may be explained in part by the specific nature of the market, which, because of its sparsity of population, does not conform with that needed to match the high-frequency type of service that characterizes National Express); the fourth withdrew in 1982.

It should be noted that there are exceptions to this picture and, for example, on the London-Scottish routes the reluctance (or inability) of the Scottish Bus Group to introduce high-quality services has resulted in retention by the independents of a high market share (15). These exceptions are, however, limited and generally (with the exception of the East Midlands cited previously) relate to relatively high-density routes on which load factors are sufficiently high that a number of operators may survive in the market.

In many ways this is almost exactly what one would have anticipated in a perfectly contestable market. National Express, by providing a network of services, can cope with the costing problems associated with markets in which, because of the nature of the infrastructure, demand tends to be concentrated in one direction (i.e., into London) but diffuse in the other (i.e., out of London). In a situation in which entry is restricted, however, the incentive for efficiency is weak and thus costs tend to rise. Deregulation permitted new entry at fare levels potentially profitable to the private operators if load factors could be pushed up. Competition, however, brought a response from National Express (and, in fact, from the railways, which fought to recover traffic by innovative pricing policies) both in terms of lower fares and improved services. The economies of scope enjoyed by National Express (and the Scottish Bus Group) permitted the market on most routes to be recaptured from the independents. The threat of possible new entrants has, however, prevented National Express from raising fares although a monopoly position has been established.

Although many consider it desirable, rigorous econometric analysis of the current state of the interurban bus market is made difficult by the paucity of reliable data. It is possible, however, to conduct some basic regression analyses based on a simple property of contestable markets. If a market is contestable, one would expect the same cost-fare relationship to hold for each route (other things remaining equal) irrespective of whether actual competition exists or not. When there is only one operator, the fear of new entrants will force the adoption of the same cost-fare policy as that on routes on which more than one firm operates. To examine this, 16 broadly similar National Express Rapide services were selected, 10 representing a monopoly supply situation and 6 representing situations in which one or more competitors vie for the traffic with National Express. Simple linear regressions were then run to relate the single fare charged by National Express in 1984 to the route mileage of each service and to a dummy dichotomous variable in which a value of zero was taken if there was no competitor and unity if there was competition. The result was as follows:

$$\text{FARE} = 1.727 + 0.04\ \text{MILES} - 1.73\ \text{COMPETITION}\ (R^2 = 0.914).$$

This superficially appears to suggest that although fares increase by just over 4 pence for each additional mile, overall they are still £1.73 lower on routes where actual competition exists. This is, however, misleading. The COMPETITION variable is not statistically significant even at the 60 percent level, and its omission has little effect on either the overall statistical fit of the model or the value of the MILES variable. This suggests that, in fact, fares are determined almost entirely by mileage (essentially a proxy of cost) and are unaffected by whether there is actual competition or not. The data limitations must make this conclusion tentative, but the calculations do appear, however, to offer support for the notion that the market for U.K. interurban bus services is, since deregulation, broadly contestable.

Although this picture is, to a considerable extent, complete, there remain one or two features of the history of deregulation that indicate that the market for interurban bus services is still not perfectly contestable. First, the newcomers to the market frequently found difficulty in obtaining suitable terminal sites: Pickups often had to be at unmarked curbside locations or hotels, and in London several operators had to make do with temporary facilities at a disused railway yard (subsequently closed). Ticketing posed similar problems although innovations here in terms of standby arrangements and on-board payment allowed a degree of flexibility. The lack of established agents, however, still presents a serious handicap to new entrants. In effect, the necessary infrastructure was under the control of the established operators and access proved extremely difficult for the new entrants. From a public policy point of view, sunk costs were acting as an impediment to competition and offering scope for some degree of monopoly exploitation by the established suppliers (mainly National Express).

Second, although there are no real barriers to effective market entry into the express bus market posed by scale economies in the traditional sense, there may still be one form of economy that permits, other things remaining equal, existing operators to earn monopoly rates to some degree. This type of economy has been called "economies of experience" (16). In some ways these may be viewed as sunk costs, although it is difficult to perceive of policies to handle them of the type conventionally advocated by those interested in contestable markets. Firms already in a market have gained experience in both the problems of serving that market and the specifics of the demand for express bus services. A newcomer does not have this experience, and, by its nature, it cannot be acquired rapidly. In consequence, a firm in situ can enjoy limited monopoly rates, even in the long term, because of this situation. Deregulation essentially meant freedom to compete with the established operator but not in a virgin market where all suppliers were new.

SOME CONCLUSIONS

This paper has provided evidence that the interurban bus sector in the United Kingdom operates in an essentially contestable market. The evidence from the years after the 1980 act suggests that on many routes a monopoly supplier is efficient and can sustain its position in the face of potential competition from new entrants. This does not, however, mean that the market is perfectly contestable. There are certain entry costs that outside operators would have to bear that are sunk as far as the established supplier is concerned and that thus are, effectively, a barrier to entry. Although public policy may be directed toward removing part of this problem (notably in relation to terminal facilities), there may still be some barriers (in the form of economies of experience) that permit the established supplier to enjoy some monopoly profits.

In general, public policy, as exemplified by the 1980 act, basically meets the requirements of policy for a contestable market (11). Price and market entry policy is coordinated and restrictions have been removed. Small firms may enter the market with no greater legal impediment than large ones, and there is extensive intermodal competition on a broadly equitable basis (e.g., British Rail is committed to operate intercity services commercially and has the pricing freedom to do so). Finally, there are few impediments to prevent operators from leaving the interurban bus market should it prove unprofitable and, with the exception of certain terminal costs, the majority of sunk costs are the responsibility of government and do not bear especially on potential entrants. In addition to these essentially intra-industrial efficiency criteria, the system of quality control through the operator and public service vehicle licensing system acts as a restraint on excessive generation of negative externalities (such as accidents resulting from poor vehicle maintenance).

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