Bundeswettbewerbsbehörde

Sector Investigation
The Taxi and Ride-Hailing Service Market:

a survey

Vienna, September 2020

All designations referring to persons used in this report equally include men and women and are to be understood as being gender-neutral.

Feedback: Please direct any thoughts, questions or concerns you may have about this publication to wettbewerb@bwb.gv.at.

Table of Contents

1 Summary

The amendment to the Occasional Traffic Act ("GelverkG NEU", BGBl. I No. 83/2019) brings together the previously separate taxi and ride-hailing business sectors into one uniform passenger carriage business sector. This new regulation has led both at federal and at state level to amendments to other operating regulations relevant to the passenger carriage business sector by the respective legislature. The amendments are available in draft form. There are still some open questions for the Federal Competition Authority ("BWB") arising from amendments to GelverkG concerning the effects on the existing competition, since, through the amendment of two different business models in the area of passenger carriage they were made subject to one uniform legal framework. This legal framework, however, is oriented primarily on the previous regulations governing the traditional taxi business sector, whereby this raises the question whether it is appropriate to ignore different circumstances in terms of the divergent business models. This leaves little or no freedom in future to implement innovative business models which are made possible through the digitisation of our society in almost all areas of our lives, including in the area of providing modern passenger carriage services on the basis of online platforms. This can give rise to a fundamental link with a negative effect on the variety and fairness of the competition as well as the consumer's freedom to choose between alternatives.

The following insights from a competitive point of view could be gained from the sector investigation conducted by the BWB which also contains a market survey:

- The formal merging of the taxi and the ride-hailing service business sectors into one uniform passenger carriage business sector primarily means nothing more than the legal establishment of the traditional taxi business sector as the sole business model and the prevention of innovative business models such as the ride-hailing service business sector with online intermediary services (e.g. UBER or Bolt) and pushes these (or at least their current business model) out of the market.

- This reduction of the options on offers will cause customers to be deprived of the right to choose between the various business models according to their preferences, formulated from the standpoint of price or quality. This situation appears to be particularly problematic since almost 40% of the population living in Vienna and parts of Lower Austria demonstrate a preference for the new business models of online intermediaries. At the same time the percentage of persons who never use online intermediaries is substantially higher in Lower Austria than in Vienna, so it is to be assumed that residents in Lower Austria would use these services much more intensively if a comprehensive range of services were also available outside of Vienna. Overall this could lead to a very significant loss of

welfare. Furthermore, empirical studies have generally demonstrated the positive welfare effects achieved through the surge-pricing models[1] of the online intermediaries and the underlying price transparency.

- This petrifaction can lead to a drop in quality and price competition and is not at all innovation-friendly. One central characteristic of innovative business models is price transparency (that is knowledge of the exact price being asked before starting a journey) which was felt to be important by more than 95% of consumers and which was primarily associated by the majority (60%) with online intermediaries.

- The transparency and predictability of the transport fare (as provided by the business model of the online intermediary services) is no longer guaranteed for the customer. One result of the market survey showed that more than 30% of consumers admitted that they cannot estimate the price of a journey by taxi. The respective innovative technologies required to ensure this would also fundamentally be available to the traditional taxi business sector, but both the currently valid as well as the (proposed) new legal situation hinders the use of these and thus also adequate transparency for the consumer. This is very likely to have a negative effect on the consumer surplus and will, above all, disadvantage younger consumers.

- Under the current technological framework conditions, the preferences of the consumers lead to the question whether the problem, which appears to revolve around the predictability of the price, could not be removed from traditional taxi intermediaries or at least reduced.

- The entry barriers to the new business sector are increased to the detriment of ride-hailing service company drivers and drivers for online intermediary services, while existing taxi drivers do not have to fully comply with these conditions. This is not the way to promote effective competition to achieve modernisations and quality improvements.

- At the same time there will not be sufficient time given to the ride-hailing service company drivers and drivers for online intermediary services, during the remaining months before the entry into force of GelverkG NEU as well as the operating regulations, to fulfil the requirements for the new business style on time due to a lack of audit capacities. The fact alone that the audit capacities are not adequate as well as the potential departure from the market of a number of online intermediary

[1] In surge-pricing models companies adapt the price for products or services according to the current market demand. In the case of Uber, an algorithm reacts when there is increased demand for taxi rides and the prices increase. This should act as an incentive for drivers to react to the increased demand (e.g. during evening hours and late at night at weekends) and therefore to counteract a supply shortage.

services can lead to a sudden loss of very many jobs (this could involve thousands of drivers amongst the cooperation partners of Uber alone).

- The intention of the lawmaker to preserve the advantages of both business types will not be realised. The basic principle of equal treatment of what is identical and permitting of unequal treatment of what is not identical is not being given sufficient observance with regard to the different business models and characteristics of taxi and online intermediary services (such as dynamic pricing, price transparency, simple booking, payment and evaluation systems).

2 Introduction

2.1 Starting Point for the Sector Investigation

The increased use of new technologies has not only led to increasing changes in many market structures but has also given rise to new business models. Digitisation can represent a challenge for market players with familiar market structures, but can also bring with it advantages for consumers. Framework conditions in the sectors affected by this should therefore not be formulated in such a way that innovative business models disappear from the market again. A functioning competition usually leads to better prices and offers. Furthermore, competition reduces the use of resources and increases efficiency.

2.2 Cooperation with stakeholders

In the past, the BWB has undertaken a series of sector investigations. There was never a previous occasion when individual stakeholders were so uncooperative as during this investigation. For example, there was a total refusal to cooperate shown by one radio taxi network. Claims were also made to political decision makers that the BWB was breaking the law and had no representative authorisation to undertake any sector investigation. It was also suggested that, due to the alleged situation whereby journeys brokered over online services were not permitted, that these should not be included in a sector investigation.

2.3 Contents of the sector investigation

In its current sector investigation, the BWB analyses the comparatively strongly regulated market in Austria for passenger carriage services from the point of view of economic competitivity and competition law. The Institute of Advanced Studies (IHS) has also been working in this connection on a study commissioned by the City of Vienna which aims to deliver economic options for action for the new regulations to be put into law, in particular with regard to design of the taxi tariff scheme.[2]

Chapter 3 of this report from BWB delivers an overview of the taxi and ride-hailing service market. It presents the business model of the digital platform intermediaries and the classic radio taxi networks and, in doing so, also discusses the situation in Vienna. There is a description of the market in Chapter 4

[2] *Kluge* et al., (2020)

using information gained from requests for information made to taxi and ride-hailing service businesses. Chapter 5 presents and analyses customer preferences concerning the services offered by the individual passenger carriage services based upon commissioned market research conducted by BWB. This analysis is limited to the greater Vienna area, since passenger carriage on the basis of online platforms in Austria has only been established there. Chapters 6 and 7 discuss regulation of the taxi and ride-hailing service market from an economic and legal perspective by taking particular account of Austrian law.

2.4 Characteristics of the market investigated

The following characteristics of the taxi and ride-hailing service market and the associated aspects of the sector investigation are highlighted as follows:

- There is much inhomogeneity in the taxi and ride-hailing service market. The various market players on the supply side range from a classic one person taxi business through larger businesses with a larger number of licensed vehicles to traditional radio networks and innovative online intermediary platforms. As the market survey suggests, these market players advertise in part to different customer groups with different degrees of willingness to pay.

- Services in the taxi and ride-hailing service market can be classified from the point of view of economic competitivity as services based on trust, which is why a market failure can occur on the basis of a lack of information on the part of the consumer. There is a problem in this market of asymmetric information. When someone hails a taxi from the side of the road, the customer must place his trust in the reliability of the taxi driver. The problem arising from information asymmetry can be reduced or even removed through use of new technologies which present the price transparently before starting a journey. One huge challenge for BWB in undertaking this sector investigation was to get access to reliable market data. It became very clear that the availability of data from or the readiness to cooperate by the digital platforms was significantly higher than from the traditional providers.

