The Limit of Money in Daily Ridesharing: Evidence from a Field Experiment in Rural France

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Abstract

Ridesharing has been a growing sector in recent years under the trend of the sharing economy. It has the potential to solve environmental and societal challenges related to daily transportation. The difficulty in developing ridesharing practice is to motivate drivers and passengers to use. Understanding their motivations could help. We conduct a field experiment with a French ridesharing start-up to understand drivers' motivations. More specifically, we would like to measure whether a higher monetary incentive would have motivation crowding effects. We hire subjects to make ridesharing requests as passengers. Drivers see the requests on their road and decide in real-time whether or not to stop. Upon each request, we randomly show 3 euros or 7 euros to drivers. After the trip, drivers can decide whether or not to redeem the gain, and if they do, we invite them to split the gain between themselves and a charity. We collect 128 observations in summer 2017. The results show that drivers behave the same and have similar motivation profiles under 3-euro and 7-euro groups. Increasing monetary incentive level has neither a crowding-out nor a crowding-in effect. Our results offer policy insights to ridesharing practitioners. Instead of only focusing on monetary incentives, they could think of strategies that trigger intrinsic motivations to increase participation with equal or less budget.

Keywords: Ridesharing, Motivation crowding theory, Field experiment

1 Introduction

Recent years have witnessed the rise of the sharing economy (Botsman and Rogers, 2010). People share their idle goods or skills with strangers, giving the latter access to private assets while keeping ownership. The process is often mediated by online platforms. Ridesharing is an essential component of this phenomenon. The first organized ridesharing appeared in the US during the Second World War (Chan and Shaheen, 2012). Since then, ridesharing has experimented under different forms, mostly at local scales. It is until the 2010s has this practice become widespread.

The wide use of the Internet and mobile applications makes matching among strangers much easier and more efficient, boosting the enter of private companies in this market. At the same time, people are getting more aware of the negative externalities brought by too many cars on the road, such as pollution and congestion. There is an emerging need for alternative solutions. Until the 1980s, policies have been concentrated on improving infrastructure capacities, thus, building longer and wider roads. Since then, the principle of Travel Demand Management (TDM) starts to get tested empirically (Ferguson, 1990). With the help of digital technology, ridesharing is considered a prominent demand-side solution to modern traffic problems.

Rural areas have different transportation challenges than urban areas. In these areas, pollution and traffic jams are secondary concerns, but the lack of access to high-quality public transportation services is more problematic. Residents are obliged to be dependent on cars, which makes those who cannot drive or cannot afford a car more vulnerable. Reports show that difficulties in traveling would also impede accessing job opportunities (Auxilia, 2013). In recent years, several French companies have entered this market and propose ridesharing solutions to local governments as an alternative to public transportation as well as an improvement to solo-driving. Unless urban ridesharing players that use online platforms to match drivers and passengers, rural ridesharing companies converge to offer low-tech matching solutions based on physical meeting points. Passengers launch requests at those meeting points, drivers are informed instantaneously on the road and then decide to pick up the passenger or not. Drivers do not need to register beforehand to participate. the message is addressed to everyone.

The paper studies these physical matching facilities in rural areas in France. Since the success of matching depends on instant traffic flow, the informative message sent to drivers is crucial in drivers' decision-making process. Not only should it be clear and precise, but it should also be motivating. Understanding drivers' motivations for participation is the key to the success of these services. Comparing to pre-arranged ridesharing applications where users need to register and have more time to decide, instant messages have fewer leverages to manipulate. Monetary incentive is one obvious choice to test.

However, the current literature on ridesharing also points out other types of motivations, especially intrinsic ones such as helping others. Our previous paper on the same service also empirically proves the salience of solidarity, especially for very short distances such as 5km (Zhu, 2017). For daily trips of 20km, offering a higher monetary incentive could increase the willingness to redeem the monetary gain after trips. However, in this study, we did not show the monetary level before deciding whether or not to pick up the

passenger. In the literature, there are abundant debates and pieces of evidence on the potential crowding-out effects of monetary incentives on intrinsic motivations. In this paper, we explore further the results of the previous paper to study whether offering different monetary incentive levels would have motivation crowding effects on rural ridesharing service that intrinsic motivations have been proven existing.

We design a field experiment based on the protocol of Zhu (2017). We hire passengers to launch true ridesharing requests and rideshare with drivers. Upon each request, drivers will randomly see either 3 euros or 7 euros. We use waiting time and the number of cars passing by before the first driver who stops to measure driver participation enthusiasm. At the end of the trip, when drivers decide to redeem the gain, we make them play a dictator game with a charity as recipient. In this way, we measure the degree of monetary incentive among the drivers who have self-selected to participate. Our results show no difference in the driver profile of 3-euro and 7-euro groups. Neither crowding-out nor crowding-in effects are detected.

We imply that for rural ridesharing services, offering very high monetary incentives may not outperform a reasonable incentive level. Money has its limit. The result has interesting policy implications that will be discussed in the paper. However, we did not explore the role of intrinsic motivations in this paper. It would be interesting to further explore whether intrinsic incentives could help when money reaches its limit. Such research would also complement the first research of the series on the salience of intrinsic motivations in rural ridesharing.

The paper organizes as follows. The next section reviews the literature on ridesharing motivations and motivation crowding theory. Afterward, we introduce the field setting, the experiment design, and the possible scenarios according to the motivation crowding theory. We then present the results of the experiment. We dedicate the next part in discussing the limits of the paper and its policy implications before we conclude the paper.

2   Literature Review

Although it may lack a common definition in the literature, ridesharing is not an arbitrary concept in practice in France. The French transportation law requires that there should be at least one passenger other than the driver in the car, and that the driver should travel for her own purpose. Payment could exist, but should be based on cost-sharing, not profit-making.[1] It is a natural act to offer a ride to family members and friends. However, scaled-up ridesharing with people outside the small social circle appeared much later, during World War II in the US. citetchan2012ridesharing reviewed the history of ridesharing in the US. In Europe, ridesharing only began to develop in the 1990s, facilitated by increased information exchange and infrastructural access. In France, orga-

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[1]See article L. 3132-1 in the Transportation Law: *« L'utilisation en commun d'un véhicule terrestre à moteur par un conducteur et un ou plusieurs passagers, effectuée à titre non onéreux, excepté le partage des frais, dans le cadre d'un déplacement que le conducteur effectue pour son propre compte. »* Thus, we exclude ride-hailing platforms such as Uber in this definition, even though the matching technique is the same as some urban ridesharing services based on mobile applications.

nized, nationwide ridesharing started during the 1995 public transportation strike (Ballet and Clavel, 2007). At the beginning of the 2000s, amateur ridesharing websites became more widespread as the Internet became more and more accessible (see Ballet and Clavel (2007) for the example of France). Today, we see a variety of ridesharing business models in the French market. For inter-city and urban daily ridesharing, companies converge to pre-arranged matching using online platforms, while for daily ridesharing in rural areas, companies converge to propose physical meeting points for real-time matching.

