



Principles for the regulation of for-hire road passenger transportation services

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Principles for the regulation of for-hire road passenger transportation services¹

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Abstract

All over the world, the rapid spread of app-based private for-hire transport services competing with the traditional taxis has taken regulators by surprise and faced massive and sometimes violent reaction from the taxi drivers and taxi licence owners. Everywhere, politicians are pressed to legislate. And they face a dilemma: whether to satisfy the social demands of taxis for protection against this new competition or whether to support change so as to cater for the tremendous popularity of these new services.

The social and political reasons for responding to the claims of the traditional taxi industry are well grounded but they are mostly short-term. We are here more interested by a longer-term perspective and propose to present some principles for the regulation of for-hire road passenger transportation services based on economic considerations.

Some of these principles have already been partly applied by regulators in some countries; in some other countries they have been wilfully ignored. We draw examples from both to identify feasibility and pitfalls of some principles we put forward.

For nearly four centuries, taxicab regulation was justified by two market failures that largely disappeared with the advent of smartphones. However, the fact that taxicab regulations were rendered obsolete does not mean that the for-hire road passenger transportation services do not need to be regulated, much to the contrary. There must first be regulations regarding the vehicles, the drivers and the operators. The principles underlying most of these regulations are now well established, drawing on the experience of cities like London.

But the smartphone revolution brought a new actor in the field: the app-based platform that dispatches drivers to the potential riders. Although some of these firms present themselves as a mere market place that allows buyers, i.e. passengers, and sellers, i.e. drivers, to meet, the truth is quite different. The “equilibrium” prices are in fact set by the platform with a wide propensity to manipulation, as recent price wars have demonstrated.

It is our opinion that this new market is prone to natural monopolies. We have shown some of the potential drawback of these monopolies and proposed some policy tools to prevent their emergence. Some of our recommendation may seem farfetched and much too premature. We believe that it is easier to implement them now that they still have little bearing. It will give time to adjust them to a situation that is rapidly evolving.

Résumé

Partout dans le monde, le développement rapide des plateformes de mise en relation entre clients et transport public particulier de personnes (TPPP) concurrençant les taxis traditionnels a surpris les régulateurs. Partout il a provoqué une réaction massive et parfois violente des chauffeurs de taxi et des propriétaires de licences de taxi. Partout, les politiciens sont pressés de légiférer. Et ils sont confrontés à un dilemme: répondre aux demandes sociales des taxis pour les protéger contre cette nouvelle concurrence ou bien accompagner le changement afin de répondre à l'énorme popularité de ces nouveaux services.

Les raisons sociales et politiques pour répondre aux revendications de l'industrie traditionnelle du taxi sont bien fondées, mais elles sont pour la plupart à court terme. Nous sommes ici plus intéressés par une perspective à plus long terme et proposons de présenter quelques principes pour la réglementation des services de TPPP basés sur des considérations économiques.

Certains de ces principes ont déjà été appliqués en partie par les régulateurs de certains pays; dans d'autres pays, on les a délibérément ignorés. Nous en tirons des exemples pour évaluer la faisabilité de certains principes que nous proposons.

Pendant près de quatre siècles, la réglementation des taxis a été justifiée par deux défaillances du marché qui ont largement disparu avec l'arrivée des smartphones. Toutefois, le fait que la réglementation des taxis soit obsolète ne signifie pas que les services de TPPP n'ont pas besoin d'être réglementés, bien au contraire. Il doit d'abord y avoir des règlements concernant les véhicules, les conducteurs et les opérateurs. Les principes sous-jacents à la plupart de ces règlements sont maintenant bien établis, en s'appuyant sur l'expérience de villes comme Londres.

Mais la révolution smartphone a apporté un nouvel acteur dans le domaine: la plate-forme qui met en relation les chauffeurs avec leurs clients potentiels. Bien que certaines de ces entreprises se présentent comme un simple marché qui permet aux acheteurs, c'est-à-dire aux passagers et aux vendeurs, c'est-à-dire aux conducteurs, de se rencontrer, la vérité est tout à fait différente. Les prix « d'équilibre » sont en fait fixés par la plate-forme avec une large propension à la manipulation, comme les récentes guerres de prix ont démontré.

Nous sommes d'avis que ce nouveau marché est sujet aux monopoles naturels. Nous avons montré quelques-uns des inconvénients potentiels de ces monopoles et proposé certains instruments de politique pour empêcher leur émergence.

Introduction

1. All over the world, the rapid spread of app-based private for-hire transport services competing with the traditional taxis has taken regulators by surprise and faced massive and sometimes violent reaction from the taxi drivers and taxi licence (medallion) owners.
2. Everywhere, politicians are pressed to legislate. And they face a dilemma: whether to satisfy the social demands of taxis for protection against this new competition or whether to support change so as to cater for the tremendous popularity of these new services.
3. The social and political reasons for responding to the claims of the traditional taxi industry are well grounded but they are mostly short-term. We are here more interested by a longer-term perspective and propose to present some principles for the regulation of for-hire road passenger transportation services based on economic considerations.
4. Some of these principles have already been partly applied by regulators in some countries; in some other countries they have been wilfully ignored. We will draw examples from both to identify feasibility and pitfalls of some principles we put forward.