- In order to draw some conclusions about the demand on the market as well as any welfare effects for consumers, an empirical analysis was performed on the basis of data obtained from a consumer survey.

- The technical innovations appear to have blurred the dividing lines between the “classic“ businesses taxi and ride-hailing service. GelverkG NEU, with its introduction of a passenger carriage business by car, aims to create a uniform body of rules and regulations for these services, even if online

intermediary services and classic taxi firms are operating according to totally different business models, with divergent characteristics (such as dynamic pricing, price transparency, quality evaluation systems, etc.). The particularly sensitive question of a possibly uniform tariff system for the new business sector is the responsibility of the state lawmakers in accordance with prescribed tight federal statutory regulation. The federal operating regulations and the draft of the Vienna state operating regulations map out a uniform, fixed tariff.

- A European comparison shows that the dynamic development of taxi market regulation is basically going in the direction of deregulation. The question whether Austria wishes to belong to the group of countries with stringent regulation of the market or to those with more open markets allowing various business models and the associated price competition will appear to be initially answered by GelverkG NEU as well as the drafts of the pertinent operating regulations pointing in the direction of more regulation and the introduction of a binding tariff. The fact that these were not compellingly mapped out in advance is shown by the proposed innovations in Germany, where - confronted with a similar starting point as in Austria – they wish to relax strict taxi regulations and fare conditions in order to allow this business sector to enjoy an appropriate (price) competition with the more innovative ride-hailing service business and therefore to continue to provide freedom of development of the business model used by online intermediary services.

2.5 The competitive effects of the (new) legal framework conditions

Since competition is always also dependent on the legal framework conditions within which it can be realised, this plays a major role in market analysis in terms of competition law and policy.

In light of the amendment to GelverkG ("GelverkG NEU"), which brings together the previously separated taxi and the ride-hailing service business sectors into one uniform business sector, it logically becomes necessary to adapt the other regulations governing this sector which, in particular for ride-hailing service drivers, creates a totally new legal framework. The drafts of the amendments to the operating regulations actually convey the impression, contrary to the expressed intentions of the lawmakers as part of the GelverkG amendment of wishing to maintain the advantages of both business sectors as far as possible and, at the same time, to take account of the requirements of today's communications and business life, that they wish essentially to enforce the already existing taxi regulation upon the new business sector and thereby apply this to existing ride-hailing service drivers. There would appear to be no possibility for online intermediary services to maintain their innovative business models which are oriented towards price transparency.

This arises from the interplay between the planned new regulations as well as the openly intended general tariff obligation for the new uniform business sector which overall represents a very significant hurdle to entry or change of business model within the new business sector. On the one hand it must be assumed that the compulsory taxi driver test foreseen in the federal operating regulations which must be passed, the requirement of additional training certificates (the latter only to be submitted by existing ride-hailing service drivers and also new entrants, not however by drivers who already possess a taxi licence), as well the lack of testing facilities up until the time of coming into force of GelverkG NEU or the amended operating regulations will result in some ride-hailing service drivers leaving the market. On the other hand, based on the new regulation of the Vienna state operating regulations, there is no resultant extensive change in the direction of transparent bookings and simple payment - known from the online intermediary services - which could lead to liberalisation and therefore appropriate promotion of competition.

These proposed legal framework conditions already appear from the point of view of competition law and policy suitable for bringing about a reduction in the services on offer which can certainly have a negative effect on quality (for example due to longer waiting times) and therefore a negative effect for consumers. The incentive to provide for appropriate quality competition also appears to be very low since the requirement for continuous quality evaluation systems (as has become familiar from the apps from online intermediary services) is being dispensed with and only a certain minimum quality will be legally required.

In addition to all of the above there are also the regulations in the draft of the Vienna state operating regulations regarding the requirement to use a taximeter and taxi identification which point towards the introduction of a general tariff obligation for the new business sector, which only intends exceptions to their use in areas foreseen in the GelverkG NEU. Since there is simply no leeway in the setting of prices for the drivers and businesses in the new sector, for the possibility of competition on price disappears completely. With a lack of monetary incentives in the market it follows that there is also likely to be a reduction in potential innovations which, in turn, can have a negative effect for consumers.

On the whole the planned new legal framework for the passenger carriage business sector appears, above all, best suited to halt development of a whole business sector over some years - at the cost of competition on price, quality and innovation - preserving a status which matches the characteristics of the existing taxi sector. Innovative business models, namely those of the online intermediary services which, amongst other things, are characterised by price transparency, dynamic pricing as well as simple booking, payment and evaluation systems, will be made impossible to maintain in their current form. These new regulations, which take away the right of the consumer to choose between the various

business models and to follow their preferences from the standpoint of cost and quality, are overall likely to offer many disadvantages to the consumer.

3 Surveying customer preferences

Since the amendments to GelverkG will lead to a fundamental change of the regulations covering the area of passenger carriage by car, the sector investigation undertaken by BWB is also aimed at assessing these amendments from the point of view of the consumers. As already described in some detail above, some studies and data suggest that the platform intermediaries such as Bolt or UBER in the market for intermediation of passenger carriage services for generate an additional demand and therefore - at least for a certain population group - bring additional benefits with them and in this way increase the consumer surplus. An empirical investigation was carried out to define each of the product features consumers value concerning traditional taxis and the online intermediaries. This should allow us to draw conclusions about consumer preferences and their benefits from the new digital business models.

3.1 A description of the sample chosen

Participants in the study were interviewed by means of online interviews in the period 29.07.2020 to 07.08.2020. A total of 1,243 persons took part in the survey which was carried out in cooperation with Focus Institut Marketing Research Ges.m.b.H. Since 228 persons (about 18% of the respondents) stated that they never use taxis or platform intermediaries, it was decided that these persons would not be asked any further about their usage behaviour. Thus the effective target group of the study became 1,015 persons.

The participants in the study represented a sample of the population in Vienna and selected districts in Lower Austria (Bruck an der Leitha, Gänserndorf, Mistelbach, Korneuburg, Tulln, St. Pölten Land, Mödling), in which generally both taxis and online intermediary services are active. During establishment of the sample, use was made of an Online Access Panel from Cint. In accordance with criteria established for a representative sample in terms of age and gender invitations and adapted invitations were sent out while continuously checking for compliance with the respective quotas.

The sociodemographic make up of the whole group of participants in the study and the effective target group are relatively similar. (Unweighted) information about the effective sample chosen (N=1,015) can be taken from Figure 1. Regarding the criteria of age and gender, the sample was representative for Viennese residents and also for the population in Lower Austria in selected districts of the suburbs. There were marginal differences in the sample regarding level of education and size of the household. It is for this reason that additional weighting was used in the analysis as a corrective factor to reduce possible

distortions of the representativeness and to reduce the sample variance. Regarding the criteria of age and gender, the sample was representative for Viennese residents and also for the population in Lower Austria in selected districts of the suburbs. There were marginal differences in the sample regarding level of education and size of the household. It is for this reason that additional weighting was used in the analysis as a corrective factor to reduce possible distortions of the representativeness and to reduce the sample variance.

