Organisation for Economic Co-operation and Development

DAF/COMP/GF(2019)7

Unclassified **English - Or. English**

22 October 2019

DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE

Global Forum on Competition

COMPETITION FOR-THE-MARKET

- Background note by the Secretariat -

6 December 2019

This document was prepared by the OECD Secretariat to serve as a background note for Session IV at the 18th Global Forum on Competition, on 6 December 2019.

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Please contact Mr Chris PIKE if you have questions about this document [Chris.PIKE@oecd.org] and Ms. Lynn Robertson [E-mail: Lynn.Robertson@oecd.org],if you have any questions regarding this document.

JT03453254

Table of contents

Boxes

Competition for-the-market: Advocacy & Enforcement in Concessions

- Background note by the Secretariat[*] -

This paper categorises four different types of monopoly in which competition for-the-market might occur. It discusses the role of government granted concessions as a way to strengthen competition in markets where competition in-the-market is not always possible and suggests that concessions offer a superior pro-competitive alternative to privatising and regulating the service. However, we suggest that the risk of incomplete contracts and the scope for opportunistic renegotiation means that wherever possible, governments should seek to stimulate competition in-the-market, and in any case should, as matter of course, conduct an in-depth assessment of the case for using market incentives to deliver services. Alongside advice on the use of lots, addressing the risks of bid rigging, and how to deal with joint bidding, we also identify the benefits of retaining a publicly-owned operator to compete for concessions or to serve as an outside option when required. We also suggest that consideration is given to using continuous auction mechanisms that require self-assessment of the value of concessionary rights.

The paper identifies a number of merger control and antitrust enforcement challenges that arise in concessionary markets. For instance we argue that the existence of a concessionary contract should not be used as the basis for a finding that there has been no change of control. We identify concessionary markets are another case in which market definition is of little value. We identify a range of analysis that can be carried out where bidding data is available, and argue that potential competition is particularly important in concessionary markets and hence there is a need to ensure that potential 'killer acquisitions' are examined, and a strong case for a more economic expected harm test. We argue that there should be little need for agencies to take exploitative abuse of dominance cases in these markets, but that exclusionary conduct such as predatory bidding, should be a concern that is taken seriously given the relative ease with which recoupment can occur. In regards to collusive agreements we note that agencies are likely to be particularly reliant on leniency and whistle-blower reports in these types of markets and point to the risks of implementing remedies that damage future competition.

[*] This paper was prepared by Chris Pike and Matteo Giangaspero of the OECD Competition Division.

1. Introduction

1. Competitive markets often contain an inherent paradox. When in freely competitive market, a firm is successful and outcompetes its rivals, it can find itself building market share and monopolising the market, simply as a consequence of successfully competing by relying on the merit of its greater efficiency. If there are barriers to entry or exit then the market power that is created may prove durable and hence harmful, since it goes beyond providing a temporary reward for the competitive effort (investment and innovation) that created the market power. Thus the result of competition can be that competition eats itself. The tendency of markets left to their own devices to result in durable market power is therefore one of the classic market failures (particularly when we recognise the potential for firms to be pro-active in protecting the market power they acquire).

2. Awareness of this risk has helped motivate governments around the world to invest in competition agencies and regulatory authorities to protect competition from itself. Like a casino that knows its gamblers will not return without the possibility of a big win, competition policy does not seek to eliminate the prospect of firms winning a temporary monopoly. Instead, it sets the rules of the game to ensure that, despite those occasional and highly visible jackpots, in the end, the consumer, like the house, always wins.[1]

3. The risk of competition eating itself is perhaps most acute in markets that have room for only one firm. As we set out there are a variety of reasons why a market might only accommodate a single firm. The key characteristic of each is that barriers to entry and exit mean that firms tend to compete to be the supplier of *the whole market* of products or services, rather than for market share (whether it be a share of units, of contracts or of consumer relationships).

4. The binary nature of success or failure in these markets means that these markets always appear concentrated when properly defined, however this does not necessarily mean there are no competitive constraints on incumbents. However, these constraints are by definition weaker than other markets, and hence there is a potential role for government to be proactive in facilitating market turnover (or churn). In some cases this might be achieved by limiting the length of patent protection and requiring disclosure of design details in return for that protection; in others it might be the imposition of portability requirements or interoperability standards. However the case that we will focus upon is that in which the government can facilitate turnover by offering time-limited concessions.

5. Concessions are delegated rights to operate a defined service and to receive revenues deriving from it. By offering time-limited concessions, governments can periodically remove the significant barriers to entry and make the market contestable. In this paper we focus on those markets where governments and others use concessions to increase competition. This focus reflects both the importance of these markets, and the particular challenges that competition agencies face in advocating and enforcing within these markets.

6. In this paper we therefore address the key issues of when to use concessions, how to design them to protect and drive more effective competition, and the challenges that arise in enforcing competition law in markets where concessions are offered. The paper is structured as follows: Section 2 categorises four different types of monopoly over which competition for-the-market might occur. Section 3 explains the practice of governments granting concessionary rights to firms, and identifies that the design of the processes for awarding such rights is commonly used to facilitate competition in a number of these categories of monopoly (often by periodically reducing barriers to entry to allow

competition for-the-market or, in some cases, by stimulating competition in-the-market). Section 4 discusses the main merger control and antitrust enforcement challenges that arise in these types of concessionary markets, while Section 5 addresses some advocacy challenges that competition agencies face. Section 6 concludes.

2. Competition for-the-market

7. Competition for-the market occurs as we have noted when products have characteristics that lead firms to compete to be the supplier of *a whole market* of products or services, rather than for market share (whether it be a share of units, of contracts or of consumer relationships). It is important to recognise therefore that competition *for-the-market* is not the same thing as competition *for a contract* (Geroski, 2003).

8. A relevant market is generally defined by a Hypothetical Monopolist Test ("HMT") to be the smallest set of products for which it is profitable for a hypothetical monopolist to set price (or quality) approximately 5% higher (or worse) than the competitive level over a non-transitory period.[2]

9. The concept of a relevant market therefore identifies those other products (and the firms that produce them) that place significant competitive constraints upon the product in question. However, in some cases there may be no other product imposing a sufficiently strong constraint and so competition for-the-market might be the only competition that is possible. These include, for example, cases where a) the existing alternative products might be insufficiently substitutable (and so sit outside the bounds of the market); and, b) the barriers to entry of new products *into* that market might be too high.

10. Although by definition these types of products are monopolies and face no *strong* competitive constraints that prevent them from increasing their price for an extended period, they may still face weaker competitive constraints from competitors outside that market, who might compete for-the-market. For example, constraints from outside the market might mean that a monopolist could raise price by a small but significant degree, say 5-10% (being unable to do so would mean it were not a market), but would be unable to raise it by a larger degree, say 10-15%. In that case, such a market would evidently entail larger mark-ups and be less competitive than a market in which there was competition in-the-market from a rival product. Therefore in both cases competition for-the market is not a good substitute for competition in-the-market (as recognised by Geroski, 2003).

11. To be clear, for-the-market competition therefore does not correspond to the idea that a market might be monopolised but remain *perfectly* contestable due to low barriers to entry (Baumol, 1982). In such cases, a hypothetical monopolist of the candidate market would not be able to profitably raise price by a small but significant degree for an extended period without attracting supply-side substitution, and hence that candidate market would not constitute a relevant market for antitrust purposes. For this reason, the idea of a *perfectly contestable relevant antitrust market* is a logical impossibility.[3] Despite this, there may still be a degree of contestability, and this competition for-the-market will often be preferable to no competition (see Section 5.2.1 for a discussion of circumstances when this is not the case). For example, successfully competing for-the-market requires *either* a new product that can overcome the barrier to entry (e.g. a disruptive innovation), *or* a new version of an existing (alternative) product that is significantly cheaper/better (e.g. offers a wider range of sellers) than the previous version and hence a closer substitute than they are. It can therefore offer a valuable incentive for innovation to create new markets (Nigro, 2017).

12. Indeed, the incentive to innovate when there is competition for-the-market would, all else being equal, be larger than is the case where there is an expectation that the new market will involve competition in-the-market (Aghion, 2005).[4] This means investment in innovation will likely be focused on the creation of the type of products or services that features competition for-the-market. This explains why intellectual property rights explicitly offer the promise of protection that might, for a temporary period, result in competition for-the-market (because doing so focuses innovation on products that would otherwise be underprovided due to the market failure that arises from the risk of free-riding on such investments). It also means that there will be large incentives to invest in innovating to create products with powerful network effects. This might mean that there is less need to worry about protecting investment incentives in such markets (since the strength of the incentives may risk crowding out investment in markets where competition is in-the-market).

13. These incentives for innovation mean that it is not clear that the mere existence of a monopoly in a market that features competition for-the-market is *necessarily* something that should be addressed. That is to say there may be countervailing efficiency benefits that would be lost if the monopoly were broken up, rather than *regularly* replaced by a new monopolist.

14. This also points towards an important policy consideration when there is competition for-the market, which is that the strength of competition in such markets can be improved by facilitating the *regular* replacement of the monopolist, and not only through efforts to de-concentrate the market (whether these be on the supply-side, or the demand-side). For instance, this might involve competitively tendering a concession, or putting a time limit on legal protection offered by patents, or facilitating the potential re-tipping of a market by mandating portability and interoperability after an adequate recoupment period.[5]

15. There are four broad categories of competition for-the-market: those protected by supply-side economies of scale in their costs; those protected by legal rights; those protected by demand-side beneficial returns to scale; and those that only exist due to public funding which is not prepared to tolerate duplication of fixed costs. We briefly consider each of these below.

2.1. Category one: natural monopolies

16. The first category of products for which there might be competition for-the-market, and one of the categories on which this paper will focus, are the 'natural' monopolies. These are considered "natural" because they arise out of the properties of the productive technology, rather than from the activities of government or rivals.

17. Generally speaking, natural monopolies are characterised by steeply declining long-run average and marginal-cost curves such that there is room for only one firm to fully exploit available economies of scale and supply the market. In essence natural monopolies exist because of economies of scale and economies of scope which are significant relative to market demand. Natural monopolies are thought to exist in some portions of so called "network industries" such as electricity, railroads, natural gas, and telecommunications. Because productive efficiency requires that only one firm exist, natural monopolies are typically subject to government regulation. Regulations may include price, quality, and/or entry conditions.

18. While neoclassical theorists argue that natural monopolies do not exist (see DiLorenzo, 1996)[6], this claim has been rejected by mainstream economics since the issue was identified by John Stuart Mill in 1848. Examples of both privately and government built natural monopolies abound. Notably many of these products were initially built by private enterprises, and after an initial phase of competition for-the-market developed into privately held monopolies (see for instance railroads) which were subsequently nationalised or regulated.

19. Notably in each case of a product that is a natural monopoly there will often be downstream services, and these will often not be natural monopolies. For instance, a nationwide electricity grid might be a natural monopoly, but licensed energy retailers (or generators) are not. Energy retailers compete for market share and if they raise price they might expect to lose market share. This has led to the removal of price controls, though these have been reintroduced in cases where the demand-side of the market has proved insufficiently engaged to provide the incentives to drive effective competition.

20. Another example of a natural monopoly would be a rail network, though again the rolling stock that operate on the network may or may not be. For instance if economies of scale are such that only a single operator per line is viable then operating rolling stock on each line might be a natural monopoly. For example if no rival operator would want to enter if price increases 5% then it's a natural monopoly and is likely to require a degree of price control.

21. However, if multiple operators are viable, for instance on more popular railway lines, then operating rolling stock on that line would not be a natural monopoly. In such circumstance if the regulator nevertheless decides to allocate exclusive rights to operate a concession/franchise on the route then the product would be either a default publicly-funded monopoly (see 2.2) or a legally protected monopoly (in some cases these may be statutory monopolies) (2.3).

22. Other classic examples of potential natural monopolies include infrastructure such as ports, tunnels and bridges. In each case, depending on the nature of the costs a market might be more efficiently served by a single product than by more than one. For example, long distance tunnels (such as the channel tunnel), or bridges (such as the Isle of Skye), might qualify given the ratio of fixed costs to demand, while shorter crossings (such as across the Thames) would not.

2.2. Category two: publicly-funded monopolies

23. A second category for which there might be competition for-the-market are publicly-funded monopolies. In these cases the rationale for public funding is (usually) that sufficient provision of the product is non-economic in the absence of State intervention.

24. For instance, governments often purchase healthcare services on behalf of the population. This reflects the under-provision of such services by free markets. In such cases government often becomes the sole purchaser of the service in a local area. In such circumstances if the government decides to purchase exclusively from a single firm then the only type of competition that can exist is competition for-the-market. Notably this does not necessarily follow from the characteristics of the service but follows directly from the government's choice to purchase from one firm, rather than from multiple firms that then compete within a market.

25. Another example might be an infrastructure project that is not economic even for a monopolist. For instance a long tunnel or bridge. If it is not economic even for a monopolist then it is not a natural monopoly (which are economic for one firm but not for two). To exist it therefore requires that government build it, usually because government will consider benefits of the project that cannot otherwise be captured. In such cases governments will not fund more than one firm to build uneconomic infrastructure (though they might regulate access to it).

26. Where the government is the only purchaser of a product, and it chooses to purchase exclusively from a single firm, it therefore creates a publicly-funded monopoly market.

27. One possible rationale for governments deciding to purchase exclusively might be that there are economies of scale or scope from doing so. For example in a given region it may be more efficient to have a single emergency department supported by a single ambulance network, than to have multiple departments of multiple ambulance networks. The same might apply to waste collection services.