Four centuries of taxicab regulation

5. Since the first half of the 17th century, when it first appeared in Paris and in London, street hailed private transport has been regulated, with regulations controlling the supply in terms of both price and quantity.
6. In both cities, dramatic deregulation happened from time to time when, on the occasion of political upheaval or technical revolution, the regulated operators lost their grip over the regulator they had captured. However, very soon the same regulation came back with regulated fares and capped supply or Malthusian barriers to entry.
7. This persistence of economic regulation is explained by the need to compensate for market failures in this industry.
8. As explained by Fernandez *et al.* [2006] the first failure comes from the lack of what has been called “supply-demand synchronization”. At any given time during the operating period, but at different locations in the geographical area, there are empty taxis looking for passengers and passengers waiting to find an empty taxi. Therefore, passengers must spend time waiting, although empty taxis exist. When prices are not regulated, if the passenger does not like the fare charged by the first empty taxi arriving to the place where he is located, he must wait for the arrival of a new empty taxi, with the hope that it will charge a lower fare. Therefore, to have the option to choose a lower fare he must incur a special cost, equal to the value of the additional waiting time multiplied by the cost of uncertainty about the length of this waiting time. This constitutes an important market imperfection that gives to individual taxi operators some power over price determination.

9. The second failure has to do with the quality of the service. Since the probability for the taxi driver to be hailed by the same customer in another occasion is negligible, he has no incentive to provide a good service and not try to cheat. Conversely, when hailing a taxi, the customer cannot assess if the vehicle is in good mechanical condition or if the driver is safe. This quality control has to be performed by some licencing authority with the power to bar the vehicle or the driver from the profession. Barriers to entry are a way to make the threat of sanction effective and to lower the costs of control.

10. Looking for hails, empty taxis cruise in the street and flock at strategic locations where the probability to pick up rides is highest. This causes congestion. Capping the supply is also a way to limit this congestion.

11. With the advent of mobile apps, these economic justifications for regulating prices and quantities that prevailed for four centuries suddenly disappeared (at least for the market of consumers owning app-capable mobile devices). When booking a ride with an app, the customer is informed of the tariff and can get an estimate of the final price of his journey. He can compare prices and waiting times from different competing providers. No problem of quality either. Since users rate the drivers after each ride, unsatisfactory drivers are ruled out by the ride-hailing apps' operators.

12. It is interesting, in this regard, to note that users show a confidence in these services that goes beyond the mere question of quality. According to 6-t, a consultancy that carried out a survey among 6476 French and Swiss Uber users and among 1001 French taxis users, "53% of Uber users declare that they are favourable to the idea of allowing their child to travel unaccompanied with a private hire service while only 38% of taxi users would let their child travel alone in a taxi" [6-t, 2015, p.166].

A vanishing border

13. Since the 17th century, the regulators made a clear distinction between two types of for-hire transport. In France, it distinguished between *voiture de place* that corresponds to today's taxis, and *voiture de remise* that corresponds to hire car with driver. These are known as Private Hire Vehicle (PHV) in England, or livery in the USA, or hackney in Ireland, or *remise* in Argentina and *mietwagen* in Germany. The *voiture de place* was the only one allowed to wait for clients on *places* (i.e. public squares) and streets. The *voiture de remise* had to wait in *remises* (i.e. garages) until being contracted by a client to go and pick him up. For the *voiture de place* prices and quantities were regulated for the reasons explained above, for the *voiture de remise*, this was left to the free interaction of supply and demand. Customers needing a ride in a *voiture de remise* knew by experience the price and the quality of service provided by the *remises* in their neighbourhood just like we are aware of the price and the quality of the bread sold by our neighbourhood bakers. They just had to go to the *remise* they preferred or send their butler to rent the service.

14. Regulators everywhere faced a difficulty in the 1960's when it became easy to equip cars with two-ways radios and when simultaneously households' access to the telephone became widespread. No more need to go to the garage to hire a car with a driver; this could be done by a simple phone call to a radio dispatch centre that would send a chauffeur. Both taxis and hire cars with drivers claimed exclusive access to this new market.

15. Regulators reacted very differently in different cities. In New York City, the Taxi and Limousine Commission prohibited the use of radio by the yellow cabs and made it a monopoly of the liveries. In Paris the opposite happened, *voitures de remise* were prohibited to use the radio, thus giving a monopoly to the taxis. Further more, the ministry of Interior made sure the *voiture de remise* would disappear by stopping issuing new licences. In London, the regulators let both taxis and private hire vehicles compete in the telephone booking market despite taxi protests. However in all cases, the taxis retained the monopoly they enjoyed in the street-hail market

16. By permitting "e-hailing", mobile apps now completely blur the economic distinction between taxis and hire cars with drivers. And taxis over the world are asking regulators to grant them a monopoly use of e-hailing. In pure economics grounds this claim has no justification, this is the reason why some regulators are reluctant to oblige.

17. In the rest of this paper, we will distinguish two types of private for-hire transportation services: (i) the taxis, and (ii) the hire cars with drivers services we will refer to by their British abbreviation: PHV.

A new actor

18. Although most of the radio-taxi dispatch centres appeared half a century ago, unlike Denmark or Sweden, very few countries had specific legislation to regulate their activity. One reason is that most of these centres were not independent operators but merely branches of taxi firms or taxi cooperatives, and their activities usually fell in the taxi operators' legal framework.

19. The penetration of smartphone app-based platforms called the regulator's attention to this neglected part of the business, as exemplified by one of the major recommendations of an important study commissioned by the Danish Ministry of Transport [2013]: "A stronger role is being given to the booking offices, which makes them a strong and central actor (agent) in the future regulation, this including in relation to development of technology, fair service all over the country and to secure that a less regulated (controlled) market will not lead to unstable circumstances on this market."

The new actor's name

20. The first task for the regulator is to define this new business and give it a name.

21. In its first rulemaking, the California Public Utilities Commission referred to these companies as New Online-Enabled Transportation

Services (NOETS). It soon changed the acronym to Transportation Network Company (TNC) for “ease of use” [CPUC, 2013, p.2]. Several states followed suit and it is the term “TNC” that now seems to prevail all over the USA with the notable exception of New York city where the Taxi and Limousine Commission coined the expression “Dispatch Service Provider”.

