

THE REGULATION OF LAND PASSENGER TRANSPORT BY MEANS OF MANAGEMENT CONTRACTS: A CRITICAL EVALUATION OF THE BELGIAN EXPERIENCE

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ABSTRACT

In 1991, Belgian regulators opted for management contracts to provide land passenger transport firms with more managerial autonomy and to increase their commercial responsiveness. Since then, management contracts have been increasingly used to determine once every few years, the financial and operational liabilities of both public transport operators and public authorities. In the Walloon Region, bus operations were also split geographically into five relatively independent local operators, placed under the umbrella of a holding company.

After five years of functioning, the results in bus transport are encouraging. It seems clear however that the art of management contracting consists in balancing the number of constraints and duties assigned to the utilities against the managerial slack necessary for them to become more efficient. Another condition for success depends on how and how much these firms will be encouraged to improve the quality of their service beyond the specifications of an inevitably incomplete contract.

This paper analyses the fulfilment of these conditions and formulates a number of recommendations for the design of better contracts. To avoid a damaging plethora of monitoring criteria, it recommends that the government should resort on the one hand, to a number of specific standards coping with those impacts of the firm's operations that do not influence its prospects' modal choices, and on the other hand, to a few synthetic indicators implicitly reflecting the perceived quality of the operator's services. The present paper also looks at how management contracts could be used to connect the operator's endowment with its performance.

LAND PASSENGER TRANSPORT REFORMS IN BELGIUM

Until the end of the eighties, land passenger transport operations in the Belgian territory were mostly handled by two national companies, the Société Nationale des Chemins de fer Vicinaux (S.N.C.V.) for buses and the Société Nationale des Chemins de fer Belges (S.N.C.B.) for railways, both fully owned and controlled by the Belgian State. In addition, a few cities and towns including Brussels also had their own urban transport system. In 1988, the S.N.C.V. was regionalized. It was split into two new companies, the Société Régionale Wallonne des Transports (S.R.W.T.) for the Walloon Region and De Lijn for the Flemish Region.

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During the same period, federal and regional political decision-makers realised that public enterprises could be made more efficient and effective by granting them greater managerial autonomy within the limits of a given regulatory framework. They started to introduce in the legislation the concept of management contract. Quite a few national and regional public enterprises had their first management contract signed in the first half of the nineties, including the S.N.C.B., De Lijn and the S.R.W.T.. This paper focuses on the experience of the latter.

The Use of Management Contracts in the Walloon Region: a Case Study

In 1989, the S.R.W.T. divided its own territory of operation into five distinctive zones and created an equal number of relatively autonomous bus companies, the so-called TEC(s) (for "Transport en Commun"), to take care of bus, tram and underground services in each of these zones. These reforms were aimed at revitalising the environmental and social impacts of public transportation:

- to promote a consistent transport policy to tap economies of scale;
- to bring public transport operations closer to the directly concerned populations, and to have greater involvement of the local authorities in decision making;
- to create more flexible public transport firms;
- to have better accountability of these firms' managers.

To further these aims, the Walloon Region decided to resort to the use management contracts as a regulatory tool. The decision was intended to cap the financial requirements of the sector, to have it reclaim market shares, and to improve its image and dynamism. One such contract was signed between the Region and the S.R.W.T., and five others between the S.R.W.T. and the five TEC Companies working under its umbrella. The activities run better at a higher level of geographical and functional integration were to be handled by S.R.W.T. whilst responsibilities which could be better managed locally were passed on to its operational arms, the TEC(s). Moreover, the possibility to resort to private firms to run the service on given lines was acknowledged.

The first contracts covered the years 1993 to 1996. These were drafted in such a way as to grant maximum operational autonomy to these firms' management in reaching the objectives laid down in their contract. This implied a clear and reliable financial framework valid for a few years. Therefore, an important aspect of the contract was to specify the financial conditions of the deal, in particular the amount of public funds granted annually to each operator, and the definite nature of the subsidy. In practice, the TEC(s) receive each year a lump-sum subsidy which is adjusted for inflation plus a small real increase.