28. There are numerous examples of such products and services. Notably new examples continue to arise in new technologies where free markets fail to invest in these products under certain market conditions, resulting in underinvestment that can limit an economies scope for inclusive growth. Recent examples include rural mobile 4G and superfast broadband.[7]

2.3. Category three: legal monopolies

29. The third category are legally protected monopolies. The most obvious example of which are certain patent protected products that cannot be copied due to the intellectual property rights held by their owner. Only a minority of these products will be monopolies however, because in most cases the legal protection that is granted to the product is not sufficiently broad as to protect the product from competition from differentiated products that have the same function and which consumers can therefore switch between if prices increase. However it is often true that breakthrough innovations will for a period of time find that they are both sufficiently differentiated from other products with the same function, and that they enjoy legal protection from competitive entry by rivals wishing to produce a copy of the same product.

30. A slightly different type of innovation that is relevant here is the innovation that goes into an artistic creation. For example a song, a film, or a painting each enjoy legal protection against copying (so-called “pirate copies”). While these properties likely compete in-the-market against other works, they are also differentiated and so given the added legal protection against direct imitation, they can often charge a price significantly higher than the marginal cost of reproduction. Whether this price margin is sufficiently higher than a competitive price (which would need to include a share of the fixed costs incurred in producing the piece of work) as to constitute an antitrust market will typically vary depending on the work in question.

31. Away from innovation, other products that enjoy legal protection include exclusive rights awarded by the State (or another entity). For example the right to exploit natural resources, to use bands of electromagnetic spectrum, or to televise events such as sports tournaments. Depending on the nature of the potential substitutes that exist these may each also constitute markets that are monopolies by virtue of the legal protection they enjoy. However in the absence of strong efficiency reasons for not doing so, it is straightforward for the State to create competition in-the-market by dividing these rights into separate

exclusive lots. For example, awarding separate sections of spectrum to different bidders, and breaking extraction or dividing broadcasting rights packages into separate lots. In some cases awarding entities may also decide against awarding exclusive rights, even to smaller lots, and they may instead award non-exclusive rights in order to strengthen competition in-the-market that follows. It is worth noting however that if the goal is not efficiency but instead revenue maximisation then division into lots (or other auction design choices) might not make sense). However multiple non-exclusive licensing can be very effective in developing and improving a product, see for instance open source code (such as that behind Linux or the Libra Blockchain) as well as the broad licensing of basic research conducted by universities.

32. One further example to mention is that the legal rights might also relate to physical property rights such as real estate and land more generally. In this sense, as Posner & Weyl (2018) note, exclusive property rights can amount to a monopoly since each property is to some degree unique in its positon and nature. They highlight for instance the problems and huge mark-ups that these monopolies on land packages can create, particularly when they are required in order to complete an infrastructure project. They therefore argue in favour of removing unlimited exclusivity rights to land, and the replacement of these with conditional rights. Such rights are to some extent conditional already in the sense that in some jurisdictions land can in certain circumstances be purchased through compulsory purchase orders. However the proposal from Posner & Weyl is that the property right be released when a buyer meets a specified release clause that the owner puts on the property (and on which the owner pays tax, in order to incentivise them to place an accurate estimate of their valuation of the property). The expectation being that by increasing competition in the property market in this fashion, house prices would be radically adjusted to make cities more affordable for the citizens living there.[8]

2.4. Category four: platform monopolies

33. A third category for which there might be competition for-the-market, or competition in-the market, are "platform monopolies". These are products with powerful network effects. These effects generate increasing value to scale. By which we mean that the value or willingness to pay for the product grows, sometimes exponentially, as its scale increases. Examples might include social networks, mobile networks, digital retail and digital search products in which the network effects are sufficiently strong as to drive competition for-the-market, rather than competition in the market (the so-called "winner-takes-all/most" dynamics). To be clear, this paper does not take a view on whether the strength of the effects in existing digital products meet such a threshold, only that such a threshold must exist. It is worth noting that such a threshold was considered by many to have been met in relation to mobile networks, and hence to necessitate the mandating of portability and interoperability across mobile networks, and that having examined the issues, a number of the recent Digital Competition reviews are of the view that the threshold has been met in the cases of existing social networks, digital retail and digital search products (see Furman et al., 2019, Crémer et al., 2019 , Scott Morton et al., 2019, Haucap, 2019 and ACCC, 2019).

34. It is true that these products may *also* feature traditional supply-side economies of scale with ultra-low marginal costs following substantial fixed costs investment, but these are generally not of an order to drive competition for-the-market. Indeed the multiplicity of firms that make these fixed investments in developing algorithms for different purposes demonstrates as much.

35. Where the network effects are sufficiently powerful some might label these as ‘natural’ (demand-side) monopolies in the sense that they derive from exogenous market conditions and not government or firm behaviour. However, the fact that they derive from demand-side factors makes these importantly different from ‘natural’ (supply-side) monopolies. In particular, the flexibility of demand, relative to the inflexibility of fixed cost investment in achieving economies of scale, means that these market have at least the potential to *occasionally* re-tip if demand shifts, while supply-side economies of scale will not. For instance a rail network will never re-tip, it may be usurped by a flightpath, a road, or a bullet train, but co-ordinated switching alone would not pose a threat.

36. Recognising the potential for these markets to re-tip, is however not to underestimate the difficulty of co-ordinated switching, and hence not to overestimate the likelihood that they will re-tip without the interoperability measures that were applied in mobile telecoms and which address the underlying co-ordination problem that drives the nature of competition in these types of market. In particular, it is this co-ordination problem that prevents users from capturing the value of the externalities that they bring to the network. These products are therefore particularly vulnerable to the risk of rents being captured by the platform operator that can act as a bottleneck between users while internalising that value. Exceptions might include Wikipedia and open source software such as Linux.[9]

37. As with legally protected monopolies (category 3), the rent can provide a helpful incentive to innovate and build a new product that captures the market. However, unlike under typical intellectual property regimes there is potentially no time limit on the monopoly. Instead, as with land rights, the rent that may accumulate may far outweigh the incentive that is necessary to generate the original innovation. This might mean that a fierce period of initial competition is followed by a lengthy lack of competition. It is notable, for example, that policymakers put a time limit on concessions, and for patent applications require the release of information sufficient to reproduce, and hence after an appropriate period time, to undermine, any monopoly that is built upon the intellectual property that is being claimed. Policymakers may therefore want to put in place mechanisms to ensure that the monopolies that these firms construct can, after an appropriate period of time, be deconstructed (allowing rents to revert to users).

3. Concessions

38. As we have seen, there are different types of market in which competition for-the-market can be found. In this paper however we focus on those markets where the government’s response to the different nature of this competition, and particular the lack of competition in-the-market is to offer time limited concessions in order to facilitate entry and exit and stimulate competition for-the-market. This reflects both the importance of these concessionary markets, and the particular challenges that competition agencies face in advocating and enforcing within them.

39. As we noted, concessions might conceivably be offered in each of the categories discussed. That said, we will focus on the most common types, that is in cases of natural monopoly, publicly-funded monopoly and some legally protected monopoly markets. We note that the challenges of rethinking antitrust enforcement in digital platforms have already been addressed (OECD, 2018), and we leave the question of whether some platforms are in fact monopolies, and the debate over what competition agencies should advocate for in those markets to a future discussion.[10]

3.1. What is a concession?

40. A concession is a grant of the delegated right to operate a defined service and to receive revenues deriving from it (OECD, 2007). A concession could for example be granted to operate a port or airport, to provide transport, heating or water and sanitation. The concessionaire takes possession of the relevant assets (but ownership usually remains with the government) and uses them to provide the relevant product or service according to the terms of the contract. Concessions therefore differ from simple procurements in which the government itself pays a contractor to provide works, supplies or services.

41. In a market where concessions are offered, the concessionaire sells to the users. However, it also bids to "buy" the concessionary contract from the government (the seller of the concessionary right to operate the service). Hence when considering the value that consumers obtain from these markets, competition agencies need to consider the value offered both to users (who buy the service and so might be vulnerable to monopoly market power) and to government (who sell the rights to the concessionaire and so might be vulnerable to monopsony market power). The lack of scrutiny of monopsony market power by competition agencies suggests that this aspect of concession markets might pose challenges, particularly if agencies interpret the "consumer" in the consumer welfare standard in a literal sense. As noted by Hovenkamp (2019) and the OECD (2019), the consumer welfare standard should instead be interpreted more broadly to take in the efficient interests of citizens.[11] This therefore includes both their interests as taxpayers and citizens on whose behalf government decides to delegates rights when it offers a concession.

42. It is however worth noting that as the government here is not acting as a State-owned enterprise, but is instead offering rights on behalf of citizens and taxpayers, the standard result that countervailing buyer power among concessionaries might result in lower prices for users does not apply (as it often does in other markets with powerful input sellers). Instead the exercise of monopsony market power can be expected to harm both citizens and users (who obviously overlap considerably).

43. Notably the price at which the government sells the concessionary right might be positive, but may also be zero or negative. For example, it might invite bids and award the right to the bidder that is willing to operate the service in exchange for the lowest subsidy. In such cases the reliability and quality of the service may also be key aspects of the bids that potential concessionaires make, and hence should be considered by competition agencies as a relevant dimension of competition.

44. The economic analysis of a concession is therefore essentially the same as that of a competitive procurement, except that in some cases there is also scope for additional competition for users between the concessionaire and other rivals (though of course in those cases competition for the concession does not amount to competition for-the-market).

45. Unfortunately data on the value of concessions that are offered in different countries is not available, however Saussier & Tirole (2015) report that concessions in France account for a volume of business amounting to over EUR 100 million a year, or approximately 5 % of French GDP.

Box 1. Differences between concession and public procurement under EU law

The main difference between a concession and a public contract is that in a public contract a company is paid a fixed amount for completing the required work or providing a service, while in a concession, a company is remunerated mostly through being permitted to run and exploit the work or service and it is exposed to a potential loss on its investment.[12]

Directive 2014/23/EU,[13] defines concessions as "contracts for pecuniary interest by means of which one or more contracting authorities or contracting entities entrusts the execution of works, or the provision and the management of services, to one or more economic operators. The object of such contracts is the procurement of works or services by means of a concession, the consideration of which consists in the right to exploit the works or services or in that right together with payment. Such contracts may, but do not necessarily, involve a transfer of ownership to contracting authorities or contracting entities, but contracting authorities or contracting entities always obtain the benefits of the works or services in question."

Even before the 2014 Directive entered into force,[14] the EU Courts clarified that "the difference between a public service contract and a service concession lies in the consideration for the provision of services. A service contract involves consideration which, although it is not the only consideration, is paid directly by the contracting authority to the service provider [..], while, for a service concession, the consideration for the provision of services consists in the right to exploit the service, either alone, or together with payment […]. While the method of remuneration is, therefore, one of the determining factors for the classification of a service concession, […] the service concession implies that the service supplier takes the risk of operating the services in question and that the absence of a transfer to the service provider of the risk connected with operating the service shows that the transaction concerned is a public service contract and not a service concession."[15]

The importance of risk allocation has been recently confirmed in the Opinion of Advocate General Sharpston delivered on 21 March 2019 in Case C-526/17, *European Commission v Italy*:"[t]he very nature of a concession is that the majority of risk must pass over to the concessionaire. Thus, in contrast with other types of contract, the concessionaire […] must accept the inherent element of future risk when entering into the initial contract". Advocate General Sharpston also noted that "[o]rdinary commercial prudence will ensure that the need to factor in such risk will affect the bid that is put forward and/or the detailed negotiations for the contract itself."

3.2. Why are concessions offered?

46. In each of the categories in Section 2 the government might decide to offer a concessionary right to serve the market.

- Governments may decide to build and own *natural* monopolies that offer large economies of scale, and then offer a concession to operate the service. This allows them to obtain those efficiencies for taxpayers. In particular they might themselves build and maintain the product, and then tender for someone to efficiently operate the service as a concession. Alternatively they might build the product and tender for someone to maintain and operate the services as a concession. Another option is to contract or partner with a private firm to build and maintain (and finance) the product, and then tender for someone to efficiently operate the service as a concession.

- Where there are *publicly-funded* monopolies (e.g. when the product is non-economic in the absence of government intervention), the government may offer a concession to operate the service that it is funding. As with a natural monopoly, the concessionaire might also need to build and or maintain the product, as well as operating the service. In each case there is also an alternative option of dividing the concession into exclusive lots (franchises), or into non-exclusive lots, and thereby introducing competition in-the-market. For example this is common in healthcare, education and airport slots.
- Governments might offer concessions on *legally protected* monopolies such as the right to operate a national lottery, or the exclusive rights to broadcast sport or other high-profile events.
- Finally it is conceivable that concessions might be offered on *platform monopolies*. For example, concessions to operate physical markets that helped generate network effects such as meat, fish, or fruit & vegetables markets. There are not yet any examples in digital platforms, though there have been suggestions that there might be a public policy objective in creating some digital platforms, the operation of which might then be offered as concessions. For instance, it has been suggested that online local newspaper content in the UK could be hosted by the BBC (while others have proposed the BBC offer a public option for a social network),[16] while in Chicago and New York local authorities considered building a ride-hailing application, which might have led to the offer of a concession on building, maintaining and operating a platform that returns more of the value of the cross platform network effects it generates either to taxpayers, or to users on each side of the platform.[17]

47. Offering a concession moves risks away from the taxpayers and towards the private sector. They transfer production risks (over-runs on build cost), operation risks (over-runs on operating costs), and demand risks (from uncertainty or mis-estimation of demand). For example in some cases a concession might simply cover the operation of a service, and entitle the concessionaire to earn revenue from charging users for that service, but in others it might also include the (partial or entire) funding and building and/or maintenance of the infrastructure that is required to deliver that service.