22. In France, the recent “Loi Thévenoud” created a new category called *intermédiaire* that encompasses both the app-based platforms and the traditional telephone call and dispatch centres.

23. Similarly, in Switzerland, a proposed legislation² for the Geneva County created *diffuseur de courses* a new category besides the two categories of taxis and PHVs, encompassing all intermediaries that connect customers and drivers.

24. In England where PHV vehicles, PHV drivers and PHV operators are licenced separately, the Law Commission [2014, p. 46] recommended to replace the term “operator” by “dispatcher”. Under current law, private hire operators are defined very widely: “operate” means “in the course of business to make provision for the invitation or acceptance of bookings for a private hire vehicle”. The breadth of the current definition has created numerous grey areas, as there is a lack of clarity over whether some services should be licensed. For the Law Commission, “The operator definition should therefore be narrower than the current definition to identify more accurately the function which needs to be regulated. It will now relate solely to the act of dispatching a driver and vehicle to carry out the regulated activity” and be called “dispatcher”.

25. However, for the Law Commission [2013, p.43], this does not apply to what in the UK is referred to in the trade as “radio circuits”, i.e., third parties inviting, accepting or making provision specifically for taxi bookings. According to the Law Commission, the reason is that “radio circuits have much less control over their fleet, as taxi drivers are free to take bookings independently and pick up off the street. Customers could contact a taxi driver directly without breaking any legal requirement. When a radio circuit dispatches a vehicle it is therefore doing no more than passengers could do themselves and thus acting as an agent”.

Why regulation is still necessary

Lexicology

26. In French as in Spanish it is possible to distinguish between *réglementation* and *régulation*. The first one being a set of rules and laws, the second one being a mechanism to ensure the smooth running of a system. In the presence of market failures, *régulation*, that the World Bank translates by “economic regulation”, is used to control

² Une nouvelle loi sur les taxis et véhicules de transport avec chauffeur pour Genève, Communiqué de presse du département de la sécurité et de l'économie République et Canton de Genève, le 27 août 2015

supply prices and quantities, as it is the case in the traditional taxi market.

27. This distinction helps to explain why “deregulation” generally entails an abundant production of new rules, the rules that are required to foster competition (and incidentally provide lawyers with a bonanza). This is well exemplified by the experience of the American Airline Deregulation Act of 1978.

28. If the rationale for taxicab economic regulation has largely been pushed to irrelevance by the emergence of the app-based on-demand ride services, this does not mean that regulation (in the sense of *réglementation*) is no longer necessary, much to the contrary.

29. The first reason is that many countries still lack the appropriate regulatory framework to help develop an efficient PHV industry without unnecessary and burdensome requirements. The second reason is that the app-based on-demand ride services require specific rules to ensure that their inexorable development will not be biased by market failures or deflected by entrenched interest groups.

30. All too often the regulatory framework regarding PHV operations has been designed to hinder their development and to shelter taxis from competition as it has been the case in Germany, in Belgium, in Italy or in France (see box: heading the wrong direction: the French case”).

How the Mayor of London came to regulate PHVs

31. After several decades of laissez-faire and several incidents that prompted public outcry, London started to set up a thorough legal framework for PHV operations.

32. Before the 60s, with the exception of the taxis, the English laws do not distinguish the private for-hire transportation services from other businesses. But with the arrival of the telephone in every home, this business grew rapidly. The PHVs in England and Wales have therefore been incorporated into the Local Government Act 1976³. This law does not apply in London, which enjoyed a special status.

33. The 1976 Act distinguishes between vehicles, drivers and operators. The law requires operators, drivers and vehicles to be licensed separately. It also requires operators to hold different registers (such as a logbook of trips, drivers and vehicles) to facilitate supervision of the activity by the administration. However, it leaves it to local authorities to decide whether the use of the taximeter is allowed or not [§71-1], and for distinctive signs or advertisements on the body [§48-2]. Contrary to France, there are no restrictions for PHVs parking in the streets waiting for assignments. Whether cruising in the street or curbside parking with or without driver at the wheel, the PHV is considered like any other car in the street and submitted to the same rules. What is prohibited, however, is touting nearby places of high demand for taxi rides.

³ Local Government (Miscellaneous Provisions) Act 1976, Part II.

34. These rules did not apply to London PHVs colloquially known as minicabs, which continued to operate without license but whose business was growing just as quickly as in the rest of the country. It was estimated in 1998 that there were between 50,000 and 60,000 minicabs in London. This development without rules or control episodically fuelled tabloid columns with numerous cases of drivers assaulting passengers and even committing rapes. These attacks were the fact of independent drivers. To distinguish themselves, small businesses were created with a few dozen cars to occupy particular niches as “GreenTomato cars” for customers wishing to travel in ecological cars (Toyota Prius), or the “Pink Ladies”, pink Renault Kangoo driven by women, for women by subscription.

35. London professional associations insisted that the activities of abiding minicabs operators and drivers should be clearly distinguished from the activities of those who practiced touting or operated in hazardous conditions.

36. On the occasion of the creation of Greater London and its first elected mayor, all passenger transport came under the control of Transport for London (TfL), a public authority created in 2000 by the 1999 Greater London Authority Act. TfL inherited from the Metropolitan Police the Public Carriage Office in charge of supervising the Taxis. The management of both taxi and PHV is now ensured within TfL by the 150 officials of the London Taxi and Private Hire (LTPH) office.

37. To meet the demands of professional associations, PHVs operator licenses were introduced in London in 2001, but it was not until 2004 that the legislation fully came into force. The regime is broadly similar to the rest of England and Wales, with the same requirement that operators, drivers and vehicles be licensed separately. London regulation is however a bit more demanding regarding the technical condition of vehicles.