Under these contracts, the TEC(s) are not merely supposed to run a number of buses on a variety of scheduled connections and times. They are also expected to take the actions necessary to improve their image and to develop a consistent service attractive enough to increase their market share. This is reflected to a certain extent in the terms of the management contracts.

In the case of TEC(s), the service targets imposed on the operator can be classified broadly in at least two categories. First, straight and fairly simple output standards, and second, service quality objectives and orientations. The output criterion imposed on the operators is based on the figure of 1992. It should never be lower than 98% of this figure globally, and never lower than 90% of the output reference for each category of line (urban, suburban, rural). However, the output can be reduced further under certain conditions provided ministerial

approval is granted. For instance, when the utilisation of a line falls below a given number of users or when the number of kilometres covered is reduced following the straightening of an itinerary.

Quite interestingly, there was a significant evolution in the approach used to evaluate and stimulate service quality upgrades on the part of the operator. In the first series of contracts (1993-1996), non output-related service quality indicators were limited to the following recommendations. It was agreed that each operator would adapt itineraries and timetables in order to make them as suitable and attractive as possible in an attempt to improve occupancy rates. Operators were also asked to improve the image of public transportation amongst the population. Besides these fairly general and subjective recommendations, the contracting parties agreed upon the use of a custom-based indicator. Relatively ambitious sales increases were decided and included in the terms of the contracts (sales increases of up to several percentage points in the last year of the contract). Note that no penalty was foreseen in case a TEC would not fulfil this obligation. The second series of contracts (1997-2000) resembles the first one in many respects although the contract of the S.R.W.T. (vis-à-vis the Walloon Region) is now included in each of the five contracts signed with the TEC(s). Budgetary and output constraints are still clearly prevailing. But the approach adopted this time to deal with the non output-related aspects of the contract is completely different. Outcome targets have been replaced by a set of service quality specifications. Some of them fall under the responsibility of the S.R.W.T. whereas others are directed to the TEC(s). It is worth noting that none of these specifications refers to any quantifiable target.

The S.R.W.T. is responsible for the consistency of these activities and for the activities which require a certain degree of regional co-ordination. As far as service design is concerned, it co-ordinates the TEC(s)' strategy of service quality, their ticketing policy, some aspects of their information and communication policies such as their signposts and the uniform of their personnel among others. The S.R.W.T. is also playing an important co-ordination role in social negotiations and labour contract management, in rolling stock purchases and other major investments, in the negotiation of loans for the group with financial institutions, in the pooling of financial resources, etc..

The TEC(s)' duties include offering the specified output (based on historical data) in the best conditions of costs, accessibility, comfort (including cleanliness of vehicles' inside and outside), safety, reliability, punctuality, continuity and regularity. This implies limiting the time lost at connections. The services offered also need to be regularly adjusted to relative demand changes, though within the limits imposed in terms of territorial distribution. The minimum output imposed on the operator is segmented into three distinctive categories - urban, suburban and rural -and the balance between the three cannot be modified beyond certain limits. The best safety and comfort standards are also expected at stations and stops. The TEC(s) are expected to pay special attention to making customers feel welcome.

Information about itineraries, timetables, tariffs and service modifications should be provided in a reliable, exhaustive, easily accessible and understandable manner. Tickets and passes should be on sale in numerous, adequately distributed and clearly indicated places. Moreover, promotion should be planned in co-ordination with other TEC(s) and the S.R.W.T.. Each TEC is also required to take actions in order to facilitate inter-modality. Suggested means of action include the co-ordination of timetables and information to the public with those of the railways and the installation of parking lots and other facilities for car users in the vicinity of bus stations and stops.

Evaluation

Both the reform just described and management contracts seem to have produced a number of positive results: the elimination of deficits, a noticeable improvement of the sector's image, an estimated 5.4% average increase in utilisation, an improving social climate, a theoretical net extension of output in 1995, etc. To evaluate the overall result achieved, it is important to compare *ceteris paribus* output and outcome indicators on the one hand, with the evolution of prices and of the resources granted to the sector by the Walloon Region, on the other. Since the Region's endowment to public transportation has been increasing every year in real terms, an important question arises: To what extent is this money well spent?