Despite the boost in ridesharing companies and the support of the government, daily ridesharing remains a niche market. Understanding the motivations and barriers of users becomes vital for its development. Since scaled-up ridesharing only appears in recent years and that operational data is difficult to get, the existing literature on motivation often focuses on case studies or declarative evidence on a particular platform. For example, Shaheen et al. (2016) conducted 16 interviews with and collected 503 questionnaire responses of those who carpool on dedicated highways in the Bay Area, San Francisco. They highlighted that monetary and practical motivations come first than environmental and social ones. At about the same period, Shaheen et al. (2017) collaborated with the long-distance ridesharing platform BlaBlaCar and collected 618 survey responses. Monetary motivations are mentioned the most frequently by both passengers and drivers for all income levels, which is around 30% higher than the second-ranked motivation. Social and environmental motivations are ranked second and third, but their orders may differ among drivers with different revenue levels. Wilhelms et al. (2017) conducted in-depth interviews with peer-to-peer carsharing participants. They found that economic interest, quality of life, being able to help others, and sustainability are the four leading motivations. Zhu (2017) conducts a field experiment and empirically proves the salience of pro-social motivations among rural ridesharing drivers, especially for very short trips.

From the existing literature, we can see that various motivations coexist, and that the declarative importance of each motivation differs on different services. However, we know little about the salience of declared motivations in real settings, neither do we know how to benefit from those motivations to better engage users. There have been some studies that use empirical ridesharing data, but they do not focus on user motivations (Farajallah et al., 2019; Yeung and Zhu, 2020). The paper contributes to the empirical understanding of ridesharing by using first-hand data and by examining the effect of monetary incentives. For rural ridesharing services based on real-time matching, showing monetary incentive would be the easiest way to make drivers understand in a few seconds.

We are particularly interested in the motivation crowding effect of monetary incentives in this context, since monetary and prosocial (solidary, environmental, social) motivations coexist. Highlighting different motivations may have different impacts on the participation level and driver profile composition. Although it lacks empirical evidence in ridesharing, the motivation crowding theory has been widely documented theoretically and empirically.

The seminal paper of Ryan and Deci (2000) categorized human motivation on a spectrum from intrinsic to extrinsic. Intrinsic motivations are not dependent on external consequences but driven by genuine personal interest, while extrinsic motivations are dependent on external consequences such as gains or sanctions. The interactions of intrinsic and extrinsic motivations have been widely documented, leading to the theory of extrinsic incentives crowding out intrinsic motivations. Deci et al. (1999) and Frey and Jegen

(2001) surveyed both theoretical and empirical evidence in psychology and in economy, which brought the theory into economics. Since then, economists have come up with several theoretical explanations of the mechanism of crowding-out. For the specific case of intrinsic motivations crowded-out by money, the mechanisms could be a sense of loss of control, which is in line with the autonomy need in the self-determination theory (Deci and Ryan, 1985; Bowles, 2008). The reason could also be that money reduces the self-image and self-evaluation of being good, the so-called "warm glow" motivation (Andreoni, 1989; Benabou and Tirole, 2003). Another explanation is that monetary incentives change the frame and the norm of the act from a community setting to a market setting (Liberman et al., 2004; Mellström and Johannesson, 2008; Gneezy and Rustichini, 2000).

Theory and empirical evidence also point out the possibility of monetary incentives crowd-in participation. The first mechanism depends a lot on message framing. If the monetary incentive could be framed as a reward of positive self-image or social recognition, the warm-glow motivations may increase (Frey and Jegen, 2001). Even without targeting intrinsic motivations, monetary incentives could also attract new participants who are money-oriented and do not care about intrinsic motivations (Lazear, 2000).

Motivation crowding theory has been extensively studied in sectors that intrinsic motivations are important, for example, in ecological behavior (Rode et al., 2015), in donation campaigns (Chao, 2017), and in knowledge sharing (Zhao et al., 2016). Ridesharing as a leading sector in the sharing economy where intrinsic motivations are often cited in literature may also provide insightful evidence on motivation crowding.

To judge whether motivation crowding effects exist, we need to be able to measure the level of interest in money of individuals. The classic money-split experiments are helpful in this matter. Ultimatum and dictator games are often used as examples to prove that decision making is not always based on monetary payoff maximization.

In the classic ultimatum game, people are given unconditional money and are required to split the money between themselves and another person. The recipient could potentially refuse the offer and make both sides earn nothing. People tend to give around 40% to 50% of their endowment to recipients (Thaler, 1988). Recipients are also willing to severely punish givers if they think that the split is unfair, with the threshold being 20% of the endowment (Levitt and List, 2007). In the classic dictator game, which is similar to the ultimatum game except that there is no risk of retaliation of recipients, dictators still choose to share around 20% of the endowment with recipients (Forsythe et al., 1994; Kahneman et al., 1986).

However, the degree of non-monetary motivations may change as the setting of the game changes. As it is relevant to the design of the experiment in this paper, we briefly review the effect of the identity of the recipient and the stake. See Appendix D for the briefing document in French. We anonymized information about the addresses of the stops. Identified recipients in general trigger a higher willingness to share endowment than anonymous recipients. By merely introducing the last name or letting dictators see the face of the recipient significantly increases the amount given to the recipient compared to an anonymous recipient (Burnham, 2003; Charness and Gneezy, 2008). Charities are also seen as "more deserving" to receive a higher split compared to anonymous recipients (Eckel and Grossman, 1996). The effect of the stake is less clear. A meta-analysis on

dictator games shows that the willingness to give decreases as the stake increases (Engel, 2011). In this paper, we use a charity as the dictator game recipient to better trigger the money split behavior to help detect the difference between stakes.

3 Field Setting and Experiment Design

To empirically test whether or not money has crowding effects on the driver participation level and the motivation of drivers, we collaborated with a French start-up specialized in daily ridesharing in rural areas, Ecov. The field setting is interesting in two aspects. Firstly, it focuses on rural areas, where hitchhiking is often practiced among residents before the entrance of organized ridesharing. There exists a ridesharing culture that is related to helping others, which is also revealed in the previous paper on the same service (Zhu, 2017). Secondly, Ecov deploys physical meeting points to match passengers with real-time drivers, which allows us to measure the instinct effects of monetary incentives.