48. Where building and/or maintenance are included this affects the incentives for the firm to invest in the infrastructure. For example, concessions offer one way for governments to incentivise long-term investment in infrastructure since giving firms a right to the revenues that flow from investment can be expected to incentivise higher investment levels. However, an alternative is for governments to themselves commit to funding such long-term investments. While some governments may struggle to find the political will to make and keep a commitment to do so, it is notable that government does have the advantage of being able to take a more patient approach to long-term financing of investment than capital markets.

3.3. How are concessions offered?

49. Concessionary rights may be sold in different ways, for instance just as the government procures and purchases goods and services through competitive tenders or auctions, competitive negotiations or beauty contests, it may sell rights using the same methods. There could be many parameters to a concession agreement, including specification of prices that will be paid by users, of investment, of levels of service or of fees to be paid to or by the government. The agreement is of limited duration which can also be made conditional on reaching certain targets. For instance, Saussier & Tirole (2015) note that the contract for the Millau viaduct in France was for a duration of 78 years but offered the option, valid from 2044 onwards, that the contract be terminated early, once the actual cumulative turnover generated exceeds EUR 375 million.

50. Concessions are typically regulated, even if they are awarded through a competitive process. For instance, concessions on natural monopolies may still be subject to price regulation that prevents exploitative abuse of the dominant position that they have acquired (see Section 4.3.2 below). This might for example take the form of rate-of-return price regulation or a price-cap. Similarly non-exclusive concessions e.g. to provide a healthcare service from a specific facility will still be subject to inspections of the facility, assessment against targets, and regulation of the staff they employ to ensure minimum quality standards. Other forms of regulations include access requirements when the concessionaire is or may likely be active in the vertically-related markets. Offering a concession should therefore not be considered to be a substitute for regulation.

51. In deciding to offer a concession a government will usually consider alternatives including whether to directly provide the service, whether to privatise it, to competitively tender it, or to stimulate competition in-the-market. In Section 3.4 we consider the disadvantages of privatisation, before turning in Section 3.5 to the relative merits of competitive tendering as an alternative to direct provision and competition within-the-market.

3.4. Concessions as an alternative to privatisation

52. In markets where competition is for-the-market, a government can keep barriers to entry low by offering a concession for a limited duration and not selling (privatising) the assets. This can ensure that the competition for-the-market is stronger than it otherwise would be. For instance choosing not to privatise a natural monopoly creates a competitive incentive for the firm, SOE, or not-for-profit that wins the concession to provide a better value service than it otherwise would.

53. Indeed it is unclear what benefits there are from privatising the ownership and operation of services such as natural or publicly-funded monopolies. Research suggests that there is little evidence that any given model of ownership is intrinsically more efficient than the other possible models (see work by the UNDP, 2015, Bel et al, 2010, Estache et al, 2005, Estrin et al, 2009, Andersson et al. (2011) and Knyazeva, Knyazeva & Stiglitz, 2013). Moreover, even if the privatised entity were to prove to be a more efficient provider, its incentive in such a market is to set price at a monopoly level, and if price regulation prevents it, to instead underinvest in quality or capacity.

54. Regulating to remove this scope for excessive pricing and inadequate quality is complicated by the need to extract the necessary information from an unwilling monopolist on both price and potentially multiple dimensions of quality. Moreover, without any incentives, it is unclear how to require efficient delivery unless there is: a) a clear,

exogenous and analogous benchmark against which to assess performance; and b) an effective mechanism to hold the firm accountable for failing to meet that standard.

55. The result is that where competition is for-the-market policymakers face a choice between operating the service themselves (direct delivery) and using competitive incentives. Such incentives can be generated by competitively tendering the opportunity to operate the service under a concession, or by creating scope for competition in-the-market.

3.5. Competitive tendering of concessions

3.5.1. Competition for-the-market vs competition in-the-market

56. In the case of natural monopolies with steeply declining long-run average and marginal-cost curves, there is often room for only one firm to fully exploit available economies of scale and supply the market. In such cases competition in-the-market is not feasible. However, in the case of publicly-funded or legal monopolies, the efficiency grounds for offering an exclusive concession and relying on competition for-the-market are weak. Instead there is often scope to stimulate more effective competition-within-the-market. For example, multiple concessions might be offered on different packages of sports games, on different mining areas, different landing slots, or on different parts of the spectrum. Where a plurality of bidders win they will then often compete in a downstream market.

57. This competition in-the market gives rivals an incentive to compete on the aspects of the service that users value (provided they can observe these), rather than on those aspects that the procurement officer values. Since users can be expected to put more weight on the importance of quality this then helps to ensure that the market delivers better value (higher quality, more innovative services at low prices), and not only cheaper services that cut-corners on quality in order to reduce prices. Such corner-cutting is a particular risk because writing contracts that hold providers to promises made in bidding documents is difficult when quality is multidimensional and difficult to verify or benchmark.

58. Giving informed users, rather than procurers, the right to choose, also increases the level of competitive pressure. It incentivises the provider to compete for each user, every year, and hence to perform every year against users' diverse priorities. In contrast, offering exclusive concessions removes the provider's risk that it will lose revenue to rivals during the course of the contract, and hence focuses the competitive incentive on a point in time at which the contract is due to be renewed. Such contracts typically last for many years, making the threat to a provider's funding stream a less immediate one.

59. Furthermore, the threat of a procurer switching a contract may be less credible and hence the competitive constraint a weaker one. Where a procurer chooses, providers do not compete for the marginal user amongst a heterogeneous user group, and therefore non-marginal users are no longer protected by the provider's incentive to compete for marginal users that are more sensitive to changes in quality. Instead the incentive is to compete for the preference of an evaluator who looks at the average user, does not use the service themselves, and may trade-off cost-savings and continuity (and the inconvenience of running a competitive procurement) against user welfare. There is also a risk that incumbency advantages develop during a contract, and that future governments may decide against a competitive renewal process, thereby undercutting the incentive to build a good reputation by performing well against promises made in a bidding document.

60. This means there are good reasons for governments to introduce in-the-market competition in the operation of the service *unless* there are large and well-evidenced efficiency losses from such competition. Where competition in-the-market would reduce efficiency, they may wish either to offer an exclusive concession, or, if there large incomplete contracting risks or transaction costs, to directly operate it using the threat of contestability to incentivise efficiency. We consider these options below.

3.5.2. Competitive tendering as an alternative to direct provision

61. Traditionally the argument for competitively tendering a concession to operate a service – rather than having the public sector directly provide it – was that any organisation operating a monopoly lacks the competitive pressure to perform efficiently and is unable to rely on demand and supply market information.

62. In the past some might have added that the accountability of a private firm to shareholders is a second advantage. However, it is not clear that there is any theory or evidence to support this claim. In any case, shareholder primacy is increasingly rejected as the primary objective of private firms.[18]

63. In addition, it has become clear that competitive tenders, and outsourcing – as opposed to the credible threat of tendering – are not necessary conditions for the application of competitive pressure to public sector service providers.

64. For example, while there is evidence of cost savings when more homogenous services such as waste disposal, (see Szymanski and Wilkins, 1993) are put out to tender, evidence suggests that these savings are declining over time. For instance the meta-study by Petersen, Hjelmar & Vragbaek (2018) finds cost savings of 4 % that fell between 2000 and 2014. Similarly, recent meta-study by the Institute for Government (2019) found savings in the range of 5-10 %. However the authors caution that most studies fail to control for quality and so it is not possible to conclude whether value is improved or not.

65. A useful insight into the reasons for the decline in cost savings is offered by Sturgess, (2015) who describes the way in which the productivity and quality of Sydney Water was dramatically improved through a contestability approach that created a credible threat of outsourcing in order to incentivise the delivery of improved productivity by the public service provider.

66. Similar results were evident on the UK's east coast mainline franchise which was taken back into public operation when the private provider, National Express, defaulted on its contract. The public operator that took over the franchise increased passenger numbers, revenue and profit, enabling it to hand back to government greater revenues than the private provider had been able to achieve. However despite this success, the franchise was re-tendered and the public provider ("Directly Operated Railway") was prevented from bidding and disbanded. This decision to distort competition and breach the principles of competitive neutrality, ended in failure when Virgin Trains, the winner of the re-tendering exercise, again defaulted and handed back its contract in 2018.

67. However if the credible threat of tendering helps to achieve cost savings, why would government not insist that every contract is competitively tendered? To which the answer is that tendering processes for concessionary rights face a number of serious challenges. Most fundamentally, on whether it is possible to write complete contracts that hold bidders to the promises they are incentivised to make during the bidding process. This means writing contracts that cover all the possible dimensions of quality, as well as constructing contractual penalties that are effective in incentivising firms to deliver on

promises made, while not so high as to remove the scope for competition amongst bidders. Where this is possible, the size of the transaction costs incurred in running such a process need to be compared with the benefits. For instance, concessions can give arise to substantial costs, especially in "complex services with high asset specificity and low (or highly expensive) measurability" (Petersen, Hjelmar, Vragbaek, 2018). We return to these issues in Section 5.2.1.

68. These challenges suggest that there should not be a default position or presumption that concessions will be competitively tendered. Instead, as identified in 3.5.1, wherever possible, competition within-the-market should be the default. Furthermore, in those cases where that is not possible, as in the case of natural monopolies, the costs and benefits of competitive tendering should be carefully compared with those of direct provision under threat of competitive tender.

4. Antitrust enforcement on concessions

69. There are a number of enforcement challenges in markets where governments offer concessions. Some arise from the nature of competition (which is often for-the-market), others from the design of the concession. We address both in this Section.

4.1. Market definition

70. For many agencies an important first challenge in relation to cases involving concessions is market definition. A key issue is the question of when a concession is the relevant market, and when is it not?

71. The first thing to note is that a concessionary contract is not a market if either the buyers (the users) or the rights seller (the government) can substitute into purchasing (or selling) a different product if the offer from a hypothetical monopolist was uncompetitive. However, in markets for *bespoke products,* this is rarely the case for the seller who cannot simply change the rights that they are selling. Depending on the product, the users might have some scope to switch product, for example in travel franchises where they might switch mode of transport (though not in electricity grid, water system operator etc), however in many cases the sensitivity of the demand for say rail travel to the price of air or bus travel, might not be particularly large. Therefore it seems likely that a competition agency would often reach the conclusion that the relevant market is in fact the concessionary contract itself.

72. A concession typically specifies the geographic scope of the right that is granted and so again the government as the seller of the bespoke product has no real scope to change that location. Again the users may have more scope, particularly we might think of their choice between ports, or between airports as potentially substitutable. However for utility networks or railway line franchises it would not be the case. Hence in such circumstances, market definition in effect ceases to be a useful analytical tool and it is advisable to move directly to competitive assessment.

73. In particular this competitive assessment would look at the competitive constraints that apply as result of a government's willingness to sell the concessionary right to a rival (and not its willingness to switch to a different bespoke product, in this case a different concessionary right). This leads competition agencies to look at a set of different bespoke contracts (different markets) in which broadly the same set of firms might have been credible bidders in order to assess the competitive constraints on each firm. In some jurisdictions this competitive assessment is conducted within a 'market definition' exercise and the results are

used to aggregate markets for bespoke contracts (see UK Rail franchises).[19] However, the contorted logic of undertaking a competitive assessment in order to define a market that is supposed to help an agency to assess competition, is both unnecessary and risks leading to analytical mistakes (see Kaplow, 2010, 2013 Katsoulacos, 2016).

74. It is therefore advisable to dispense with market definition in the case of bespoke bidding markets. However where courts insist on agencies providing a definition, agencies can and should follow the analytical framework of the hypothetical monopolist and define bespoke concessions as individual markets (except where users would substitute away from the concession in response to a small but significant non-transitory increase in price). While these may be numerous, and each with a single incumbent with a 100% market share, this at least avoids the confusion of conducting a competitive assessment and calling it a market definition.

4.2. Merger control

4.2.1. Change of Control

75. In merger control the first question on cases involving concessions is whether the concession is an undertaking, and whether the award of the concession results in a change of control of that undertaking. This determines whether the award might need to be notified as a merger.

Box 2. Concessions as "concentrations" under EU and national merger control rules

Under certain conditions, a concession may constitute an "undertaking" under merger control rules and, therefore, be subject to notification requirements.

European Union

Case M.7483 - *Abellio Transport / Scotrail*,[20] concerned the award – through a competitive bidding procedure – to Abellio Scotrail of the provision of railway passenger services on the rail network in Scotland for an (extendable) period of seven years. In this case, the European Commission concluded that the concession constituted an undertaking resulting in a "change of control on a lasting basis" – rather than an outsourcing or service contract – for the following reasons: a) the concession would generate revenue through concessionaire's directly contracting with passengers; b) the concessionaire would retain this revenue; c) the concessionaire would employ significant assets (staff and leased rail vehicles) to operate the services; and d) the concessionaire would take commercial decisions and influence strategic decisions on the concession, bearing (in part) the commercial risk. The European Commission unconditionally cleared the transaction.

Greece

Decision No. 626/2016 concerned the notified acquisition by Fraport AG (in a consortium) of 14 Greek regional airports through concession agreements for the upgrade, maintenance, management and operation of Cretan, Continental Greece and Ionian Sea regional airports for a period of 40 years. This concession was awarded through a public tender procedure launched by The Hellenic Republic Asset Development Fund SA ("HRADF").