From 1992 to 1996, total subsidies increased by at least 4% a year in nominal terms, starting from BEF 7.2 billion in 1992 (1 ECU = BEF 40 approximately). This means total subsidies surpassed inflation, sometimes by up to nearly two percentage points. The resulting cumulative real increase in the sector's subsidy can be estimated to have reached approximately BEF 300 million in 1996. The estimated total subsidy for the four years of the second series of contract is BEF 40 billion, including approximately BEF 28 billion to cover the TEC(s)' operating costs. The latter endowment is now bound to increase annually at the rate of inflation + 1%, whereas investment subsidies have been frozen in nominal terms to BEF 1.237 billion a year. A considerable share of total subsidies has been spent renewing buses at a quicker pace when compared to before the reform. The average "lifetime" of the buses was brought down from 17 years in 1993 to 11 years over the first period and shall be further lowered to 8 years before the year 2000.

The output of the sector in terms of total vehicles kilometres in service slightly declined in 1993 and 1994 to increase again from 1995 on but without surpassing the initial output of 1992. In terms of custom, the results have been rather positive in four of the five areas. It is estimated that, on an average, public transport utilisation increased by 5.4% from 1992 to 1995. Unfortunately, the revenue from sales did not always follow the same trend. On an average, it increased only by 5.3% in nominal terms (from BEF 2.85 billion to BEF 3 billion) over the same period. To explain this, it is worth noting, first, that price increases were very limited during these years and that prices even remained constant in nominal terms in 1995 with inflation above 2%. A second explanation comes from a noticeable shift in sales from individual tickets and cards towards monthly and annual passes whose sales increased by approximately 2.5% on average from 1993 to 1995. This shift indicates that more and more occasional users are sensitive to the service improvements, and trust their operator enough to increase their dependence on public transportation. But it also shows that the TEC(s) have not been so successful yet in attracting new customers.

A CRITIQUE

During the first years of the reform, the sector's endowment has increased quicker than its output despite a noticeable upgrade in 1995. It is not easy to conclude on the evolution of the sector's efficiency however, because part of these extra resources had to be used to cover past deficits and to modernise rolling stock. Whatever the impact of these particular circumstances, future performances should be measured based on the capacity of operators to offer more and better services relative to their public funding. In that perspective, more attention should be devoted to custom or occupancy trends rather than to output increases alone.

The rationale underlying management contracts in general consists in defining, once and for a few years, the financial and operational liabilities of the contracting parties. The idea is to limit the regulatory and budgetary uncertainties facing operators and to allow them maximum leeway in fulfilling their mission. Despite the regulator's willingness to extend the scope of management contracts beyond the simple running of a number of buses, the primary focus of the TEC(s)' contracts is on the fulfilment of a given output target (expressed in terms of commercial vehicle kilometres) together with a strictly limited dependence on public money. In comparison with these goals, other quality targets appear secondary at best. This focus on financial equilibrium and minimum output entails that the level of non output related quality basically depends on the operator's benevolence. Even the last contracts mostly focus on financial equilibrium and quantifiable output targets. A number of service quality specifications are now made explicit but are not connected to any tight benchmark or incentive mechanism. On the contrary, the proposed qualitative prescriptions are usually rather vague and barely constraining.

It is not clear why custom-based indicators were abandoned. The minister concerned said that now that the decline in utilisation had been harnessed, these indicators were not anymore as necessary as when the first contracts were signed. Some people raised the difficulties encountered in measuring public transport utilisation especially when passes substitute individual tickets. Another, more realistic, explanation might lay in the very functioning of such indicators. The fact that utilisation targets were not fully satisfied on an average, with huge disparities among operators, did not entail any penalty. In these circumstances, what sense does it make to mention them explicitly in a "contract"?