Ecov is created in 2014 to promote ridesharing practice in suburbs and rural areas. In these areas, the challenge is insufficient and inefficient public transportation system due to low population density. Residents are obliged to be dependent on vehicles, generating idle seats and making those who do not own vehicles or can not drive extremely vulnerable. [2] Ecov collaborates with local governments to build physical ridesharing stops in their villages. Each stop is composed of a ticket machine (see Appendix A), a pick-up point with parking slot close to the machine, and electronic information screens in front of the machine. By June 2020, Ecov has built similar stops in seven village groups in France.

Ridesharing stops are usually close to the residential areas or public transportation stations, to ensure a constant flow of vehicles and easy access for passengers. A passenger who wishes to rideshare goes to the stop and enters her destination on the ticket machine. The machine then prints a ticket with a unique 4-digit code and a compensation level (see Appendix B). Once the request is made, it will be shown on the information screens which are usually located several hundred meters in front of the stop.[3] For a demonstration of the message shown to drivers in this paper, see Appendix C.

All drivers who pass by will then see the request on the screen. If they happen to drive towards the same destination, they can stop and pick up the passenger. With almost no detour or pre-arrangement, the driver time cost is minimized in this setting. It works as an organized hitchhiking, except that the message is delivered before seeing the passenger, and that an official passenger identification and payment system is introduced via the ticket. At the end of the trip, the passenger is supposed to give the ticket to the driver. The driver can freely decide whether or not she wants to redeem the compensation indicated on the ticket. If she wants to, she needs to go to the service's website and enter the 4-digit code on the ticket. If she does not want to redeem, the money will not be given back to the passenger. [4] The passenger will not know the decision of the driver

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[2]In the region where the experiment takes place, 80.7% of families own cars, and 30.7% own more than one car (Source: *Équipement automobile des ménages en 2014 : comparaisons départementales*, INSEE.)

[3]Some stops have several screens if the stop is by the main road with several feeder roads before. Some stops have screens on both sides of the road.

[4]The company receives all the unredeemed compensations. In a normal setting, passengers pay their

since the money is spent anyway.

In the previous experiment on the service, we find that drivers of medium-distance daily trips (of around 20km) significantly increase the cash-out rate when the gain is tripled (Zhu, 2017). However, we only observe reactions to monetary incentives behavior after a ride has been made since the gain level is not shown on the screen. The different reactions to different levels of gains may due to different interpretations of the gain on their intrinsic motivations, but the reactions do not reveal the difference in the level of intrinsic motivation when drivers stopped. For example, two drivers can be both driven by intrinsic motivation to stop, but one decides to cash out at tripled gain because she takes it as a reward of the kindness, the other does not redeem at normal gain because it may ruin the warm-glow joy for a small amount. In this paper, we want to dig further and measure whether showing the monetary incentive before the decision to stop would have an impact on participation and driver profile.

We designed an experiment which is adapted from the previous one (Zhu, 2017). We choose two villages with ridesharing stops, village A and village B. The driving distance between A and B is about 25 kilometers. Upon each request, we will randomly let the screen show either 3 euro or 7 euro, see Appendix C for demonstration.[5] Since we want to control as many confounding factors as possible, we hire people as passengers and brief them to follow a standardized protocol. We are also there to answer questions and to deal with anomalies during the entire experiment period. The briefing document (in French) is available in Appendix D. In May 2017, we started hiring passengers among university-level students close to the villages. In June, we retained four candidates, two men and two women, all of which around 19 years old. From July to August 2017, we assign each passenger slots during the day to make ridesharing requests. [6] We cover both weekdays and weekends, peak and off-peak hours, and we try not to systematically assign the same slot to the same person in order to reduce the bias, although it is difficult to make all hired passengers on stand by and randomize passenger profile at each trip. For the ease of the organization, most of the trips are done from village A to village B since the stop at village A is more popular and the waiting time is shorter for this direction. Passengers could take buses from village B back to village A if needed. We discuss the potential bias in the data analysis section. Each request has only one passenger.

During the trip, the passenger needs to chat with the driver to gather extra information. At the end of the journey, the passenger should give the ticket to the driver. In case that the driver will not read the ticket, the passenger needs to orally inform the driver that she can choose either to cash out the 3 (or 7) euros or to donate it to a charity. The gain and the donation option are both printed on the ticket, see Appendix B. We add the donation option to measure the level of motivation of the driver. The driver is also informed that she could as well choose not to accept the payment at all, but even in this

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ride, but in the experiment, all tickets are paid by the experimenter.

[5]We choose these two compensation levels for a reason. Three euros is higher than the normal price level of the service, which is 2.3 euros. We choose 3 euros to make the incentive an integer and no lower than the initial one. 7 euros is close to the upper price limit for trips to be considered as ridesharing in France, above which the drivers need to pay tax for the amount earned. 7 euros may not seem like a high incentive, but it is in the ridesharing sector. On the inter-city ridesharing platform BlaBlaCar, 7 euros is often charged for 100 km trips.

[6]If a regular passenger wishes to use the service, the hired passengers should wait until that passenger finishes.

case, the money is not returned to the passenger. The passenger should always leave the ticket in the car, even if the driver refuses to get paid. After each trip, the passenger fills out a questionnaire with an observed driver profile and driver narrative. This information is precious for data analysis, especially if the driver never redeems the ticket afterward. We would not know their basic information such as gender and approximated age without the questionnaire. [7]

After each trip, the driver has 14 days before the ticket expires. If she decides to go to the website to redeem the ticket, she will face a dictator game to split the gain between her account and a charity. She can choose to split in any way, including donating nothing or everything, as long as the sum of the splits equals the gain. Her choice remains private to passengers, but visible to the experimenter. Since we are total strangers to the drivers, social pressure should not be an overwhelming concern. We demonstrate the web interface in Appendix E.[8]

We add a dictator game phase with the charity as a recipient for two reasons. Firstly, looking at the participation rate only cannot help us distinguish crowding-out and crowding-in effects. We will explain it more in detail in the next section. Secondly, we introduce the charity as a recipient to be ideologically neutral and to better signal the non-monetary motivations. As the literature shows, people tend to split a higher amount of their endowment to charity compared to an anonymous recipient, which would be the vague and unfamiliar ridesharing service provider in this case. Drivers may well have different opinions on whether or not the company should receive the money, which may disturb our identification of monetary and non-monetary motivations.

4 Possible Scenarios

We are not aimed at working out the mechanism of crowding-out or crowding-in, but whether or not motivation crowding exists. Due to the special field setting, we cannot trace the drivers who do not participate. However, we can use participation enthusiasm and money split behavior to measure the degree of monetary motivation among the drivers who self-select to participate. Table 1 presents four possible scenarios that we may find in results.