The Hellenic Competition Commission considered that the concession period was sufficiently long that it would lead to a lasting change in control and it unconditionally cleared the transaction.

Portugal

Case n° 78/2007 - *CLT / Concessão TGLS* concerned the award – following a public bidding procedure – to GALP Group ("GALP") of a concession to operate the Port of Sines' bulk liquid terminal for a maximum period of 30 years. During the merger review process, GALP argued that the concession did not constitute a concentration because the terms of the concession imposed on GALP a close monitoring by the awarding authority as well as some compliance obligations. The Portuguese Competition Authority ("AdC") found that the award amounted to a concentration because all the relevant exploitation rights were assigned to GALP on a lasting basis. It is worth noting that the AdC cleared the transaction in "second phase review" and that its initial concerns were countered by the obligations (e.g. price regulation, non-discriminatory access to third parties) GALP was subject to under the sector regulation and the concession terms.

The United Kingdom

Under the merger control provisions of the Enterprise Act 2002 in conjunction with the Railways Act 1993, the Competition & Markets Authority ("CMA") may look into the award of UK rail franchises to ensure that no competition concerns arise. In 2018, the CMA published a guidance on "Rail franchise mergers", where it noted that "[p]assenger rail services in the UK are procured under a variety of models. The nature of the franchise or concession may affect whether it qualifies for investigation as a merger." [21] This is demonstrated by the two cases below:

- In case ME/6820/19, the CMA reviewed the Department of Transport's award to Abellio of the East Midlands rail franchise. The case was referred to the CMA by the European Commission. The CMA investigation identified competition concerns on two routes as Abelio was already operating another service on the same line. The CMA cleared the transaction subject to Abellio's commitments on inflation-linked fare caps.
- In case ME/6498-14, the CMA reviewed the award to MTR Corporation (Crossrail) Limited ("MTR") of a concession by Rail for London Limited ("RfL"), a subsidiary of Transport for London ("TfL") to provide Crossrail services for eight years (with a possible extension to ten years). The CMA could not exclude the possibility that the concession was an "enterprise" (since key assets and staff were being transferred). However, it reached the view that TfL and RfL in offering the concession retained control over the commercial strategy, including over prices and operational service levels, as well as customer-facing and marketing activities. The CMA considered that, on balance, the concession award did not result in a notifiable transaction.

Similarly in its healthcare guidance the CMA clarifies that its jurisdiction to review mergers does not extend to the award of a contract by a commissioner, provided that there is nothing more attached to the contract award (that is, no transfer of assets such as equipment or staff from one provider to another).[22]

However, as in rail, in healthcare the CMA (or the OFT as it was at the time) has also gone further in limiting its scope to examine mergers involving concessions. For instance in the acquisition by SSP Health of concessions to operate 22 General practice ("GP") with 3-5 year contracts the OFT reached the view that there was no merger because the public agency offering the concession (NHS England) retained control of the performance of the services through the concessionary contract which included a number of key performance indicators.[23]

76. The argument that *complete control* of a concession is retained by a seller or a buyer through its contracting arrangement is a peculiar one. If sellers of a concessionary right can specify every aspect of the service that bidders will offer to users then there can be no competition between the concessionaire and any potential rival. That is no competition-within-the-market, nor any competition for-the-market on unspecified aspects of the service (which might nevertheless be important for users and reflected in satisfaction scores). While a seller might – in theory – comprehensively specify the features of goods that it wants bidders to offer to users, this proves difficult even in the case of simple goods, as evidenced by the wide range of vertical restraints that are used to incentivise retailers to offer the product to users in the way that the manufacturer would like. It therefore seems scarcely credible that a seller can do so in relation to the operation of a concession where the dimensions of the service are many and complex. It would therefore make sense to apply a large degree of scepticism to any such claims in order to avoid providing a loophole that potentially permits anti-competitive mergers to proceed without analysis of their effects.

4.2.2. Competitive effects analysis

77. It is important that the competitive effects analysis in these cases focuses on substitutability both from the perspective of users (that is substitution between the concessionaire and alternative options, such as alternative modes of transport, alternative sources of energy and so on), and from the perspective of the seller of the concessionary right. For example the seller might be expected to consider a rival bidder for the concession as a strong substitute if a) it has experience providing the service; b) it has operated services of similar scale, in similar locations; c) it has a good reputation from work on previous projects; d) it has not defaulted on contracts, as well as on the quality of its plans for operating the service, and e) it offers strong guarantees on the promised performance.

78. Agencies may also use a number of quantitative tools to assess the closeness of competition. These might include a number of tools that have been employed in mergers involving procurement-bidding markets. However their value in concessionary-bidding markets will depend on the number and frequency of tenders that have occurred:

- Participation analysis, which looks at how often the merging parties competed in the tenders (see European Commission in cases *Atlantia/Abertis* and *Staples/Office Depot*).
- Win/loss analysis, which looks at how often the merging parties lose to each other.
- Winner/runner-up analysis, which looks at how often the merging parties are winner and runner-up.
- Margin analysis, which looks at whether the margins of one party are affected by the participation of the other party in the same process.
- Probit analysis, which looks at whether the probability of one of the merging parties winning is affected by the participation of the other party in the same tender (after controlling for other factors that affect their probability of winning) (see, for instance, *GE/Alstom*).

79. Notably the type of competitive process that is used for the concession can impact which of these tools are most useful. For instance in a descending price auction the winner/runner-up analysis is particularly useful since the impact in those auctions comes down to the difference between bids 2 and 3 (where the merging parties were winner and

runner-up). Coublucq & Federico (2017) suggest that in those cases agencies should look at the average margins made by bidder 2 in other tenders where bidder 2 wins and bidder 3 is the runner-up, since these can be a proxy for the price effect.

80. To undertake this analysis, evidence from past bidding events must be used to assemble a dataset. However, for the dataset and hence the analysis to facilitate reliable insights requires that the data on past bidding events be comprehensive in terms of the characteristics of those bidders that were involved, what they were bidding for, and the content of their bid (at each stage of the bidding). Creating such a dataset can take time and relies on the record-keeping of those running the bidding process. Those offering the concession may also not have the same imperative that the parties do to co-operate in the process of assembling the data. Where data was initially collected through an electronic process this can therefore reduce the burden on the concession offerer and help agencies to compile a useable dataset.

4.2.3. Potential competition

81. Investigating the competitive effects of mergers in concession cases requires an assessment of the potential competitive threat from those outside the market, such as those that have not thus far bid for the concession, but who might be expected to do so in future. It will also need to consider whether mergers involve parties that have not previously bid against one another but which are potentially strong constraints upon one another in the counterfactual in which the merger does not occur (see, for example, the European Commission's clearance of a merger between two motorway concession operators, Atlantia and Abertis).[24]

82. This assessment of potential competition from rival bidders is already more common in concession cases than in the cases of competition for-the-market where an incumbent monopoly is protected by property rights, or by direct or indirect network effects. Nevertheless, the recent proposals for agencies to investigate the reduction of potential competition that can occur when incumbents acquire start-ups in those markets might be equally helpful in concession markets (see for instance the recent threshold changes in Germany and Austria). For instance, the concern identified by Cunningham et al. (2017) that incumbents might mothball the competitive threat that they acquire may apply in concessionary-bidding markets. Similarly, there may be a concern – as in Facebook's purchase of WhatsApp and Instagram – that the acquisition of a potentially disruptive entrant by a dominant incumbent might reduce the level of competition that would have developed, either in the event that the entrant were acquired by a different firm, or that it developed under its own steam. It may therefore be helpful to consider the thresholds that are used to ensure that acquisitions of potential competitors by incumbent concession operators are assessed, as well as the need for valuation analysis (Latham et al, 2019).

83. Given the importance of potential competition in each of these forms of competition for-the market, there is also a strong case for also adopting the more economic approach to decision-making proposed by Furman et al. (2019). This would require agencies to decide cases on the basis of the *expected harm* (likelihood of harm multiplied by the magnitude of harm) rather than on the basis of the likelihood of any harm alone. This recognises that when making decisions in uncertain conditions, it is a mistake to treat equally the loss of a potentially strong competitive constraint and a potential constraint that is weaker (though just as likely to bid).

4.2.4. Merger remedies

84. Where a merger is expected to result in a loss of competition there may be a temptation for agencies to explore behavioural commitments rather than structural remedies. However, as in all mergers, there are serious problems with such behavioural commitments in cases involving concessions. For example, prohibiting the merged entity from bidding when certain concession are offered reduces the number of bidders not just by one (the acquired party), but by 2 since the acquirer can no longer bid (see box #). This therefore risks doing additional damage to competition rather than remedying the harm caused by the merger, especially in markets historically characterised by a limited number of bidders.

85. In other cases merging parties have offered commitments that will need to be maintained for the lifetime of the concession. Since these can run to 50 years (see box #), the cost of monitoring and enforcing these commitments is considerable even if they were to prove effective.

Box 3. Examples of merger control remedies imposed on concessionaires

Belgium

In 2006, the Belgian Competition Council cleared the acquisition of Carestel by Autogrill, subject to conditions.[25] The merging parties were close competitors, both active in the market for the supply of catering services along highways in Belgium. As result of the transaction, the merging parties would have operated 53 of the 57 highway restaurants in Belgium.

In its assessment, the Belgian Competition Council took into account the fact that these services are provided through long-term concessions that represented a high barrier to entry. However, it also noted that these concessions were subject to periodical renewals by way of competitive tenders.

Therefore, one of the conditions imposed concerned a prohibition to the merging parties from participating in (specified) tenders for new concessions and from seeking the renewal or extension of existing concessions. This remedy was imposed for a period of ten years, with the possibility for the parties to request the remedy to be lifted after five years.

France

In 2016, the French Competition Authority cleared the acquisition of 60% of Aéroports de Lyon by Vinci Airports, a subsidiary of Vinci Group, subject to conditions.[26] This transaction followed a privatisation reform for the concessions of Lyon and Nice airports.

In 2010,[27] the French Competition had already flagged potential risks resulting from the privatisation of airport concessionaries and from a vertical integration between airport management companies and companies providing public construction services. In assessing the 2016 transaction, the French Competition Authority's main concern was that the Vinci Group would have been in a position to favour its own affiliates in the award of airport services (although Aéroports de Lyon remained subject to the public procurement rules).

To prevent such risk, the French Competition Authority held that the vertical integration between a public works company and an airport management company would be harmful to competition in the absence of genuine competition in the context of calls for tender.

Accordingly, Vinci undertook a) to ensure greater transparency by inviting to the purchasing committee meetings a representative of the Chambre de commerce et d'industrie Lyon Métropole and of the Direction générale de la Concurrence, de la Consommation et de la Répression des fraudes ("DGCCRF"); b) to ensure a clear separation between members of the purchasing committee and the other Vinci Group entities responding to invitations to tender; and c) to provide a list of the invitations to tender issued and of the successful bidders to a trustee. These commitments were made binding until 2047 (i.e. for the entire duration of the concession).

4.3. Abuse of dominance

86. There are a number of enforcement challenges in markets where governments offer concessions. Some arise from the nature of competition (which is often for-the-market), others from the design of the concession. We address both here as they apply to exclusionary and exploitative abuses of dominance.

87. The prospect that the award of a concession will lead to the concessionaire obtaining significant market power is considerable. For example, if the concession is for the opportunity to operate a monopoly, the length of contract is significant, and the re-tendering of the contract is uncertain (since future government might take the contract in-house), then there may be little competitive pressure upon the winning bidder once it has been awarded the contract.

88. Dominance may also be achieved by those that win multiple lots of a single concession or multiple concessionary contracts, thereby denying others the same incumbency advantages that might be acquired through learning and asymmetric access to information about the service.

89. Even where competitive pressure does exist this may be expected to fluctuate over the course of the concession, and will inevitably be focused on those aspects of performance that are measured and assessed either within the contract or within the bid assessment. This can be expected to lead to any market power being exercised through underinvestment in those difficult-to-measure aspects of performance which are likely to exist within a bespoke concession.

4.3.1. Exclusionary abuses

90. There is potential for exclusionary conduct at a number of different stages. Concessionaires might seek to exclude rival bidders for the concession. They might also look to exclude downstream rivals. Finally there might even be exclusionary conduct by the entity that offered the concession.

91. Focusing on competition for the concession itself we note that a particular concern in concessionary markets might be that a firm offers a predatory bid in order to win the concessionary right, only to then seek to renegotiate the terms ("hold-up") in order to exploit the reduction in competitive pressure that occurs after the contract has been awarded. This also helpfully minimises the need for the firm to sacrifice profit by providing a service that costs more than the revenue that it can earn from the concession. Such a strategy might be expected to succeed where the bidder is able to renegotiate the price after being awarded the concessionary right without triggering a re-tendering exercise due to the extra costs that the public authority will incur if it were to retender the service.

92. In such cases however it may be challenging to distinguish between bids that are predatory, with the intension to exclude, and those that are erroneous or excessively optimistic. However, since the harm that results might be expected to be the same, regardless of the intention, agencies may decide not to concern themselves with distinguishing between the two cases as it would be desirable to discourage both types of bid. The more serious risk is of discouraging genuinely low bids that do not require renegotiating. Hence the challenge is not so different from standard predatory pricing cases where the focus of the analysis needs to be on the profit sacrifice and the prospects of recoupment. For example, recoupment might be demonstrated by a successful renegotiation where the 'changed circumstances' that trigger renegotiation reflect factors that could have been anticipated in the original bid or that were not outside the control of the winning bidder. See box 4 below for an example of a predatory pricing case in a concessionary markets.