The three levels of regulation: car, driver, operator

38. As stated by TfL in its general guidance for licensed PHV operators [2011a, p. 1], “the purpose of regulation is to give passengers confidence when using a licensed PHV operator that they are dealing with a regulated, professional organisation with honest drivers and safe vehicles.” For this purpose, regulation must address the three components of the service, i.e. the vehicle, its driver and the operator. The easiest way to enforce regulation is licencing.

The vehicle

39. The licensing authority must be satisfied that the vehicle is suitable in type, size and design for use as a PHV. It must be safe, comfortable and in a suitable mechanical condition. Any active or passive safety system designed to lessen the risk of injury or death in an accident, such as airbags, seatbelt tensioner etc., must be in good working order.

40. Depending on the local context, vehicle age requirements could be imposed. The age of a vehicle is determined by the manufacturer's model year, regardless of when the vehicle was purchased or put into service. In Portland Oregon, no vehicle older than 10 years is allowed to operate as a TNC Vehicle. In New York City, "Black Cars" must be less than 5 years old. One drawback of these requirements is that they may bar operators that would wish to provide transportation in vintage cars. In Denmark special provisions exist for special occasion cars e.g. for weddings.

41. More importantly, the vehicle must be inspected periodically to ensure that it conforms to regulations governing safety and emissions standards. Since these vehicles generally are in constant use, these inspections should be more frequent than the ones imposed on other vehicles, i.e. at least every year or even every 6 months.

42. In several countries like France and England, regulations specifically exclude from PHV licensing any vehicle that has external signage or advertising. The purpose of these regulations is to prevent PHVs from picking up street hails and to confine them to pre-booked fares; in other words to protect the legal monopoly granted to the taxis. If we agree with the observation stated in the first section of this paper that the economic justifications for this monopoly have disappeared, there is no longer any reason to prevent PHVs from being identifiable from the pavement.

The driver

43. The qualification requirements for the drivers are a very much debated and politically sensitive issue. Here again, one must be very careful to distinguish between what is useful for the riders' safety and what is more targeted to prevent PHVs to compete with the taxis as exemplified in the French case (see box: "heading the wrong direction: the French case").

44. As stated above, it is mainly passengers' safety concern with PHV drivers that compelled London's mayor to regulate the industry. The regulation that came out of this process could be considered as a benchmark. As stated in its General Guidance for licensed PHV drivers [2011b], TfL may refuse to grant a PHV driver's licence if the "applicant fails to satisfy TfL that: he is at least 21 years of age; he has held a full driving licence for at least 3 years, and; he is of good character and is fit to act as a PHV driver."

45. The criterion for "good character" is determined mainly on the applicant's conviction history (which is regarded as relevant to the application by the Licensing Authority) derived from the Enhanced Criminal Records Bureau report and other such reports, including police observations and entries made in his Driver and Vehicle Licensing Agency-issued driving licence.

46. In our opinion, it is important that this vetting should be carried out by government agencies with direct access to the Criminal Records Bureau reports, and not left to the PHV operators.

47. As noted during the recent IATR Annual Conference⁴, in the USA, new Transportation Network Company (TNC) laws allow them to self-police and conduct their own criminal conviction history checks. This suggests a poor understanding of the nature, scope and breadth of criminal background checks. Some conflict of interest may also arise when TNCs compete between themselves for enrolling new drivers. In France, the now ceased UberPop was asking its applicant drivers to send a copy of their *casier judiciaire* they could get from the ministry of Justice, although falsifying these copies was an obvious option for candidates that had convictions to hide.

48. In TfL's regulation, to be "fit to act as a PHV driver" includes medical fitness. In this respect TfL has regard to the higher medical standard applicable for drivers of passenger-carrying vehicles.

49. There should also be some concern about maximum daily hours of driving, although this is difficult to control if the driver is working for different operators. For example, Portland regulation states that no person may provide private for-hire transportation after engaging in more than 14 hours of commercial activity in any given 24-hour period. It however does not mention how to enforce this limit. We will come back to this issue further in the text.

The operator

50. The PHV operator is the person with whom the passenger books the journey. According to the Law Commission [2014, p.43] there is a key rationale for licensing private hire operators: they play an important role in enforcing private hire licensing requirements. They can only dispatch appropriately licensed vehicles and drivers, and there needs to be an incentive for them to ensure that regulatory requirements are met. In a regime of licensing this incentive is heightened by the fact that an operator's entire business operation could be affected by a failure to ensure compliance. Their role also provides a helpful economy of scale for those charged with enforcement: as we will see further below, through operators, licensing officers have access to the details of numerous drivers, vehicles and the jobs they have undertaken.

51. In London, the PHV operator regulation states that it "has a legal responsibility to keep records of the drivers' licences, insurance, car details and will know when it is due for [periodical vehicle inspection]. The operator must also keep proper records of journey bookings, who undertook them and any quoted fare."

52. A similar stance was taken by the New York City Taxi and Limousine Commission (TLC), and pushed a step further, when it recently updated its rules. There are three classes of PHV service in New York City: Community Cars (aka Liveries), Black Cars, and Luxury Limousines. All must be booked through a "base". There are some 500 such bases licenced in the city. The new rules require these bases to submit trip records electronically to the TLC on a regular basis (§59B-19 of the TLC Rules). Previously, like in London, bases were just

⁴ International Association of Transportation Regulators (IATR)'s 28th Annual Conference in Montreal, September 27-30.

required to maintain dispatch trip records but were not required to provide them to the TLC on a regular basis.

53. Contrary to London where app-based dispatchers are just considered as another operator and submitted to the same rules, the TLC chose to introduce a new category of license for these companies referred to as Dispatch Service Provider (DSP). These are not allowed to book PHV drivers directly; they must do it through the PHV “bases”.

