1. The role of benchmarking in efficiency-enhancing strategies

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1.1 INTRODUCTION

One of the main features of the transport sector, across its various modes, is the coexistence of competitive markets and markets which have the features of natural monopolies. For infrastructure, the coexistence of several competitors may not be sustainable because of economies of scale which make it inefficient to duplicate the assets serving the same market. The clearest example is rail infrastructure. There are also particular issues concerning public transport, in that an important aspect of service quality received by users depends on frequency and on connections between services, which in turn depend on the range of services provided by different operators. Thus, there may be economies associated with the integrated provision of services by a single undertaking, which should be compared to a scenario of coordination between several companies.

Even in markets not showing the features of natural monopolies, competitive dynamics may be weakened when an undertaking holds a dominant position, i.e. a significant and lasting market power or, alternatively, the market is prone to collusion. Still, even in highly concentrated markets it is still possible to observe a lively competition. For the provision of public transport services, contracts may be awarded directly by the public administration or as a result of a bidding process, entailing “competition for the market”.

Depending on which of these situations prevails, undertakings face different incentives to improve efficiency, reduce prices, increase quality and innovate and there is a different need for policy measures aimed at aligning their incentives to the general interest.

Competition in the market, when it is feasible, is a formidable mechanism leading undertakings, in a context of imperfect information, to look for efficiency and better products (through innovation and imitation) and to contain prices to the ultimate advantage of consumers. The process works on a continuous basis. During the process undertakings may make mistakes: they may

invest too much, or not enough, or in fruitless directions; they may propose unsuccessful products; or they may set prices at the wrong level. However, the mechanisms for the correction of such mistakes are embedded in the system, since firms would face reduced market shares and profits and, ultimately, may go bankrupt.

Competition “for the market” may provide similar incentives. It depends on bidders being invited to bid for the contract to provide a specific set of services (or to build and manage an infrastructure) for a certain number of years. If the tender is properly designed, potential competitors will reveal information on the best price/quality combination they are able to offer at the time of the tender (in the language of public procurement law, the “most advantageous economic offer”). The bid can take the form of a required level of subsidy or a premium to be paid for the right to run the services.

Provided that the bidder bears both cost and revenue risk, this provides the bidder with incentives to produce efficiently, to reduce cost over time and to attract additional traffic and revenue. But clearly this process also provides the bidder with a monopoly for the period in question, so unless prices are controlled as part of the contract, or there are very closely competing products (for instance other transport modes), monopoly pricing is likely to ensue. Similarly, the monopoly position of the firm may mean there are inadequate incentives to provide high quality services and to invest. So the contract may need to control price, quality of service and investment.

Moreover, requiring firms to also bear risks they cannot control (e.g. oil prices, or changes in traffic and revenue resulting from changes in the state of the economy) may discourage bids, lead to the building of high risk premiums into bids or lead to financial failure of franchises. So, it may be better to try to share risks, with the State bearing those risks the bidder cannot control.

Ultimately, if the State controls service levels and price and bears exogenous revenue risk, it may be regarded as simpler for the State to bear all revenue risk and award a gross cost contract. But then the contract must contain provisions to ensure appropriate quality of service, such as financial premiums or penalties.

Thus it will be seen that competition for the market is far from straightforward, and is demanding in terms of the skills required of the authority administering the contracts. The simplicity of competition in the market dictates that it is to be preferred unless there are good reasons for the different approach, but as indicated in the transport sector there often are such reasons. Direct award of the contract to the incumbent may be seen as much simpler than competitive tendering, but obviously removes all the above incentives to efficiency which must then be provided in another way.

One key issue in determining the efficiency of competition for the market is the reaction of the authority in question if the winner of the competition gets

into financial difficulties. If the difficulties arise from a genuinely unforeseeable change of circumstances, then the authority may be inclined to renegotiate the contract to provide additional funding; moreover this is often the simplest and indeed cheapest way of securing continuity of service. But if the authority is sufficiently ready to do this so as to lead bidders to believe that they will always be rescued if they get into trouble, then the efficiency of competition for the market fails; bidders may put in optimistic bids which they cannot deliver and the incentive to produce efficiently is removed.