Moreover, output standards were expressed in comparison with the level of output prevailing just before the introduction of management contracts. For total output to increase, the operators must be proven to face financial surpluses and then accept to invest these resources in output upgrades as more or less required by the contracts. This is not exactly what happened so far. During the first period, the TEC Group accumulated an estimated cash balance of BEF 600 million. It also bought a private bus company in a move to reinforce its control over the entire industry and to prepare for EU-led liberalisation whereas the sector's output did not increase significantly over the first period. Yet, the fact that utilisation increased on an average despite output contractions or limited output increases proves that there is a real scope for non output related service improvements.

Rationale for regulatory control of service quality in land passenger transport

To assess the relevance of a public transport operator's contract, it is necessary to have in mind why the qualitative aspects of transport services need to be such an important concern for regulators. Under circumstances of non-existent inter-firm competition and limited inter-industry (passenger transport) substitution which often characterise the sector, service quality optimisation cannot be left with the operators alone. Even when liberalisation has been introduced and private firms are competing for concessions, it is necessary to somehow keep their service quality in check.

In undistorted markets, customers have a certain degree of control and influence over the quality of service they receive. The existence of alternative service providers gives them a chance, if unsatisfied with the service level of a supplier, to turn to a competitor. In most cases, customers' financial leverage is then sufficient to stimulate higher quality. That is, competition between service providers exerts enough pressure on them to sustain the quality/price ratio of the services they offer. But when competition is more limited or when,

for some reason, a supplier does not need to pay so much attention to customer satisfaction, quality is more likely to be inferior.

In public transportation, two important factors entail imbalances which prevent market forces from playing their normal 'regulatory' role. Operators do not usually face the necessity to perform better because they have hardly any if any direct competition to outsell. Moreover, in most cases, only a fraction of the utility's revenues is provided by the takings from its sales, the rest coming from State or local public authorities. However relevant these subsidies, they are likely, if used inappropriately, to further erode the users' chances of obtaining satisfactory service quality in reducing their financial leverage on service providers. The challenge faced by land passenger transport regulators can thus be summarised as making up for defaulting market forces. That means replacing these forces by evaluation and stimulation mechanisms designed to attain a twofold objective. First, to encourage the most effective and efficient use of the public money granted to transport operators. And second, to better balance the commercial relationship between transport service providers and their customers.

Productivity measurement in service sectors

In this endeavour, the way productivity is measured is obviously a central issue, and a complex one too. In service industries like in others, productivity *a priori* measures a service output relative to the amount of inputs used to produce it. However, as outlined in the next section, thoroughly defining outputs and, above all, specifying them in detail are endeavours so complex and multifaceted in many service industries, that one needs to have recourse to more sophisticated ratios to gain a fair picture of the service organisation's performance.

The ratio of outputs relative to inputs provides a good indication of a firm's efficiency. A number of output-based productivity indicators can be defined in public transportation using standardised technical data. This kind of indicators has been the focus of a vast majority of the studies devoted to the performance of public transport operators. Yet, these indicators neglect the other pivotal aspect of a firm's performance: effectiveness. To fully describe the evolution of a passenger transport operator's performance or to compare it with that of other operators, one needs to find ways to account for the effectiveness of operations at least as much as for their efficiency. This can only be achieved if the sometimes substantial qualitative variations found in practice can be included in the picture.

In service industries, productivity or simply performance assessment can therefore not be separated from the issue of quality appraisal. As pointed out by Lovelock (1991), "Enhancing service quality and improving productivity are often two sides of the same coin". However, in contrast to the operator, regulators do not easily assess the quality of the services rendered.

Public transport operators as service providers

Quality control is a particularly tricky function when the product delivered by the regulated firm happens to be a service as in the passenger transport industry. Because accessibility in space as well as in time is such an important quality determinant in public transportation, their overall quality tends to depend very much on the size of their quantitative output. But this is only one amongst several aspects of public transport quality. A number of distinctive characteristics separate services from tangible goods and these specificities have been the concern of a considerable number of contributions to the marketing literature (for a synoptic

review, see Zeithaml et al., 1985). Surprisingly, the existing economic literature has not yet fully investigated the consequences of these specificities in a regulatory perspective.