54. Actually, the TLC takes full advantage of the ICT⁵ capabilities of these companies by mining the data they collect to improve safety, accountability, and policymaking. Indeed, the new regulation compels them to provide, for each trip booked, detailed data according to the following entries:

- The dispatching base licence number
- The pickup date and time
- The driver’s TLC license number
- The vehicle license plate
- The pickup and drop-off location names (i.e. postal address)
- The pickup and drop-off longitudes
- The pickup and drop-off latitudes

55. Besides providing the city officials with a wealth of information they could use for planning purposes, these data can be used to check if drivers overwork beyond legal time or to check taxation compliance.

56. This can be a very important feature of the regulation, especially in Europe where the welfare state is by and large financed by taxes on employment and on value added, and where consequently, incentives for tax evasion and undeclared work are substantial.

Regulating the use of public space

57. As we have seen in the first section of this paper, one of the justifications for capping the taxi fleet is the congestion of public roads and public places that would be caused by an unrestrained number of taxis.

58. There is an on-going debate, not yet sufficiently documented by genuine research, on whether or not PHVs contribute to congestion and should therefore be restricted in numbers. Some argue that they reduce household car use (and ownership) and empty parking lots, others that, being an alternative to mass transit, they only add more cars in the streets. A recent research [6-t, 2015, pp. 132 & 143] seems to substantiate the first hypothesis.

59. In our opinion, congestion should be dealt with by congestion pricing, not by fleet capping. It is interesting to note that the present mayor of London wishes to cap the number of private hire vehicles whose recent increase “has led to greater congestion in London, more air pollution and more illegally parked cars” [*Financial Times*, May 22, 2015] when, at the same time, these are exempt from the London congestion charge when undertaking private hire bookings for a

⁵ information and communication technologies

London licensed operator. Of course, the present London congestion charge scheme is far from being economically optimal, but it is now technologically possible to design a much more efficient system like the one proposed by Glaister & Graham [2003].

60. The same goes with street parking. In the economists' ideal world, street parking should be priced at its opportunity cost. Although it is now technically feasible, it is far from being the case anywhere. One of the closest systems is the Copenhagen parking metres that exhibit different tariffs according to the time in the day. One of the worst examples is given by Paris where street parking is significantly under-priced and where thousands of vehicles cruise around looking for an empty space. But a very common feature of current street parking policies is the special discounted rate granted to the city residents. There is some injustice to freely (or nearly freely as in Paris) grant public space to the residents that have a car when their neighbours don't.

61. In many cities, bus lanes are open to taxis but not to PHVs. This has no economic rationale, just like banning PHVs from diamond lanes⁶ on highways when taxis are not. In our opinion, diamond lanes should be replaced, where possible, by express toll lanes and all vehicles, including taxis and busses, subject to the toll with no discount. The more passengers in the vehicle, the lower the price per passenger.

62. Many airports provide taxis with free parking space where they may sometimes stay several hours waiting for their turn. Every day, several thousands of taxis are stationed at the Paris airports instead of plying the Paris streets where they are in short supply.

63. The taxis put the blame for this situation on the congestion that occurs on the roads connecting the airports to the city. A more convincing explanation puts the blame on the sum of three components: (i) the rigidity of the taxi fare system that at certain times makes the airport trips much too lucrative, (ii) the fact that this parking space is granted for free despite its high opportunity cost and (iii) the taxis' lack of real-time information about the market conditions elsewhere in the city. It should be noted to this regard that the taxis that most often choose to stay at the airport after a ride are the ones that are not affiliated to a radio circuit.

64. Could the same thing happen with PHVs? Probably not and certainly not to that extent because they are never granted free parking, because their tariffs are more flexible and because they are aware of market conditions everywhere. Of course, one can often spot PHVs cruising around airports or parking in awkward places to avoid paying the airport parking fee, but this could easily be policed, either on the spot or by checking the data provided by the e-hailing platforms.

⁶ also called High Occupancy Vehicles (HOV) lanes.

The fourth level of regulation

The danger with dominant Transportation Network Companies

65. Some markets are prone to the emergence of “natural monopolies”. The market for taxis booking by telephone is a perfect example, illustrated in France by the G7 monopoly in Paris. A Parisian who wants to call a taxi on the phone dials the G7 number because it is the call and dispatch centre that connects by far the greatest number of taxis. Symmetrically, a taxi would prefer to be affiliated to the G7 centre because it is the one that receives the most calls from customers. There is no room for a competitor. Taxis Bleus, the only “competitor” to G7 actually belongs to the same “Rousselet” group.

66. For the same reasons, the market for app-based booking is conducive to natural monopoly, but this time on a global scale. Investors have understood that, as they valued Uber at over \$50 billion while corporate profits are insignificant in relation to that sum.

67. To enjoy a natural monopoly position in an emerging market, it is necessary to very soon acquire a dominant share of that market. Uber is one of the world’s dominant transportation network companies and to acquire this natural monopoly its strategy plays on two scales: the scale of the city and across the globe.

68. At the city level, as in the case of G7 for taxi booking by phone, the customer favours the application that displays the greatest selection of vehicles around him with the shortest waiting time. And symmetrically, to minimize down time between fares, drivers will choose to work for the application that has the largest number of affiliated clients.

69. But unlike for taxi booking, mobile applications add a dimension to the game of supply and demand: the price. While with taxis the price is fixed and quality random, with mobile applications, the client will select the application that offers him the best price for the quality of its choice. Symmetrically, the driver owning a particular type of vehicle will choose to work for the application that will charge him the lowest commission on his income.

70. Acquiring a dominant position in the market for app-based booking thus implies attracting customers with low prices and with a wide range of vehicles to choose from but at the same time to attract many vehicle owners and drivers with high revenue prospects.

