

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE**

Working Party No. 2 on Competition and Regulation

Taxi, ride-sourcing and ride-sharing services - Background Note by the Secretariat

4 June 2018

This document was prepared by the OECD Secretariat to serve as background for Item 3 at the 65th Meeting of the Working Party No 2 on Competition and Regulation on 4 June 2018.

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More documentation related to this discussion can be found at

<http://www.oecd.org/daf/competition/taxis-and-ride-sharing-services.htm>

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JT03430989

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*Taxi, ride-sourcing and ride-sharing services**

Traditional taxi services – together with other providers – constitute a crucial part of the urban transportation environment. Over the last 10 years the emergence of ride-sourcing and ride-sharing platforms put under competitive pressure the activity of traditional taxis. While these new services provide clear benefits to consumers, they largely operate outside of any regulatory framework, raising new questions for regulators and competition law enforcers.

This note looks at the rules that apply to traditional taxis which might need reviewing in light of digitalisation. Technological developments have affected several aspects of the pre-booked and street-hailing segment, perhaps removing the need for some common regulations. Regulators have the opportunity to review existing rules, softening (or abolishing) those whose original justifications are not valid anymore. However, technological development may not solve some of the market failures affecting the sector. Thus, while some changes to the regulation of traditional taxis would help to establish a level playing field and increase competition in the market, some rules might need to be applied to new providers as well.

Competition between traditional taxis and new services has also been at the top of National Competition Authorities' (NCA) agenda. These have exerted a significant effort to enrich the discussion thorough their advocacy activity. A common point of view emerges from their work, as all the NCAs highlight the priority of recognising – and not banning – the new providers in order to increase competition in the market.

The paper also analyses the role of new providers from a competition law enforcement perspective. Although competition law cases regarding ride-sourcing and ride-sharing services are very limited in number, growing volume of such services, their two-sided nature and issues related to big data pose potential challenges to competition authorities. This note discusses some of the issues NCAs might face in the future.

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Introduction

1. Over the last 10 years, disruptive innovation in transportation radically changed the regulatory and competitive landscape, raising new questions for regulators and competition law enforcers.
2. Different services with different business models entered into the provision of ride-sourcing services, once populated only by traditional taxis. In addition to metropolitan transportation, some companies have also promoted new ways of ride-sharing which are mainly used for medium/long distances.
3. In recent years, these innovations raised many questions about the justifications behind the regulatory framework applied to traditional taxi services. Regulators around the world answered these questions differently, creating a fragmented regulatory scenario with some countries allowing the presence of new providers and others banning these new services.
4. This note analyses the main regulatory obligations imposed on traditional taxis, the justifications behind them and how these have been impacted by the emergence of new players. Its objective is to look at the potential evolution of the current regulatory framework and at the potential challenges National Competition Authorities (NCAs) may experience in their enforcement activity.
5. Chapter 1 presents a brief snapshot of the main differences between market operators. Chapter 2 provides an overview of those factors perceived as the reasons behind the success of new entrants. Chapter 3 illustrates the main features of the regulatory framework on taxi services from a competition policy perspective, such as licencing or tariffs, and the original justifications behind them in light of the recent developments. Chapter 4 gives an overview of the reaction of NCAs to the emergence of new internet based companies, highlighting the common areas addressed by NCAs and the different approaches that have emerged. Finally, Chapter 5 addresses potential challenges competition authorities might face due to the growth of new providers; such as issues related to the role of technology and big data.

1. Traditional Operators and New Players

1.1. Taxi Services

6. Taxis are part of the urban transportation environment together with other means such as private cars and public transports. They are passenger vehicles which provide on-demand personal mobility services.
7. Although taxis are more costly than public transportation, they can provide greater flexibility and convenience. Certain riders may also prefer them to private car, although they can be more costly depending on the usage pattern. For instance, taxi services can be crucial for elderly and disable persons who cannot drive or persons who do not own a car. (ITF, 2017, pp. 12-14^[1])
8. Taxi services can be divided into three segments based on the booking method: (i) hail on the street, (ii) pick up from a taxi rank, and (iii) pre-booked services. The street hail segment describes the trips generated by passengers when hailing passing taxis on the street. In the taxi rank segment, passengers find a taxi by waiting at a designated place

where taxis queue for their next trip. Finally, taxi trips can be booked in advance by various ways such as applications (taxi apps), radio dispatch centres or long-term contracts. This mode of booking constitutes the pre-booked service segment of the taxi market.

9. Since taxis are considered local public transport services, they are usually subject to public service obligations. This implies that a certain level of performance must be guaranteed in terms of time, territorial coverage and economic accessibility.

10. In addition to taxi services, there are also similar services provided by private hire vehicles (PHVs). PHVs provide point-to-point on-demand personal transportation upon advanced booking. The distinction between taxis and PHVs stems mainly from regulation. PHVs cannot use taxi ranks and passengers cannot hail them in the street. Although PHVs are generally less restricted by quantitative entry or pricing regulations, they may be subject to some regulations, such as geographical restrictions. (ITF, 2016, p. 12_[2])

1.2. Ride-Sourcing and Ride-Sharing Services

11. High rates of adoption of internet services, smartphones with global navigation systems, online payment technologies, and advanced algorithms have made ride-sourcing (also known as ride-hailing) and ride-sharing services available to a wide audience. These services employ a multi-sided platform business model that competes to attract both drivers and passengers. The worldwide penetration rate¹ of ride-sharing and ride-sourcing services was 7% in 2016 and 8.3% in 2017, generating respectively 32 billion and 44 billion USD of revenue. It is estimated that the penetration rate will reach 13% and revenue generated by ride-sourcing and ride sharing companies will almost double in 5 years' time (Statista, 2017_[3]). This development has unsurprisingly disrupted the traditional taxi markets. For instance, in San Francisco, the taxi trips constituted 2% of all car trips in 2013, whereas this number fell to less than 1% as ride-sourcing and ride-sharing services² trips reached 4% in 2017 (SFMTA, 2017, p. 10_[4]).

12. However, these new companies have not been welcomed in many countries. While they are expanding around the world (e.g. the UK, Mexico), there are examples of cities where some ride-sourcing services are treated as illegal taxis [e.g. in Sweden, Italy and some Canadian cities (Canadian Competition Bureau, 2015_[5]) (Swedish Competition Authority, 2017, p. 90_[6])].

13. Defining and categorising the services offered by ride-sourcing and ride-sharing companies is a complex task due to the ever-evolving nature of their business models. Services' features frequently change and companies provide different services in different countries, accordingly to local preferences, conditions and regulations. Consequently, adopting mutually exclusive labels is not a straightforward exercise.

14. Generally, ride-sourcing services facilitate the communication, payment, and feedback between the passengers and professional or non-professional drivers. When passengers specify a destination, they are informed about the possible route, estimated duration of the trip, the estimated or finalised price calculated by a dynamic pricing algorithm and the driver's rating.

15. Ride-sourcing services employ a wide range of vehicles from rickshaws (e.g. Ola in India) and motorbike taxis (e.g. Go-Jek in Indonesia), to luxurious vehicles (e.g. UberBlack). Some providers (third party taxi apps) intermediate between traditional taxis

and the passengers (e.g. MyTaxi), while others enable shuttle services³ (e.g. Didi Bus) with fixed routes or pop-up stops. Some ride-sourcing companies feature ride-pooling services⁴, allocating unrelated users on the same trip using their destinations as matching criteria (e.g. LyftLine).

16. As in ride-pooling, ride-sharing platforms act as a match-maker between users who plan to travel on the same route, enabling them to share the car and the costs. What makes ride-sharing different from ride-sourcing in general, is that in the case of ride-sharing the driver itself is the one generating the trip request, being provider and user at the same time. This business model is popular for long distance travels, such as intercity rides. However, the recent example of BlaBlaLines demonstrates how ride-sharing has moved into urban transportation area providing a similar service to car-pooling. This shows again how the market is evolving, with companies providing different types of services and blurring the lines between them.

17. New digital platforms boosted hourly or per trip car rental service also known as car sharing. Car sharing can be a business-to-customer service or facilitate peer-to-peer sharing (ITF, 2017, p. 16_[1]). In cases where ride-sharing and ride-sourcing services are not available (e.g. Italy), car sharing can be a popular alternative for door-to-door transportation.

18. The steady market share growth of ride-sourcing and ride-sharing companies (car sharing in some cases) is not only due to substitution away from traditional taxis. In fact, while attracting a significant number of taxi passengers, ride-sourcing services also meet unsatisfied demand for door-to-door mobility. For some consumers, ride-sourcing services are also a substitute for personal car ownership⁵ or public transportation.

1.2.1. Centralised vs decentralised apps

19. As described in the previous sections, there is a variety of ride-sourcing companies in the market; all of them trying to differentiate their offer and features to gain a competitive advantage on their competitors. These different business models have implications in terms of regulation and competition policy. For instance, business models have been a significant factor in court decisions regarding the categorization of ride platforms and, thus, the determination of which regulation applies to them. While Uber was categorised as a transportation service provider, and thus subject to transportation regulations by the European Court of Justice (ECJ) (Case C-434/15), BlaBlaCar was considered an electronic intermediary by Madrid Commercial Court No. 2 (decision no. 30/2017 dated 2 February 2017).

20. To understand these models better, one way of analysing them might be to identify two main categories of companies: centralised and decentralised. As we will explain below, the two terms can apply to both technology and the business model.

21. Regarding the business model, a centralised platform is not only an intermediary but also oversees all the main variables affecting the transactions between the two sides of the platform. A centralised platform stores data, establishes trust and enables transactions amongst users. While doing so, it also determines who can be a user, which terms and conditions apply, what prices will be charged by drivers and so on. Naturally, companies may implement a different degree of centralisation by deciding which aspects of the business they want to control. Some platforms, for example, may allow drivers significant autonomy in setting the price and quality aspects of their offer to users. Outside the transportation sphere, Airbnb is a prominent example of a decentralised

platform, as is Booking.com. In the ride-sharing and ride-sourcing industry, BlaBlaCar can be given as an example for a decentralised platform. In fact, price and conditions of service are determined by drivers and passengers.