In any service industry, the product being marketed is a performance. And this has unique consequences on service management and indirectly, we contend, on service regulation. The characteristics most consistently documented in the literature are intangibility, inseparability of production and consumption, heterogeneity and, last but not least, perishability. A presentation of these specificities and of the regulatory problems stemming from them provides interesting insights into the main shortcomings of the management contracts examined here.

The consequences of intangibility is that full specification is much more difficult if at all possible to achieve in service industries. The quality level of services can rarely be fully appreciated, let alone be quantified. There exists quality determinants which though intangible, can be clearly defined, specified and quantified. An obvious example of these in land passenger transport is punctuality. And it comes as no surprise that it is one of the most commonly used quality indicators in the field. Yet, with quantifiable and non-quantifiable quality determinants coexisting, the regulator faces the risk of an excessive focus by the regulated firm on quantified goals, at the expense of non-quantifiable and consequently looser constraints.

In services, production and consumption are simultaneous at least to a certain extent. As a result, errors are almost inevitable. When something goes wrong in the production-consumption phase of a service, it is usually not possible to take full corrective actions before the next purchase. Services cannot be inventoried. If a service unit is not sold, it is lost. It can be neither postponed nor transferred to some other place. So, one of the most challenging aspects of service management is supply and demand synchronisation. Matching capacity and supply may also involve crucial trade-offs along the space dimension, especially in transport industries. For the social planner, who subsidises transport operations, the effective value of a service unit is nil unless this unit is actually consumed. In such circumstances, output control indeed makes very little sense and traditional instruments for measuring productivity which tend to be based on outputs should at least be complemented with outcome-based measurement.

Service quality may be subject to sometimes substantial fluctuations through time and space, depending on delivery circumstances. It sometimes also needs to be adapted to very specific conditions: age of customer, culture, language(s) spoken, disabilities,... Heterogeneity is not necessarily an undesired fate however. In some cases, heterogeneity - or one should rather say in a more positive sense, customisation - may be a deliberate marketing choice. This inherent inconsistency can limit drastically the possibilities of standardisation. It makes the design of accurate output measures for services all the more difficult and even questionable, and therefore, further complicates the task of regulators.

Another important feature of service firms is the multiplicity of their offerings. Their product range usually consists of several "items" which are often optional and complementary. People's mobility is what service marketing authors would describe as the core activity or the substantive service of the firm. This core function can however be complemented with a number of secondary or peripheral services such as on-line information desks, bicycle renting, waiting-rooms, excursions, left-luggage lockers or offices, on-board television sets, toilets, etc.. So, unlike Lovelock (1991), we find that customisation opportunities are well illustrated by passenger transport operations. Peripheral activities contribute a great deal to the customers' general satisfaction with the firm and are consequently crucially important. There

is also a wide array of variants available in the actual marketing process brought into play to promote the offering: discount tickets, season passes, peak-hour supplements, etc..

The service "performance" usually depends prominently on people. Hence, it depends fundamentally on the role played by the firm's employees who come in direct contact with customers. Moreover, in public transportation as in a number of service sectors, user-participation often represents an opportunity for productivity improvements. Depending on the effectiveness of their information - or even of their training - serving passengers requires more or less resources: assistance, manpower time in ticket punching and checking, etc.. User participation provides yet another opportunity to question the allegedly standardised nature of public transportation.

These characteristics of services clearly represent a major hurdle in service specification. Since it is often impossible or very difficult to assess each of these individual activities' or attributes' impact on costs as well as on customer satisfaction or overall demand, they considerably complicate decision-making for managers, let alone regulators. They raise the question of how much autonomy or slack should be left to the firm's management and contact personnel in defining the characteristics of the service offered. Why would regulators know better than managers what service features best connote high quality to customers or what service attributes involve the most significant cost reduction prospects? So, useful as it may be to impose clear written statements of expected productivity on the firm, regulatory interventions should not attempt to overstandardize processes and outputs. In so doing, they could simply miss the point and induce misallocations because of misconceptions about customer expectations for example. They could also inhibit the creative potential and initiatives of the personnel involved. Making sure that the firm is actually *committed* to delivering high quality services is another matter, one which does fall inside the core responsibilities of the regulators. These issues are certainly to keep in mind when determining the scope and precision of regulatory schemes and control procedures.