Given these complications of competition for the market, and the costs of changing supplier when the contract comes to an end or the supplier fails, there may be circumstances in which it is considered more efficient to retain a public or private sector monopoly. In this case, the achievement of an efficient outcome depends on how that monopoly is regulated.

Which of the three scenarios (competition in the market, competition for the market or regulation in the absence of competition) should be pursued in a specific case requires an in-depth analysis of the economic features of the relevant market. In the European Union, the legislative framework sets some constraints on the choices of the Member States. Liberalisation directives gradually opened up several services, such as air transport and road haulage, to competition (for an overview of EU regulatory reforms in transport, see Finger and Holvad (2013)). Currently, Directive 2014/23/EU on concessions regulates the award and duration of concessions for toll highways, whereas local public transport services by bus and rail should comply with Regulation (EC) 1370/2007, as recently amended by Regulation (EU) 2016/2338. For ports, Regulation (EU) 2017/352 set common rules on the provision of some port services and the financial transparency of ports, applicable to the ports of the Trans-European Transport Network (TEN-T). For airports, national frameworks should comply with the common rules on airport charges set by Directive 2009/12, which complements the EU rules on the provision of air navigation services and ground handling services.

Benchmarking, which is the process of comparing the performance of different decision-making units to determine what is an efficient level of costs (or more generally an efficient performance) for the process concerned, can play a role in each of these settings. In the absence of competition, since the regulator needs to know what would be the costs of an efficient operator for the service in question, benchmarking is central. However, benchmarking may also be valuable in testing whether competition in or for the market is working effectively, and in designing competitive tendering arrangements.

1.2 BENCHMARKING AND COMPETITION IN THE MARKET

With competition in the market, it is in the interest of the companies to take into account what more efficient competitors do, e.g. price/quality combinations, and adapt their business strategy to meet the competitive challenge.

Comparison of the different offers may even be used by companies as a marketing tool: comparative advertising is legitimate pursuant to EU law (Directive 2006/114/EC) if it is based on objective criteria. On the other hand, it may be in the interest of purchasers to develop instruments aimed at facilitating the comparisons of the different offers thus reducing transaction costs (e.g. price comparison tools).

Thus, when several companies are competing in a market, there is no need for policymakers to promote benchmarking, because of market-led benchmarking, i.e. the task is already carried out by the market.

Within this general framework, there are two exceptions which must be taken into account:

- (a) if companies collude, the virtuous competitive mechanism is blocked;
- (b) if a company, although not a monopolist, has a dominant position, i.e. such a market power that it is not significantly constrained by actual or potential competitors, there may remain a role for public policy.

The prohibition of anticompetitive agreements, enforced by the European Commission and national competition authorities, aims to avoid collusion distorting the market process. In practice, policymakers should always pay particular attention to whether there are signals of collusion in a given market.

As to dominant positions, which are frequently met in the transport sector, there are different tools which may be used to mitigate the problem. Competition advocacy may be used to promote more effective actual or potential competition, for instance reducing barriers to entry and exit from the market. In case of high and lasting market power, since the step to formal regulation is a strong one, monitoring and benchmarking may be used as a soft tool to align the incentives of the incumbent to best practices.

In the presence of structural obstacles to the competitive process (e.g. a natural monopoly on a lasting basis), *ex ante* regulation is usually more appropriate than antitrust intervention. However, in particular cases in which for any reason regulation is either non-existent or insufficient, competition authorities in the EU are empowered to prohibit the abusive exploitation of a dominant position, such as, for instance, the application of excessive prices (Art. 102(a) Treaty on the Functioning of the European Union (TFEU)). The prohibition of exploitative abuses is seldom used by competition authorities

because their main role is not regulating the market, but to protect the market process; however, this power, when needed, is available.

1.3 BENCHMARKING AND COMPETITION FOR THE MARKET

As to competition for the market, first of all, the analysis of costs, including the assessment of economies of scale, density and scope, is useful to properly design the tender. Concessions need to be large enough to exploit such economies, but there is a need to avoid “oversized” concessions that does not depend only on reasons of static efficiency. The coexistence of several concessionaires helps maintain sufficient experienced bidders for future competitions to work, whilst also making it possible to compare their performance and thus develop forms of competition by comparison.