71. In situations of cut-throat competition, gaining a dominant position in the city may therefore entail selling at a loss for a given time period, up to subsidising trips by giving the driver more than what the client actually paid. This is what has been observed in several US cities where Uber applied this strategy to try to eliminate its competitor Lyft from market⁷.

72. Once its natural monopoly position established, and no longer fearing competition, the winner may charge the customer the price that maximizes its monopoly rent. Becoming the only buyer (what

⁷ Forbes, May 30th 2014, “How Uber And Lyft Are Trying To Kill Each Other”

economists call a monopsony), it can also create competition between the drivers to grant them only the lowest remuneration.

73. In the long run, such a strategy is possible only if the losses in the cities to be conquered can be offset by the rents enjoyed in the cities where a monopoly position has already been won. It is here that the market for matchmaking between drivers and customers by app-based platforms is a natural monopoly on a global scale: the race to win customers and drivers in the city is complemented by a race to conquer cities and countries.

74. Another factor contributing to make the app-based booking a global natural monopoly is the rapid development of tourism and international mobility. Tourists represent a substantial part of the taxi business in metropolises. The reason is simple: unfamiliar with the complexity of connections and tariffs of a foreign urban public transport network, tourists often prefer to rely on the taxi driver. But this option is often crossed with mistrust: won't the driver take the opportunity to make detours or charge undue extras? Just as with McDonald's hamburgers, the wary tourist will use the app he is familiar with in his home country, the one that is already downloaded in his smartphone. No room for local apps.

75. The reason why economists dislike monopolies is that they have the power to maximize their rent to the expense of both their customers and their suppliers and to restrain their production below what customers would be willing to pay for. If unchecked, the development of an app-based booking platform will lead to natural monopoly and become a threat to drivers, to customers and somehow even to governments. The main threat for both drivers and customers comes from the fact that once in a monopoly position, the platform will set the percentage commission it takes on each trip at a level that will maximize its net revenue, i.e. its rent. This translates into higher fares to the riders and lower revenue to the drivers.

Threats to drivers

76. For the moment, PHV drivers are happy with their apps. Very often they work with more than one at the same time. Since all of these e-hailing platforms are currently in a phase when they are competing to attract more drivers, the conditions they propose to their potential drivers are attractive, particularly for the unemployed or for the people who have spare time.

77. However, PHV driver, like taxi driver is a low skills job. Once the e-hailing platform has reached a monopoly position in the city, it becomes a monopsony buyer of driving services. As exemplified by the working conditions of the yellow cab drivers in New York City, or the *locataires* in Paris who rent the taxi licence from its owner, these low skill workers have to accept low pay and stressing workload.

Threats to customers

78. The same goes for customers. For the moment, they have the choice between competing apps. They can compare prices and service conditions and choose what suits them best when booking a trip.

Although it has sometimes been said that most customers are reluctant to carry too many different apps in their smartphones and often stick to the one they are used to, the fact that even a small portion of customers use a different app is sufficient to ensure competition. If the value for money between apps widens too much, even the most loyal customers will switch to the better one.

79. This option disappears when one provider has won a monopoly position. Although a clever monopoly will always allow some dummy competitors to survive in some minor segment of the market to maintain the illusion of choice, customer as a group will be charged higher prices than in a really competitive market.

Threats to government

80. By taking its customers and its drivers as hostages, the monopolistic operator could even blackmail the local governments to shelve projects that might hurt its monopoly profits.

A possible solution

81. The problem is that whereas regulating a natural monopoly that could appear at the city or the country level, as it is the case with the radio-taxi dispatch centres, is rather straightforward and within reach of the local governments, it is much harder when the potential monopoly crosses several country boundaries as it is the case with TNC's like Uber and other international players that are emerging in this market..

82. Solutions exist however, but they require the local regulator to have access to some of the data produced by the apps platforms. However this is not too farfetched since the London regulator has already, by law, access to all the necessary data and since access to Uber data is part of the recent deal reached between Uber and the mayor of New York City.

83. In August 2000 the British Office of Fair Trading prevented Transdev, a French company, from buying GoAhead, one of its competitors, because that would have given it control over 28% of the London bus transport supply. Similarly, the Swedish laws⁸ prevent Stockholm city taxi call centres from supplying more than 35% of the market. In both cases the supply is measured in terms of vehicle fleet.

84. In the case of app-based ride booking platforms, such a metric is not possible since the vehicles are not fully controlled by the platform. Some vehicles and some drivers may only work part time with the platform. However, measuring the market share in terms of revenue or in terms of rides is much easier if the platforms are required to submit detailed trip records electronically to the regulating authority as we have seen in the case of New York City.

85. Two policy instruments are then practicable: fixed quotas or progressive taxation of market share. The first instrument is straightforward. It could however lead to a cartel where the

⁸ Konkurrenslag (2008:579) & Lag (2008:580) om gruppundantag för konkurrensbegränsande avtal om viss taxisamverkan

incumbents could collude to prevent new contenders to enter the market. Progressive taxation of market share may be more flexible.

86. Mexico City is an example of proportional (not progressive) market share taxation. The city, in July 2015, became the first Latin American city to regulate ride-hailing apps, introducing a 1.5 per cent ride levy⁹. In New York City, to close a standoff with the municipality, Uber agreed last summer to discuss measures such as a surcharge on each fare to help fund the cash-strapped Metropolitan Transit Authority.

87. To prevent TNCs from getting a dominant position in the market, the progressive surcharge should reach punishing rates when the market share gets close to, say, 40% or 45%.

Conclusion

88. By focusing on the “principles” for regulating for-hire road passenger transportation services, we took the easy stance and were careful not to wonder about the political feasibility of our recommendations. This feasibility varies very much from one country to the other and between cities within the same countries.