Figure 1: :Demographic composition of the relevant sample (N = 1,015)

	BASIS	%		BASIS	%
TOTAL	**1,015**	**100**	**Size of the household**		
			One person	308	30
GENDER			Two persons	419	41
female	523	51	Three persons	162	16
Male	492	49	Four persons and more	126	12
AGE			**Income**		
15-29 years of age	221	22	up to 1,200 euros	138	14
30 - 49 years of age	336	33	1,201 to 2,100 euros	224	22
50 years of age and older	458	45	2,101 to 2,800 euros	184	18
			2,801 to 4,000 euros	269	27
FEDERAL STATE			more than 4,000 euros	191	19
Vienna	870	86	no details provided	9	1
Lower Austria	145	14			
			Use of taxis		
Districts NO			Intensive (use at least once every 1 -2 months)	275	27
Bruck an der Leitha	17	12	Less often	652	64
Gänserndorf	19	13	Never	89	9
Mistelbach	1	1			
Korneuburg	13	9	**Use of online mediation services**		
Tulln	22	15	Intensive (use at least once every 1 -2 months)	299	29
St. Pölten Land	18	13	Less often	285	28
Mödling	53	37	Never	431	42
Education level					
Primary, secondary school or a completed apprenticeship	272	27			
Further secondary education without a Higher School Certificate	138	14			
Further secondary education with a Higher School Certificate	310	31			
A completed course of studies at a university, higher education institution, technical college	295	29			

3.2 The results of the study

3.2.1 Use of taxi and platform intermediary services

Figure 2 shows the usage behaviour of various personal transport services or transport options. Public transport was used by 60% of the population at least once a week. Just 4% stated that they would never use public transport, which was by far the lowest value in comparison with the other transport options. 50% of the respondents stated that they use their own car at least once a week while 28% never use their own car. The bicycle is also an important form of transport for persons resident in Vienna (and extending out to some of the Lower Austrian districts), since almost 20% of the population uses one on a weekly basis. Traditional taxis are used considerably more often than services which are brokered by platforms.

While 53% of the respondents never use online intermediary services such as UBER, Bolt or Holmi, just 26% of the respondents stated that they never use traditional taxi services. The intensity of use of those persons who use traditional taxis or online intermediary services such as UBER and Bolt was slightly higher for the platform intermediaries but there were no statistically significant differences. As can be seen in Figure 2, online intermediary services are more intensively used by 24% of the population,[3] while the corresponding proportion that uses traditional taxi services is 22%.

While surveying the intensities of use, the participants in the study were asked to think about their normal usage behaviour. It should however be noted that the results may be subject to seasonal fluctuations since the demand in summer is usually stronger. It is also conceivable that the strongly restricted nightlife due to regulations in connection with Covid-19 has curbed the demand for taxis and ride-hailing services and that this is mirrored in the answers provided by the participants in the study.

Figure 2: Use of transport, weighted, N = 1,243

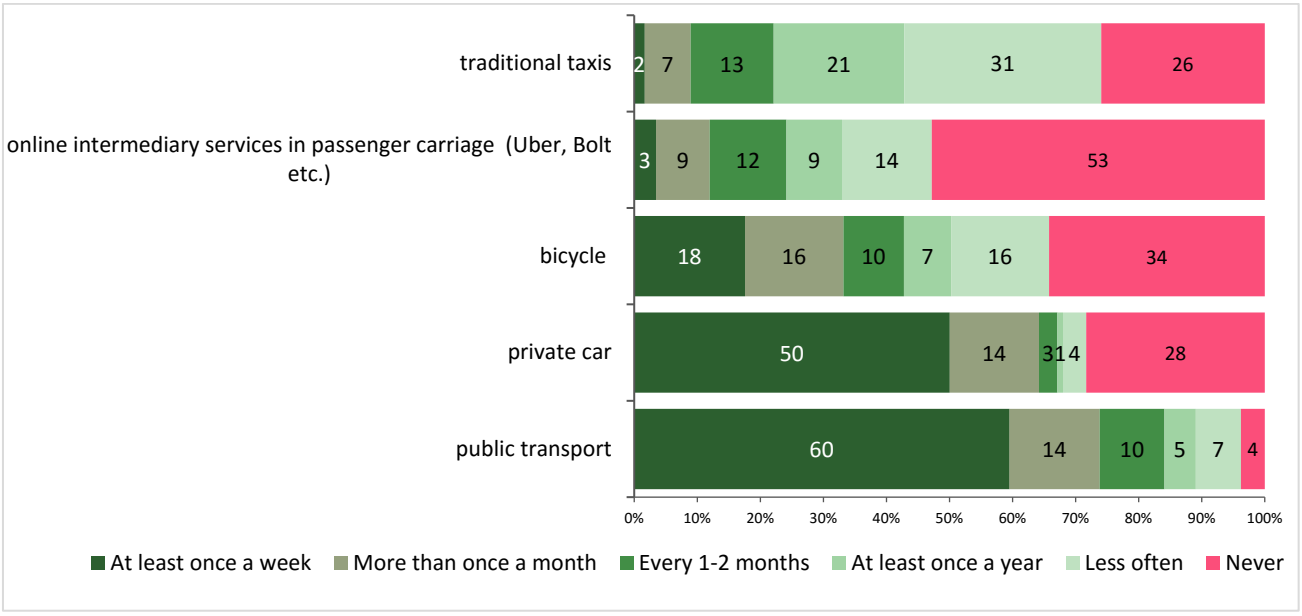


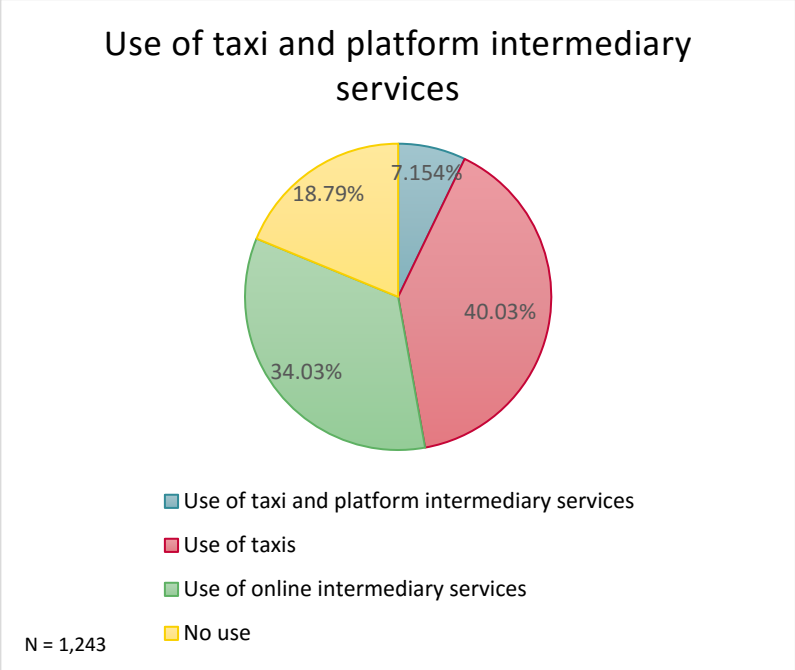
Figure 3 shows the proportion of people who exclusively use traditional taxis or online intermediary services and also those who use both or none of these services.[4] The proportion of those people who use both traditional taxis and online intermediaries is relatively high at more than 40%. 30% of the

[3] This intensive use arises from adding together the numbers for use "At least once a week" (3%), "More than once a month" (9%) and "Every 1-2 months" (12%). The same applies to the 22% intensive use of traditional taxi services.

[4] Every person was regarded as a user in the survey who did not state that they never use a service.