22. Recently, the ride-sourcing and ride-sharing industry has seen the emergence of new decentralised platforms, such as Dacsee in Malaysia and La’Zooz in Israel which use blockchain technology. Blockchain is a combination of cryptography and distributed ledgers. It functions as a database ledger in a distributed form which can register data in a public (transparent), verifiable (accurate) and permanent (secure) manner. New decentralised platforms use blockchain technology to give users and drivers confidence in the transactions that have been arranged by the platform. This removes the need for the platform to arrange payment through a company account. Consequently the costs of the transaction are significantly lowered as a whole, leaving the platform to perform a simple matching service and – usually – earning a fee on the trip.

23. These blockchain powered platforms use cryptocurrency for transactions. For instance, users and drivers on La’Zooz are rewarded in tokens according to the rules set by the community itself. As in the case of La’Zooz, Dacsee underlines “the community” aspect of its business and allows drivers to establish a passenger base, form a fleet of their own, and transfer their business to another driver.

24. While platforms may or may not move towards adopting blockchain technology, platforms with decentralised business models are already well established operators in ride-sharing services (e.g. BlaBlacar) and non-transportation markets (e.g. Airbnb in hospitality). Depending on the technology, user preferences, and the regulatory framework, decentralised platforms may therefore present a viable model, either for new entrants looking to undercut existing players by reducing the fees that platforms take from drivers, or for established brands that currently set prices earning a percentage commission.

1.3. Factors behind the Successful Entry of Ride-Sourcing and Ride-Sharing Companies

25. Passengers base their choice of travel on various criteria including: cost, duration, comfort, convenience, reliability, environmental consequences, safety, and accessibility. Each mode of travel offers a different bundle of advantages and disadvantages depending on consumer preferences. In this section, we discuss those aspects of ride-sharing and ride-sourcing that are believed to have helped them to successfully enter and expand: pricing, availability, safety, quality and convenience.

1.3.1. Pricing

26. Low prices are one of the most cited consumer benefits provided by ride-sourcing and ride-sharing companies. As new entrants, ride-sourcing companies often charge cheaper tariffs than traditional taxi services to attract users (taxi prices are often regulated and so are not controlled by the taxi firm). The same happens for ride-sharing and ride-pooling services where fares might be even lower.

27. Various examples around the world suggest how new entrants compete on price to attract passengers. For instance, a study carried out in Stockholm in 2015, estimated that a trip of 10 kilometres for 15 minutes cost between 297 and 242 SEK depending on the taxi company, while it cost 199 SEK with UberX (Felländer, Ingram and Teigland,

2015, p. 32_[7]). In Ottawa, it was estimated that a ride of 5 kilometres with UberX was 5.42 CAD cheaper than with a traditional taxi (Hara Associates , 2015, p. 14_[8]). A European Commission report showed how in Amsterdam, UberX base fares were cheaper than traditional taxis. (Frazanni, 2016, p. 17_[9])

28. However, the examples described have some limitations. Not only the comparison varies across cities, firms, and services, but even holding those constant, base fare or snapshot price comparisons may not provide the whole picture. This because the cumulative effect of dynamic pricing⁶ is not taken into account and yet might have a significant impact on the average price (while also improving availability). As a consequence, different analysis may lead to contradictory results. For instance, a study analysing yellow cab data of New York in 2013 and Uber data from New York in August 2014 demonstrated that average UberX prices were 1.14 USD higher than taxis (Salnikov et al., 2015_[10]). In contrast, an analysis carried out in four Australian cities showed that in August 2015 UberX was on average 19.77% cheaper than a taxi (Deloitte, 2016, p. 30_[11]).

29. Passengers often perceive that ride-sourcing and ride-sharing services are cheaper than regulated taxi prices. According to a survey conducted in India, “47% of the respondents found Uber/Ola fares cheaper than taxis as well as autos, whereas 22% of them found them cheaper than all taxis but a bit expensive compared to autorickshaw fares” (MGP, 2017, p. 3_[12]). In 2015, a survey conducted amongst Toronto residents revealed that 94.5% of the passengers using ride-sourcing services instead of taxi identified lower prices as a reason for their choice (City of Toronto , 2015, p. 64_[13]). Another survey conducted in the US in 2016 indicates that 68% of participants believe that ride-sourcing and ride-sharing services are cheaper than taxis (Smith, 2016, p. 29_[14]). A more recent survey conducted in the US found that 40% of the respondents cite ride-sourcing companies’ lower prices as the second reason – after “easy to use” – for using them instead of taxis (Dhar, 2017_[15]). In Indonesia, the most mentioned (61% of the respondents) reason for using ride-sourcing services instead of taxis is “value for money” (GfK, 2017_[16]).

30. In some cities, competition created by riding apps is also paving the way for cheaper taxi fares.⁷

31. New services mean new options for consumers. In this context, it is also worth considering whether these new services with lower prices present more and better travel options to passengers with limited budgets. A reduction in prices probably led to an expansion in output, making the service available to that segment of demand that could not access to traditional taxi services due to budget constraints.

1.3.2. Availability

32. Ride-sourcing and ride-sharing companies’ expansion has increased the supply of drivers as these platforms compete to recruit new drivers, including those without a taxi or PHV license. Ride-sourcing and ride-sharing car numbers are often not public, yet it is clear that in some cities those numbers have surpassed the number of taxis already.⁸

33. Moreover, digitalization of bookings⁹ improves allocative efficiency by making the matching process quicker, easier and more effective.¹⁰ Innovative pricing strategies have also attracted more drivers onto the platform at times when demand from passengers is high, making it easier for passengers to get a ride.

34. A higher number of available vehicles in the streets is also likely to reduce waiting times for passengers. For example, in Toronto, Ottawa (Johal, Ditta and Zon, 2015, p. 9_[17]) and New South Wales (Deloitte, 2016, p. 27_[11]) waiting times for a ride-sourcing company were shorter than for traditional taxis. Shorter waiting times due to dynamic pricing and the digital booking process seems to generate additional consumer welfare (Lam and Liu, 2017_[18]).

35. Additionally, it is reported that in some cases ride-sourcing services offered improved transportation to under-served areas despite not being under any service obligation.¹¹ A report (Deloitte, 2016, p. 28_[11]) argues that the booking process of some ride-sourcing apps prevents drivers from cherry-picking the most convenient and profitable requests. Instead, the destination is revealed to the driver only after they accept the ride request. The driver is also discouraged from cancelling a trip once they accept the request. The role of the platform in restraining drivers from individually rational decisions that damage the brand of the platform as a whole would therefore appear to be an important one. A survey conducted in the US in 2016 found that 50% of respondents believe that ride-sourcing apps “serve neighbourhoods taxis won't visit” (Smith, 2016, p. 27_[14]). Similar results were obtained by Lam and Liu (2017_[18]) analysis conducted in New York City. They showed that Uber and Lyft made the service more available in other areas of town compared to traditional taxis which were mainly focused in Manhattan.

36. However, it must be noted that this type of booking process is not used by every ride-sourcing app, and in other cases the added value of ride-sourcing and ride-sharing services in terms of service coverage might be limited. For instance, in Portland in 2015, taxi rides were found to be more dispersed than ride-sourcing rides (Portland Bureau of Transportation, 2015, p. 14_[19]).

1.3.3. Safety

37. Safety, which includes both vehicle and personal safety, is a crucial aspect of transportation for passengers. In order to convince passengers to get into strangers' cars, taxi, ride-sourcing and ride-sharing services employ various measures. These include verifying identities of both the passenger and the driver, vetting drivers, checking vehicles, building a reputation mechanism, enabling passengers to share their ride information via the app, and providing a panic button that alerts the app or local authorities when the passenger is in danger.

38. There is an intense debate about whether these measures can replace the safety regulation and public authorities' enforcement. On one side, apps inform passengers about drivers' identities and ratings, reducing asymmetric information. They also introduce new features such as panic buttons and ride information sharing which were not available before. All these mechanisms may facilitate complaints and sanctions procedures. On the other hand, some argue that these are not an effective substitute for official background checks, certification and vehicle inspections.

39. In this context, the added-value of ride-sourcing apps may depend on the robustness of safety regulation of taxi and PHV services, and on the level of its enforcement. For instance, safety is one of the least mentioned reasons for preferring ride-sourcing in Toronto (City of Toronto, 2015, p. 64_[13]), but it is a more important reason for passengers in other countries, such as Mexico and Philippines (ITF, 2017, p. 20_[1]).

1.3.4. Quality

40. Lower prices and shorter waiting times are not the only factors attracting passengers to apps. Passengers using ride-sourcing and ride-sharing services also mention quality elements such as drivers' courtesy and vehicles condition, as a reason for their preference.

41. Although traditional service providers are subject to quality and driver conduct regulations, surveys suggest that the reputation system used by apps often works better. In India behaviour of ride-sourcing drivers was found "good" by 67% of the passengers, "average" by 14%, and "bad" by 19%. On the other side only 8% of the respondents thought behaviour of black and yellow taxi drivers was "good", while 55% found their behaviour "average" and 37% consider their behaviour "bad" (MGP, 2017, p. 3_[12]). In Toronto, 85.8% of respondents¹² to the public consultation indicated that the ride-sourcing vehicles are cleaner than taxis (City of Toronto, 2015, p. 64_[13]). In many other countries ride-sourcing and ride sharing services are considered to be better quality than taxis. (ITF, 2017, p. 24_[11])

42. Some evidence suggests that the success of new companies led to better service quality in the traditional taxi industry. Wallsten (2015_[20]) analyses the number of complaints¹³ about taxis as a proxy for taxi service quality in New York and Chicago. He finds that after the emergence of ride-sourcing companies, complaint numbers decreased, implying that this had triggered quality improvement in both cities, generating a positive externality for those users who never uses ride-sourcing and ride-sharing services.

1.3.5. Convenience

43. Ride-sourcing and ride-sharing services sometimes offer different booking and payment experiences to passengers. While some taxi services use the same booking process as ride-sourcing and ride-sharing services, the booking processes of ride-sourcing and ride-sharing services are much easier than traditional booking options such as telephone, though they typically require mobile internet access. Even before submitting a request, users can access valuable information such as estimated fare and waiting times. Upon booking, users are informed about the crucial aspects of the ride (the driver's identity, the vehicle, its arrival time, the route, estimated or exact fare) and track the vehicle on a map. In addition, passengers are usually not required to specify a pick-up address, which is tracked down directly by the phone GPS. Payment by credit or debit card is often required, making the transaction cashless. Once the ride is over, users receive e-receipts on their email, reducing waiting times compared to traditional services. Some apps also enable passengers to share the fare with their contacts by sending a mobile request.