Box 4. Predatory bidding by a concessionaire

In the Netherlands the government granted N.V. Nederlandse Spoorwegen ("NS"), the State-owned rail company, the exclusive right to operate all national rail services from 2001 to 2025. The Dutch Competition Authority ("ACM") considered that this right conferred to NS a dominant position on the market.

In 2014 a tender was put out by Limburg's transport authority. NS subsequently won the contract – known as the "Limburg Concession" – to operate the region's rail networks from 2015 to 2025. However in 2017 the ACM fined NS EUR 41 million for submitting a loss-making bid in that tender process.

NS appealed against the decision in 2018. It argued that it did not hold a dominant position on either the national or the regional rail network. It based this argument on the fact that the contract capped prices and required that it operated a certain number of trains on major routes. However, the assessment of market dominance that was commissioned failed to consider such a constraint on the exercise of market dominance.[28] Therefore, while it remains difficult to see how the seller of a concessionary right could unilaterally remove the scope for the exercise of market power by a monopoly/monopsony provider of such a service, the District Court of Rotterdam nevertheless quashed the fine in 2019.

The District Court of Rotterdam also concluded that the offering of the Limburg Concession was in itself proof that the government could unilaterally break up the national rail network in the event that NS deteriorated its service. However, simply having the ability to re-tender does not guarantee that the winner of that tender can necessarily be prevented from exercising market power and deteriorating its service. Indeed the need to re-tender might even demonstrate the inability of the government to prevent the incumbent from exercising its market power in the first place.

The court also found that the agency had not shown that NS's predatory bid for the concession would reinforce its dominance in the national market. However it is not clear why the effect of protecting its monopoly position in Limburg did not constitute sufficient harm for the court.

The case is a particularly interesting one since it shows the court relying on a Chicago-school line of thinking in defence of allegedly exclusionary anti-competitive behaviour by a State-owned enterprise.[29]

93. An alternative method of exclusionary conduct that might be targeted at rivals for the concession is exclusive dealing. As in other markets it is possible that firms compete for the customer relationship, rather than for units or contracts. However, where a concessionaire is able to successfully achieve exclusive (or sufficiently restrictive) contracts with all the relevant input suppliers, and hence engage in input foreclosure against any possible rival bidder for the concession, there is a risk that the concessionaire to extract the monopoly rent from the government offering the concession. While input suppliers will have incentives to act to prevent a reduction in competition between concessionaries, a dominant concessionaire might be able nevertheless to obtain the participation of the input suppliers, either through a divide-and-rule strategy, or by compensating those suppliers using the monopoly profit that it then obtains from the concession (see OECD, 2016). An interesting example of such a case against a concessionaire is provided in the 2007 Madeira River case in Brazil (see box 5).

Box 5. Exclusive dealing by a concessionaire in Brazil

The 2007 *Madeira River* case ended with a settlement between CADE and Construtora Norberto Odebrecht S.A, a builder of large infrastructure projects. The case found that Odebrecht's exclusive-dealing contracts were likely to foreclose the bidding market for the concession of the hydroelectric power plants of Santo Antônio and Jirau, located at Rio Madeira.

Odebrecht held the rights of exclusive-dealing contracts with three of the only four companies able to provide the turbines necessary to build the plants: Alstom, VA Tech and Voith Siemens. Furthermore, the fourth company, General Electric Company, was contractually precluded from participating in the public bids, unless it did so through a consortium with Odebrecht, despite being able to freely supply turbines to the winner consortium.

The bidding was conducted on the price that would be charged to final consumers, with a maximum price of BRL 122/MWh, for a 30 year concession. If Odebrecht as the sole bidder would have bid the maximum allowable price, then the settlement agreed by CADE achieved a 35 % reduction by creating scope for the participation of two additional bidders who forced Odebrecht into bidding BRL 78.87/MWh. For context the present value of those savings amounted to BRL 16.4 billion.

94. Moving down the supply chain, the granting of concessionary rights can also determine the structure of an important input market, and hence may have the potential to restrict or distort competition in adjacent or downstream markets where the concessionaire may also be active or may be considering entry.

95. In these cases, the types of exclusionary conduct that can arise are broadly the same as those that might arise in cases where dominance is not the result of a concession. However the risk that a concession results in a dominant position does make these a frequent area of concern for agencies.

96. For example, concessionaires might refuse to deal with downstream rivals by limiting or restricting access to an essential facility in a downstream market. Alternatively they might engage in margin squeeze, either by raising wholesale prices and cross-subsidising their subsidiary to set predatory prices that exclude rivals from the downstream market, or by setting discriminatory wholesale prices that raise their rivals' costs and soften downstream competition.

97. In such cases a key question is why competition in the downstream market matters if the firm already has a monopoly over an essential input; for example, why can it not already extract all the monopoly rent through its wholesale price? One possibility is that downstream foreclosure also protects the firm's upstream monopoly on the concession by making it more difficult to put together a rival bid in the future. A second is that reducing downstream competition enables the firm to price discriminate in the downstream market and thereby better exploit its market power. A third is that it protects the firm from non-price competition in the downstream market. A fourth is that it if the downstream rival has some, albeit limited, input substitution possibilities then by discriminating the firm can increase its downstream profit by more than simply raising the concession price would. Finally, it might be the case that the price that the firm can set upstream is capped and its ability to extract rent through its concession price is therefore limited.

Box 6. Using concessions to squeeze margins

In Europe, agencies typically focus on whether the gap between the firm's concession and downstream prices is too small to allow a rival to compete effectively. The European Commission's 2009 prioritisation guidance suggests that an integrated firm's costs are sometimes used in order to understand whether an equally efficient competitor could compete effectively.[30]

However, as noted in the OECD roundtable on Margin Squeeze (2009) this can be too lenient to the dominant firm. For example, rivals might be less efficient due to a lack of scale or experience. While the prioritisation guidance from the EU suggests that margin squeeze cases will be assessed against a refusal to deal framework, the courts have clarified that margin squeeze cases do not need to meet the requirements of a refusal to deal case.

As set out in *Oscar Bronner*, the test is: a) the refusal must be likely to eliminate all competition in the secondary market on the part of the person requesting access; b) there is no objective justification for the refusal; and c) the service in itself is indispensable to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence.[31] This third condition will be met in the case of natural monopolies, and so where concessions are used to deliver natural monopoly services, margin squeeze will be a particular concern.

In contrast, in the US, courts have followed an approach in which margin squeezes practices are analysed under either a refusal to deal or a predatory pricing framework. For instance, in *Pacific Bell Telephone Company v. LinkLine Communications Inc*.,[32] the Supreme Court stated that in the absence of a duty to deal and a lack of predatory prices at the retail market, the incumbent "is certainly not required to price both of these services in a manner that preserves its rivals' profit margins". Under this view, regulators, relying on the economic principles of access pricing, should deal with any other margin squeezes cases.

In Mexico in 2003 the Federal Competition Commission (CFC) found Ferromax liable for monopolistic practices in a case involving margin squeeze by a concessionaire.[33] The case involved the Mexican Railway System which was divided into three regional trunk line concessions, Northeast Railway (TFM), North-Pacific Railway (Ferromex) and Southern Railway (Ferrosur); and one shared terminal in the Valley of Mexico to interconnect their tracks and handle their services.

As described in Mexico's contribution to the OECD roundtable on margin squeeze (2009), the Mexican Railway System "is designed so that the different concession holders can move freight on any route using rights-of-passage and interline traffic. In this way, although the concession holders do not compete directly along most of the routes, the system's configuration seeks to ensure complementarities with other means of transportation to provide users with different options."

The conduct in question involved: "i) artificially raising (i.e. excessive) tariffs for interlinear traffic and registering them as the Unique Tariff for Express freight (TUCE); and ii) charging car hire services twice to increase TFM's costs and to displace it from the market." These increased the cost of interconnection and transport in traffic along several interlinear routes where the origin railway was TFM, as well as duplicate charges for car hire services. The effect was to leave Ferromex as the sole provider of this service along its exclusive routes. Based on these findings, the CFC ordered Ferromex to set interlinear traffic service tariffs per kilometre no higher than the minimum tariff charged by Ferromex to its exclusive route customers transporting similar products. The CFC also ordered Ferromex to charge car hire tariffs in traffic along interlinear routes no higher than the minimum tariff charged to its exclusive route customers.

98. Adopting a predatory pricing test for margin squeeze cases may however be problematic. As identified by the EU and Canada in the OECD roundtable on margin squeeze, a vertically integrated firm can foreclose its rivals without pricing below cost and hence without violating the rules against predatory pricing.[34] Using a predatory pricing framework for margin squeeze cases therefore risks permitting anticompetitive conduct that harms consumers. Furthermore, since a margin squeeze might be put in place using excessive concession prices rather than below cost downstream prices, the concern that enforcement action against margin squeezes may have a potential chilling effect on price cutting behaviour does not apply in the same way that it does to predatory pricing.

99. Finally it should also be noted that the risk of exclusionary conduct is not limited to conduct by the concessionaire. It may also feature in the conduct of the entity awarding the concession. See for instance the Luton Airport Bus case and the Egyptian Football broadcasting rights in box 7.

Box 7. The award of an exclusive concession as exclusionary abuse

Luton Airport Bus case

In 2014, the English High Court ruled on a challenge brought by Arriva against a concession agreement between London Luton Airport Operations ("Luton Airport") and National Express granting National Express, through a tender process, a seven-year exclusive concession for the operation of coach services from Luton airport's bus terminal to London Victoria coach station.[35]

Luton Airport granted this exclusive concession in exchange for a share of the National Express revenue generated through the service (and a minimum guaranteed payment). This concession was due to run for seven years and it granted National Express the right of first refusal over the operation of other services on routes between the airport and other destinations in London. Before this tender, Arriva had operated a bus route from Luton airport to London Victoria for 30 years.

Arriva claimed that Luton Airport had abused its dominant position in awarding such exclusive concession to National Express. The High Court found abusive Luton Airport's conduct through the terms of the concession with National Express. These terms excluded Arriva from accessing the bus station at the airport. The High Court considered Luton Airport interest in the downstream market (i.e. the revenue share with National Express) equivalent to the case of a dominant company/concessionaire with activities in the downstream market.

Egyptian Football Broadcasting Rights case

In 2017, the Egyptian Competition Authority ("ECA") examined the agreement by the Confederation of African Football ("CAF") to grant Lagardère, a private sports marketing company, exclusive broadcasting rights to the Africa Cup of Nations, the African Nations Championship, and the African Champions League, originally between 2009 and 2016, but subsequently until 2028, with an option to extend them until 2036. The agreement also contained a right of first refusal clause preventing CAF from seeking out other offers prior to the conclusion of renewal discussions with Lagardère.

In 2017, the ECA found that the absence of tendering procedures for such a long period of time and a right of first refusal prevented market entry. It also criticised the CAF's decision to prevent more than one buyer from acquiring the rights. The agreement was terminated. CAF was required to run a tender for the rights, and it was fined the equivalent of approximately EUR 37.5 million. CAF was also required to offer smaller packages and to ensure that all packages were not purchased by a single buyer. The decision was upheld in July 2019.[36]

4.3.2. Exploitative abuses

100. Since limitations on prices can be, and often are set in the concession contract, and may be subject to additional regulation, it is not immediately obvious why an excessive pricing case might occur. Indeed, the two Chilean cases in box 8 each appear to involve the concessionaire setting prices at a rate higher than set out in the concessionary contract. In such cases there would inevitably be a question as to whether the case is in fact an exploitative abuse of dominance or simply a breach of contract.

101. Where prices were not specified in the concessionary contract, there is the traditional, and thus far unsatisfactorily answered, challenge of how to identify what constitutes an excessive price. While the case for different benchmarks might be debated (see box 8), it would in any case appear questionable to open an excessive pricing case where the government (or local government) has offered a concession and failed to specify a price (or maximum price) despite having had the opportunity to do so.

Box 8. Excessive pricing cases involving concessionaires

Chile

In 2008, the Tribunal de Defensa de la Libre Competencia ("TDLC") imposed a fine, subsequently reduced by the Supreme Court, on EDELMAG, the exclusive concessionaire of electricity distribution services. The TDLC held that the grant of a contract to the defendant linked with its ownership of facilities gave the defendant a monopolistic position only restrained by the contractual obligations of the concession. The TDLC found that EDELMAG abused its dominant position by increasing the price charged to consumers for power supply, disregarding the maximum tariffs in the tender conditions. Moreover, the TDLC held that the tender conditions did not guarantee cost coverage or a minimum level of profits, being both elements part of the inherent business risks.[37]

The same year (2008), the TDLC also imposed a fine, upheld by the Supreme Court, on Atrex, an airport concessionaire for imposing excessive tariffs on courier companies located outside the concession area for leasing spaces and facilities within the concession area. The exclusive rights over a facility, its indispensability for the courier companies, and the absence of alternative or substitute sites were considered factors giving Atrex a dominant position. The TDLC concluded that the criteria for tariffs effectively imposed by Atrex did not meet the tender conditions. Another benchmark used in this case was built by comparing the tariffs charged to other users in similar conditions.[38]

European Union

In *Bodson*,[39] in the context of a preliminary ruling, the European Court of Justice had to consider whether Pompes Funèbres, an exclusive concessionaire for "external services" for funerals in 2,800 communes in France, could be held liable for abusing its dominant position by charging excessive prices for its services in a particular town.

To establish whether the prices charged by the concessionaire were fair, the European Court of Justice indicated that a comparison could be made between the price charged by Pompes Funèbres and the prices charged by companies that had not been granted an exclusive concession. That said, the European Court of Justice would have taken into account possible cost justifications of the concessionaire as to why its prices were higher.