89. For nearly four centuries, taxicab regulation was justified by two market failures that largely disappeared with the advent of smartphones. However, the fact that taxicab regulations were rendered obsolete does not mean that the for-hire road passenger transportation services do not need to be regulated, much to the contrary. There must first be regulations regarding the vehicles, the drivers and the operators. The principles underlying most of these regulations are now well established, drawing on the experience of cities like London.

90. But the smartphone revolution brought a new actor in the field: the app-based platform that dispatches drivers to the potential riders.

91. Although some of these firms present themselves as a mere market place that allows buyers, i.e. passengers, and sellers, i.e. drivers, to meet, the truth is quite different. The “equilibrium” prices are in fact set by the platform with a wide propensity to manipulation, as recent price wars have demonstrated.

92. It is our opinion that this new market is prone to natural monopolies. We have shown some of the potential drawback of these monopolies and proposed some policy tools to prevent their emergence. Some of our recommendation may seem farfetched and much too premature. We believe that it is easier to implement them now that they still have little bearing. It will give time to adjust them to a situation that is rapidly evolving.

⁹ At this date, Uber had 500,000 users and more than 10,000 drivers in Mexico City, with most using Uber X the equivalent of Uberpop in Europe.

Box - Heading the wrong direction: the French case

93. The French regulation of TNC is the end result of a decades-long fight between the ministry of the Interior (the Police) in charge of the taxis and the now nearly extinct *voiture de remise* on the one hand, and the ministry of Finance, in charge of the economic policies on the other hand.

94. Compared to all European countries, France has a singularity: it benefits from five legally distinct types of private for-hire transportation services: (i) the taxis, (ii) the passenger cars with driver or VTC, (iii) the nearly extinct *voitures de petite remise*, (iv) the “occasional” transport with fewer than nine seats but compelled to carry at least two passengers and nicknamed LOTI, and the light medical vehicles or VSL that share with the taxis the monopoly of carrying seated patients. Each of these five sectors is corseted in an overregulation primarily intended to fragment the market for protecting economic rents.

95. In 1955, a decree reactivated an old distinction between *voitures de petite remise* and *voitures de grande remise*. According to the decree, the latter are “luxury cars, driven by the owner or his agent, according to the conditions set in advance between the parties. They must be of a recent model and offer passengers conditions of comfort and interior amenities, horse power and speed demanded by international customers.” Unlike *voitures de petite remise* that, just like the taxis, are controlled by the ministry of the Interior, the *voitures de grande remise* fell under the ministry of Public Works-Transport-and-Tourism. A decree of 1990 specified the characteristics of the vehicles to be used for *grande remise* services: “4 doors and 5 seating capacity minimum, fiscal power¹⁰ of at least 9 HP for gasoline engines and 6 HP at least for diesel engines, a minimum overall length of 4.50 meters and a minimum overall width of 1.70 meters.” To our knowledge, few jurisdictions in the world care to explain in such details, to private contractors, the tastes and expectations of their international clientele.

96. The coexistence of these three specific types of for-hire passenger transport, i.e.: the taxi, the *voitures de petite remise* and the *voitures de grande remise* has not been an issue until the early 70s when households’ access to the telephone became widespread. With the phone, it was no longer needed to go and fetch these cars in their garages, a phone call was enough to book a ride. Everywhere in the world taxis have seen the danger of this new competition, and protested against the rapid development of the PHVs, but in France they were particularly well heard.

97. Indeed, for over 30 years, successive ministers of the Interior strived to make the *petite remise* virtually disappear, ordering their prefects not to grant any new licenses. In 1993, a circular from the minister of Interior to the prefects ordered them, in a nice understatement, “not to extend excessively the number of *petite remise* operators as to maintain the fragile balance with taxi operators.”

¹⁰ Although measured in “horses”, the fiscal power only has a very distant connection to actual Horse Power (HP)

Because, unlike the taxis', these licenses are non-tradable and non-transferable, the latter administrative act, not only definitively froze the expansion of *petite remise*, but it guaranteed their eventual disappearance. The taxis got what they asked for. In Paris the *petite remise* totally disappeared and there are very few left in the rest of the country.

98. Meanwhile the owners of taxi licences managed to prevent most local governments to issue more taxi licences as a way to enhance the market value of their property.

99. The 1982 law on inland transport gave an opportunity to some shrewd entrepreneurs to fill part of this void by subverting a section of the law originally devoted to regulate occasional collective transportation in small buses. They realised that "collective" starts with two passengers. Of course there were other constraints but the "occasional transport" strived in several niches like airport trips where they competed directly with the taxis.

100. In an other sector, the paucity of transport supply for seated patient led the legislature to create the Light Sanitary Vehicle (VSL) to share the monopoly the taxis enjoyed in this market.

101. Several economists have since recommended to release the *petite remise*. It was, for example, the "Decision 210" of the Attali report commissioned by Nicolas Sarkozy in 2008. But after three days of taxi protests in several cities in France, the government quickly buried this proposal of the Attali report.

102. However the story does not end there. In May 2007 a Decree concerning the composition of the first Fillon government created the ministry of Ecology-Sustainable-Development-Transport-and-Housing. By this Decree, the Tourism Directorate previously attached to the ministry of Transport-Infrastructure-Tourism-and-the-Sea was entrusted to the ministry of Economy-Industry-and-Employment, which was itself attached to the ministry of Finance. Two years later, by changing a few paragraphs in the thick Tourism Code, the *voitures de grande remise* regulations were "modernized" by taking the new name "passenger car with driver or VTC". This reform entered into force on 1 January 2010 in accordance with a December 2009 Decree implementing the law of development and modernization of tourism services.