44. Some surveys show that users of ride-sourcing and ride-sharing services can find these services more convenient. In the US, 86% of ride-hailing users indicate that these services save their time and reduce stress, while 60% of them think that ride-hailing services are more reliable than a traditional taxi or public transportation (Smith, 2016, pp. 27-29_[14]). In another survey, "ease of use" comes as the most mentioned reason (53.7%) for preferring ride-sourcing (Dhar, 2017_[15]). In Indonesia, according to a survey conducted in 2017, 58% of respondents attribute their preference and frequent usage of ride-sourcing services to ease and convenience of ordering directly from their smartphones (GfK, 2017_[16]).

45. Once again, it is important to emphasise that some taxi and PHV services are also improving convenience by adopting the same types of app as those implemented by new competitors. Therefore, some of the positive aspects highlighted above apply as well to traditional operators which improved their services as result of an increased competitive pressure.

46. In conclusion, ride-sourcing and ride-sharing providers seem to deliver services that improve the welfare of those that use them, and in some cases, of those that do not. Part of this improvement is due to the new features introduced by new players, but the increased level of competition in the market also appears to be a significant factor. In this sense, enabling and encouraging traditional service providers to compete with the new companies is crucial to increasing consumer welfare.

2. Traditional Regulation and Challenges from Digitalisation

47. Taxi services are generally highly regulated. Regulation ranges from fixed tariffs to taxi quotas, certification requirements and periodic vehicle inspections. While providing similar services to taxis, ride-sourcing and ride-sharing platforms operate largely outside of this regulatory framework. This situation raises the question of whether and how to level the playing field between taxis, PHVs, ride-sourcing and ride-sharing companies.

48. In this context, it is important that regulations allow consumers to benefit from increased competition while still addressing potential market failures.

49. This section provides a brief overview of the main regulatory restrictions that apply to licensed taxis and PHVs, focusing on those with a greater impact on competition. It sets out the original justification for regulation and considers its relevance in light of the changes brought about by digitalisation.

2.1. Supply Constraints

50. In many jurisdictions taxi supply is restricted. These restrictions include limitations on the number of licensed taxis and limitations on the geographic area in which they are allowed to operate.

2.1.1. Quantitative Restrictions

51. Quantitative restriction is one of the most debated constraints imposed on taxi services by regulation. While this is a constraint which is being eroded by the new services reviewed in Section 2, a number of rationales are offered for such regulation.

52. Firstly, one of the justifications behind supply restriction is achieving higher productivity by avoiding excess supply. According to this approach, without any entry barrier there is the risk of an excess of supply leading to a higher cost per ride due to fixed costs not being spread over the same number of rides.

53. There is however little evidence that excess supply increases the cost per ride, nor that this is passed on to consumers in the form of higher prices. Moreover, regulation should seek to ensure that drivers make efficient investments in fixed costs, not simply that they invest in unwarranted fixed costs. This argument is also weakened by the fact

that excess capacity generates shorter waiting times and greater passenger satisfaction which may increase demand (OECD, 2007, p. 22_[21]).

54. This regulatory constraint is also challenged by technological developments. New technologies which are implemented by ride apps (third party apps or taxi apps) can decrease sunk and fixed costs for taxi drivers. In fact, applications can provide the benefits of a meter, a credit card payment unit, and tracking and communication equipment relatively cheaply. They can also increase the utilisation rate (time that a taxi spends on ride) and hence spread any fixed costs over a larger number of rides.

55. Secondly, one of the most cited arguments for quantitative restrictions on taxis is preventing congestion and pollution. This argument suggests that without quotas, the supply level will be higher than an optimum supply level, causing negative externalities such as pollution (OECD, 2007, pp. 23-24_[21]). This will depend on the substitutes that passengers use when they are unable to find a taxi. If majority of the passengers switch to private vehicles the impact on pollution and congestion is likely to be negative. If they would switch to ride-pooling and ride-sharing services there is likely to be a positive impact on pollution and congestion (Alonso-Moraa et al., 2017_[22]).

56. Instead, there may be less intrusive options for addressing congestion and pollution. For instance Scheller (2017, p. 20_[23]) proposes other methods which aim at decreasing the unoccupied time of both taxis and for-hire vehicles including ride-sourcing cars. Other options can be the imposition of a congestion or pollution tax on each ride, improving public transport by focusing on end-to-end passenger experience, or regulating the traffic in specific locations suffering from congestion.

57. Thirdly, it is argued that, without quotas, revenue per taxi will fall so it will be difficult to provide a high-quality service. This does not explain why taxi drivers that are protected by entry barriers would have an incentive to be responsive to consumer demands. Moreover, the quality and quantity aspects of taxi regulation are separable from each other; removing quantity restriction does not imply removing regulation of quality standards (OECD, 2007, pp. 24-25_[21]). High consumer satisfaction of ride-sourcing and ride-sharing services, as demonstrated in Section 2, provides an interesting example of how high quality service could be provided in the absence of supply restrictions. In this sense, the experience of digital services strengthens the arguments against the need for regulations that restrict supply to improve the quality of service.

58. Finally, the safeguard of taxi drivers' welfare is mentioned as an argument for quantitative restrictions as entry barriers protect drivers from an influx of unskilled labour during economic downturns. In addition, for those taxi drivers who own their licence, it may be that they invested in the licence as an asset by which to save for retirement (since it can be sold when exiting the market). With regard to this point, it is not clear why this particular form of speculative retirement saving scheme requires protection while other savings vehicles do not (ITF, 2016, p. 24_[2]). Similar to licences as retirement savings, it is not justified why taxi services market requires special protection from economic fluctuations. In regard to the deskilling of the workforce, it is relevant that technological development of GPS and routing systems has removed to some extent the demand for the skill that is being protected.

59. As described above, the justifications behind quantitative restrictions of taxi licences do not seem to serve their stated objectives. Moreover, the emergence of ride-sourcing and ride-sharing services demonstrates how this aspect of the regulatory framework is outdated. In fact, quantitative restrictions hinder competition and prevent

passengers from enjoying shorter waiting times, greater convenience and lower prices due to increased competition and supply. Thus, there would not appear to be a need for quantitative restrictions to be applied to taxis.

2.1.2. Geographical restrictions

60. Licensed taxis and PHVs are generally subject to geographical restrictions on pick-ups and service obligations within the jurisdictions that issued the licence. These constraints aim at providing an adequate level of service to each part of the city by avoiding concentration of supply in more lucrative areas (ITF, 2016, p. 26_[2]).

61. As taxis have obligations to not discriminate and to provide a certain level of transportation service, the street hailing segment of the market is reserved for them as compensation. Therefore PHVs are not allowed to operate in the street hailing segment and they are usually required to return to the base between rides.

Box 1. Italian Case for PHVs

In Italy, private hire vehicles' (PHVs) licences are restricted in terms of area. They are also subject to "return to the base" rule. The legislation (Article 11(4) Law No 21/1992) mandates each PHV to start and end their ride at the garage which is located in the municipality that issued the authorisation. This rule applies even if the next ride is planned to start in another municipality.

Source: "Study on passenger transport by taxi, hire car with driver and ridesharing in the EU" available at <https://ec.europa.eu/transport/sites/transport/files/2016-09-26-pax-transport-taxi-hirecar-w-driver-ridesharing-final-report.pdf>, pp.54-56.

62. Geographical constraints are likely to restrict competition by hindering entry into areas of high demand (though entry by ride-sourcing services would occur and so this restriction might be marginal in its actual effect). However, they may increase competition in areas with less demand, or a lower willingness to pay.

63. Geographical restrictions hinder efficient use of transportation capacity by generating empty return journeys from destinations where picking up another passenger is not allowed. Supply's capacity to meet demand during peaks is also diminished.

64. Moreover, this limitation creates a competitive disadvantage for taxis facing new competitors. While ride-sourcing and ride-sharing drivers can pick up passengers anywhere, taxis are confined to their designated service area.

2.2. Pricing

65. In the majority of cases, taxi fares are subject to strict and complex regulations. Pricing regulations are justified on the basis of consumer protection. For example, in the hailing and taxi rank segments, the passenger is considered to be in a weaker bargaining position compared to the taxi driver. In the hailing segment, passengers are more sensitive to time than the driver, do not know when the next potential ride is available and are uncertain about the price that will be charged unless they negotiate it while getting in. In the pre-booking segment, consumers are better placed since they can shop around for a better price without the anxiety of uncertain supply (OECD, 2007, pp. 18-19_[21]).

66. In this scenario, regulated tariffs, like the centralised price setting mechanisms used by ride-sourcing firms, are supposed to prevent price gouging and provide certainty. Price regulation is considered a way of securing a fair return of investment and compensating for taxis' public service obligation. However, fixed prices can hinder product differentiation and soften competition, too.

67. Instead of regulated fixed tariffs, the majority of ride-sourcing and ride-sharing providers deploy dynamic pricing. What is novel about dynamic pricing is its ability to reflect real-time demand and supply levels to tariffs. During peak times dynamic pricing increases the tariff in order to attract more drivers to a certain area, while discouraging passengers who value the service least. It is argued that since dynamic pricing lets the market find supply-demand equilibrium, it is more efficient.¹⁴ However, the lack of transparency behind the dynamic price algorithms raises questions about their application for efficiency reasons only. Moreover, it is not always clear how much extra the platform earns when the dynamic price increases and how much goes to the driver.

68. Firstly, regulated fixed tariffs restrict competition by preventing taxis from reacting strategically to the dynamic pricing of ride-sourcing companies. Secondly, thanks to digital booking process, passengers with mobile internet can shop around for better prices by using their phones without any significant search cost other than the cost of data. This suggests the original rationale for regulating prices has fallen away for some consumers.