If, in general, we find that a higher monetary incentive crowds out drivers who are intrinsically motivated to stop, we would have a higher participation enthusiasm and a more intrinsically motivated driver group under 3 euros. The indicator of participation

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[7]See Appendix F for an English version of the questionnaire (the original version is in French). The passengers are not required to reply to all the questions, but the maximum possible. The questionnaire also offers declarative information such as trip purpose and driver motivations, based on the conversation during the trip.

[8]The charity we chose for the experiment is the same as in the previous paper, *Les Restos du Cœur*. This association aims to give free food to people in need. We choose it because it is of general interest, without particular political or religious preferences, well-known and well-respected in France. The charity preference bias could thus be minimized. The name of the charity does not appear on the ticket, but only appears on the money split web page. This design is also to minimize the preference bias before going to the website. Due to operational constraints, we cannot make a list of several charities and let drivers choose.

enthusiasm, the waiting time and the number of cars passing by before stop should be lower for the 3-euro group. The indicator of driver level of monetary motivation should be smaller for the 3-euro group, meaning that 3-euro drivers would donate more frequently, 7-euro drivers would cash out more frequently, and that the 7-euro drivers should keep more than 3 euros or keep a higher percentage of gain into their own accounts. [9] If a higher monetary incentive in general crowds in drivers who are motivated by money, we would have a higher participation enthusiasm and a more monetarily motivated group under 7 euros. The waiting time and number of cars passing by should be smaller for the 7-euro group. However, the money-split behavior would show the same sign as in the crowding-out case.

If the crowding-out and crowding-in effects both exist but cancel out, we may find equal participation enthusiasm of the two groups, but the 7-euro group has more money-motivated drivers. In this case, the waiting time and the number of cars passing by should not differ significantly, but the money split behavior would converge to the previous two scenarios. The last possibility is that neither crowding-out nor crowding-in effects exist. In this case, not only will participation enthusiasm be the same, the money split behavior should not differ either. As will be presented in more detail in the next section, the last scenario is what we have found.

Table 1: Possible Experiment Results

Scenario	Driver Profile	Participation Enthusiasm	Money Split Behavior
Crowding-out prevails	More non-money-oriented drivers under 3 €	Higher for 3 €	More frequent donation under 3 € More frequent cash-out under 7 € Higher percentage of gain cashed out under 7 € Higher than 3 €cashed out under 7 €
Crowding-in prevails	More money-oriented drivers under 7 €	Higher for 7 €	Same as above
Cancels out	More money-oriented drivers under 7 €	Similar enthusiasm	Same as above
No motivation crowding effect	Same driver profiles	Similar enthusiasm	Similar money split behavior

[9]Since the stake of the 7-euro group is higher, the same driver may let go under 3 euros but cash out under 7 euros, the higher cash-out rate under 7 euros could not be used as a sufficient criterion for a higher level of monetary motivation. However, if 7-euro drivers think that they deserve a higher percentage of the endowment, or a higher than 3-euro amount to their accounts, we may infer that they are more interested in money than another group.

5 Data Analysis and Results

In this section, we present the main results of the experiment and analyze which scenario among the four motivation crowding possibilities do our results lead.

5.1 Summary Statistics and Randomization Check

At the end of the experiment, we collected 128 effective observations, among which 57 are of 3 euros and 71 are of 7 euros. An effective observation is a complete rideshare where the hired passenger has correctly followed the protocol and has filled in the questionnaire. Note that whether or not the driver redeems the ticket after the trip is not a criterion of an effective observation. Since prices are randomly shown and that drivers are not pre-assigned to a price level, we need to make sure that the different price levels and participant profiles are balanced in the sample of effective observations. We use the binomial test to verify it. Table 2 reports the summary statistics of trip departure, driver profiles, passenger profiles, and the binomial test results.

Although the 7-euro group has more trips than the 3-euro group, the group attribution process can be seen as random (p=0.250). The majority of trips depart from village A. We hire two male and two female passengers of 19 years' old, but female passengers work longer hours than the males and contribute 74 trips. Even so, the gender distribution is balanced within the two groups (p=0.295). In terms of drivers, only 46 trips are made by female drivers, maybe because female drivers are fewer than male drivers, and/or that they are less likely to stop due to security concerns. Without knowing the overall driver gender distribution in the villages, we cannot conclude that male drivers are more motivated for ridesharing. A median-level driver is 30-45 years old. The hired passengers are between 18-19 years of age. Since not all drivers register to the website, if we only take the registered subsample, there are 49 drivers in total, with 19 in the 3-euro group and 30 in the 7-euro group. Driver gender is similarly distributed when we take the entire sample or when we take the subsample of registered drivers.

The only doubt of driver profile balance lies in the "new driver" subgroup. New drivers are those who participate in the experiment for the first time or the first participation of drivers who have participated several times during the experiment.[10] Since the design of the experiment does not exclude multiple participation of the same driver, it is an important variable to control in data analysis. We find that the 7-euro group attracts slightly more frequently new drivers ($p = 0.093$). We will discuss more about separating the new driver sub-sample in later analysis.

In terms of ticket disposition behavior, drivers redeemed 70 out of 128 tickets, among which 62 tickets are entirely cashed out, 4 tickets are entirely donated, and 4 tickets are split between drivers' own account and charity. That is to say, 66 tickets have been

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[10] We count the number of times of participation only based on observed data and the questionnaire, not on declarative data. If a driver cashes out or donates more than once using the same account, we can be sure that the driver has participated more than once. If a driver declares that she has participated during the experiment, but we have no direct proof, we will still treat the trip as carried out by a new driver. This method may lead to an underestimation of the number of repetitive drivers.

partially or entirely cashed out, and 8 tickets have been partially or entirely donated. The ticket disposition behavior is also similar between the two groups. In general, we could conclude that the experiment sample is well-balanced.

Table 2: Summary Statistics

	All trips	3-euro trips	7-euro trips	Binomial 2-sided test
Total trip number	128	57	71	0.250
Departing from village A	112	52	60	0.509
With female passengers	74	32	42	0.295
With female drivers	46	26	20	0.461
With new drivers	91	37	54	0.093*
Tickets cashed out (partially or entirely)	66	27	39	0.175
Tickets donated (partially or entirely)	8	3	5	0.727
Driver median age group	30-45	30-45	30-45	
Number of registrations during exp	49	19	30	0.152
Among whom are female	19	8	11	0.648

Notes: The binomial 2-sided test is for testing the randomness of variable distribution between the 3-euro and 7-euro subgroups. "New drivers" are drivers who only participate once in the experiment or the first participation of drivers who participate several times.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

5.2 Analysis

We now take a closer look at the participation enthusiasm and the ticket disposition behavior to distinguish which scenario of the motivation crowding theory corresponds to the results.