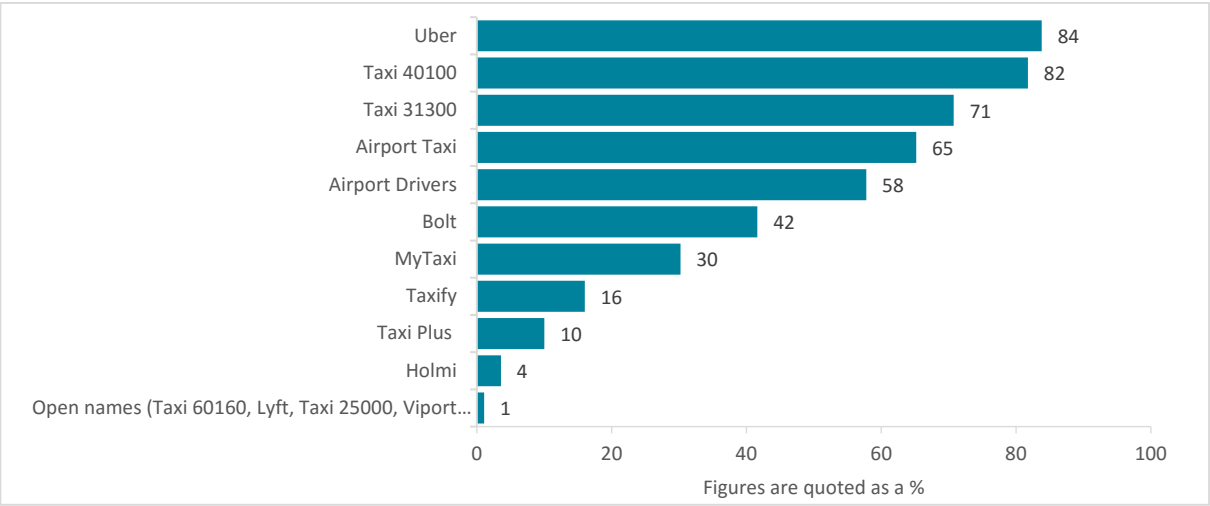
representative sample stated that they only ever use a traditional taxi. Approximately 8% only ever use online intermediary services and almost 20% do not use any such services. The proportion of the users of online intermediaries who also use taxi services is, at 85%, significantly higher than the proportion of taxi users who also use online intermediary services (about 60%).

Figure 3: Usage behaviour, weighted



Although use of traditional taxi intermediaries appears to be more pronounced in society, the largest online intermediator UBER represents the best known company on the market, see Figure 4. 84% of the respondents state that they know UBER while only 82% know the best known traditional (radio taxi) intermediary Taxi 40 100 by name. This difference, with an error probability of 5%, is statistically significant and could be explained by the strong media presence of the US company. Amongst the online intermediaries, Bolt in Vienna at 44% is also relatively well known.

Figure 4: How well-known the various intermediaries are, weighted, N = 1,015

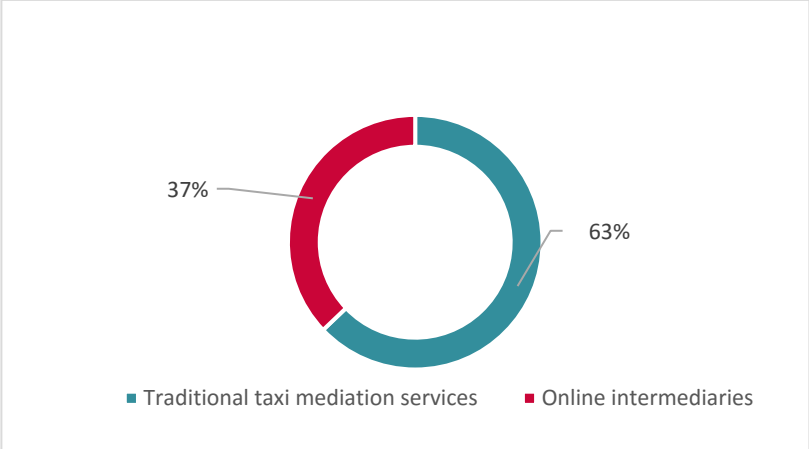


3.2.2 The preferred form of intermediary

In addition to their concrete usage behaviour the participants in the study were also asked about the intermediary variants they generally prefer. This is interesting since it is not necessarily the case that conclusions can be drawn about the preferred variants based on frequency of use.[5] In response to this question almost 40% of respondents expressed a preference for online intermediaries, which is a not insignificant proportion of the population (Figure 5). This result is driven, above all, by the preferences of younger citizens aged between 15 and 29, where the demand is presumably relatively less price sensitive. There were no differences in preferences between the genders or between the respondents from Vienna and those from Lower Austria. This result is particularly interesting since the percentage of persons who never use online intermediaries in Lower Austria is much higher than in Vienna (58% in Lower Austria versus 40% in Vienna), and usage of platform services there also tends to be less intensive. It is therefore possible at least to assume that the population in Lower Austria - based on their preferences - would also use online intermediary services more intensively there if a comprehensive range of services was offered outside Vienna.

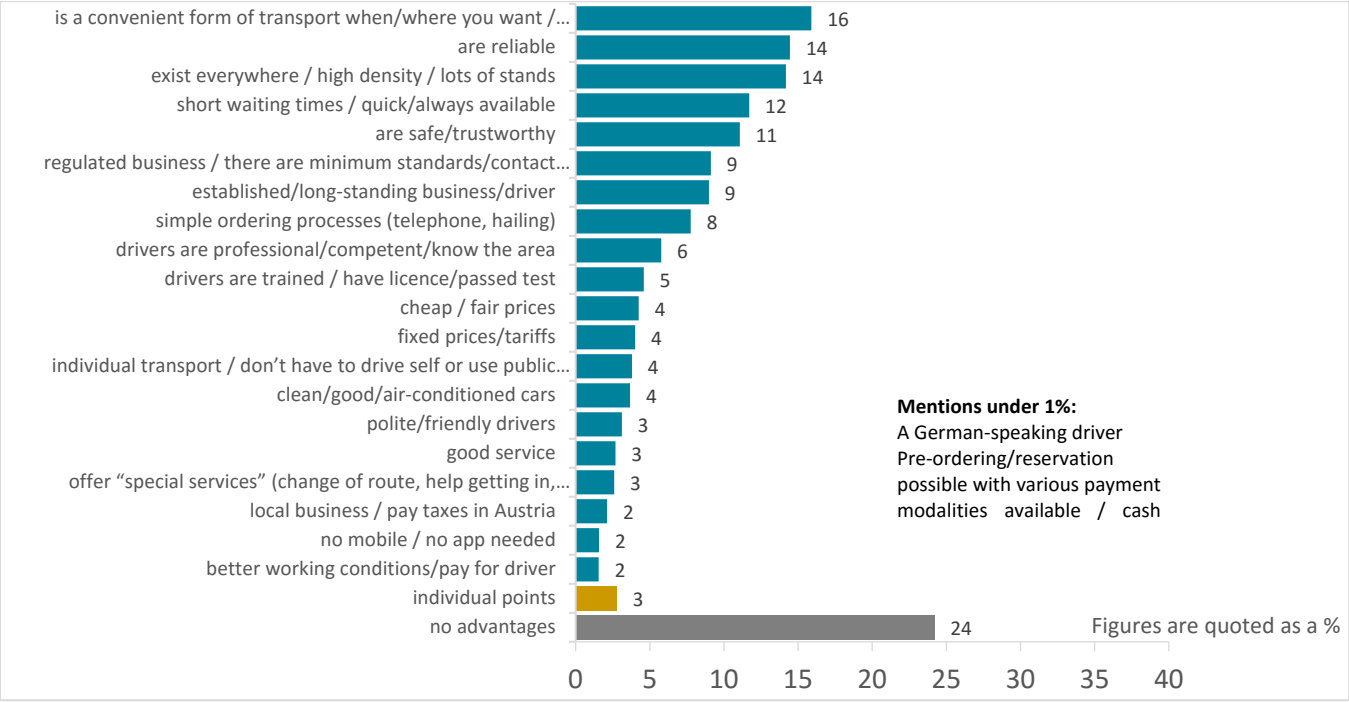
[5] For example, since persons who just occasionally use these services could not use their preferred system at a particular point in time, even though they would prefer to do so.