69. However, it can also be argued that ride-sourcing and ride-sharing apps are not used widely enough to prove decreased information asymmetry and search cost for every passenger. The majority of passengers do not use ride-apps. In some cases, apps may increase search cost for passengers without mobile internet or while looking for a lift abroad, due to roaming fees. Moreover, even passengers who have access to apps may need a degree of protection in terms of tariffs. For instance, surge/prime pricing during emergencies and crisis caused a strong public reaction.¹⁵

70. Consequently some jurisdictions are discussing the option of regulating dynamic pricing. For instance, in 2016 the Indian Ministry of Road Transport and Highways released taxi policy guidelines establishing a framework for state governments' regulations regarding aggregators (a digital intermediary or market place for a passenger to connect with a driver for the purpose of transportation). According to the guidelines, two categories of taxis under aggregators are defined as deluxe and economy. While both group of taxis are allowed to use dynamic pricing, economy taxis' surge prices are capped. Moreover pricing algorithms of ride-sourcing providers will be checked for accuracy in terms of price calculation and shortest route designation by a public agency (MGP, 2017_[12]).¹⁶

71. In this context, it may be beneficial to review taxi pricing regulation schemes and consider setting a regulated cap rather than a fixed price. This would enable taxis to react to rival's pricing and so enhance competition and consumer welfare, while still offering vulnerable consumers the protection they need.

Box 2. Taxi deregulation in Long Beach

As in many other countries, in the town of Long Beach (California), traditional taxis suffered from the emergence of new providers which significantly decreased their business.

However, instead of banning new business models or regulating them, in May 2015 the local council decided to deregulate traditional providers, with the purpose of allowing taxis to compete with the new companies.

The most important changes to the original regulatory framework, voted by the City Council, concerned tariffs and the implementation of an app like those implemented by new companies. In fact, the reform allowed traditional taxi to offer discounted fares, promotions and free rides to customers. These changes allowed taxis to compete on price and to undercut and hence undermine dynamic pricing where it was profitable to do so.

Source: “Long Beach allows taxis to lower fares as they compete with Uber, Lyft”, www.latimes.com/local/california/la-me-long-beach-uber-20150514-story.html

2.3. Service Requirements

72. Apart from taxi quotas, geographical restrictions and tariffs, many other aspects of the service offered by taxis and PHVs are regulated. In this section, we discuss insurance, accessibility and quality requirements, as they are amongst the most debated topics.

2.3.1. Insurance

73. Taxis and PHVs are obliged to have commercial insurance¹⁷ which covers passengers and third parties for any harm that occurs during their services. Since the mileage of taxis and PHVs are much higher than a private car, insurance companies often assume taxis and PHVs carry greater risk of total damage. In contrast to taxis and PHVs, ride-sourcing and ride-sharing providers do not have such obligation. If this lack of regulation (or enforcement of regulation) is allowing ride-sourcing and ride-sharing providers to reduce their costs by not purchasing adequate insurance, there is a potential for a distortion of competition.

74. Moreover, when insurance requirements are set too high, they can constitute a barrier to entry and increase the cost of a service. A question therefore arises as to whether excessive regulation of traditional taxi services is increasing the costs sustained by taxi drivers and hence distorting competition. It is therefore important for regulators to ensure that the insurance requirements for taxi and PHVs are both adequate and proportionate.

75. Regarding ride-sourcing and ride-sharing services, Edelman and Geradin (2016, pp. 312-313_[24]) mention two potential externalities that might be considered when discussing insurance regulation.

76. Firstly, without a legal obligation, there is a risk that drivers do not purchase adequate insurance coverage for themselves, resulting in non-compensation or under compensation of harm for passengers. Where regulation creates a competitive distortion,

the loss of efficiency it entails only makes sense if that regulation is necessary to resolve a market failure, and where there is no less anticompetitive solution available. Assessed against that criterion, this risk appears to be a common rationale for regulation. However, the peculiarity that arises in the sharing economy should be taken into account, as there would not appear to be a justification for regulating the insurance requirements of apps drivers while they are using the car for non-commercial activities (beyond the general insurance regulations that all drivers of private vehicles are subject to).

77. Secondly, the use of private insurance (instead of commercial insurance) by ride-sourcing drivers may lead to higher insurance premiums for private drivers (Edelman and Geradin, 2016, pp. 312-313_[24]). This risk, however, would be mitigated if the insurance market can offer insurance products that distinguish between private drivers and ride-sourcing or ride-sharing services drivers. This distortion seems unlikely to last if the market responds as would be expected and insurers reflect different risk profiles in their offers.¹⁸

2.3.2. Accessibility

78. Accessibility is the most important aspect of an inclusive transportation system. Taxis perform an important duty for disabled and senior passengers who are not well served by public transportation. To meet this need, taxis incur costs of accessible vehicles, trained drivers and additional time with disabled and senior passengers.

79. Taxis are financially incentivised or obliged to provide accessible service by adopting certain ratios across the fleet. In some cases, the additional cost of accessibility is largely funded by the per trip fee taken from every taxi.

80. As ride-sharing and ride-sourcing services gain market share, concerns about accessibility arise. Firstly, as taxi rides decrease, the funding for accessibility declines. Secondly, a decrease in taxi numbers may mean a fall in accessible vehicles as well, unless the demand for accessible rides is reflected in the service offered by ride-sourcing firms.

81. Additionally, it has been argued that taxis are unfairly put in a disadvantaged position because of the regulation disparity (Edelman and Geradin, 2016, p. 320_[24]). Ride-sourcing and ride-sharing companies may enjoy lower costs as they do not pay per trip fee to cross-subsidise accessibility services, and often do not supply these more costly accessibility services.

82. Better accessibility and the establishment of a level playing field may require addressing this issue. For instance, accessible transportation can be provided by paratransit fleet operators which are funded by general tax incomes and passengers' payments. Open entry to such programmes and passengers subsidies would motivate service providers to improve service quality. Other models can be developed as well, however discussion of all the possible alternatives goes beyond the scope of this paper.¹⁹

83. To conclude, if guaranteeing a certain level of accessibility is a policy objective of regulation, this could potentially be achieved, for instance, by the contribution of all the providers.²⁰ Instead of banning ride-hailing apps, recognising them as part of the urban transportation system could help solve this requirement asymmetry with traditional taxis.

2.3.3. Service Quality

84. Taxis and PHVs are subject to quality regulations regarding the vehicle and the driver. Quality requirements include maximum mileage of the vehicle, accessories such

as air conditioning, route knowledge by drivers, and so on. While such regulation raises the cost for the service provider, they decrease information asymmetries and provide minimum safety and service standards for passengers.

85. When set too high, these minimum standards may work against the consumers. For instance, although some of them are satisfied with a less comfortable car for a cheaper fare, this option may not be available due to regulations, decreasing the degree of product differentiation available in the market.

86. These standards may increase the costs of taxis and PHVs or establish entry barriers. For example, the geographical knowledge test is considered an important entry barrier in the UK²¹, although the need for such requirement is at least debatable considering the expansion of online mapping services. Such a requirement can be replaced by requiring the usage of reliable mapping services.

87. The debate around service quality requirement also involves the reputation mechanism implemented by ride-sourcing and ride-sharing platforms. To ensure service quality, new players offer an alternative system, in which users and drivers have the option to rate and comment on each other. The passengers can see the driver's rating (and vice versa), and sometimes read the comments before booking a ride. Depending on platforms' policies, low ratings for drivers may mean less rides being allocated to them, suspension or other sanctions.

88. Reputation mechanisms have pros and cons. On one side, reputation mechanisms seem to be working well, and perhaps even better than quality regulations (as explained in Section 2, passengers often find ride-sourcing and ride-sharing cars cleaner and drivers politer). Additionally, this mechanism is more flexible than regulations. According to Edelman and Geradin (2016^[24]), "if a given attribute is irrelevant, service providers may recognize it as such without suffering in ratings — making ratings more responsive to actual customer needs".

89. On the other side, passengers are more inclined to comment and rate about positive experiences while negative feedback is crucial (Edelman and Geradin, 2016, p. 316^[24]). Also passengers may not rate the service objectively making the rating system biased. For instance, a study (Kooti et al., 2017^[25]) demonstrates that riders who have a smaller age difference with drivers and 30-50-year-old women get higher ratings.

90. In this context it is important to review quality regulations taking into account new developments and changing expectations of passengers. For instance, it must be noted that transparency achieved by means of digitalisation makes necessity of some quality regulations questionable in the pre-booked services. Flexible quality regulations would allow taxis and PHVs to differentiate and adapt their service and better compete in the market. Also they would not create any redundant costs for taxis and PHVs or create barriers to entry for platforms' drivers.

2.4. Public safety

91. Information asymmetry is one of the most relevant market failures addressed by regulation and safety is a typical example. Since a passenger cannot fully assess if a vehicle or a driver are adapted to provide the service, the role of regulation is to fill this information gap. Safety measures generally include regular vehicle inspections, maximum vehicle age restrictions, maximum vehicle mileage restrictions, minimum equipment requirements, drivers' fingerprint based criminal record checks, drug tests,

certification and training requirements, maximum working hour limitations and others. These obligations usually apply only to licensed taxis and PHVs as ride-sourcing and ride-sharing services tend not to be subject to regulatory frameworks.

92. New players apply their own rules and procedures to ensure users' safety. To fill this gap, they have innovated and introduced novel safety features such as panic buttons and ride information sharing. Moreover, data collected by these companies can help screening driver behaviour such as over speeding. However, these new systems leave their efficacy open to debate since, for example, there is no public overview and enforcement behind them.

93. Besides raising concerns about passenger safety, the absence of safety regulations on new players constitutes a competitive issue for taxis and PHVs. As a result of this regulatory asymmetry, taxis and PHVs bear higher costs and limited flexibility against their emerging competitors. For instance, while taxi drivers can work certain hours a day, app drivers can drive as much as they prefer. Even if an app enforces a working hour limit, drivers may bypass that by using multiple apps to receive ride requests. So there is a strong argument for information being submitted by ride-apps to enable enforcement against drivers working dangerous hours.

94. While it is clear that public safety cannot be left to the goodwill or quality strategies of companies, it must be also noted that, in some respects, the novel safety features of the ride-apps may be more efficient than ex-ante safety measures required by the regulation. The process of levelling the playing field for taxis and ride-sourcing and ride-sharing services can be an opportunity to improve current taxi regulations by incorporating the good sides of digital services and reviewing any outdated or unnecessary safety regulation.

Box 3. The Finnish Reform

The Act on Transport Services, which was adopted in 2017, reforms transport regulation, including taxi regulations. It is stated that the main objective of the Act is “provision of customer-oriented transport services.” The Act aims at creating a favourable operating environment for digital services and new business models. It is expected that this reform will promote competitiveness in the market.