We first look at the participation enthusiasm. We use two measurements: the waiting time of each trip and the number of cars passing by before the first driver stops. Each measurement has its limit. The limit of waiting time is that it depends on the traffic flow. If the trip is done during peak hours, the passenger may spend less time waiting in general. Around 40% of the trips are conducted during peak hours, mostly evening peaks. Looking at the number of cars passing by before the first driver stops could compensate for the variation of traffic flow.[11] However, the number may be arbitrary. The passenger may happen to launch a request at the right moment when an enthusiastic driver passes by, while there will not be any other driver for a long time. When both are combined, they will give us a better idea of participation enthusiasm.

Table 3 presents the descriptive statistics on driver participation enthusiasm. We use the Kolmogorov-Smirnov test to check whether 3-euro and 7-euro groups have the same

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[11]Here, we only ask passengers to count the types of vehicle that are available for ridesharing, i.e. buses, trucks, professional cars, cars from driving schools, etc. are excluded from the counting.

distribution of waiting time since it is a continuous variable. To test the distribution similarity of the number of cars passing by, which is a discrete variable, we use the Wilcoxon rank-sum test. From the table, we can see that in the median, passengers wait 14-15 minutes before getting into a car. There are some outliers at each extreme, but 3-euro and 7-euro groups follow similar distributions. As for the number of cars passing by, in the median, passengers get picked up after 30-40 cars. Similar to the waiting time, there are also outliers at each extreme, but the distribution looks similar.

We further tested different subgroups to verify whether or not participation enthusiasm differs significantly. We check the departures from village A since most trips depart from this village, and that the two villages may have different configurations and driver profiles. We test the participation enthusiasm among drivers who have cashed out the gain, since they may be more motivated by money, thus behave differently under different monetary incentives. We test for trips done by male passengers, since drivers may discriminate not to take male passengers, but the effect may be mediated by monetary incentives. We also check the subgroup of female drivers, because female drivers may be more reluctant to participate in general, and may be more sensitive to monetary incentives. Our results show no difference in 3-euro and 7-euro groups among any of the subgroup trips.

Now that we infer that increasing the monetary incentive from 3 euros to 7 euros does not affect the participation enthusiasm, only two possibilities are left: either crowding-out and crowding-in effects both exist and cancel out each other, or neither does crowding-out nor crowding-in effect exists. We can compare the ticket disposition and money split behavior to check which scenario corresponds to the results.

Table 4 shows drivers' money split decisions. We can see that among all the effective observations, nearly half of the tickets have never been redeemed, both for the 3-euro group (27 out of 57) and the 7-euro group (31 out of 71). For the rest of the tickets that have been redeemed, the majority of drivers have cashed out the entire amount. Very few of them have decided to donate. For the 3-euro group, 27 out of 30 drivers who redeemed the ticket have cashed out the entire amount; for the 7-euro group, 34 out of the 40 drivers who redeemed the ticket have cashed out the entire amount. Furthermore, among the very few who have donated, 3-euro drivers all chose to donate the entire amount, while 7-euro drivers chose to split the money, but 4 out of 5 chose to cash out 3 euros or above, only one chose to donate the entire amount.

It seems that drivers of the two groups follow the same pattern when deciding whether or not to cash out and how to split the gain. However, donation does not seem to be very effective in triggering the prosocial drivers to self-signal. Drivers either choose to cash out or not to redeem the ticket at all, even though the incentive level is high. However, we cannot distinguish among the reasons of no redemption. Drivers may have forgotten to redeem the ticket. They may not want to leave their personal information online. They may be reluctant to redeem for prosocial reasons, even the fact of registering would ruin the warm-glow joy. They may also be indifferent between donating the gain and not redeeming the ticket. For them, if they do not cash out, the money would be donated to the development of service anyway. They do not need to donate the gain to another charity to signal their prosocial motivations. Even though the composition of drivers who never redeems the gain remains a black box for us, we can see that 3-euro and 7-euro groups have the same proportion of such mixed drivers.

Table 3: Driver Participation Measured by Waiting Time and Number of Passing Cars

	All trips	3-euro trips	7-euro trips	K-S test	Sample size
Waiting time (in minutes)				0.569	128
Mean	18.95	19.60	18.4277		
Std. err	(15.1192)	(14.9593)	(15.3325)		
Median	14.73	15.63	14.3		
Min	0.25	0.25	0.63		
Max	75.02	56.55	75.02		
Waiting time: depart from village A				0.739	112
Waiting time: for claimed tickets				0.269	70
Waiting time: for male passengers				0.856	54
Waiting time: for female drivers				0.952	46
				Wilcoxon rank-sum test	Sample size
Number of cars passing by beforehand				0.877	128
Mean	85.18	87.36	83.44		
Std. err	(112.0514)	(112.027)	(104.2558)		
Median	35	38.5	32		
Min	0	0	2		
Max	486	486	367		
Number of cars: depart from village A				0.5369	111
Number of cars: for claimed tickets				0.8220	70
Number of cars: for male passengers				0.5258	53
Number of cars: for female drivers				0.5872	45

Notes: The Kolmogorov-Smirnov test examines whether the 3-euro and 7-euro trips follow the same distribution of waiting time, a continuous variable. The Wilcoxon rank-sum test has the same purpose, but it tests for the number of cars passing by, a discrete variable.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

We then conduct a test to check whether or not drivers behave similarly in the ticket disposition phase. Since drivers can choose any amount, we treat the money split decision as continuous and use the Kolmogorov-Smirnov test. Figure 1 presents the results. Here, we only include the redeemed tickets. The red line represents 3-euro tickets and the blue line represents 7-euro tickets. The left graph shows the cumulative distribution function of the ticket cash-out amount, and the right graph shows the cumulative distribution function of the percentage of gain cashed out. We transform the absolute amount into percentage of gain to standardize the level of monetary motivation in the money-split phase. The K-S test on percentage cashed out distributions shows no significant difference for 3-euro and 7-euro tickets $[D = 0.075, p = 1.000]$.