4.4. Collusion

102. Bid rigging has been a focus of a great deal of OECD guidance (see OECD Recommendation and Guidelines, 2009) and while that advice is focused on procurement bidding markets, the same challenges and hence the same framework for dealing with those challenges applies to the offering of concessionary-bidding contracts. The only practical difference is that bidding for concessions generally occurs less frequently than bidding for procurements, meaning there is less data available to analyse. Nevertheless, agencies may

wish to use the *checklist for detecting bid rigging in public procurement* which is provided in the OECD guidance as a framework for thinking about how to detect bid rigging in concessionary tenders. This provides practical advice on what to look for, including:

- Industry, product and service characteristics that help support collusion
- Warning signs and patterns when business are submitting bids
- Warning signs in documents submitted
- Warning signs and patterns related to pricing
- Suspicious statements and behaviours

103. Particular challenges in enforcing against bid rigging of concessions include the often bespoke nature of the concessions that are offered which can make efforts to screen for suspicious bidding patterns more difficult. For example, controlling for the explanatory power of concession-specific factors behind bidding patterns may not be possible. In addition if there is competition for-the-market then collusion will likely take place across multiple markets (e.g. cover-bidding). Collusive agreement to rotate winners on the same market are much less likely as concessions last such a long time. This means that in examining suspicious bidding patterns, agencies will need to have the right frame of reference.

104. One factor that should be factored into any screens or *ex officio* investigations that are undertaken in regards to concessions is that the presence of competition in-the-market following the award of a concession is likely to reduce the scope for collusive agreements since such agreements would need to remain stable at both stages of competition. In such cases an agency also has the advantage of having an opportunity to spot suspicious behaviour in two competitive interactions, and to compare behaviour across the two different types of interaction.

105. The possible pro-competitive effects of joint bidding (which is often present in concessions for large scale projects) may also provide a degree of cover for discussions between rivals that lead to anticompetitive agreements. Therefore agencies may be particularly reliant on leniency application and individual whistle-blowers, though incentives for whistle-blower remain surprisingly underutilised by competition agencies (though not by other regulators, see Tilton, 2018 on the success of the US SEC's programme), despite evidence of their effectiveness (see Butler, Serra & Spagnolo, 2019, and Nyreröd & Spagnolo, 2018).

106. As with merger remedies there are also complications with sanctioning in cases where anticompetitive agreements are identified. Most notably sanctions may include firms be excluded from future competitive tenders (see for example the prohibitions on contracting announced in 2016 in Spain). While such rules might be expected to have helpful deterrence effects, there is also a risk that – where employed – they may significantly reduce competition in tenders from which those parties are barred from participating in (see Iza & Loras, 2019).

5. Advocacy and other tools

5.1. Role of competition agencies

107. Beyond merger control and antitrust enforcement, different competition agencies have a range of advocacy and other tools available to them to protect or improve competition. In some cases these tools include market study or market investigation powers. In others, competition agencies can offer public or non-public, binding or non-binding opinions to sector regulators and other public authorities. This can sometimes be done under their own intiative, however in other cases the opinion (or the request for an opinion) might be a legally required procedural step.

108. In some jurisdictions, competition agencies' tools may have (immediate) binding effects on the competitive allocation process. In Romania, the competition agency is entrusted with the powers to approve other public authorities' decisions on whether to grant a concession or to directly award the service, as well as the terms of a concession or amendments resulting from renegotiations after a concession has been granted. In Russia, since April 2015,[40] the Federal Antimonopoly Service ("FAS") must approve amendments to material conditions of concessions, including extensions of the concession period, while in 2014,[41] it was granted the power to approve or reject changes to concession agreements with regard to housing and utilities facilities. Box 9 below sets out the role of the Federal Cartel Office in Germany.

Box 9. German reviews of award proceedings

In Germany, the German Federal Cartel Office ("Bundeskartellamt") – through two federal public procurement tribunals – is responsible for the review of award proceedings to ensure that public contracts are awarded in competitive, transparent and non-discriminatory procedures. In implementing these principles, the Bundeskartellamt may prohibit the award of a concession which does not fulfil the most efficient network operation criterion.

In 2010, the Bundeskartellamt and the German Federal Network Agency ("Bundesnetzagentur") published joint guidelines for the award of gas and electricity concessions and network leasing which contained specifications on how to award a concession in a competitive and non-discriminatory manner, in phase when a "remunicipalisation" trend was observed in Germany. These guidelines aimed at preventing municipalities' abuses of dominant position in the award of local public rights of way by, for instance, giving preference to individual bidders (especially to undertakings associated with the municipality) without any objective justification. They also address issues such as the selection criteria, the award procedure and the information to submit to the municipality.

In 2015, the Bundeskartellamt and the Bundesnetzagentur published a revised version of their 2010 guidelines reflecting amendments to the Energy Industry Act in 2011 and the case law, in particular two landmark decisions of the Federal Court of Justice of December 2013 and June 2014.

109. An increasing number of competition agencies also have some form of competitive neutrality power. These might include state aid competences that can be used to examine the distortionary effect of advantages given to selected firms in concession awarding processes. These might include distortionary advantages for local firms, SMEs or State-owned enterprises. However, in other cases State-owned enterprises might face restrictions that private enterprises do not, which thereby distort competition, for example being prevented from bidding to operate a concession.

Box 10. EU state aid rules applied to concessions

Award of a concession

A concession for the commercial operation of infrastructure can be considered compatible with EU state aid rules if it is awarded on terms that a private player operating under market conditions would also have accepted when offering a concession for similar assets.

For instance, the European Commission assessed whether the award of concessions for the upgrade, maintenance, management and operation of 14 regional airports in Greece, in exchange of a concession fee constituted state aid. In 2017, the European Commission found that the terms of the concession agreements did not constitute state aid because a) they were in line with market conditions; b) they resulted from a competitive, transparent and non-discriminatory tender; and c) the concessionaire was the bidder offering the highest revenues for the Greek State.[42]

Extension of a concession

EU state aid rules allow Member States to grant support for infrastructure investments, subject to certain conditions, including the need to avoid overcompensation and to ensure that effective competition is preserved. When a concessionaire obtains an extension of a concession (without re-tendering), the new terms must comply with EU rules. For instance:

- In 2018, the European Commission approved under EU state aid rules a plan to extend a motorway concession in Croatia. The concession was originally awarded for the period 1995 to 2027. Croatia notified to the European Commission an extension of the concession until 2032 to support the concessionaire's extra costs related to the construction of a 28 km long second carriageway. The European Commission found that there was no overcompensation and that the extension of the concession was proportionate to the amount needed to finance the works.[43]

In 2017, the European Commission assessed whether the extension of hydropower concessions granted to the national power incumbent Electricidade de Portugal SA ("EDP") involved state aid. Portugal had extended several hydropower concessions against the payment of EUR 704 million. These concessions corresponded to 27 hydro power plants, accounting for 27% of Portugal's generation capacity. The main concerns related to the fee paid by EDP and to the market impact of the extension given EDP's strong position. The European Commission concluded that the fee paid by EDP for the extension was in line with market conditions. [44]

110. In some cases the competition agencies also have powers to challenge the actions of other government bodies that offer concessions if those actions are expected to distort competition (see, for instance, Italy and Spain).[45] Similarly the European Commission recently referred Italy to the ECJ for breaching procurement rules by extending a concessionary contract to operate a motorway without a call for tenders.[46]

111. In addition, in the EU an *ex-ante* assessment mechanism also provides a means for governments to get advice on a procurement plan. Notably here procurement is taken to include the tendering of concessionary rights.

Box 11. EU *ex-ante* assessment mechanism

Since 2017, a voluntary mechanism is available to national authorities and contracting authorities/entities to consult with the European Commission and receive an assessment of a project's compatibility with the EU regulatory framework. In its 2017 Communication,[47] the European Commission noted that the mechanism "will help to develop good practices within the revised and modernised European public procurement framework adopted in 2014. This may be especially important for *concessions*, which for the first time are fully subject to a harmonised EU regime". The mechanism is intended for all types of infrastructure projects, in particular the transport and energy sectors, ICT and non-residential construction. It is generally available above certain thresholds.

First, national authorities can contact the European Commission helpdesk on specific issues they face when developing the procurement plan for a project.

Second, once a decision is reached on how a project will be carried out and the preparation of the tender documentation is advanced, national authorities and contracting entities can notify the project to the European Commission, which will conduct an assessment on whether the procurement plan complies with EU procurement rules, without prejudice to any future legal interpretation or assessment.

Third, there is an information exchange mechanism for the European Commission and contracting authorities to share information about various public procurement aspects of infrastructure projects. The mechanism contains a database and it also includes a platform to discuss different aspects of procurement projects, such as the type of procurement procedure involved, the project stages and implementation problems.

5.2. What to advocate for?

112. As noted in Section 3.1, the government sells concessionary rights, rather than buying or procuring products or services, however, as a seller it remains vulnerable to the same risk of anticompetitive agreements that mirror monopsony outcomes, in the same way that it faces agreements that mirror monopoly outcomes when it procures. Therefore since the economic analysis is the same, when considering what to advocate for on concessions it makes sense to use the same analytical framework as one would use for procurement.

113. Therefore first and perhaps most important issue upon which a view from a competition agency would be helpful for government departments is whether a concession should be offered or not. This is sometimes characterised as a make or buy decision (see, for instance, the UK Outsourcing Playbook, 2018), but this distinction misses the point. As noted in Section 3.4, simply privatising or outsourcing a natural monopoly is

unlikely to improve the performance of the service. What matters, regardless of whether the service is operated by a public, private or non-profit firm, is whether (or not) incentives are used to improve the service, and whether these incentives are based on regulatory mechanisms (target-setting, benchmarking and inspections), or on market mechanisms.

114. Competition agencies are therefore well-placed, where resources permit, to offer guidance on whether market mechanisms should be used to deliver a service (as well as the drawbacks of relying entirely on regulatory incentives). For instance, as in a market study they might consider a) the likely barriers to entry and exit, b) the scope for and likely extent of user switching, c) the likely bidders for contracts and d) whether there is sufficient information to facilitate competition.

115. For example, in its recent review, the Institute for Government (2019) recently identified that while concessions offered by the UK government had worked well in some areas such as waste collection and cleaning, and reasonably well in prisons and healthcare, it had also contracted out some services in areas where it was inappropriate to do so. They cited probation services as the clearest example of this; noting that there was not a market of good-quality suppliers, the difference between good and bad performance could not be measured, and an acceptable level of quality could not be codified in a contract. However despite failing these criteria, it still went ahead, resulting in harm to efforts to rehabilitate offenders.

116. Where there is a strong case for using market mechanisms then the question is whether competition in-the-market is possible. As noted in Section 3.5.1 where efficiency and outcomes for users are the objective, competition in-the market is likely to be preferable where it is feasible. Where there is not scope for competition in-the-market, competition agencies will again be placed to advise on how best to design competitive tendering processes.

117. Auctions or competitive tenders aim to identify the entity that can operate a service most efficiently. Economic efficiency here results from the combination of multiple dimensions, beyond simple price comparison. Therefore, assessment criteria are often based on a mix of price and quality criteria, and subtle variations in design, for example on the timing of concessions (Iossa et al, 2019) may have an impact on the effective award of a concession (see the auction design options set out in box 12 below).

Box 12. Auction design

As set out in OECD (2006) there are four standard auction types:

- In an **ascending (or "English") auction**, the price is raised until only one bidder remains, and he wins at the final price. In an ascending auction with private values, each bidder will stay in the bidding until the price reaches the bidder's value. After the bidder with the second-highest valuation drops out, the only remaining active bidder is the one with the highest valuation, who ***wins at the price equal to*** (or perhaps just slightly higher than) ***the second-highest valuation***.
- In a **first-price sealed-bid auction**, each bidder submits one bid without knowing the other bids, the highest bidder wins and pays his bid. In a first-price sealed-bid auction with private values, bidders must trade off bidding higher, thus increasing the probability of winning, against bidding lower and increasing the value of winning, if he wins. The bidder with the highest bid wins and pays his bid, but he is not necessarily the bidder with the highest valuation. ***His bid is less than his valuation.***

- In a **descending (or "Dutch") auction**, the price is lowered until a bidder cries out, and she wins at the final price. In the descending auction with private values, bidders use the ***same strategies as in the first-price sealed-bid auction***, because they have access to the same information and are making the same trade-offs.
- In a **second-price sealed-bid auction**, each bidder submits one bid without knowing the other bids, the highest bidder wins and pays the amount of the second-highest bid. In a second-price sealed-bid auction with private values, each bidder will bid his own valuation. ***The bidder with the highest value wins and pays the second-highest valuation.***

There are also several variations of these standard auction types.

- Auctions for multiple objects or multiple units arise frequently. Examples include licenses to use parts of the electromagnetic spectrum for telecommunications and transmission and generation of electricity. Multi-unit or object auctions are more complicated than single unit auctions. Objects may be complements as well as substitutes. Bidders' costs can increase rapidly with the complexity of the auction rules and the relationships among the objects. Efficiency and revenue objectives can involve radical trade-offs, so policy choices about the objective of the auction make major differences in the design. It is hard to achieve efficient outcomes.
- Sealed-bid auctions to sell multiple units can be either uniform price or discriminatory, also called "pay as bid". In the first, the winners all pay the same price, which is equal to the highest unsuccessful bid. In the second, each winner pays the amount he bid.
- The simultaneous ascending auction ("SAA") is also a uniform price auction. SAAs have been used to sell rights to use the electromagnetic spectrum. In the SAA, bidders submit bids on the items, and rounds of bidding continue until the closing conditions are met. The advantage of SAAs over sequential ascending auctions is that bidders can arbitrage among the auctions, shifting their bidding to objects that are relatively cheap.
- Package and contingent auctions are somewhat different from the multi-unit auctions. In a package auction, a bidder would submit a bid for items A and B separately and a bid (lower than the sum of the individual bids for A and B), for the package of A and B. Contingent bids are a generalisation of package bids: for example, a bid for A and a bid for A if the bidder also wins B. The auctioneer chooses the combination of bids that sums to the highest total.