To these ends, the Act introduces the following changes to the regulatory framework.

- Taxi licence requirement remains for all professional passenger transport services. To obtain a taxi licence applicants must meet set of requirements such as having legal capacity, an office in Finland, and sufficient professional proficiency. However, transport operator training and experience requirements are waived.
- The limit on the number of taxi licences is removed.
- A taxi is defined as vehicle used with taxi licence. Since taxi licence is operator-specific, vehicles other than passenger cars can also operate as taxis.
- Geographical restriction on taxi licences is abolished. The taxi operator will determine the time and the principle area of service. This information will be available to public.
- Maximum prices; which turned into set prices confirmed by the government, were removed. However the operators are obliged to inform the passenger about the fare or its basis of calculation in advance. Also, The Finnish Transport Safety Agency can set price ceiling in case of unreasonably high prices.
- Consumer protection and safety regulations remain. The new Act actually subjects drivers to stricter criminal record checks.

Sources: Finnish Ministry of Transport and Communications, “Taxi and vehicle-for-hire services in the Act on Transport Services”, www.lvm.fi/documents/20181/937315/Factsheet+60-2017+Taxi+and+vehicle-for-hire+services+in+the+Act+on+Transport+Services.pdf/bbb5ca8a-d24d-4b41-a5be-004f4036aeb2; “The Act on Transport Services implements Government Programme”, www.lvm.fi/documents/20181/937315/Factsheet+64-2017+The+Act+on+Transport+Services+implements+Government+Programme.pdf/f7fb10cb-07bb-495e-a256-2659ca11fa66 and “Good and flexible transport services through a new act”, [/www.lvm.fi/en/-/good-and-flexible-transport-services-through-a-new-act-933165](http://www.lvm.fi/en/-/good-and-flexible-transport-services-through-a-new-act-933165)

3. Competition Authorities’ Advocacy Effort

95. Markets for the provision of traditional taxi services have been under scrutiny by National Competition Authorities (NCAs) for many years. In the main, NCA’s efforts focused on the analysis of the heavy regulatory framework applied to the taxi industry, particularly on the more problematic aspects from a competitive perspective such as entry restrictions or tariff regulation.

96. Over the last 10 years the scenario has changed; as in many other industries, technological innovation has been crucial in creating the environment for the growth of new providers.

97. Following the debate created by the entry of new providers, NCAs have started producing advocacy papers assessing these new services and their impact on competition, and proposing specific approaches to transport regulators and governments.

98. Recently, ride-sourcing and ride-sharing services have been at the top of competition authorities' agendas. A significant amount of material regarding the competition assessment of regulation has been produced, ranging from editorial pieces²² to quantitative analysis²³ and judicial actions²⁴.

99. A non-exhaustive list of NCAs that have released documents on the issue includes Australia, Brazil, Canada, Colombia, Finland, France, Italy, Mexico, Norway, Poland, Portugal, Singapore, Spain, the UK and the US.

100. Many authorities seem to agree on the consumers' benefits generated by these new companies. NCAs' opinions tend to focus on the positive impact on prices, waiting times, choice and services availability (Canadian Competition Bureau, 2015_[5]) (Australian Competition Policy Review, 2015_[26]) (CADE, 2015_[27]) (CMA, 2015_[28]) (COFECE, 2016_[29]). Other points mentioned are the efficiencies created by reducing transaction cost, mitigating information asymmetries and utilising idle capacity (Portuguese Competition Authority, 2016, pp. 37-38_[30]). Interestingly, some authorities (Canadian Competition Bureau, 2015_[5]) (Superintendencia de Industria y Comercio, 2015_[31]) linked these efficiencies not only to the digital characteristics of the new market players but also to the competition they created in the market.

101. Moving to the regulatory aspect, many NCAs' documents focus on the importance of a level playing field (UOKiK, 2016_[32]) (Portuguese Competition Authority, 2016_[30]), remarking that regulation should not favour one group of competitors or certain types of business models over others (FTC, 2013_[33]) (CMA, 2015, p. 2_[28]) (UOKiK, 2016_[32]). For example, the Canadian Competition Bureau (2015_[5]) identified the lack of a level playing field as the source of current friction in the Canadian taxi industry. The debate around this issue leads to the main question of if and how to incorporate ride-sourcing and ride-sharing services into a regulatory framework.

102. Traditional taxi operators have always been in favour of extending the current regulation to companies providing ride-sourcing services as well. However, this approach does not meet the favour of NCAs which usually refer to the taxi services as an over-regulated industry. The emergence of new market players is often seen as an opportunity for reform (Australian Competition Policy Review, 2015, p. 135_[26]) though not total deregulation.

103. For instance, the Italian Competition Authority (2017, p. 54_[34]) calls for 'deregulation from the bottom'. The authority recommends a reform of existing rules and regulations in order to achieve equivalence between traditional taxis and PHVs and to make the regulation of services by non-professionals as nonintrusive as possible. It is also suggested that, in order to ensure smooth transition, some forms of monetary compensation could be provided to taxi drivers.

104. The Canadian Competition Bureau (2015_[5]) notes that to provide an even playing field "regulations on taxis need to be relaxed, and regulations on new providers may need to be increased to ensure that legitimate policy objectives like public safety are met". It also invites regulators to consider both traditional taxis and ride-sourcing service providers under a single classification, unless it is determined that there are significant differences between them and the desired policy outcomes can only be achieved by different rules.

105. On the other side, the Mexican Competition Authority (COFECE, 2016, p. 3_[29]) recommends that transportation network companies should be formally recognised as a special regulatory category different from public taxi services.

106. As described, concerns with creating a level playing field are directly linked to the application of appropriate regulation to the various actors. Thus, it is crucial to categorise properly the services to see if they can all be treated under the same regulatory framework.

107. Few NCAs have addressed the market definition issue in their advocacy activity. For instance, the French Competition Authority (2013_[35]) identified two different markets for hailing and pre-booking services, stating that the hail market is legally reserved for taxis and is not subject to competition between taxis and pre-booked services. The Portuguese Competition Authority (2016, p. 7_[30]) recognised the existence of three different segments: hailing, taxi rank and pre-booking, noting that “technological innovation has driven the development of new electronic platforms to hire taxi services, which level out the differences between segments”. In its document, the Polish Competition Authority (UOKiK, 2016, p. 4_[32]) differentiated taxi services from ride-sourcing companies which act as intermediaries.

108. With regards to specific points of the current regulation, the main issue raised by NCAs concerns the quantitative restriction on number of taxi licences. For instance, authorities from Canada (Canadian Competition Bureau, 2015_[5]), Colombia (Superintendencia de Industria y Comercio, 2015, pp. 8-9_[31]), Finland (Finnish Competition and Consumer Authority, 2016, p. 64_[36]), Norway (Norwegian Competition Authority, 2015, p. 27_[37]), Portugal (Portuguese Competition Authority, 2016_[30]), Spain (Spanish Competition Authority, 2016, pp. 125-135_[38]) and the US (FTC, 2013_[39]) criticised the strict control of the number of taxis licences, as it constitutes a significant barrier to entry. Some authorities such as the Australian (Australian Competition Policy Review, 2015, p. 135_[26]), Mexican (COFECE, 2016, p. 3_[29]), Canadian (Canadian Competition Bureau, 2015_[5]) and Spanish (Spanish Competition Authority, 2016_[38]) expressly recommended the elimination of restrictive *quotas*.

109. Another highly debated point of the current regulatory framework applied to traditional taxis is related to tariffs. The majority of the advocacy material produced by NCAs highlights how heavily regulated prices eliminate one dimension of the competitive game, causing inefficiencies by preventing the market from clearing (Portuguese Competition Authority, 2016, p. 74_[30]). Moreover, price regulation is considered an obstacle for traditional taxis to strategically react to the competitive pressure exerted by ride-sourcing services.

110. However, recommendations differ on how to deregulate tariffs. For instance, the Spanish Competition Authority (2016, pp. 175-176_[38]) is in favour of complete liberalisation of taxi prices together with free market entry. Similarly, the Norwegian Competition Authority (2015, p. 34_[37]) encourages price deregulation and the elimination of entry barriers, with an emphasis on the provision of price transparency to enable consumers to make informed choices.

111. On the other hand, the FTC (2013, p. 5_[39]) observes that in some specific circumstances maximum price regulation could be a useful tool for consumer protection²⁵, recognising anyway that this argument would be weaker in a free-entry scenario. The Portuguese Competition Authority (2016, p. 20_[30]) also states that some price regulatory intervention in certain segments may be justifiable, although it also

highlights the risk of maximum price becoming a focal point for collusion and consequently the importance of continuous market monitoring activities. The Finnish Competition and Consumer Authority (2016, p. 64_[36]) expresses its support for maintaining general maximum price regulation in order to safeguard consumers,²⁶ even if the regulated maximum price turns out to be the actual price in practice. It states that taxis are an essential service for many special groups, which underlines the demands for moderately priced, accessible and safe taxi services.

112. However, not all the current regulatory framework is considered outdated and requiring radical changes. Rules imposing safety standards are usually well received by NCAs (Australian Competition Policy Review, 2015, p. 134_[26]) (COFECE, 2016, p. 3_[29]). For example, it is recognised that the digital features of ride-sourcing services do not mitigate some information asymmetries related to the mechanical condition of the vehicle or its insurance coverage (Canadian Competition Bureau, 2015_[5]) (Portuguese Competition Authority, 2016, p. 22_[30]) (Spanish Competition Authority, 2016, p. 144_[38]). At the same time, authorities recognise that regulation ensuring safety must be proportionate to the market failure in question and non-discriminatory between different types of market participants (Portuguese Competition Authority, 2016, pp. 23-24_[30]) (Norwegian Competition Authority, 2015, p. 30_[37]).

113. To summarise, NCAs are almost unanimously calling for a review of the regulatory framework applied to traditional taxi services, even if with different approaches. They underline the benefits that consumers are enjoying thanks to the new services. However it is also recognised that existing regulatory frameworks do not provide a level playing field for all the competitors. For a healthy competitive market it is crucial to keep regulation the less intrusive possible while addressing the market failures.

114. This intense effort of NCAs demonstrates that, firstly, the turmoil in the taxi services market is a common phenomenon in many countries. Secondly, it cannot be addressed by only one public authority but it requires collaboration and coordination of various stakeholders.