The above test assumes that all the confounding factors are equally distributed between 3-euro and 7-euro groups. In the summary statistics part, we have shown that

Table 4: Ticket Redemption and Money Split Decisions

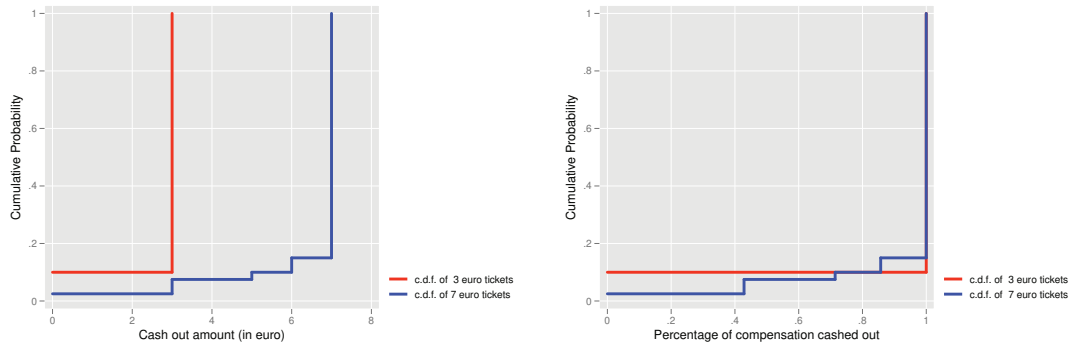|	3 euros	7 euros
Ticket not redeemed	27	31
Donate all	3	1
Cash out 1 euro	0	0
Cash out 2 euros	0	0
Cash out 3 euros	27	1
Cash out 4 euros		0
Cash out 5 euros		1
Cash out 6 euros		2
Cash out 7 euros		34
Total number of trips	57	71

Figure 1: CDF Plot of Cashed-out Amount (Left) and Percentage (Right), All Redeemed Tickets Included

some critical variables are balanced. However, the drivers' decision-making may also be influenced by other factors that are not included in the design or cannot be controlled by the experimenter. Thanks to the hired passengers and their questionnaire responses, we can collect extra information about drivers. We then run some regressions to see whether these variables would influence drivers' ticket disposition decision and whether the insignificance of the monetary incentive level still holds.

Due to the limited number of observations. We do not include all explanatory variables in the single regression, but split the variables into groups and run several regressions. Table 5 summarizes the included explanatory variables. Besides the basic information of drivers and passengers that have been presented before, we include here several variables that examine drivers' knowledge of the service, the declared motivations, as well as an external factors, weather.[12] Table 5 presents the regression results using whether or not the ticket has been cashed out as the dependent variable. Partial and total cash-outs

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[12]We also ask about the car brand in the questionnaire to serve as a proxy of drivers' wealth. However, too few passengers have replied to this question. We only collected 29 replies. We decide not to include this variable in the regression. We do not include temperature here since the temperature is in general very comfortable during the experiment period in early summer.

are both counted as 1. In the basic regression (column 1), we only include the weather, the gain level, and whether or not the trip is done as the first ridesharing experience of the driver during the experiment. Column 2 adds driver and passenger profiles to the basic regression. Column 3 adds the driver's knowledge of the service to the basic regression. Column 4 regresses on the declared motivations. Column 5 replaces the declared monetary motivation by the number of days waited before cash-out as a proxy of the monetary motivation. Table 6 follows the same structure as the previous table but uses whether or not the ticket has been donated partially or entirely as the dependent variable. Since there are very few tickets that have been donated, we use the Personalized Maximum Likelihood Estimation (PMLE) method (Firth, 1993) to correct for this rare event bias.

The regressions do not contradict our previous results. Different incentive levels do not have a significant impact on the decision to cash out or to donate. However, several variables show interesting patterns. Column 2 of Table 5 shows that experienced drivers usually cash out more easily compared to new drivers. We make the hypothesis that after participating several times, drivers may build a long-term vision of the service and that their expected total gain also increases. The monetary incentive is no longer the same as new drivers, which makes it logical to cash out more often. After controlling the driver experience, the monetary incentive level still has no impact on the the cash-out decision. Drivers who pick up male passengers are less likely to cash out. This is coherent with our intuition that male passengers usually have more difficulties to get a ride. Drivers who pick them up may be more motivated by solidarity thus less likely to cash out. In column 3, the more knowledge that the driver has to the service, the more likely that she cashes out, which is also intuitive. It is also interesting to notice that the declarative motivations do not have significant impacts on drivers' decision-making. As for donation decision, there are no variables that show significant impact, except in column 3, where the driver experience negatively impacts the possibility to donate.

6   Discussion

In the previous section, we present the results that show that the two incentive levels, 3 euros and 7 euros, have attracted the same driver profiles. Thus, in this experiment, increasing monetary incentives neither crowds out nor crowds in intrinsic motivations. The paper contributes to the literature in several ways. It provides evidence for a growing sector with strong environmental and societal potential. It enriches the empirical understanding of the motivation crowding theory on a sector that intrinsic motivations are often cited. The setting of the ridesharing service is not only innovative in the sector, but also of theoretical interest. Since drivers only have a few seconds to decide whether or not to stop after seeing the message, the setting offers an opportunity to test the real-time reaction of drivers in the field rather than in a controlled environment. We also offer drivers the liberty to decide whether or not to redeem the gain, as well as the option to split the gain, while remaining the decision private. Comparing to most of the literature where the incentive is given by default once the desired action is done, this setting allows us to obtain richer information in drivers' decisions towards money.

Table 5: Drivers' Cash-out Decision Analysis: Probit
(Dependent variable = 1 if the ticket has been partially or entirely cashed out)

	(1) Basic	(2) Profile	(3) Knowledge	(4) Motivation-1	(5) Motivation-2
Gain level	0.0509	0.0417	0.0722	0.0380	0.270
	(0.0585)	(0.0612)	(0.0629)	(0.0600)	(0.205)
Not a "new driver"	0.444	0.510*	-0.472	0.348	Omitted
	(0.272)	(0.285)	(0.401)	(0.285)	(.)
Male passenger		-0.538**			
		(0.243)			
Male driver		0.163			
		(0.249)			
Driver age group		-0.012			
		(0.132)			
Only heard of the service			1.007***		
			(0.329)		
Knows how it works			0.735*		
			(0.389)		
Declared monetary motivation				0.387	
				(0.288)	
Declared social motivation				-0.178	-0.852
				(0.260)	(0.807)
Declared solidary motivation				-0.394	0.480
				(0.242)	(0.782)
Days waited until cash-out					0.426
					(0.425)
Weather	0.167	0.0865	0.0901	0.221	Omitted
	(0.180)	(0.185)	(0.195)	(0.185)	(.)
Constant	-0.368	-0.137	-1.253***	-0.137	-0.461
	(0.354)	(0.453)	(0.440)	(0.392)	(0.952)
Observations	121	121	121	121	26
Pseudo R^2	0.026	0.058	0.158	0.061	0.282

Notes: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Explanation of some dependent variables: "Driver age group" is a categorical variable with four categories: 18-30, 30-45, 45-60, 60+. "Only heard of the service" equals one if the driver has only heard of the name of the service but does not know how it works. "Knows how it works" equals one if the driver knows how it works. "Declared monetary motivation" equals one if the driver has mentioned monetary incentives during the conversation with the passenger when the latter asks about what motivates the driver to stop. The same logic applies to "Declared social motivation" and "Declared solidary motivation". "Days waited until cash-out" is a numerical variable that tells how many days have the driver waited after the end of the trip before she decides to cash out. We use this as a proxy of the monetary incentive. "Weather" is a categorical variable with three categories: Sunny, cloudy, and rainy. Since the experiment is during summer, 92% of the trips are done under nice weather.