Auctions with re-sale are followed by an opportunity for the winners to resell the objects. This possibility fundamentally changes the bidding practices. With resale, increasing the number of bidders can increase bidder valuation and increases the winning bid.

118. The increasing use of continuous auctions by digital platforms for advertising spots has also pointed towards the increased efficiency that can be delivered through the use of continuous auctions. In the case of concessions for example, as Posner & Weyl (2018) argue, concessionary rights could be partially sold under a licence that requires the winning bidder to self-assess the value of the concessionary right, and pay a tax to government on that stated price. If any other firm at any time wished to pay the stated price, the concession would then be transferred to them. This would ensure allocative efficiency, since the right would not sit for perhaps 30 years with a single firm, but would be turned over to more

efficient firms who enter and bid. It would also preserve investment incentives since the price at which the rights-holder would potentially be bought out would change to reflect the value that is added by the rights-holder's investments.

119. However in addition to adopting the right auction design, it is worth emphasising the intuitive steps set out by Paul Milgrom (2004): "[m]y experience in auction consulting teaches that clever new designs are only very occasionally among the main keys to an auction's success. Much more often, the keys are to keep the costs of bidding low, encourage the right bidders to participate, ensure the integrity of the process, and take care that the winning bidder is someone who will pay or deliver as promised." With this in mind we next consider a number of key issues that competition agencies may wish to reflect upon when deciding what to advocate for in a specific case.

5.2.1. Incomplete contracting and renegotiations

120. While by nature, all contracts are to some degree incomplete, this incompleteness is exacerbated in lengthy bespoke concession agreements for the provision of services. This is because such services are usually characterised by multi-dimensional quality characteristics, uncertain costs and revenues. As a result it is extremely difficult (and hence expensive in terms of transaction costs) to specify *ex ante* all those aspects that might be deteriorated or underinvested in once a contract has been awarded.

121. In such cases as noted above an assessment should be undertaken to understand whether a sufficiently complete contract can be designed to deliver benefits from competitively tendering the concessionary contract that outweigh the transaction costs involved in designing and agreeing such a contract.

122. Given the difficulty in writing complete contracts there is often a need to allow some scope for renegotiation in order to allow for unanticipated changes, the risk of which were not intentionally allocated to the concessionaire. However, this scope for renegotiation risks being exploited and turned into a loophole that allows opportunistic renegotiations using the bargaining strength that they acquire after being awarded the concession. Indeed researchers find that renegotiation levels on concessions vary between 40 % and 92 % depending on the sector and country in question.[48] This is a problem since, as Saussier & Tirole (2015) note, the renegotiation of contracts tends to limit or even eliminate the benefits of competitive tendering procedures.

123. In some jurisdictions there are provisions that regulate contract modifications and set limits to the ability of contracting authorities to renegotiate concessions and identify those that will trigger the obligation to retender the contract. However, these regulations (e.g. the EU concession directive) nevertheless leave a great deal of flexibility for renegotiation. While useful in some cases, renegotiation creates considerable scope for the elimination of the benefits of competitive tendering.

124. OECD guidance suggests that to reduce the risk of opportunistic renegotiation those awarding concessions:[49]

- Should require that the winning bidder take pre-emptive steps to internalise the risk that its costs turn out higher than expected. For example, this could include taking out professional liability or project insurance as well as providing a performance bond that pays out to the procurer in the event that the contractor cannot ensure that the project is delivered on the originally agreed terms.

- Should set out in detail in the tender documentation that renegotiation will only be considered where the information that was originally provided by the procurer proves to be inaccurate (incorrect or incomplete), or when clearly specified conditions are satisfied (e.g. an increase in the price of specific inputs which could not predicted by the bidder). Furthermore, the applicable procurement law may set out conditions which have to be fulfilled for renegotiation to be permitted.
- Should include in the contract sanctions for any bidder that pulls out or fails to deliver the terms of its contract, unless the information that was originally provided by the procurer proved to be inaccurate (incorrect or incomplete). These sanctions could include financial penalties, temporary debarment of firms or individuals, or initiating legal actions for damages claims by the contracting authority against the contractor.
- Should set out in the tender documentation that if it suspects that a firm has strategically bid below its average variable cost, it will refer the case to the Competition Authority, which is able and may decide to assess whether the action is problematic under the relevant standards.
- Should consider, in high value projects, creating whistle-blower rewards for reporting evidence that a firm bid at a price that it intended to renegotiate at a later date, especially if accompanied by evidence of corrupt agreements with procurement officials.
- Should assess all bids against its evaluation criteria, which might include the quality or deliverability of the bid, and should not automatically exclude a bid on the basis of its low price. Doing so would, for example, risk excluding new entrants that make loss-leading bids to obtain a foothold in a market.

125. However, even when renegotiation does not occur, public authorities sometimes still have difficulties in holding bidders to delivering outcomes they are contracted to provide. For example, exercising the penalty mechanisms available to them is sometimes unattractive because doing so can increase their own costs (e.g. if the penalty triggers a handing back of the contract or leads to a deterioration of another aspect of performance). It may therefore be helpful to have an independent procurement agency that can provide the credible oversight of individual purchasers that is necessary to penalise providers that do not deliver despite the cost and inconvenience of doing so and thereby build credibility that ultimately improves the efficiency of the system.

5.2.2. Awarding exclusivity or division into lots

126. Awarding exclusive concessions that remove scope for competition within-the-market may restrict competition as set out in Section 3.5.1. Competition agencies are therefore well placed to advocate for government to adopt a presumption that they will use competition within-the-market when possible (while recognising that it will not always be feasible, particularly in the case of well-evidenced natural monopolies where efficiencies would be lost).

127. In regard to competition in concessionary-bidding markets, the relevant analytical framework is again a procurement one. This framework also tells us that there is a risk that awarding large concessions exclusively to one firm may reduce competition. For example, doing so will eliminate efficient specialist or small firms who are unable to provide the full bundle of services. The entity offering the concession may therefore find that the intensity of competition and hence the value it obtains is weaker than it might be. Furthermore, where

the rights that they offer account for all or most of the market, the seller may – by awarding the concession exclusively to a single firm – reduce the number of bidders in future tenders and so increase the market power of their chosen supplier.

128. In each case splitting the concession into lots can address these risks. However, in doing so sellers of concessionary rights will need to take care not to facilitate collusion, or prevent bidders from exploiting economies of scale or scope to improve the value of their bid. Therefore, when splitting concessions into lots, they should take care to do so in ways that do not reduce competition and the value achieved.

129. OECD guidance suggests that to reduce these risks those awarding concessions:[50]

- Should allow a bidder to make bids for different combinations of lots (so-called "package bidding") in order to obtain any cost synergies available from providing a larger bundle of goods or services. Obtaining these synergies may for example encourage non-local bidders to bid for packages of different lots even if they are unwilling to bid for individual lots.
- Should use award limits rather than participation limits in those cases where they want to prevent all lots being awarded to a single firm, and are confident that the benefits from doing so will outweigh the ensuing loss of competition for the contract in question.
- Should consider making the number of lots smaller than the number of expected bidders. This can make it more difficult for colluding bidders to agree a division of lots and hence improve value achieved providing it does not create inefficiency.
- Should consider making the lots different in size from the market share of the bidders. This can make it more difficult for colluding bidders to agree a division of lots and hence improve value achieved providing it does not create inefficiency.
- Should consider in repeated procurements making the division into lots unpredictable (for example by changing the size or composition of the lots), and making bidders aware of this unpredictability. This can reduce the risk that lot division facilitates collusion and hence improve value achieved providing it does not create inefficiency.

5.2.3. Bid rigging

130. There are a range of ways in which awarding procedures can inadvertently make bidder co-ordination easier. Competition agencies can therefore advocate for procedures to be adjusted in light of these concerns and help avoid such mistakes. For example:

- A bid taker announcing a reference price can provide a price on which rivals can base their co-ordination.
- Disclosing the identities of losing bidders for concessions and the content of their bids helps bidders monitor collusive agreements

131. Bid rigging has been a focus of a great deal of OECD guidance (see OECD Recommendation, 2012 and OECD Guidelines, 2009) and while that advice is largely focused on procurement, the same challenges and hence the same framework for dealing with those challenges applies to the offering of concessionary contracts. In particular agencies may wish to use the *checklist for designing the procurement process to reduce the*

risks of bid rigging which is provided in the OECD guidance. This provides practical advice on how to minimise the risk of bid rigging by:

- Designing the tender process to maximise the potential participation of genuinely competing bidders.
- Defining your requirements clearly and avoid predictability.
- Designing the tender process to effectively reduce communication amongst bidders.
- Choosing your criteria for evaluating and awarding the tender.

5.2.4. Bidding requirements

132. While obtaining fully articulated bids for the concession helps to compare and select the best option, excessive bidding costs can act as a barrier to new entry and hence favour the incumbent. Similarly requiring bidders to demonstrate the strength of their financial position may reduce the risk of default but at a cost of barring new entry.

133. Bidding costs may be reduced by standardising tendering processes wherever possible. Moreover when offering a concession all bidders should have easy access to clear tender documentation including all the relevant information that is available on the concession. In particular it should be electronically available and free of charge to potential bidders. The incumbent should be contractually required to deliver any and all data relating to the use of the service, either in the past or projected in the future (where this is based on data obtained within its role as holder of the concession. This helps minimise any advantage to the incumbent. There should also be sufficient time allotted for bidders to respond. This should be proportionate to the size and complexity of the concession. This is particularly important in technically complex projects where it may take time to develop cost estimates.

5.2.5. Joint bidding

134. Allowing joint bidding for the concession can increase the number and quality of the bids for the concession. For instance, bidders who would otherwise be unable to individually offer a credible bid might be able to do so in co-operation with another firm (that firm would not be a rival if the firm was not a credible bidder absent the co-operation). However, joint bidding may also be anti-competitive in cases where the bidders are capable of submitting separate credible bids.

135. When offering the concession it may therefore be advisable to set out a presumption that joint bidding between bidders for a concession will not be permitted *unless* they are able to demonstrate that they could not make a credible independent bid. For instance, by reference to their experience and assets set against the requirements as described in the bidding documentation.

5.2.6. Principal-agent issues

136. It is important to note that those that offer concessions are not necessarily always reliable agents for the users that they represent. In particular, those offering concessionary contracts may bear little long-term consequence from bad decision-making (since they move on before the consequences are felt). Moreover they may have incentives to award contracts without tender where the discretion to do so exists, or to award contracts that help them to meet internal targets. In addition, there is the ever-present risk of corruption.

137. There is therefore value in having professional sellers of concessionary rights (and procurers) and an independent expert procurement or audit agency to provide support and oversight to those offering concessions (as well as procurers). In the UK for instance government departments are instructed to refer any abnormally low bid (one that is more than 10% below the average of all bids) to a centralised assurance team in the Cabinet Office (the UK makes no distinction between the award of procurement and concessionary contracts). Using specialists to undertake this assurance, rather than simply rejecting surprisingly low bids on the basis that they are "too good to be true", ensures that bidders are not discouraged from making the most competitive bid they can (see OECD, 2016 for further advice on protecting competition in the case of low tenders).[51]

5.2.7. Maintaining options

138. The task of those that award concessions can be made easier by the existence of a public option. This might be a State-owned enterprise that is permitted to bid on a level playing field against firms for the contract to operate concessions. As noted by Besley & Malcolmson (2017), the participation of such a bidder can be expected to improve consumer welfare in publicly-funded markets. In addition, as noted in Section 3.5, there is no evidence that a public option that faces the same competitive incentives will necessarily offer worse value or a less efficient service. Therefore the maintenance of a public option should not necessarily constitute a burden for the government. Nevertheless in such circumstances it is important to maintain competitive neutrality (see ongoing OECD work on this topic).[52]

139. An alternative is to maintain a State-owned operator that does not bid but which serves as an outside option in the event that the competitive process does not yield a sufficiently competitive outcome. For example, if a predetermined reserve price for the concession is not met then the existence of a public option provides a credible threat for the public body offering the concession. This could be expected to impose additional competitive pressure on bidders.

140. The option would also be valuable leverage in the event that successful bidders seek to renegotiate after the contract has been awarded. For example, it would allow the awarding authority to credibly threaten to withdraw the concession and award it to the direct provider.

Box 13. Examples of advocacy initiatives

France

In 2014, the French Competition Authority issued an opinion on motorways concessions, following a request from the French National Assembly. The French Competition Authority concluded that "the exceptional profitability of the "historic" toll road concession-holders is comparable to a guaranteed income which needs to be better regulated in favour of the State and the users". To address this issue, it offered 13 recommendations. These recommendations included a) the need to introduce a new indexation formula for toll tariffs based on variables such as costs or traffic, b) the assignment of evaluation and inspection powers to an independent regulator, c) the introduction of re-investment and profit-sharing clauses, and d) the need to improve transparency and competitiveness in the tenders launched by the concessionaries. Finally, it also suggested that the extension of the concessions duration – in exchange of further investments in the infrastructure – was an opportunity to renegotiate the concession agreements.[53]

Italy

In 2018, the Italian Competition Authority ("AGCM") issued an opinion to the Parliament and the Government on the status of concessions in Italy, highlighting the main competitive issues in certain markets as results of a distorted use of concession agreements. The AGCM noted that public tenders should be the main mechanism to assign concessions and that their scope and length should be supported by technical or economic reasons. It also stated that public authorities should avoid cases of automatic renewal/exertions of existing concessions or preferential treatment granted to incumbents.