Figure 5: The preferred form of intermediary



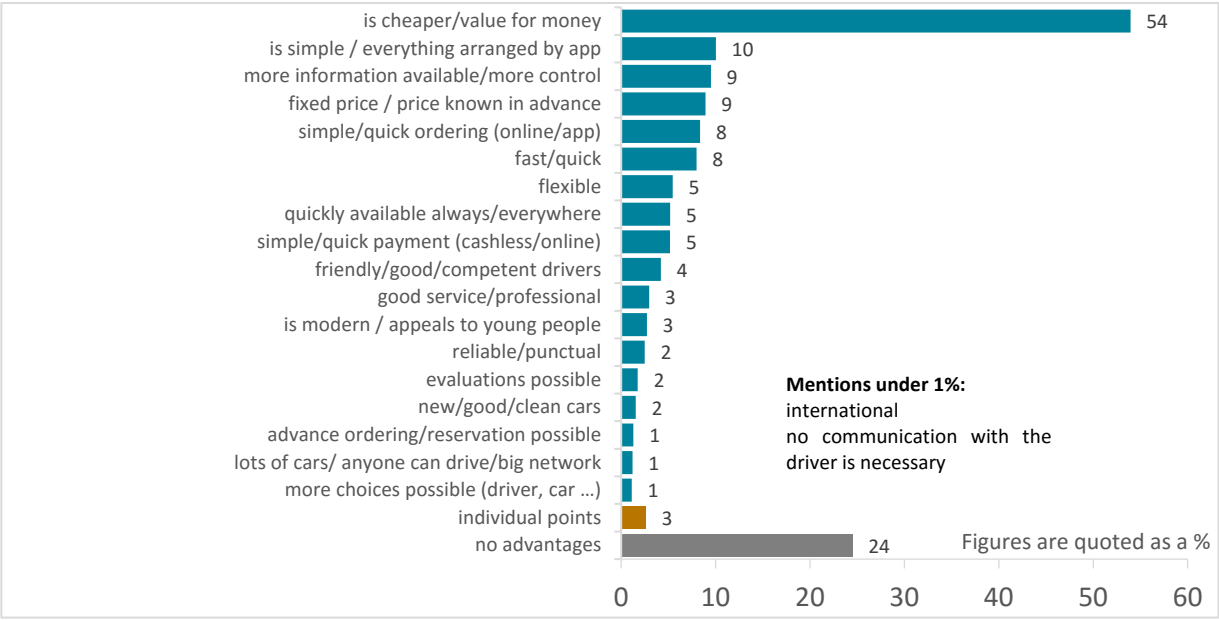
The reasons for the respondents' preferences for traditional taxis as well as for online intermediaries are shown in Figure 6 and Figure 7. These were determined through use of open questions and these were then subsequently clustered together in categories. The respondents see the advantage of traditional taxis above all in their convenience, their reliability as well their availability. These features were mentioned as significant advantages by about 15% of the respondents.

Figure 6: The advantages of taxis, weighted, N = 1,015



By contrast, the main argument offered by those persons who prefer to use an online intermediary, by a majority of more than 50%, was the more favourable price. Factors which also play a very significant role are the comfortable ordering process by app as well as the availability of precise information and price transparency. Thus about 10% of the respondents state that they see a significant advantage of platform intermediaries in the fact that they know the exact price before starting their journey.

Figure 7: The advantages of online intermediaries, weighted, N = 1,015



With regard to the disadvantages of traditional taxis, by far the most significant factor mentioned by about 60% is the relatively high price for a journey. The most significant disadvantages mentioned by about 10% of consumers of online intermediaries are, above all, the security issue and in the fact that there are no requirements upon the driver to have a certain level of training or to pass a test to be a taxi driver. Poor working conditions and potential exploitation of drivers are also mentioned as a disadvantage of online intermediaries by 8% of the respondents.

It is very noticeable that the preferences for traditional taxis or ride-hailing service intermediaries are distributed quite differently over sociodemographic features. Young people and persons with a higher formal education prefer online intermediaries relatively more often. The analysis of the reasons stated shows that online intermediaries may indeed have led to increased demand from young, price-sensitive persons with a relatively high formal level of education. This could, for example, particularly apply to students.

3.2.3 Assessability of the actual taxi price

One factor which fundamentally differs between traditional taxis and online intermediary services is price transparency. While the exact calculated price for a journey is known in advance with great accuracy from online intermediaries there can be significant variations with journeys made with traditional taxis - depending on the taxi tariff. Since this characteristic is very popular for consumers (particularly younger ones), as illustrated, about the question was also asked in the course of the survey how well people can estimate the actual average price for a journey by taxi for a planned route. A very small percentage of people, 14%, stated that they knew exactly what the taxi tariffs are in Vienna and can estimate exactly what a journey would cost. A large majority of persons, 55%, did not know the precise taxi tariffs but could at least make a pretty good estimate what the price would be. On the other hand, a large percentage, 31%, had no idea about taxi tariffs and had no idea - based on their own assessment - about what the actual price would be. The results can be seen in Figure 8.

Figure 8: Assessability of the actual taxi price, weighted, N = 1,015

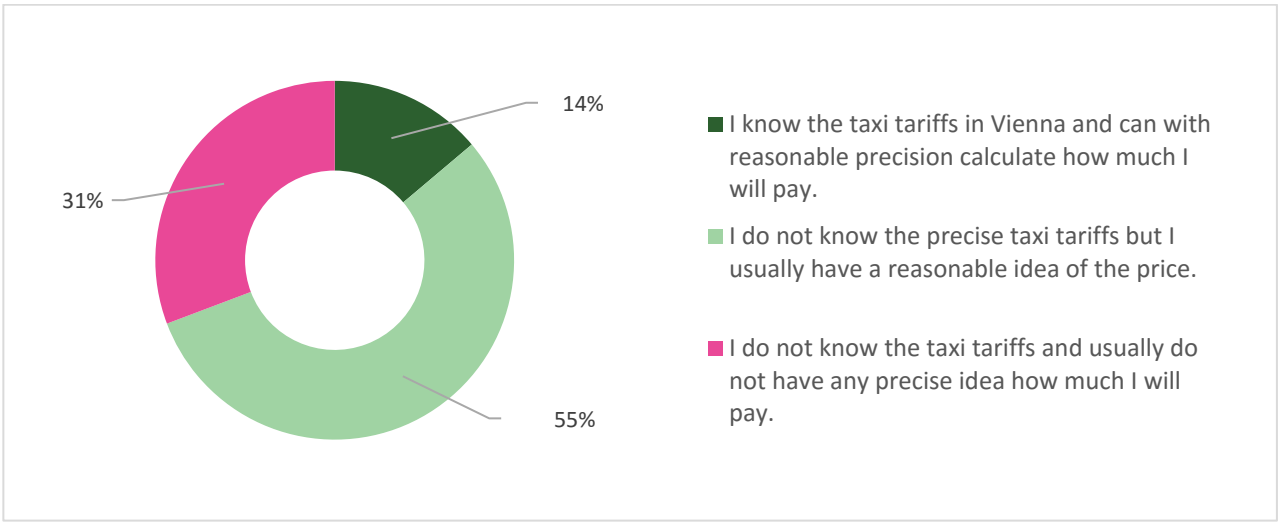
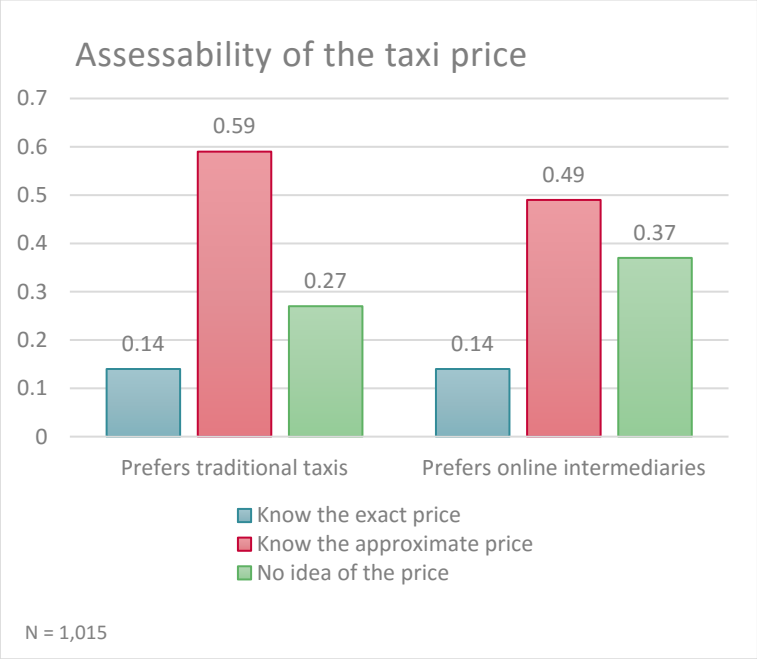