4. New Players and Competition Law Enforcement

115. The growth of internet-based companies has modified the competitive landscape of taxi, ride-sourcing and ride-sharing services. Where new services have emerged, authorities may face new challenges in understanding and addressing potential issues.

116. This chapter identifies a number of possible issues that competition authorities may face in the future, while also referring to a small number of ongoing cases. In particular, the sub-sections below describe a number of scenarios where it has been claimed that conduct by ride-sharing and ride-sourcing platforms have the potential to be anticompetitive.

117. Given the limited amount of enforcement activity, this exercise is somewhat speculative. Furthermore, the existence of market power and the pro- or anti-competitive effects of business conducts are factual matters that will need to be established on a case-by-case basis. Lastly, differences in competition rules across jurisdictions may lead to different conclusions being reached regarding the legality of similar business practices.

118. As such, the analysis below is made solely for illustrative purposes, and does not reflect any assessment by the OECD or its Secretariat regarding the actual effects or

lawfulness of individual business conducts by taxi, ride-sharing and ride-sourcing players.

4.1. Assumptions as to Market Characteristics

119. New players in the taxi, ride-sharing and ride-sourcing industry are often platforms which match two groups of customers: drivers and passengers. This structure is common to multi-sided platforms. Evans and Schmalensee (2007_[40]) define multi-sided platforms as having: (a) two or more groups of customers; (b) who need each other in some way; (c) but who cannot capture the value from their mutual attraction on their own; and (d) rely on the catalyst of the platform to facilitate value creating interactions between them. Multi-sided platforms are characterised by cross-platform network externalities; the benefit one side derives from being on the platform depends on the number of users on the other side of the market, and vice versa (OECD, 2018_[41]).

120. Like other multi-sided markets, ride-sourcing and ride-sharing platforms have a number of characteristics – such as the need for a critical mass of users, economies of scale and network externalities – that may enhance the likelihood of market concentration, and potentially of dominance (OECD, 2017_[42]).

121. At the same time, ride-sourcing and ride-sharing services' users can multi-home. In other words, passengers and drivers can sign up to different platforms without the constrain to rely on a single provider, and this seems to occur in practice. For instance, data from Uber's "Hell" program²⁷ suggests that nearly two-thirds of drivers on Lyft 'double-app'.²⁸ The existence and nature of multi-homing is an important element of any assessment of market power, and in the assessment of the impact of business conducts on competition.

4.2. Allegations of Collusive Behaviour

122. A question that has been raised regarding new ride-sourcing business models concerns whether the setting of prices by centralised ride-sourcing and ride-sharing platforms can amount to an infringement of competition law. This debate has surfaced in judicial proceedings in the US, namely in the *Meyer v. Kalanick* case.²⁹ The case, still under investigation, concerns a class action filed by Meyer in 2015 against Kalanick (Uber CEO at the time) for coordinating a horizontal agreement between Uber's drivers.

123. Underpinning the allegation that the fixing of prices by ride-sourcing platforms amounts to prohibited price-fixing under competition law is the fact that some platforms agree with drivers that the same prices will apply for all the drivers on the platform that are operating in a given area at a given time of day. Thus, the platform is said to fix prices between drivers who would otherwise be competing with each other on price. However, and to the best of our knowledge, no ride-sourcing or ride-sharing platform has yet been found to be engaged in collusive behaviour.

124. Some have argued that a ride-sourcing platform could play a role akin to that of a hub in a hub-and-spoke cartel (Nowag, 2016_[43]). A hub-and-spoke cartel is a cartel in which a firm (the hub) organizes collusion (the rim of the wheel) among upstream or downstream firms (the spokes). However, for such a cartel to occur there needs to be a conspiracy to fix prices, which requires a factual assessment on the existence of collusion. In the case of ride-sourcing and ride-sharing services, a hub-and-spoke cartel would require an agreement to set prices through the platform between all drivers, or an agreement for the platform to coordinate prices between them. In the context of this assessment, it may be necessary to take into account the actual role played by the

platform. For example, the ECJ decision classified Uber as a transport service company which not only intermediates between drivers but also acts as service provider.³⁰

125. In short, whether a ride-sourcing and ride-sharing platform's setting of prices can be said to amount to an unlawful collusive practice will ultimately depend on a variety of different factors, including the specific content of national competition law provisions. These factors may include the status of drivers vis-à-vis the platform, the actual role performed by the platform as regards drivers and consumers, and the anti- or pro-competitive effects of the platforms' practices, among others.³¹

126. A related issue which has been raised in this context, and which may affect the analysis of ride-sharing and ride-sourcing platforms under competition law, concerns the employment status of platforms' drivers – and, in particular, whether these drivers are employees or independent contractors. This is a question to which different jurisdictions have given different answers.³² While the analysis of cases on the employment status of drivers goes beyond the purpose of the paper, it should be noted that the identification of the scope *ratione personae* of competition law is usually a matter for competition law alone. In other words, while the qualification of drivers of a ride-sourcing platform as employees may support arguments that the platform and its drivers are not independent economic agents for the purposes of competition law, the qualification of drivers under the applicable employment law need not be determinative for the question of whether an agreement between them would fall within the scope of competition law.³³

4.3. Mergers and Acquisitions

127. Mergers and acquisitions between some ride-sourcing and ride-sharing platforms are starting to take place. For instance, Uber recently sold its Chinese and Southeast Asian assets respectively to Didi and Grab. In the ride-sharing industry, BlaBlaCar entered new markets through the acquisition of various players around the world.³⁴

128. Some of these transactions, such as the sale of Uber's Southeast Asian assets to Grab³⁵, raised concerns in various countries for its potential of substantial lessening competition. For example, the Competition and Consumer Commission of Singapore (CCCS) is currently investigating the deal to determine whether it substantially lessens competition.³⁶ The CCCS has also proposed interim measures requiring the parties “to maintain their pre-transaction independent pricing, pricing policies and product options in relation to the chauffeured personal point-to-point transport passenger and booking services”.³⁷

129. Similarly, in 2018 the Philippine Competition Commission (PCC) decided to launch a *motu proprio* review³⁸ of the deal because of its potential anticompetitive effects, recognising that “the exit of Uber in the Philippines will put its rival Grab in virtual monopoly in the ride-sharing market until the new players come into operation.”³⁹ A preliminary investigation of the deal was also launched by the Vietnam Competition Authority on 13 April 2018.

130. A different approach was taken by the Malaysian Competition Commission (MyCC) which did not assess the merger but released a statement declaring that “the Commission will be closely monitoring the e-hailing market post-merger activities together with the Land Public Transport Commission (SPAD) to ensure that competition in the e-hailing services is not disrupted by the merger between Uber and Grab.”⁴⁰

131. Another transaction regards the acquisition of Uber's Chinese assets by Didi. China's Ministry of Commerce (MOFCOM) decided to assess the acquisition of Uber's

Chinese assets by Didi, even if the parties argued that the merger did not meet the notification thresholds.⁴¹ The investigation is currently ongoing⁴² and to the best of our knowledge there are no analysis or interim reports publicly available.

132. Merger investigations in these markets will require an assessment of the specific conditions in the affected market; such as the number and type of competitors, the existence and strength of barriers to entry, and might include the level of market concentration, or the existence of meta-search applications that act as price comparison websites across platforms.⁴³

133. The analytical tools traditionally deployed in merger control will normally apply to these mergers, even if the analysis may require some refinement to reflect the multi-sided nature of the market. This may be achieved by adapting some of the traditional tools deployed in merger control – such as those related to market definition and the identification of market power – to reflect the peculiarities of multi-sided markets, such as the strength of cross-platform network externalities (OECD, 2018).

4.4. Unilateral Practices

134. In the event that a ride-sharing or ride-sourcing platform possesses a sufficient amount of market power, it becomes possible for some of its business practices to unilaterally infringe competition law.⁴⁴ In the examples below, it is assumed that the company engaging in the problematic conduct identified has gained such levels of market power; but it goes without saying that, in practice, this needs to be established beforehand.

4.4.1. Exclusionary Practices

135. A number of authors have identified theoretical frameworks under which ride-sourcing platforms with the requisite amount of market power may be able to engage in anticompetitive unilateral exclusionary conduct. However, to the best of our knowledge no such platform has been found liable for such a conduct.

136. Underpinning such frameworks is the assumption that, when a ride-sourcing platform benefits from cross-network externalities, a dominant incumbent may benefit from a competitive advantage arising from the interaction of both sides of its platform. In such cases, a new entrant may need to attract first one side of the market (drivers) to reach the critical mass necessary to involve the other side of the platform (passengers).⁴⁵

137. Successful entry would thus depend on creating incentives for users to switch or to multi-home, i.e. subscribe to different platforms and use them to search for alternative trips (Kim, 2017_[44]). An incumbent may have an incentive to prevent the practical feasibility of switching or multi-homing by somehow impeding it altogether or by preventing entrants from obtaining the benefits of scale and hence reducing the competitive threat that they pose to the incumbents' position.⁴⁶

138. Armstrong and Wright (2007_[45]) describe a theoretical framework for exclusionary practices that might be applied to ride-sourcing or ride-sharing platforms. In a scenario where exclusivity contracts are not available, one way to make the sellers (drivers) single-home is to undercut rivals on the buyer side (e.g. to offer cheaper prices to passengers). In contrast, when exclusivity contracts are available, a platform may potentially charge higher fees to those drivers that do not accept the exclusive contract, potentially up to a point where they would be better off by single-homing than by multi-homing. If the dominant platform can thus capture sufficient drivers from its competitors to make them unappealing to passengers, it may exclude these competitors from the

market. This may enable the dominant firm to raise its prices to the ultimate detriment of consumers.

139. This theory of harm was raised when Uber was sued for the use of software that was referred to as “Hell” (Anchustequi and Nowag, 2017_[46]).⁴⁷ While the case did not only focus on an infringement of competition law, it was claimed that the Hell software was developed by Uber with the intention to track competitor’s drivers (Lyft), identify multi-home drivers (e.g. drivers working for Uber and Lyft) and provide them with incentives (monetary rewards) to drive exclusively for Uber.⁴⁸ The final consequence would have been to reduce the number of active drivers working for Lyft, increase the waiting time of Lyft’s passengers for a car and thereby drive them to use Uber instead. In practice, it seems that ultimately the scheme broke down because it became too expensive to pay out to drivers as both the Lyft network and the number of multi-homing drivers grew.