In addition, public decision makers may use benchmarking in order to set the proper incentives for the company in terms of both price and quality (efficiency and effectiveness), by means of a proper definition of the contract with the supplier of the service.

Collusion may also be a problem with competition for the market, since it may eliminate the incentives to present competitive bids and therefore the information and efficiency-enhancing role of tenders. Notably, fighting collusion in public procurement is one of the priorities of competition authorities worldwide.

1.4 BENCHMARKING IN THE ABSENCE OF COMPETITION EITHER IN OR FOR THE MARKET

In the absence of competition, either in or for the market, for public decision makers the task of collecting information in order to avoid inefficiencies and undue exploitation of market power in terms of poor quality or excessive prices/subsidies is crucial, because no information or incentive to this aim results from the operation of the market.

Hence, benchmarking methodologies are needed by policymakers to identify the conditions which might be attained by an efficient company in terms of costs, prices, and contribution of taxpayers, and take them as a target. Moreover, in the absence of competition, some benchmarking may also be needed to ensure proper incentives as to the provision of quality (CBP Bureau for Economic Policy Analysis (2000)).¹

This, in turn, allows them to write a proper contract in the case of an in-house relationship or direct award of contracts, and to properly regulate the undertaking.

Benchmarking is also relevant for State aid law: as indicated by the European Court of Justice in the *Altmark* judgment (case C-280/00), in the absence of a tender, public authorities may still exclude overcompensation of public service obligations by determining the level of compensation on the basis of an analysis of the costs of “a typical well run and adequately equipped undertaking in the sector concerned” (see Chapter 10).

Yardstick competition, as designed by Shleifer (1985), is a specific form of regulation which requires collecting information on cost conditions of comparable companies and linking the remuneration of the regulated undertaking to the costs of other companies, so as to incentivise it to become at least as efficient as comparable companies. The more efficient the company is compared to competitors, the higher is its profit. It is just one of the regulatory instruments which are based on benchmarking. Whether some form of yardstick competition or the use of another of the available tools is more appropriate in a given situation should be assessed on a case-by-case basis, taking all pros and cons into account. Thus, a yardstick competition approach should be compared, for instance, with the mere publishing of the results of a benchmarking process.

1.5 BENCHMARKING AS A REGULATORY TOOL: THE MAIN CHALLENGES

Looking at the potential use of benchmarking as a tool in an efficiency-enhancing strategy, there are some significant challenges to be considered. In general, it is essential to acknowledge that inefficiency can take different forms depending on the goals of the undertakings involved. In particular, whereas private monopolies usually pursue high profits, the main feature of publicly owned monopolies may be high costs of production.

A first challenge consists in finding comparable situations. The problem arises in all cases of benchmarking; it is particularly serious when benchmarking is used as a basis for regulatory decisions which may be challenged before the courts by companies arguing that the regulator did not make reference to an appropriate benchmark. Technical instruments may be used to deal with the problem of heterogeneity (see Chapter 2), but the issue of whether a meaningful benchmark can be found may be a serious problem in some markets.

The second challenge is the risk of collusion, not only within a market but also across markets. If companies collude not to strive for efficiency (for instance by not challenging inefficient working practices), any benchmark based on the observation of their conduct will not be effective. Although from an institutional viewpoint the competence to enforce the prohibition of anticompetitive agreements is within competition authorities, an issue to be addressed is how competition authorities can more effectively obtain the

relevant information to challenge these practices. This is an area for potential cooperation between sectoral authorities and competition authorities. Another issue is how policymakers may check for collusion before using market information in order to develop benchmarks. In the economic literature a number of studies can be found which focus on how to design regulation so as to reduce the risk of collusion (see, for instance, Tangeras (2002)).

A third challenge which has been pointed out by the literature on yardstick competition is ensuring that the rules aimed at enhancing efficiency do not have an adverse impact on incentives to invest because of their focus on (short-run) cost minimisation (Dalen (1998); Guthrie (2006)).