Figure 9 shows the distribution of answers to the question how well informed the respondents are about the taxi tariffs and how well they can estimate what the actual price will be. It also shows differences between persons who prefer traditional taxis and those who prefer online intermediaries. It is clear from this that the persons who state more often that they prefer online intermediaries have no idea about the price of a journey. The percentage of persons who state that they can exactly estimate what the price will be is the same in both groups. The synchronous difference of 10 percentage points in both of the remaining categories is statistically significant and is therefore not due to fluctuations arising from the sample range. This circumstance indicates that consumers could benefit from prior knowledge of the journey price because of the more transparent surge-pricing models used by online intermediaries. This benefit clearly contributes greatly to the preference for an online intermediator. This is also obvious since

price transparency for the user represents an extremely important criterion and is associated by the majority of participants in the study with the online intermediaries.

Figure 9: How well-known the taxi tariff is - based on self- assessment, weighted (proportion times 100 = %), N = 1,015



This already indicates that the consumers can only very roughly estimate taxi prices from the tariff. In order to be able to roughly evaluate this personal estimate made by participants in the study, there was a further question asked about the price of a traditional taxi in the following situation:

> Let us assume that you wish to order a taxi on any given workday (Monday to Friday) at 1 pm. (referring here just to a traditional taxi and not an online intermediary), to go from Schwedenplatz to the main railway station in Vienna. This route is about 4km long and the journey takes about 15 minutes. Please provide your estimate of how much this journey could cost.

Using an online price calculator based on the taxi tariffs[6] the price for this route on the day and at the time of day described was estimated at about €14. The average price stated in the survey was about €17

[6] see https://www.taxi40100.at/preisabfrage/

which lies about €3 above the price for the largest taxi provider in Austria, according to the price estimation website. In order to arrive at some statement about the percentages of each person who could roughly estimate the price correctly, there was also a relatively wide range established of €12-16 from which we could, in the course of our analysis, make the assumption that the consumers can roughly estimate the price. This therefore allows the consumers a little leeway of €2 up or down which represents a fluctuation of about 14% in any one direction (and therefore a cumulative fluctuation of 28%). According to this system only about 36% of respondents could roughly estimate the correct price. About 18% expected too low a price while about 46% expected too high a price. Figure 10 demonstrates that there were no major differences recognisable in this distribution between groups with a different personal assessment. Persons who state that they roughly know what the price will be, estimate the price less often as too low. The differences are marginal however (15% in contrast to 21% or 22% in the other groups).

Figure 10: The price estimate question, weighted (proportion times 100 = %)

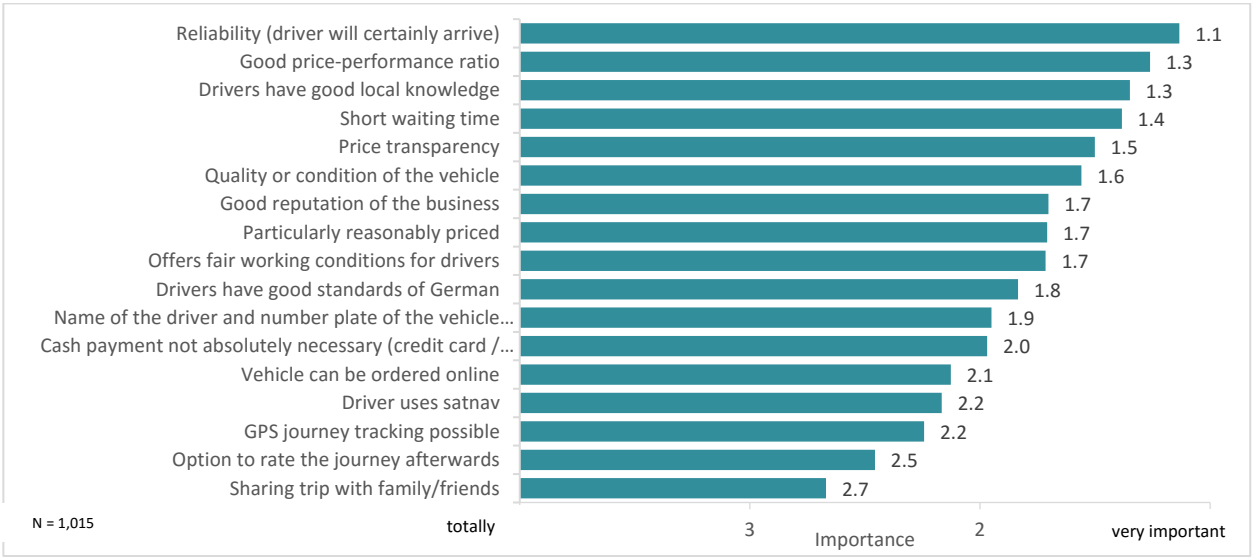
These results indicate that the consumers are only very roughly able to estimate the price of a journey by taxi before beginning the journey. Nevertheless, the majority of them state that price transparency is for them a very important criterion (for which they accordingly probably also have a certain readiness to pay). Under the current technological framework conditions, the preferences of the consumers lead to the question whether the problem, which appears to revolve around the predictability of the price, could not be removed from traditional taxi intermediaries or at least reduced. Furthermore, from the stated preference of the consumers to be offered price transparency it can be deduced that the services

offered by online intermediaries cover an important criterion for a functioning competition: It allows the consumers to have the information required to be able to choose between various business models for comparable services.