140. Competing for drivers by offering them discounts on platform fees is of course a desirable competitive strategy; however, it has been identified that where incumbents with market power offer loyalty discounts that depend on an exclusive relationship, rather than volume for example, this can be particularly likely to have anticompetitive effects (OECD, 2016_[47]). However, this can only be exclusionary if there is some asymmetry in the dominant firms’ ability to compete to meet all of a customers demand. Asymmetries might include the ability to raise rivals’ costs by denying rivals economies of scale, or access to key inputs.

141. Katz (OECD, 2018_[41]) suggests a no-economic sense test be applied in such cases to understand whether the discounts would make sense absent any effect on the rival’s volume, and hence its costs (i.e. whether it would be profitable solely on the basis of the extra volume that it creates for the platform). It has separately been alleged that Uber has booked and cancelled thousands of rides on Lyft. Such conduct, if established, might fit a simple raising rivals’ costs strategy since it allegedly wasted the time and increased the costs of Lyft drivers while increasing the waiting time on Lyft.⁴⁹

142. Ultimately, whether exclusionary conduct would be feasible would depend on the facts of the case. Furthermore, even when a conduct is feasible it does not follow that it is anticompetitive; an assessment of the conduct’s effects and of the company’s market power would still have to be undertaken.

143. Similarly, the practice of the platform charging exclusive drivers a price below cost will not necessarily amount to an exclusionary practice. It is often observed that, in multi-sided platforms, one side of the market is priced below cost. However, this does not imply that the firm is acting anti-competitively; instead, the analysis should take into account costs and prices on both sides, and explore whether it constitutes a temporary entry strategy.

144. In short, it cannot be ruled out that ride-sourcing or ride-sharing platforms with the requisite amount of market power may be able to engage in anticompetitive exclusionary conduct. Indeed additional scrutiny of markets with strong cross-platform network effects may be required. However, whether any such conduct infringes competition law is something that will have to be assessed in light of the facts of each case.

4.4.2. Excessive Pricing

145. The majority of ride-sourcing companies apply dynamic prices established by a pricing algorithm rather than fixed tariffs. One element of this dynamic pricing which has proved controversial is surge pricing.⁵⁰ This section will focus on it and on potential implications from a competition enforcement perspective.

146. The majority of ride-sourcing companies apply dynamic pricing when the demand for the service is higher than the supply. The rationale for this practice is to give incentives for the drivers to increase supply to meet the unserved segment of the demand – making them earn a higher tariff than usual – and to ration existing supply to the benefit of those customers willing to pay more. The intention is both to reflect the consumers' higher willingness to pay and to attract more drivers to an area of higher demand. This will typically increase the number of rides and the price of each ride, and hence the platform's profit.

147. Naturally, dynamic pricing has an effect on the final prices paid by passengers. In a scenario of deregulated tariffs, there is no ceiling to the prices consumers will be offered. There may then be a question of whether dynamic prices might involve excessive pricing that infringes competition law.

148. Different jurisdictions treat this issue differently. For instance, in the US excessive pricing is not considered as an offence⁵¹, while in the EU it might be considered an abuse of dominant position under Article 102(a) of the Treaty on the Functioning of the European Union (TFEU).

149. Determining when a price is unfair is often controversial. NCAs rarely act directly against excessive prices as this phenomenon – in the absence of cartels or exclusionary conducts – is seen as a temporary and self-correcting issue (e.g. as it provides a signal that a profitable entry opportunity exists) or, alternatively, a problem to be addressed by the sector regulator (OECD, 2011_[48]).

150. Competition law enforcement is therefore often considered to be an inappropriate tool for dealing with such concerns. Instead, competition authorities with concerns over price levels might do better to consider launching a market study to understand whether the market is working well, and if not, why that is.

4.4.3. Price Discrimination

151. One of the main consequences of digitalisation is the amount of data companies are able to collect. These data and their analysis allow firms to make their activity more efficient, provide better services and better understand demand. Big data techniques permit the analysis of users' behaviour at a highly granular level.

152. These powerful tools, applied in a market where the entire transaction is digital, give companies information on their customers' habits. For instance, ride-sourcing providers which carry out their activity on mobile apps or websites are potentially able to monitor when customers request a trip, their most common trips, their reaction to dynamic prices, and so on. All this information also allows platforms to infer where users live and work, and their sensitivity to price changes for different distances or at different times.

153. This, in turn, allows for personalised price discrimination. In economic terms, price discrimination is said to occur when a different price is charged to different consumers for similar products or services with similar marginal costs. Three types of

price discrimination are usually identified (Pigou, 1920_[49]). First-degree discrimination, or perfect price discrimination as it is known, involves a firm setting a price for each product that equals each consumer's willingness to pay for that product. Second-degree discrimination involves a firm setting a menu of prices for different versions of the product. Discrimination here is indirect since the choice of version lies with the consumer and not the seller. Finally, third-degree discrimination involves a firm setting different prices for different groups of consumers with different observable (perhaps temporary) characteristics. Traditional examples include lower prices for pensioners, children or students, or lower prices to consumers in different countries (OECD, 2016_[50]).

154. While second and third degree price discrimination are common in various markets, first-degree price discrimination has traditionally been considered a theoretical concept – because of the significant amount of information necessary to identify an individual's willingness to pay. However, new technologies and the availability of detailed data may create the possibility of bringing this practice from textbooks to reality. Personalised pricing is already observable in some markets. This involves setting a price on the basis of individual characteristics (rather than the characteristics of a group). These characteristics will not perfectly capture each consumer's willingness to pay, but they may be sufficient to approximate it.

155. The technologies and data deployed in the taxi and ride-sourcing industry may mean that two trips with similar characteristics (same day, same journey, same time) can be charged different prices depending on who requests it. For example, a certain journey may be more expensive for a passenger that the platform predicts will have a high-income on the basis of where they appear to live and their behaviour on the platform, than a passenger that the platform predicts will have a low-income and who rarely pays the surge price.

156. The effect of personalised pricing on consumer surplus is ambiguous. First degree price discrimination reduces consumer welfare in the short term, but second and third-degree price discrimination can often be pro-competitive. For example, even in the absence of competition, allowing a monopolist to price discriminate can increase output by incentivising it to set lower prices for a group of consumers that would otherwise not purchase. It can also increase incentives for investment and innovation and hence increase dynamic efficiency. Price discrimination is also an important way for firms to compete for consumers that would otherwise prefer a rival's products, and can have the useful effect of making it more difficult to engage in tacit collusion.

157. Nonetheless, it has also been pointed out that newer forms of third-degree price discrimination can also detract from consumer welfare. Fudenberg and Villas Boas (2012_[51]) show that firms with market power may use behaviour-based price discrimination to maximise rent extraction, thereby reducing consumers' surplus (in the short term). However, a competitive market and wider availability of data instead mitigate these effects since firm with similar data about consumers will compete on prices and remove the scope for discrimination.

158. Other papers (Graef, 2017_[52]) (Townley, 2017_[53]) demonstrate how, in a monopolistic framework, first-degree price discrimination could increase overall welfare and output, but not total consumer welfare. Increased output can also be achieved in oligopolies where consumers may benefit from discrimination due to competition between firms.

159. In other words, it may be possible for ride-sharing or ride-sourcing firms with sufficient market power to engage in price discrimination that reduces consumer welfare. However, as with excessive pricing, if there is a concern that price discrimination is harming consumers, competition authorities might consider conducting market studies to understand whether the market is working well, and if not why that is.

5. Conclusion

160. The emergence of new operators in the environment of urban transportation is raising various questions from a regulatory and a competition policy perspective. The fragmented map of their availability around the world demonstrates how the debate about their recognition is still ongoing, and is therefore providing uncertainty to businesses and consumers.

161. This note has highlighted the impact of new companies on the market, analysing the main characteristics affecting consumer welfare such as pricing, availability, safety, quality and convenience. Surveys, statistics and some academic papers suggest that new operators are often providing important benefits to the consumers and drawing competitive responses from traditional providers. However, the impact of new entrants may well differ in different markets.

162. As result of the success of new providers, some of the most important aspects of the regulatory framework applied to traditional taxis are under pressure. The technology developments that have occurred in the industry might make some of the current rules outdated. For instance, we suggest that strict price floors and some quality requirements such as route knowledge may no longer be necessary. At the same time, the rationale for other obligations (e.g. safety requirements) on traditional taxis does not appear to have changed.

163. NCAs have produced a significant amount of work to enrich the debate around taxis and new platforms. This note has highlighted the role they are playing in the liberalisation of the sector, asking regulators to clarify the status of new entrants and ensuring a level playing field in the market. However, there are different positions on the degree of liberalisation that is desirable. For instance, some authorities are calling for a total deregulation of prices while others are in favour of setting price ceilings.

164. This paper also addressed some issues that may arise from a competition law enforcement perspective. Considering the limited number of competition cases, it is not possible at this stage to derive specific messages on firms' behaviour and anticompetitive conducts in the sector. However, we have highlighted some factors which will play a crucial role in assessing future cases, such as the two-sided structure of these services, the presence of network effects and the practice of multi-homing. These emphasise the necessity of assessing any conduct on a case by case basis, and taking into account potential efficiencies.

165. To conclude, it is clear that platforms providing ride-sourcing and ride-sharing services are constantly expanding throughout the globe and banning them is not the solution. There are regulatory issues; however, some of these are partially solved by the technological evolution of the market. This creates a case for deregulating some aspects of traditional taxi services and fostering the establishment of a level playing field. At the same time, clarifying the legal status and the regulation (if any) that is applied to new entrants will help the NCAs when assessing potential anticompetitive practices.

Endnotes

¹ Penetration rate is the ratio of active paying customers (or accounts) to the total population in 49 countries for each year.

² These are referred to as transportation network companies (TNCs).

³ Named as “on-demand micro-transit” by (ITF, 2017_[11]).

⁴ Named as “commercial ride-splitting or ride-pooling” by (ITF, 2017_[11]).

⁵ See “Lyft says nearly 250k of its passengers ditched a personal car in 2017”, <https://techcrunch.com/2018/01/16/lyft-says-nearly-250k-of-its-passengers-ditched-a-personal-car-in-2017/>.