In a political economy perspective, a further challenge is represented by the risk of regulatory capture, which may be particularly serious in the absence of competition (Cramton et al. (2017)), whereas the links between public administrations and undertakings which may give rise to capture are weakened with competition in the market and, at least to some extent, also with competition for the market. As to the latter, with the periodic tendering of concessions, the winners tend to rotate, and the tendering administration will be incentivised to try to extract the best services at a minimum cost, with limited time or opportunity for lobbying to play a role. In the tendering scenario, the main risk of capture arises after the contract is awarded, when the winner may try to renegotiate it.

In the case of yardstick competition the risk of regulatory capture is different since the proper incentives depend only on the action of public administrations: the administration will either compare the performance of the existing regulated company with other ones, or create an “internal” yardstick competition by unbundling the incumbent company, along the lines of “minimum efficient dimensions”. Two problems arise: information (for instance on costs), which has to be guaranteed by an external agent, and effective sanctions against the non-performing subjects (or, vice versa, rewards for performance). Information that the tendering process usually provides will not be observable, and sanctions/rewards need to be effective in changing the behaviour of the regulated companies. If capture persists, the administration may have little incentive to sanction, if not formally. Also the incentive to show a strong attitude in defending the public interest against an “external, profit-minded” subject suffers, unless in the presence of a strictly binding budget constraint, and this not overall, but aimed at that specific company. In light of the above, with yardstick competition, the best defence against regulatory capture is entrusting the regulatory tasks to an independent authority with a strong reputation and adequate powers.

1.6 STRUCTURE OF THIS BOOK

This book is divided into five parts. The first part addresses general analytical issues: in addition to this introductory chapter, it contains a review of alternative statistical approaches to benchmarking, their strengths and weaknesses (Chapter 2) and discusses the issue of data needed for benchmarking exercises (Chapter 3).

The second part considers benchmarking and regulation in the different transport modes. Chapter 4 reviews studies and regulatory experiences with benchmarking in the provision of roads and highways, with a focus on the Italian experience in the regulation of tolled highways. Chapter 5 considers benchmarking in the rail sector, in particular the studies undertaken by the UIC (Union internationale des chemins de fer) and the British rail regulator, and studies on European train operators and rail systems as a whole. Chapter 6 reviews studies on benchmarking in local public transport in different countries, and key problems in doing so, such as allowing for differences in quality of service. Chapter 7 discusses the relevance of benchmarking in the case of ports and airports, which are generally more competitive sectors than highway and rail infrastructure and therefore less tightly regulated, and the key comparability problems that arise.

The third part of the volume picks up two case studies which embody interesting experience. Chapter 8 focuses on the experience of regulation of the rail sector in Britain. Britain has undertaken the most extensive rail reforms in Europe, and is widely regarded as a model in terms of its approach to regulation. This chapter reviews the methods used in seeking to ensure an efficient rail transport system, through comprehensive franchising of passenger operations and through regulation of the rail infrastructure manager, highlighting the role of benchmarking in these processes. Chapter 9 considers two particular cases concerning, respectively, the application of rules on State aid to the port of Antwerp and the economic regulation of the Brussels airport company. This chapter highlights debates over the need for benchmarking and regulation and comparability issues when the method is used.

Part IV of the volume considers the interplay of regulation and competition policy, with a focus on benchmarking. Public funding is still widespread in the transport sector, both for the construction and operation of infrastructure and for the provision of public transport services. Chapter 10 discusses the interaction of economic regulation and the control of State aid and whether there is room for streamlining the use of these different policy tools. Chapter 11 focuses on the use of benchmarking in EU antitrust law, particularly in the assessment of whether a dominant company is imposing “unfair prices”, contrary to Article 102 TFEU.

In the final part we present our conclusions.

NOTE

1. An example of benchmarking focusing on the output/quality dimension is provided by the system of performance assessment created by the Laboratorio MeS of the Scuola Superiore Sant'Anna in Pisa. In this case, the system of benchmarking works with the participation of a group of regional public administrations on a voluntary basis. See Nuti (2012).

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