3.2.4 The importance and estimation of product attributes

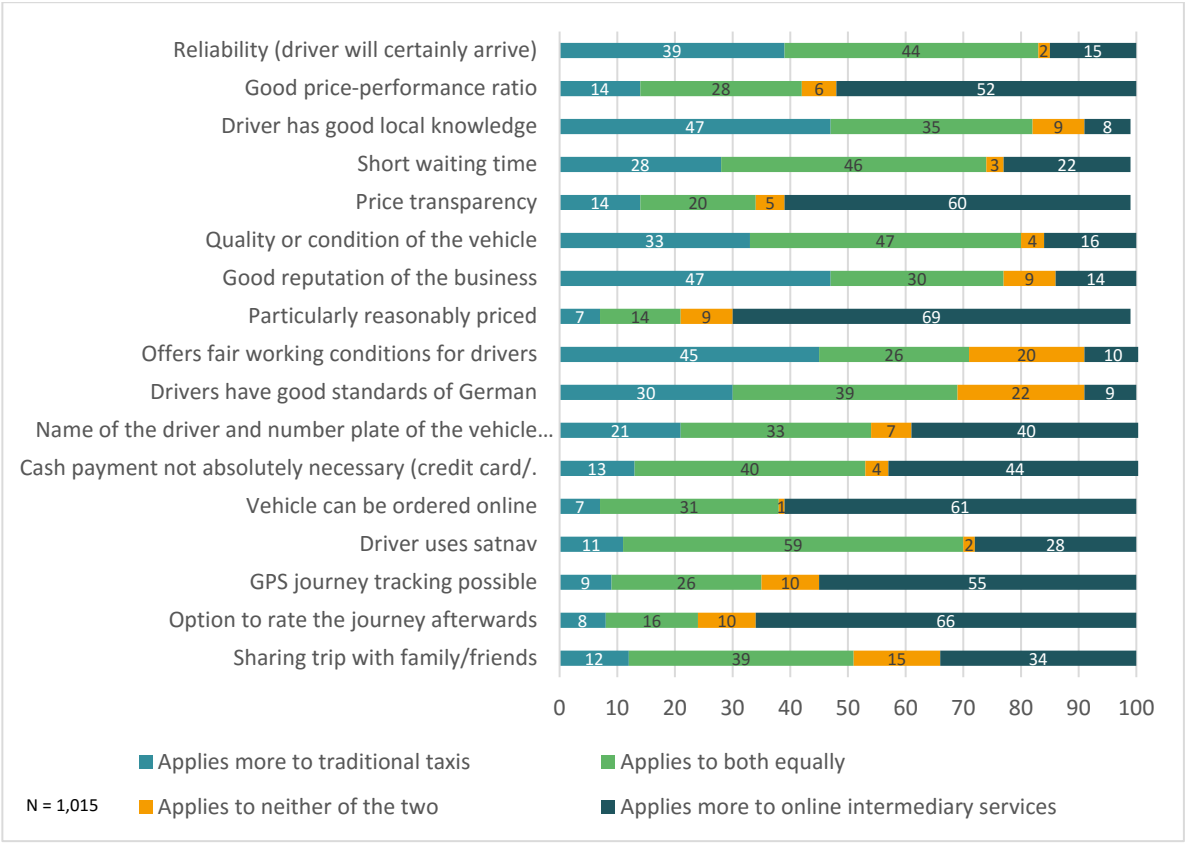
In order to be able to assess how an amalgamation of the taxi and the ride-hailing service businesses will affect the consumers concerned, it is essential to examine the attributes which are associated with this service. To achieve this a list of criteria was created which could be associated with businesses engaged in individual passenger carriage and the respondents were asked to assign a value to these attributes in terms of (very important (1), important (2), not so important (4), completely unimportant (4)).

Figure 11: The importance of various criteria



The respondents selected the reliability of arrival of an ordered vehicle as the most important criterion, see Figure 11. About 98% of all respondents stated that this criterion is important to them. It is clear to see in Figure 12 that almost half of the respondents (44%) see taxis and online intermediaries as equally reliable. 39% found that this criterion is more often associated with traditional taxis and 15% see reliability as more likely with online intermediaries.

Figure 12: Association of various criteria with taxis v. online intermediaries, weighted, listed according to product importance. based upon the average value (as a %)



A good price-performance ratio is very important for the majority of the respondents. About 98% of the participants on the study rate this feature as very important. In this connection 52% of the respondents stated that this is more likely to be achieved with online intermediaries while 28% believe that traditional taxis and online intermediaries are the same. Only 14% find that traditional taxis offer a good price-performance ratio.

In light of the current prevalence and use of navigation devices in road traffic, the high marks awarded to a driver's good local knowledge is somewhat surprising. As expected, this feature is seen to be more likely for traditional taxis (47%) than for online intermediaries (8%). 35% believe that both models equally provide for this feature.

A short waiting time before the arrival of the vehicle is also generally seen to be important for more than 95% of the respondents. This is considered to be satisfactory for both business models by almost half of the respondents (46%). By contrast the price transparency is considered as a given with the online intermediary services by 60% of respondents. Only 14% see this feature demonstrated by traditional taxis and just 20% see it demonstrated by both models. This result illustrates that consumers consider the pricing of journeys regulated by traditional taxi tariffs as less predictable or more strongly dependent on

traffic conditions than the surge-price model of the platform intermediary services from which the average price in known to them in advance.

The condition of the vehicle and the good reputation of the company is also important for many consumers. A satisfactory condition of the vehicle is considered to be the case by half of the respondents (47%) for both traditional taxis and online intermediaries. On the other hand the online intermediaries do not have a good reputation for many of the respondents. Only 14% see this requirement fulfilled by online intermediaries and 30% by both business models. It is a different picture, as expected, when we consider the attribute "particularly favourably priced". This is mainly considered to be the case for online intermediaries (69%). Only 7% of the respondents are of the opinion that this also applies to taxis and 14% believe that it applies to both business models.

Hand in hand with estimation of the good reputation of a company comes the estimation of fair working conditions for the drivers. These are only recognised by 10% of the respondents in the case of online intermediaries. Overall 20% of the respondents were of the opinion that neither of the business models (that is traditional taxis and online intermediaries) offer fair working conditions for the drivers while 26% believe that the working conditions are fair for both models and 45% believe that this is only the case for traditional taxis.
As regards command of the German language on the part of the drivers, 39% consider that this is good in the case of both traditional taxis and online intermediaries and 22% evaluate this aspect as poor for both models. 30% of the respondents find this feature better in the case of traditional taxis.

With an average value of 1.9 in the ranking, the criterion "The name of the driver and the number plate of the vehicle are known" was not considered as particularly important. 40% of the respondents see this criterion as already fulfilled in the case of online intermediary services. This high percentage is probably based upon the fact that UBER, for example, includes a copy of the driver's details, the model of the vehicle and the number plate of the vehicle as part of the ordering and usage process.[7] 33% see this criterion as already fulfilled in the case of both business models. This criterion is only considered as fulfilled in the case of traditional taxis for just 21% of the respondents, even though nowadays labelling showing details of the business owner (not the driver) as well as details of the vehicle are required to be shown on the dashboard. In the future, the taxi licence of the driver must also be displayed on the dashboard in a visible and legible form (§ 4 Paragraph 3 of the Vienna state operating regulations NEW).

Concerning the remaining criteria which have a lower ranking such as: *Cash payment is not essential, ability to order the vehicle online, whether the driver uses a navigation system, GPS tracking of the*

[7] see e.g. : https://www.UBER.com/at/de/ride/how-it-works/, retrieved on 20.8.2020

journey is possible, the option to evaluate the journey retrospectively, and sharing parts of the trip with family/friends, we see that these are criteria which have developed in the wake of technical innovations in the field of electronic communications. All of these attributes were only required by a relatively small proportion of the respondents (between 7% and 13%), more from traditional taxis. The respondents see these criteria as being fulfilled far more often by online intermediary services (between 28% and 66%) or by both models (between 16% and 40%).

3.2.5 Questions concerning awareness of and estimation of the effects of "Lex UBER"

The taxi and ride-hailing service market is characterised by large regulatory upheavals which in the end will have a significant effect upon the whole economic welfare of the market. Since the benefits to consumers are also affected, the goal of the survey was also to determine the attitudes of the population towards these changes in the regulatory framework conditions.