Quality in services

After these preliminary insights into the nature of services, two fundamental questions remain to be answered. What is service quality? And how do we measure it? The already discussed subjectivity of the concept and the resulting difficulties in specifying it in details call for some distinctive ways of evaluating it.

For a vast majority of authors dealing with service quality, customers' judgement is *the* ultimate criterion of service quality. Given the rationale for State interventions in public transportation, customers' expectations and judgement should also be a pivotal element of quality appraisal for regulators in this field. Not only is this the most consistent way to enhance service quality to the benefit of the users themselves ('direct' quality), it also indirectly furthers the interests of non core users concerned with congestion in other modes of transport, air pollution and other ills of substitutes. Therefore, the main source of inspiration in the design of service quality standards should be the customers' assessment of the said service.

There have been relatively few cross-industry investigations into the determinants of consumers' assessment of service quality. Authors usually refer to distinctive dimensions of service performance as: material, facilities and personnel; physical quality, corporate quality, and interactive quality; equipment, contact personnel, and other customers; delivery system,

facility design, location, and capacity planning; service encounter, quality, managing capacity and demand, and information, etc..

A totally different perspective is reflected in the somehow related distinctions introduced in similar times by Gronroos (1983) and by J. Lehtinen (1983). Gronroos suggests service quality can be viewed as a combination of two quality subsets: "technical quality", which refers to *what* is delivered (a train ride from one place to another) and "functional quality", a reflection of *how* it is delivered, that is, the way in which technical quality is transferred to the customer (among others comfort, ease of access, and punctuality of the ride, appearance and attitude of contact personnel,...). For Lehtinen, quality perceptions derive from "process quality" which is judged by customers *during* the actual service delivery, as well as from "output quality" which is judged *after* the service is performed.

Yet, such a presentation at best facilitates the definition of measurement criteria for service quality but certainly does not exempt from it. Non exhaustivity in this endeavour can lead to the neglect of inadequately monitored service aspects. Conversely, where performance assessment results in the development of extensive lists of complex quality indicators, the risk is that they confuse the regulated firm's management on its priorities. Finally, as already outlined, it is nearly impossible for regulators to know how the population feels about the various attributes of the service offering, that is, how they weigh them and how they appreciate them. Therefore, there is ground for leaving with the company's management to understand what customers use as evaluation criteria for service performance. This is why we contend that the best way for regulators of the service offering to gauge customer satisfaction is still by far to base their assessment on the observation of the operator's actual custom.

In summary, the regulatory process will deliver on the condition that it avoids several important pitfalls:

- the failure to capture all the important features of the service offering;
- the tendency to generate overdetailed and overelaborate control procedures with all the associated costs;
- the temptation to come up with too loose and too elusive service quality targets;
- the failure to incentivize more efficient resource utilisation;
- the reliance on subjective or non measurable monitoring criteria.

PROPOSITION

Implicit versus explicit service specification

The difficulties outlined in the previous section add up to the ones deriving from the sector's sheltered existence vis-à-vis market pressures to produce a variety of intricate trade-offs. These trade-offs affect both the object of regulation - "what aspects to regulate?" or "what should be the priorities of regulation?" - and the regulatory process itself - "how to regulate them?". Market distortions tend to limit the relevance of commonplace private sector performance indicators like turnover, profits, return on invested capital, etc. for evaluating public service providers. More specifically, in competitive markets, prices are often expected to reflect the perceived value of a given product. It is assumed that the more the people are ready to pay for a given good or service, the better its inherent overall quality (Payson, 1994). In regulated markets, surrogate accounting and financial indicators and price-based approaches are rendered meaningless by market failures and the regulatory arrangements such

as price-caps taken as a result. Therefore, service assessment is often based on a relatively extensive, diverse, non exhaustive and not always consistent collection of specific criteria. Yet, as already outlined, it seems somewhat illusive and in fact counterproductive to draw an exhaustive list of all the service quality determinants applicable to land passenger transport. The most efficient way to account for the countless and sometimes minor elements influencing overall service quality is, therefore, to monitor as many of them as possible implicitly. That is, using in lieu of detailed service specifications, some synthetic indicator reflecting customer satisfaction and capturing as many of the collectively relevant quality changes as possible.