103. These texts have largely altered the for-hire passenger transport sector by simplifying access to the profession. Companies are no longer compelled to own themselves the vehicle licenses, and subject to quantitative limits related to the number of cars that could be operated by the contractor. But above all, the requirements on the vehicles have been revised downwards: the minimum number of seats was reduced from five to four, the minimum length from 4.5 m to 4.4 m and vehicle power requirements have been deleted. Although very discreet, this reform has not gone unnoticed, and the sector has been expanding rapidly.

104. Thus, by a clever conjuring trick, the legislator had resurrected a form of *petite remise*, but a *petite remise* out of reach of the Minister of

the Interior, and a *petite remise* rid of the obstacles which, in 1977, had been put to its activity as the ban on wearing of distinctive signs on the car body or the obligation to return to its base (*remise*) after each trip. This encroachment of the ministry of Finance in the reserved area of the ministry of the Interior probably did not happen inadvertently. Indeed, in 2008, economists from the Directorate General of the Treasury had measured the correlation between the taxi shortage in provincial towns and the market value of the licenses. For this study, it worth noting that the researchers did not have access to internal taxi statistics of the ministry of the Interior, and they had to be content with published statistics, already several years old.

105. In August 2010, in his written question to the Secretary of State for Trade, MP Philippe Vigier noted that since the entry into force of the law, 267 companies had already registered under this new regime, and emphasized the fear of the National Federation of Artisans du Taxi, the major French taxi union à that time “that access to that profession constraints are insufficient to guarantee professionalism and safety and that the field of activity of these companies includes transport traditionally provided by taxis and is not limited solely to tourism.” A year later, the number of VTC operators approached 2000 according to the Register of VTC, half of them in the Paris region. But this figure probably underestimated the sector's importance largely because it does not give the number of vehicles, given that some operators have several dozen vehicles.

106. According to the original decree, any person or company wishing to exercise this activity must be recorded in a register. Registration is granted by a license committee. The operator of VTC must attach to his application for registration an estimate of the number of drivers and the number of passenger cars envisioned for the exercise of its activity. But once the licence is granted, it is not necessary to declare the actual fleet, nor the actual number of drivers. There are therefore no statistics on the existing VTC fleet. The authorization must be renewed every three years.

107. Drivers must hold a professional certificate. To obtain it, they must show evidence of a professional training, including a theoretical part (transport regulations and the highway code, customer relations, general education concepts, foreign language) and a practical part (driving courses and, where appropriate, first aid training). The principle of this course, claimed by taxicab unions, was finally accepted by the Tourism Directorate and by the prime minister who initially did not felt it necessary.

108. In medium-sized cities, the competition provided by the VTC presented a real danger for the taxis. And their reaction was very strong, as evidenced the case of Easy Take in Avignon. This entrepreneur, who circulated thirty Renault Kangoo, offered “unbeatable and no surprises” fixed prices: 7€ up to 7 km, 15€ up to 15 km etc., day and night, seven days a week without extra for luggage. The start was thundering: vehicles with bright colours, aggressive advertising campaign ... [*Le Monde*, 19.05.2011]. The taxi union of Vaucluse seized justice to summon Easy Take to cease its trade, accusing it, bailiffs findings supporting, of unfair competition, and

several hundreds taxis protested in the southern cities of France where Easy Take was starting to expand its business.

109. It seems that once again the taxis were heard. Indeed, each year, on the anniversary of the first decree which fixed vehicle characteristics, a new decree cranks up these characteristics back closer to those that were imposed on the *voitures de grande remise*, first by returning to the length of 4.5 m, then by requiring a minimum output of 88 kilowatts or 120 horsepower. Bad news for the colourful but too short Kangoos and for Easy Take that went bankrupt.

110. But the taxis were not satisfied as the advent of app-based booking platforms gave the VTC a new push. With taxi demonstrations turning violent, in December 2013 the government tried to stymie e-hailing by imposing a 15 minutes delay between accepting a booking and picking up the passenger (the taxi unions had asked for two hours) overriding a negative advice the Autorité de la Concurrence had given to the government's project a couple weeks before.

111. A few months later the Conseil d'État suspended the decree and eventually cancelled it by the end of 2014.

112. Meanwhile in February 2014, the government had entrusted the MP Thomas Thévenoud the task to establish "sustainable conditions for balanced competition between individual modes of passenger transport." The law that was enacted during the following summer exhibits a curious balance.

113. There are first the articles that open the way to decrees that will define the "conditions of professional competence" required from the VTC drivers and "technical conditions and comfort" to be met by the vehicles. As if the administration had to decide the comfort expected by clients of the VTC. Sure enough the decrees that followed confirmed the 4.50 m minimum length for vehicles and the 88 kilowatts minimum power, while other decrees have raised the level of training required for drivers to 250 hours courses. Since these training courses are not culminating in an examination, their purpose is obvious: create a barrier to entry for the unemployed who cannot afford the some 5000 € price tag of these courses. There are no courses imposed to applicants taxi drivers, only an entrance examination.

114. Then there are the articles designed to make the VTC less competitive by increasing their economic (and incidentally environmental) operating costs, by requiring, for example, that they return immediately after each fare to the operator's premises or inside an underground car park (where, as everyone knows, the mobile phone network works only imperfectly).

115. Finally, there are items that are banning what is the very essence of booking applications by prohibiting VTC "and the intermediaries that they use, informing a customer before booking / ... /, regardless of the means used, both of the location and of the availability, immediate or future of a vehicle / ... / when this vehicle is on a public road".

116. Recent research [Péran, 2015] has shown that, unlike the New York taxi medallions which price fell by some 50% in the past two

years¹¹, the price of the Paris taxi licences has remained remarkably stable over the last three years. The French taxis could be thankful to Mr. Thévenoud.

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¹¹ Bloomberg "The Struggles of New York City's Taxi King", August 27, 2015 - <http://nycitycab.com/business/taximedallionlist.aspx>