Table 6: Drivers' Donation Decision Analysis: PMLE Rare Event Correction

(Dependent variable = 1 if the ticket has been partially or entirely donated)

	(1) Basic	(2) Profile	(3) Knowledge	(4) Motivation-1	(5) Motivation-2
Gain level	0.0221	-0.0263	0.0487	0.0344	0.0380
	(0.179)	(0.180)	(0.181)	(0.178)	(0.185)
Not a "new driver"	-1.759	-1.894	-2.672*	-1.726	-2.113
	(1.468)	(1.463)	(1.514)	(1.470)	(1.485)
Male passenger		-0.217			
		(0.773)			
Male driver		1.266			
		(0.917)			
Driver age group		0.165			
		(0.396)			
Only heard of the service			0.00905		
			(0.939)		
Knows how it works			1.231		
			(0.843)		
Declared monetary motivation				-0.446	
				(0.961)	
Declared social motivation				0.0816	-0.292
				(0.774)	(0.807)
Declared solidary motivation				-0.316	0.259
				(0.707)	(0.738)
Days waited until donation					-0.0483
					(0.0997)
Weather	-0.225	-0.369	-0.216	-0.285	-0.460
	(0.609)	(0.674)	(0.603)	(0.617)	(0.614)
Constant	-2.209**	-2.923*	-2.683**	-1.904*	-1.305
	(1.045)	(1.505)	(1.192)	(1.092)	(1.104)
Observations	121	121	121	121	69

Notes: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Of course, we are aware of the multiple limits of the experiment. Our biggest constraint is the sample size. Since we collaborate with a start-up which focuses on rural areas, and that our experiment design requires to hire human subject for each ride, we do not have the luxury to obtain a huge enough budget to conduct a large-scale experiment. Besides the budget constraint, we are also constraint by the potential ridesharing capacity, since we focus on rural areas. If the experiment lasts too long, we may end up encountering the same drivers or altering the normal atmosphere of the neighborhood. In either case, our results will be biased even more.

Facing the limit of the experiment scale, we adopt a simple design which only compares two monetary incentive levels. We recognize that the design is not perfect and that it would be better to have a zero-incentive group and another group with even higher incentives. However, as mentioned in the paper, we are constrained by the legal price cap, and that randomizing zero-incentive and non-zero incentive messages would cause a major effort in redesigning the structure of messages. Unfortunately, we are not able to negotiate these constraints for the experiment. Nevertheless, the limits of the current experiment open opportunities for future research plans on quantifying the sensitivity of money at a more refined level and on different field settings.

However, we have provided much effort to minimize the potential biases in the design, and have carefully analyzed data to deliver viable results. Hiring subjects as passengers help us to standardize the ridesharing experience, to harmonize the information that drivers receive at the end of each ride, and to collect complementary information for data analysis. Adding a dictator game with a charity as the recipient during the money split stage not only makes the expression of intrinsic motivations more salient but also helps to compare the levels of monetary motivation of the two groups. We are careful in the interpretation of the result. We are not trying to distinguish the intrinsic motivation types but to demonstrate that increasing monetary incentives from 3 euros to 7 euros does not have significant effects. Although the insignificance may due to the relatively small sample, we argue that since each group has around 60 observations, and that the driver behaviors of the two groups are quite homogeneous, our results are still credible.

7 Conclusion

We conduct a field experiment with a ridesharing service based on physical meeting points in the suburbs of Paris. We hire subjects to be passengers and to make ridesharing requests. Drivers see the requests in real-time and decide whether or not to pick up the passengers. We test the motivation crowding effect of two monetary incentive levels: 3 euros and 7 euros, on a 25 km trip. We collect 128 effective trips in July and August 2017. We find that drivers of the 3-euro and 7-euro groups behave similarly. In terms of participation enthusiasm, waiting time and the number of cars passing by show no significant difference between the two groups. In terms of money split behavior, half of the drivers never redeem the ticket. Among the rest half, very few choose to donate. The percentage of donation comparison shows no significant difference between the groups either. Based on the analysis of the two decision stages, we conclude that drivers of the two groups have similar profiles. Increasing monetary incentives from 3 euros to 7 euros

has neither crowding-out nor crowding-in effects. We then discuss the contributions and limits of the design.

Our results also have multiple policy implications. Both policymakers and practitioners need to better understand the ridesharing sector. Our results offer precious first-hand empirical evidence on an innovative service focusing on rural areas. The biggest challenge of ridesharing today is not the policy support or entrepreneurial enthusiasm, but the key to motivating people to participate. In practice, monetary incentives are often used, but their effectiveness lacks rigorous evaluation. Our paper evaluates the effect of monetary incentives in the field and invites practitioners to pay attention to the intrinsic motivations other than the monetary motivations. Ridesharing practitioners could think more on how to trigger the intrinsic motivations of users to obtain a higher participation level with equal or less spending. The potential limits and backfire of monetary incentives are heavily documented in the literature but rarely heard in empirical practice, even less for the ridesharing sector. We hope that our paper could help to bridge the gap of awareness between the academia and the industry.

References

Andreoni, J. (1989). Giving with impure altruism: Applications to charity and ricardian equivalence. *Journal of Political Economy*, 97:1447–1458.

Auxilia (2013). Mobilité, insertion et accès à l'emploi – Constats et perspectives. Technical report, Voiture & co and Total, France.

Ballet, J.-C. and Clavel, R. (2007). Le covoiturage en France et en Europe : État des lieux et perspectives. Technical report, Certu, France.

Benabou, R. and Tirole, J. (2003). Intrinsic and extrinsic motivation. *The Review of Economic Studies*, 70:489–520.

Botsman, R. and Rogers, R. (2010). *What's Mine Is Yours: The Rise of Collaborative Consumption*. Harper Collins.

Bowles, S. (2008). Policies designed for self-interested citizens may undermine "the moral sentiments": Evidence from economic experiments. *Science*, 320(5883):1605–1609.

Burnham, T. C. (2003). Engineering altruism: A theoretical and experimental investigation of anonymity and gift giving. *Journal of Economic Behavior & Organization*, 50:133–144.

Chan, N. D. and Shaheen, S. A. (2012). Ridesharing in North America: Past, present, and future. *Transport Reviews*, 32:93–112.