Moreover, the AGCM offered sector-specific recommendations (proposing legislative reforms as well as instructions to the tendering authorities) for concessions on motorways, airports, gas distribution, hydropower, maritime and ports, public parking, postal (universal postal service), TV public service broadcasting and spectrum allocation.[54]

Mexico

In 2015, The Federal Economic Competition Commission ("COFECE") issued an *ex-officio* opinion addressed to the Tlaxcala State Government and its local Congress. COFECE recommended to revise the regulation applicable to public passenger transport services a) by eliminating the suspension of granting of new concessions and authorisations; b) by using pro-competitive schemes and technical criteria when allocating concessions; c) by implementing a tariff regulation for public passenger transportation; and d) by limiting the discretionary powers of awarding authorities.[55]

Portugal

In 2018, the Portuguese Competition Authority ("AdC") published a market study recommending to the government and port authorities the adoption of measures to promote competition in the market for port terminal concessions, given by the opportunity of having 15 out of the 27 concession contracts expiring by 2025 and 2 concessions undergoing renegotiations. The 2018 market study combined a preliminary version of the market study with the AdC-OECD competition assessment of the port sector's legal and regulatory framework in Portugal, which culminated with the OECD recommendations package and the AdC Action Plan.

To promote competition for-the-market in port terminal concessions, the AdC offered several recommendations such as: a) having objective, non-discriminatory and proportionate award criteria; b) limiting concession durations to the period in which the concessionaire can reasonably expect to recoup the investment and achieve a market-based return on investment; c) incorporating clauses in concession contracts under which substantial modifications to an ongoing concession may require an early termination of the concession; d) effectively transferring the risk to a concessionaire; e) introducing incentive systems (bonus and penalties) for concessionaires; and f) prioritising new tenders over renegotiation of existing concession contracts.[56]

6. Conclusion

141. In conclusion, we identify the potential role for concessions in a number of different types of market in which there is competition for-the-market. We note that these are often used to facilitate competition by periodically reducing barriers to entry to allow competition for-the-market at defined intervals. In this respect they offer a superior pro-competitive alternative to privatising and regulating the same service. However, we suggest that the risk of incomplete contracts and the scope for opportunistic renegotiation mean that wherever possible, governments should seek to stimulate competition in-the-market, and in any case should, as matter of course, conduct an in-depth assessment of the case for using market incentives to deliver services. Alongside other advocacy suggestions on the use of lots, addressing the risks of bid rigging, and how to deal with joint bidding, we also identify the benefits of retaining a publicly-owned operator either to compete for concessions or to serve as an outside option when required. More radically we suggest that consideration is given to using continuous auction mechanisms that require self-assessment of the value of concessionary rights.

142. On the enforcement side we argue that the existence of a concessionary contract should not be used as justification for finding a lack of change of control, and we identify that concessionary markets are yet another case in which market definition adds little value. We identify a range of analysis that can be carried out where bidding data is available, and argue that potential competition is particularly important in concessionary markets and hence there is both a need to ensure that potential “killer acquisitions” are examined, and a strong case for the more economic expected harm test that has recently been proposed in relation to digital markets. We argue that there should be little need for competition agencies to take exploitative abuse of dominance cases, but that exclusionary conduct such as predatory bidding should be a concern that is taken seriously given the relative ease with which recoupment can occur (as compared to traditional markets). In regards to collusive agreements we note that competition agencies are likely to be particularly reliant on leniency and whistle-blower reports in these types of markets and point to the risks of remedies that further damage future competition.

End Notes

[1] As recently discussed (OECD, 2019) the concern for consumer welfare here includes both consumers as buyers who might be harmed by monopoly power and as workers who sell labour to the market and so might be harmed by monopsony power. In concessions it also includes governments as the seller of concessionary rights to operate services that are sold to users (hence again the concern is one of monopsony market power).

[2] The possibility of quality worsening is an important one as it identifies as a fallacy the idea that zero-priced products cannot constitute a relevant market simply because a price increase would lead to switching to other products. In such cases the test must be reframed to ask whether such switching would happen if the quality of the product provided at zero-price were to deteriorate by a small but significant degree for a non-transitory period (or to whether an increase in the price charged on the non-zero-priced side of the market would be profitable). A quality deterioration might include the algorithm being less effective, more distracting advertising, less effective content moderation, or some loss of functionality. Since none of these involve infinite price increases to users, the demand response can be expected to be substantially smaller and hence a hypothetical monopolist is considerably more likely to find such a move profitable.

[3] For instance if a "market" were perfectly contestable then a SSNIP would not be profitable for a hypothetical monopolist. Therefore that market would not be a relevant antitrust market, and the candidate market would need to be broadened to include the constraints that would contest the market in the event of a price increase.

[4] The larger incentive does not however mean there will be more innovation in these markets, since there is also the closeness of competition to consider.

[5] Notably introducing in-the-market competition might, in cases of supply-side economies of scale, or demand-side increasing returns to scale, be expected to revert to a monopoly market structure position. To avoid such a reversion would therefore likely require mandated interoperability, either instead of, or in addition to, a structural intervention to introduce competition in-the-market.

[6] DiLorenzo (1996)

[7] See Financial Times article "Minister confident of improving UK mobile coverage" (available at https://www.ft.com/content/31b85572-ad29-11e9-8030-530adfa879c2); and UK Department of Digital, Culture, Media & Sport (2018), *A new broadband Universal Service Obligation: Government's response to consultation on design*, 28 March 2018, (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/695121/USO_consultation_government_response_28_March.pdf).

[8] Indeed in the case of some unique historical sites the land might be owned by government and the operation of the site offered as a concession.

[9] As Catalini & Gans (2019) note, blockchain projects have also sought to avoid this issue by decentralising control of the bottleneck and issuing tokens to give early adopters a stake in the network.

[10] See OECD 2020 Open Day panel on the Crémer, Furman and Scott Morton Digital Reviews.

[11] By efficient interests we mean to distinguish between the interests that might be inefficient – for instance lower prices with damaging spillovers (e.g. environmental, or exclusionary in the case of predatory prices) – from those that are efficient. This is particularly important in the case of workers whose interests might be inefficient – for instance when they would be served by requirements that mergers save jobs by failing to achieve efficiencies available through deduplication of roles - but which might also be efficient, for instance when merger to a local monopsony results in a firm inefficiently withholding its demand for labour in order to reduce wages.

[12] European Commission, Fact sheet "Definition of a concession" (available at http://ec.europa.eu/DocsRoom/documents/15428/attachments/1/translations/).

[13] Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 *on the award of concession contracts*.

[14] Under Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 *on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts* (now repealed by Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 *on public procurement*).

[15] Case C-274/09, Privater Rettungsdienst und Krankentransport Stadler, EU:C:2011:130, paras 24 to 26. See also case C-458/03, Parking Brixen [2005] ECR I-8585, para. 39 and case C-206/08 Eurawasser [2009] ECR I-8377, paras. 51, 59 and 68.

[16] See Financial Times article "We need a publicly funded rival to Facebook and Google" (available at https://www.ft.com/content/d56744a0-835c-11e8-9199-c2a4754b5a0e).

[17] See The New York Times article "Chicago and New York Officials Look to Build Uber-Like Apps for Taxis" (available at https://bits.blogs.nytimes.com/2014/12/11/chicago-and-new-york-officials-look-to-build-uber-like-apps-for-taxis/?_r=1).

[18] See Project Syndicate article "The End of Shareholder Primacy?" (available at https://www.project-syndicate.org/commentary/shareholder-vs-multi-stakeholder-model-by-michael-spence-2019-08).

[19] See Competition & Markets Authority, Arriva Rail North and the Northern rail franchise – A report on the completed acquisition by Arriva Rail North Limited of the Northern rail franchise, 2 November 2016, para. 6.5 (available at https://assets.publishing.service.gov.uk/media/581b6b6ced915d7ad5000007/arriva-northern-final-report.pdf); Competition Commission & Office of Fair Trade, Merger Assessment Guidelines, September 2010, para. 5.2.18 (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284449/OFT1254.pdf).

[20] Case No COMP/M.7483 - ABELLIO TRANSPORT /SCOTRAIL, EU Commission decision of 18 March 2015, paras 5 to 9.

[21] Competition & Markets Authority, Rail franchise mergers – Review of methodologies and guidance, 15 March 2018 (available at https://www.gov.uk/government/consultations/rail-franchise-mergers-guidance).

[22] Competition & Markets Authority and Monitor, Competition review of NHS mergers – A short guide for managers of NHS providers, 31 July 2014, (available at https://improvement.nhs.uk//1095/CMA-MonitorShortMergerGuide_5fY73oP.pdf).

[23] See Aldwych Partners (2013), What does the OFT think about competition between GPS? (available at https://aldwychpartners.co.uk/what-does-the-oft-think-about-competition-between-gps/).

[24] Case M.8536 -ATLANTIA / ABERTIS INFRAESTRUCTURAS, EU Commission decision of 13 October 2017.

[25] Autogrill/Carestel Group, 2006-C/C-20, 9 October 2006.

[26] 16-DCC-167 Décision du 31 octobre 2016 relative à la prise de contrôle exclusif de la société Aéroports de Lyon par la société Vinci Airports (available at http://www.autoritedelaconcurrence.fr/user/avisdec.php?numero=16DCC167).

[27] Avis 10-A-04 of 22 February 2010.

[28] See the report by Europe Economics "PUBLIC Research Study: Dominant Positions in National Railway Transport Services Markets", 10 December 2015 (available at https://www.acm.nl/sites/default/files/old_publication/publicaties/15195_dominant-positions-national-railways-transport-services-markets.pdf).

[29] See Van de Sander, M. and T. Beetstra (2019), Abuse of dominance fine of € 41 million for Dutch railway operator annulled, (available at http://competitionlawblog.kluwercompetitionlaw.com/2019/07/09/abuse-of-dominance-fine-of-e-41-million-for-dutch-railway-operator-annulled/).

[30] Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ C 45, 24.2.2009, p. 7–20. http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XC0224(01).

[31] Case C-7/97, Oscar Bronner GmbH & Co. v MediaprintZeitungs und Zeitschriftenverlag GmbH & Co., 1998 E.C.R. I-7791.

[32] *Pacific Bell Telephone Co. v. linkLine Communications, Inc.*, 555 U.S. 438 (2009).

[33] Case Files DE-57-2001 and RA-50-2003

[34] OECD (2009)

[35] [2014] EWHC 64 (Ch)

[36] Linklaters, Sports & Antitrust – Commercialisation of sports broadcasting rights under the spotlight (available at https://www.linklaters.com/en/insights/publications/2019/september/sports-and-antitrust-commercialisation-of-sports-broadcasting-rights-under-the-spotlight).

[37] TDLC, Ruling N° 73, 20 August 2008. (Rc. 21°).

[38] TDLC, Ruling N° 75, 30 September 2008. (Rc. 43°)

[39] Case 30/87, Bodson v Pompes funèbres libérées, [1988] ECR 2479

[40] Decree No. 406/2015.

[41] Decree No. 368/2014.

[42] Case SA.44259 *Concession agreements for 14 regional airports in Greece*.

[43] Case SA.48472 *Amended Concession Agreement relating to the Istrian Y motorway*.

[44] Case SA.35429 *Extension of hydro-power concessions in Portugal.*

[45] See recent presentations to the OECD's working party on competition and regulation by Spain: https://www.slideshare.net/OECD-DAF/tools-for-addressing-competitive-neutrality-spain-june-2019-oecd-presentation and Italy: https://www.slideshare.net/OECD-DAF/tools-for-addressing-competitive-neutrality-italy-june-2019-oecd-presentation%20

[46] https://europa.eu/rapid/press-release_IP-17-1284_en.htm

[47] 2017 COM(2017) 573 final - *Helping investment through a voluntary ex-ante assessment of the procurement aspects for large infrastructure projects*.

[48] Estache & Saussier (2014).

[49] See OECD, Checklist for protecting competition when managing the risks of very low tenders, Public Procurement Toolbox, (available at http://www.oecd.org/governance/procurement/toolbox/search/checklist-protecting-competition-managing-risks-very-low-tenders.pdf).

[50] See OECD, Checklist for protecting competition when splitting contracts into lots, Public Procurement Toolbox (available at http://www.oecd.org/governance/procurement/toolbox/search/checklist-protecting-competition-splitting-contracts-lots.pdf).

[51] OECD, Checklist for protecting competition when managing the risks of very low tenders, Public Procurement Toolbox, http://www.oecd.org/governance/procurement/toolbox/search/checklist-protecting-competition-managing-risks-very-low-tenders.pdf.

[52] For further information, see http://www.oecd.org/daf/competition/competitive-neutrality.htm.

[53] 14-A-13 Avis du 17 septembre 2014 sur le secteur des autoroutes après la privatisation des sociétés concessionnaires.

[54] S3470 Segnalazione del 12 dicembre 2018 ai sensi degli articoli 21 e 22 della legge 10 ottobre 1990, n. 287 – *Concessioni e criticità concorrenziali*.

[55] Opinión Expediente OPN 006-2015, 23 April 2015.

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