Public transport operators basically provide services to two important sets of customers. One set comprises the users of the firm's services, that is, passengers themselves. The other one consists of all other groups concerned with the firm's output and production process. The social planner defends the interests of both groups. Therefore, we view the regulatory process in the framework of a triadic relationship between the regulated transport operator, the regulator and the operator's customers. The influence of other parties - tax payers, unions and employees of the firm, other modes' users, residents of crossed areas, etc. - on this setting is at most indirect. This framework provides interesting insights into the design of service quality regulation. As already underscored, the objective of regulators in this respect is to make up for the inadequate bargaining power of public transport users vis-à-vis operators. And the most significant problem facing these regulators in their defining and controlling the service level of said operators, is asymmetry of information. Customers are fairly well informed about the quality of the services they receive from the firm (with the notable exception of their credence properties and, to a lesser extent, their experience qualities). Unlike regulators, they have first hand experience of it. Therefore, we contend that the ideal regulatory structure is one which combines the assets of customers - information - with those of regulators - coercion possibilities. In other words, in prompting operators to deliver effective and efficient services, regulators should rely on the feedback provided by their chief beneficiaries. In fixed price markets, the closest quality-reflecting alternative to the market price criteria is necessarily connected to the level of demand. And since prices are capped and demand is only converted into consumer surplus on the condition that it is actually served, the size of satisfied demand seems to be a particularly appropriate proxy for overall service quality.

The incentive structure imposed on the regulated firm gives it important cues on the regulator's priorities, that is, on the behaviours which are considered as leading to higher service performance. Without an exhaustive and integrated regulatory framework there can be no shared understanding of what constitutes better service quality and this can be a major obstacle to quality improvements. For higher service quality to be actively pursued, it somehow needs to appear next to other important goals in regulatory specifications and performance measurement criteria. Although the level of output has in itself a positive influence on quality, excessive pressure on output maximisation might actually undermine overall quality. This is why we advocate instead the use of performance indicators based on the number of passengers actually transported. Under certain conditions, the operator's customer base is indeed a noteworthy and quite synthetic indication of service attractiveness and is therefore a useful effectiveness criteria. Such an approach clearly comes down to shifting the focus of performance indicators from offered services to consumed services, from output to outcome appraisal. Of course, the use of consumed services as a surrogate measure for service quality makes sense only because passenger transport services are both marketable and socially desirable.

Classification

To limit the range of possible evaluation parameters, we recommended a monitoring system in which the numerous service features determining its attractiveness to prospects are taken into account implicitly rather than being monitored explicitly but non exhaustively. This system would be based on two categories of performance criteria:

- specific standards coping with those impacts of the firm's operations that do not influence its prospects' modal choices;
- and "synthetic" indicators reflecting, via such choices, the direct quality of its services.

That said, a closer look at the social, environmental and economical impacts of public transport firms should allow us to classify these in one category or the other.

An enlightening framework for exploring service quality was suggested by economists Nelson (1974) and Darby & Karni (1973). Nelson categorised consumer goods using two kinds of properties: *search properties* and *experience properties*: search properties are features of the good that a consumer can make out before purchase; experience properties encompass the characteristics which can only be known after purchasing or consuming the good. Darby & Karni supplement this classification with a third category of properties: *credence properties*. These are attributes which are often impossible to evaluate even after consumption. Interesting insights can be gained in terms of rationale for regulatory interference in service quality specification from a systematic classification of service quality determinants along those lines:

- the case for strict specification of credence properties is easy to advocate, especially when safety considerations are at stake;
- from a regulatory perspective, experience properties do not seem to cause more problems than search properties in public transportation, given the repeat purchase nature of consumer/operator relationships, though it could be argued that heterogeneity and non standardization result in high experience qualities (Zeithaml, 1981);
- as already mentioned however, even search properties, in this case essentially limited to tangibles, may represent regulatory challenges but not for informational reasons.