⁶ Dynamic pricing sets higher prices during periods of high demand. However, after negative public reaction, some companies started to cap or suspend surge/prime pricing in specific circumstances, <https://qz.com/785585/ubers-response-to-the-chelsea-bombing-says-a-lot-about-uber-and-its-handling-of-surge-pricing/>.

⁷ In 2015 base fare of Toronto taxi was reduced by 1 CAD in order to enable them to compete against Uber, www.thestar.com/news/gta/2015/11/01/toronto-taxi-base-fares-drop-by-1.html. As Gett broke the monopoly in the Ben-Gurion International Airport in Tel Aviv, taxi fares dropped by 31%, www.haaretz.com/israel-news/business/taxi-fares-from-ben-gurion-airport-to-be-cut-by-31-1.5472922. Also see Box.3.2.

⁸ For instance in New York as of February 2017 there are more than 50 thousand ride-sourcing and ride-sharing vehicles whereas only 13.5 thousand yellow cabs and almost 18 thousand black and green cabs (for hire vehicles) (Scheller, 2017, p. 8_[231]).

⁹ In response to the entry of ride-sourcing or ride-sharing companies taxi companies have also developed easy to use digital booking apps.

¹⁰ According to Crammer and Kruger (2016_[57]), Uber drivers have higher capacity utilization rate than taxi drivers.

¹¹ See “Uber Is Serving New York’s Outer Boroughs More Than Taxis Are”, <https://fivethirtyeight.com/features/uber-is-serving-new-yorks-outer-boroughs-more-than-taxis-are/>.

¹² App users.

¹³ In Chicago complaints were mostly about reckless driving, rudeness and credit card problems (Wallsten, 2015, p. 15_[20]).

¹⁴ For further information on allocative efficiency of ride-sourcing apps see Hall, J., C. Kendrick and C. Nosko (2015) “The Effects of Uber’s Surge Pricing: A Case Study”, available at http://economicsforlife.ca/wp-content/uploads/2015/10/effects_of_ubers_surge_pricing.pdf.

¹⁵ See “Uber’s response to the Chelsea bombing says a lot about Uber”, <https://qz.com/785585/ubers-response-to-the-chelsea-bombing-says-a-lot-about-uber-and-its-handling-of-surge-pricing/>.

¹⁶ For further detail see “India Unveiled New Taxi Policy Guidelines to Promote Urban Mobility”, www.india.uitp.org/news/morth-taxi-policy-guidelines-december-2016.

¹⁷ A commercial insurance is a business-to-business transaction which can differ from private insurance in terms of premiums and terms and conditions.

¹⁸ See “Grab and AXA Launch First Usage-Based Insurance for Private-Hire Car Drivers”, <https://www.axa.com.sg/latest-news/2016/grab-and-axa-launch-first-usage-based-insurance>.

¹⁹ For discussion of accessibility see ITF (2017, pp. 48-53^[1]) and Scheller (2016, pp. 13-14^[54]).

²⁰ For instance, the NYC Taxi and Limousine Commission adopted a rule requiring all for hire vehicle bases to dispatch 25% of their trips in wheelchair accessible vehicles within 5 years. The rule will be effective in July 1, 2018. See http://www.nyc.gov/html/tlc/downloads/pdf/proposed_rule_fhv_accessibility_requirements.pdf.

²¹ See “Call to scrap current London cab driver Knowledge test”, www.bbc.com/news/uk-england-london-35065681.

²² For example, see “Competition Commissioner: Taxis, ride-share apps and consumers deserve a level playing field”, www.theglobeandmail.com/report-on-business/rob-commentary/competition-commissioner-taxis-ride-share-apps-and-consumers-deserve-a-level-playing-field/article27484311/.

²³ For example, see “Rivalidade após entrada: o impacto imediato do aplicativo Uber sobre as corridas de taxi porta-a-porta”, www.cade.gov.br/noticias/rivalidade-apos-entrada-o-impacto-imediato-do-aplicativo-uber-sobre-as-corridas-de-taxi.pdf.

²⁴ For example, see “The CNMC challenges in court the taxi regulations in the cities of Malaga and Cordoba”, www.cnmc.es/2016-01-27-cnmc-challenges-court-taxi-regulations-cities-malaga-and-cordoba-232146.

²⁵ Similar opinion is expressed in the French Competition Authority’s press release dated 8 June 2015 stating that fixed airport fares as ceiling price are welcomed by the authority since it is a strong guarantee for consumers, especially for the tourists upon their arrival to the airport, www.autoritedelaconcurrence.fr/user/standard.php?lang=en&id_rub=607&id_article=2691.

²⁶ In 2017, maximum prices were removed. Yet, The Finnish Transport Safety Agency can set price ceiling in case of unreasonably high prices. See Box 3.3.

²⁷ See Section 5.4. for a description of the Hell program.

²⁸ According to data from the “Hell” program, about 60% of Lyft drivers were working for Uber as well, www.engadget.com/2017/04/13/uber-hell-program-lyft-drivers/.

²⁹ Case No. 1:2015cv09796.

³⁰ ECJ (C-434/15): “[...] the Court declares that an intermediation service such as that at issue in the main proceedings, the purpose of which is to connect, by means of a smartphone application and for remuneration, non-professional drivers using their own vehicle with persons who wish to make urban journeys, must be regarded as being inherently linked to a transport service and, accordingly, must be classified as ‘a service in the field of transport’ within the meaning of EU law”.

³¹ Importantly, even: (i) if drivers were deemed to both fall within the scope of competition law and to be actual or potential competitors, it would not follow that the setting of prices by the platform would necessarily amount to a collusive practice under competition law; (ii) if the setting of prices was thought to amount to an agreement under competition law, it would not necessarily follow that it would be categorised as amounting to a prohibited price-fixing arrangement; and, (iii) even if a *prima facie prohibited* price-fixing arrangement was identified, it may still have to be determined whether the agreement was not a necessary part of a globally pro-competitive conduct (depending on the jurisdiction). In short, the identification of any anticompetitive collusive practice depends ultimately on the specific facts of the case.

³² The Employment Tribunal in the UK established that Uber drivers were employees rather than self-employed contractors – see *Aslam, Farrar and others vs Uber* (case 2202550/2015). In the US, the Supreme Court of California also found that an Uber driver was Uber’s employee in *Berwick vs Uber* (CGC-15-546378). However, Uber was successful in claiming that drivers are independent contractors in Georgia, Pennsylvania and Texas – see www.nytimes.com/2015/06/18/business/uber-contests-california-labor-ruling-that-says-drivers-should-be-employees.html?_r=1.

³³ But in the EU workers are not subject to competition law – see Joined Cases C-159/91 and C-160/91 *Poucet et Pistre* [1993] ECR I 637; EU:C:1993:63, which held that workers cannot be considered undertakings. In the US, see section 6 of the Clayton Act.

³⁴ See BlaBlaCar acquisition of Postoinauto.it (Italy), Jizdomat (Slovakia), Aventones (Latin America), Carpooling.com (Europe), etc.

³⁵ See www.grab.com/sg/press/business/grab-merges-with-uber-in-southeast-asia/.

³⁶ Singapore has a voluntary merger notification regime where merging parties should carry self-assessment. Uber-Grab transaction was not notified to the CCCS by the parties. However when a merger which may substantially lessen competition comes to the attention of CCCS, substantial investigation powers can be exercised if there are reasonable grounds for suspecting that competition law has been infringed. See <https://www.cccs.gov.sg/anti-competitive-behaviour/mergers/what-can-cccs-do>.

³⁷ For a full list of interim measures see www.cccs.gov.sg/media-and-publications/media-releases/uber-grab-interim-measures-direction and <https://www.cccs.gov.sg/media-and-publications/media-releases/uber-grab-imd-13-april-18>.

³⁸ See <http://phcc.gov.ph/press-statement-grab-uber-motu-proprio-review/>.

³⁹ See <http://phcc.gov.ph/press-statement-grab-uber-acquisition/>. In the Philippines, mergers and acquisitions which meet size of transaction or size of parties thresholds are subject to notification requirement. However, according to Section 12(a) of the Phillipine Competition Act and PCC Rules on Merger Procedures Section 3.3 “nothing prevents The PCC from reviewing a merger on its own initiative if there are reasonable grounds to believe that section 17 or 20 of the Act has been or is likely to be infringed.”, <http://phcc.gov.ph/mergerprocedurerules2017/>.

⁴⁰ See www.mycc.gov.my/sites/default/files/media-releases/Grab%20Uber%20Press%20Statement_0.pdf.

⁴¹ Under Chinese merger control regime, mergers and acquisitions between parties which has turnover above thresholds are subject to notification. Transactions below thresholds can be notified voluntarily. MOFCOM also has the discretion to review transactions below thresholds if the transaction is likely to result in the elimination or restriction of competition. See <https://gettingthedealthrough.com/area/20/jurisdiction/27/merger-control-china/>.

⁴² See the press conference of the Ministry of Commerce (27/07/2017), <http://english.mofcom.gov.cn/article/newsrelease/press/201708/20170802619031.shtml>.

⁴³ See for example RideGuru www.ride.guru/ and Taxi Explorer www.taxiexplorerapp.com/.

⁴⁴ Anticompetitive conduct rules in the EU apply only to undertakings in dominant position, unlike the US where an undertaking does not need to be dominant in order to be found to have engaged in exclusionary conduct that monopolises a market.

⁴⁵ This strategy is also known as “divide and conquer” and it was proposed by (Jullien, 2011_[58]).

⁴⁶ Consumers might also multi-home because the platforms are complements rather than substitutes.

⁴⁷ Michael Gonzales v Uber Technologies, Inc, Case 3:17-cv-02264-JSC, U.S. District Court for the Northern District of California.

⁴⁸ See “Uber Faces FBI Probe over Program Targeting Rival Lyft”, www.wsj.com/articles/uber-faces-fbi-probe-overprogram-targeting-rival-lyft-1504872001.

⁴⁹ See “Uber accused of booking 5,560 fake Lyft rides”, www.theverge.com/2014/8/12/5994077/uber-cancellation-accusations.

⁵⁰ This is named differently by different companies. Uber calls it surge pricing, but Lyft calls it prime time.

⁵¹ “The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free market system.” Verizon v. Trinko, 540 U.S. 398 (2004).

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