From the results of the survey it is apparent that just over a quarter (27%) of the relevant population groups had already heard of the innovations. At 37%, men are more informed about this than women (17%). In order to provide all respondents with the same level of information, it was explained to them all that the taxi and ride-hailing service businesses will shortly be operating under the same rules. The following extract was included in the survey:

> The amalgamation of the taxi and the ride-hailing service businesses into a "passenger carriage business by car" is expected in the future to see both traditional taxis and online intermediary services subject to a binding taxi tariff.

The particularly interesting question to explore was whether the respondents could foresee any changes in their own usage behaviour. Two thirds (65%) stated that this change would not affect their usage behaviour. This result can be taken from the results shown in Figure 13. One quarter (25%) did however state that they would use the online intermediaries less. Here there is also again a difference seen according to the age group of the respondents: the younger a person is, the less they will have the intention to use online intermediary services after the change. From this it can be deduced that a significant proportion of the respondents will no longer profit from the special features of online intermediaries to the same degree. 10% of the respondents also stated that they would use online intermediaries more intensively under the new framework conditions. This could result from a preference for the above-mentioned perceived requirements concerning local knowledge and command of the German language. The proportion of those persons who would use online intermediaries more is,

however, significantly less than the proportion of those persons who would considerably reduce their use.

Figure 13: Change in the usage behaviour, weighted

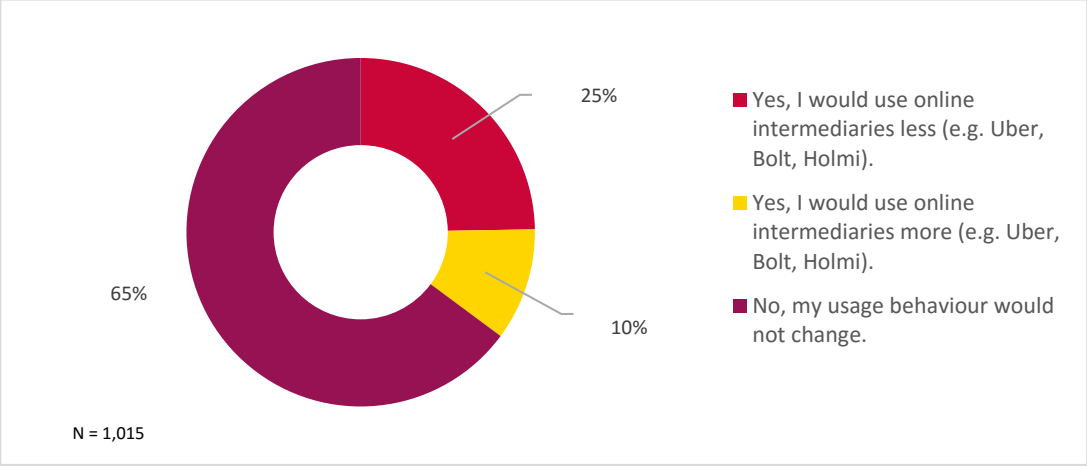
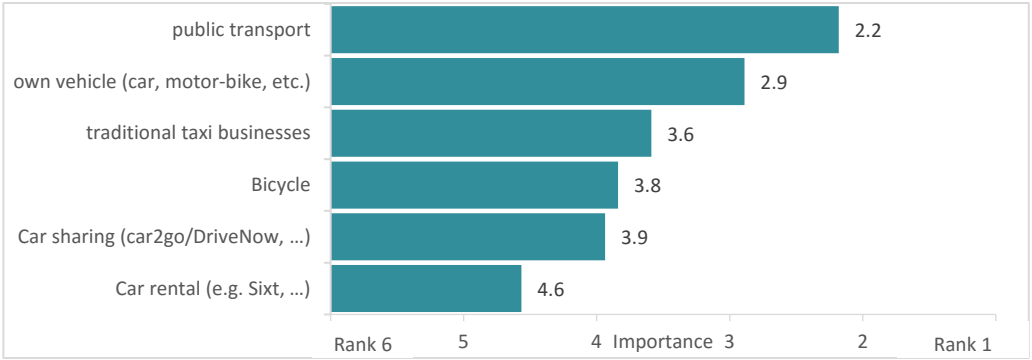


Figure 14 shows which alternative transport options each respondent would swap over to, for those who had stated that they would make less use of online intermediaries. The first alternative form of transport to be mentioned by a large proportion of the respondents is public transport. Since, as already described in detail above, online intermediaries are on average seen as considerably less expensive, this result suggests that now some very price-sensitive consumers will no longer use taxi and ride-hailing service services, or at least they would use them less. Use of one's own car is

Figure 14: Alternatives which would be used in response to a change in usage behaviour, weighted, N = 251

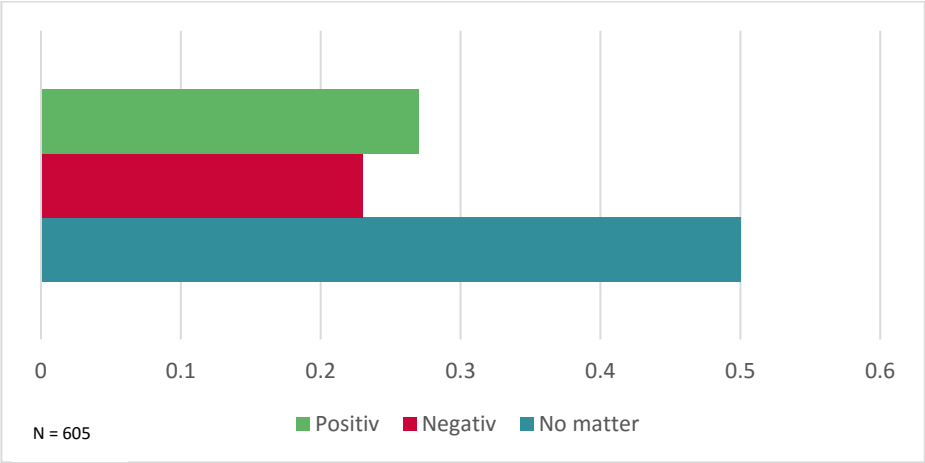


the second most important alternative. This is the one which will have the most adverse affect upon traffic and the environment. It is only then that the respondents mention traditional taxis which suggests

that the whole demand (arising from the new business model in the taxi and ride-hailing service market) could contract again. The bicycle represents the fourth most important alternative option. The least popular alternatives are car-sharing and renting a car.

Almost half of all respondents (43%) are negative towards the idea of a potential exit from the market of online intermediaries such as UBER or Bolt or consider this to be a worsening of the market options. 37% of the respondents stated that they would not be affected by this and 20% were even positive about this eventuality. Interesting conclusions can be drawn in this connection from looking at the sub-group of those persons who prefer to use traditional taxis, see Figure 15. While 50% of this group were completely neutral towards such an exit from the market, 27% were positive about the idea. 23% of those persons who prefer to use traditional taxi intermediaries are negative towards the idea of a potential exit from the market of online intermediaries or consider this to be a worsening of the market options. It can thus be deduced that a not insignificant proportion of about one quarter of people who prefer to use traditional taxis are also in favour of the competition with online intermediaries. It is conceivable that competition in this market is not manifested exclusively in terms of price (which is prescribed for traditional taxis), but also in other dimensions such as for example the various attributes described above relating to service quality.

Figure 15: An evaluation of a possible exit from the market by persons who prefer to use traditional taxis, weighted (proportion times 100 = %)



Imprint

Media owner, publisher and editor:
Bundeswettbewerbsbehörde (BWB), Radetzkystraße 2, 1030 Vienna
Printing: Bundesministerium für Digitalisierung und Wirtschaftsstandort (BMDW)
Vienna, September 2020