In a sector where there also exists a variety of negative externalities, we cannot limit our approach of quality to its evaluation by the firm's customers and prospects (direct effectiveness). The quality of the firm's activities also needs to be assessed with respect to its external impacts (indirect effectiveness). So, with respect to external costs - security, safety, land use, environment preservation, etc. - the regulator has no other option but to enforce what we have called specific standards.

Beyond these important aspects, public policy will ideally consist in a trade-off between different variables and considerations. These include degree of service universality, minimum mobility in less densely populated areas and for less well off people, industrial policy, car traffic containment in urban areas or national parks, etc..

Operationalization

The advantages of the proposed approach are numerous. Although, this kind of criterion might still allow for considerable fluctuations in the level of quality offered, it seems reasonable to think that maintaining and increasing its custom will require the production of services deemed attractive and consistent by the public. In other words, firstly, outcome assessment can be expected to foster an even higher commitment to customer satisfaction. Secondly, a synthetic and implicit monitoring of service quality gives the regulator a chance

to include more relevant quality determinants than would be affordable under a more explicit approach. Thirdly, it allows for efficiency gains at the regulatory process level, through a reduction in monitoring costs. Finally, it reduces the allocative inefficiencies resulting from a more detailed regulatory process in that it allows more flexibility to the regulated firm's management in achieving its assigned goals. However, as it may seem, it is not that easy to implement.

The use of outcome as a surrogate assessment criteria can be a problem when too many factors affect this outcome which are out of the evaluated organisation's reach or have nothing to do with changes in quality. In particular, demand-side shifts might result from general economic growth, changes affecting substitute services, changes in consumers' tastes, etc.. When external influences would exist, the operator should be given the opportunity to put them forward in justifying his failure to satisfy a given target. The first series of management contracts included a so-called "unpredictability clause". This clause was meant to exonerate the regulated firm from the financial impacts of circumstances considered beyond its reach. It consisted of a complex formula accounting for its different costs and revenue sources. A similar approach could be used to qualify *a posteriori* the results achieved in terms of sales.

One of the trickiest aspects of regulation stems from the informational advantage of operators over regulators. The latter lag behind the former in nearly all informational respects, that is, in their knowledge of demand, production capabilities, level of effort, competence of management, etc. Setting performance standards and service specifications at levels deemed reasonable and yet demanding enough under such circumstances is not a simple task. To do this, regulators have no other alternative but to derive their requirements from comparisons with other similar organisations, or to base them on the past achievements of the focal organisation. The creation of five independent operators might have entailed valuable benefits in the form of peer review perspectives. Unfortunately, recent developments, including the terms of the last contracts, suggest that no serious attempt is made at trying to use the TEC(s)' relative achievements to prompt imitation of the most successful.

Under the current system of lump-sum subsidy, a fairly consistent share of the operators' total costs (around 35%) is covered by the revenues of sales. As a result, the marginal income of the TEC(s) is considerably lower than their average income. On the contrary, the marginal costs of extra vehicle kilometres are much more comparable to average costs. Under present circumstances, the TEC(s) are not *a priori* profit maximising organisations. But they are certainly interested in income maximisation. It is both a source and a reflection of prestige, and a way to develop output and consequently employment. The TEC(s) and the S.R.W.T. would have a higher incentive to boost their sales, if at least a fraction of their subsidy was connected to these sales. This would indeed raise their perceived marginal revenue.

Finally, our focus on public transport utilisation should not let us neglect their "opportunity benefits" - benefits which do not necessarily result from actual consumption. These benefits though partially reflected in service consumption, the question remains to what extent? Evaluating in economic terms the social and economic value of mobility opportunities to the population is certainly not as simple. As acknowledged by Payson (1994), economists are not necessarily qualified to perform just any kind of quality measurement, and they should, in certain cases, admit to the limitations of their framework. It is important to note that the suggested approach doesn't deny the social planner the responsibility to modulate its marginal endowments according to specific circumstances.

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