Chao, M. (2017). Demotivating incentives and motivation crowding out in charitable giving. *Proceedings of the National Academy of Sciences*, 114(28):7301–7306.

Charness, G. and Gneezy, U. (2008). What's in a name? Anonymity and social distance in dictator and ultimatum games. *Journal of Economic Behavior & Organization*, 68:29–35.

Deci, E. L., Koestner, R., and Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125:627.

Deci, E. L. and Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19:109–134.

Eckel, C. C. and Grossman, P. J. (1996). Altruism in anonymous dictator games. *Games and Economic Behavior*, 16:181–191.

Engel, C. (2011). Dictator games: A meta study. *Experimental Economics*, 14:583–610.

Farajallah, M., Hammond, R. G., and Pénard, T. (2019). What drives pricing behavior in peer-to-peer markets? Evidence from the carsharing platform BlaBlaCar. *Information Economics and Policy*, 48:15–31.

Ferguson, E. (1990). Transportation demand management planning, development, and implementation. *Journal of the American Planning Association*, 56:442–456.

Firth, D. (1993). Bias reduction of maximum likelihood estimates. *Biometrika*, 80:27–38.

Forsythe, R., Horowitz, J. L., Savin, N. E., and Sefton, M. (1994). Fairness in simple bargaining experiments. *Games and Economic Behavior*, 6:347–369.

Frey, B. S. and Jegen, R. (2001). Motivation crowding theory. *Journal of Economic Surveys*, 15:589–611.

Gneezy, U. and Rustichini, A. (2000). A fine is a price. *The Journal of Legal Studies*, 29:1–17.

Kahneman, D., Knetsch, J. L., and Thaler, R. H. (1986). Fairness and the assumptions of economics. *Journal of Business*, 59:S285–S300.

Lazear, E. P. (2000). Performance pay and productivity. *American Economic Review*, 90(5):1346–1361.

Levitt, S. D. and List, J. A. (2007). What do laboratory experiments measuring social preferences reveal about the real world? *Journal of Economic Perspectives*, 21:153–174.

Liberman, V., Samuels, S. M., and Ross, L. (2004). The name of the game: Predictive power of reputations versus situational labels in determining prisoner's dilemma game moves. *Personality and social psychology bulletin*, 30(9):1175–1185.

Mellström, C. and Johannesson, M. (2008). Crowding out in blood donation: Was Titmuss right? *Journal of the European Economic Association*, 6:845–863.

Rode, J., Gómez-Baggethun, E., and Krause, T. (2015). Motivation crowding by economic incentives in conservation policy: A review of the empirical evidence. *Ecological Economics*, 117:270–282.

Ryan, R. M. and Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25:54–67.

Shaheen, S. A., Chan, N. D., and Gaynor, T. (2016). Casual carpooling in the San Francisco Bay Area: Understanding user characteristics, behaviors, and motivations. *Transport Policy*, 51:165–173.

Shaheen, S. A., Stocker, A., and Mundler, M. (2017). Online and app-based carpooling in France: Analyzing users and practices — A study of BlaBlaCar. In *Disrupting Mobility*, pages 181–196. Springer.

Thaler, R. H. (1988). Anomalies: The ultimatum game. *Journal of Economic Perspectives*, 2:195–206.

Wilhelms, M.-P., Henkel, S., and Falk, T. (2017). To earn is not enough: A means-end analysis to uncover peer-providers' participation motives in peer-to-peer carsharing. *Technological Forecasting and Social Change*, 125:38–47.

Yeung, T. Y.-C. and Zhu, D. (2020). The impact of SNCF strike on ridesharing: A novel approach of consumer surplus estimation using BlaBlaCar. com data. *Available at SSRN 3578412*.

Zhao, L., Detlor, B., and Connelly, C. E. (2016). Sharing knowledge in social q&a sites: The unintended consequences of extrinsic motivation. *Journal of Management Information Systems*, 33(1):70–100.

Zhu, D. (2017). More generous for small favour? Exploring the role of monetary and pro-social incentives of daily ride sharing using a field experiment in rural Île-de-France. *DigiWorld Economic Journal*, 108.

A   Illustration of A Ridesharing Stop

Figure 2: Illustration of a ridesharing stop in the experiment. A typical stop is composed of a ticket machine in green and yellow, a small solar-powered information screen right above which can also show a short version of the request, a dedicated parking space, and some auxiliary decorations.
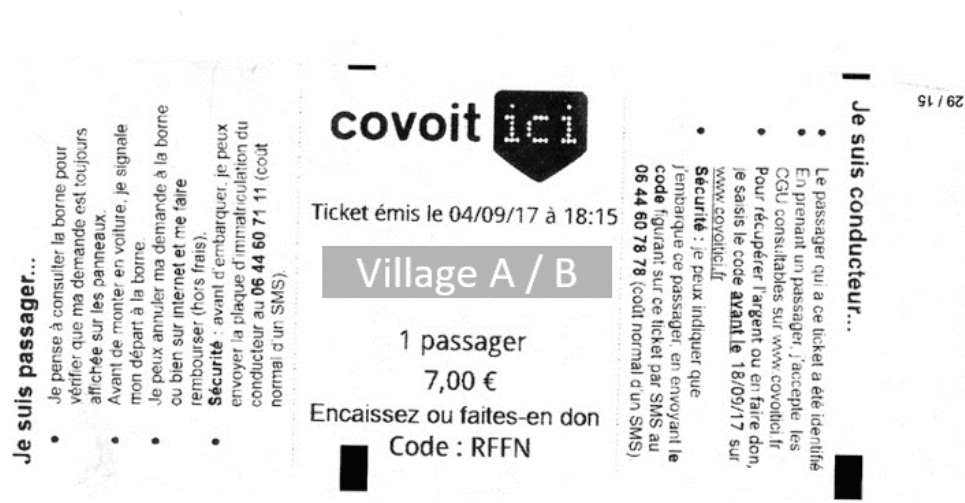
B Illustration of A Ticket

Figure 3: Illustration of a ticket that drivers would see during the experiment. The essential information of the trip is in the center of the ticket: the date, the destination (anonymized here as villages A or B), the code (needed for cashing out or donating), the incentive level, and the possibility to donate (*"Encaissez ou faites-en don"*). The sides of the ticket show practical information for passengers (on the left) and drivers (on the right).

C   Illustration of A Request Shown on the Screen

Figure 4: Illustration of an ongoing ridesharing request shown on the information screen. The name of the village is anonymized. *EMMENEZ 1 PASSAGER A [village A/B], GAGNEZ 7 €* in French means "Take a passenger to village A (or B) and gain 7 euros".

D   Briefing Document for Hired Passengers (in French)

Guide de participation du programme d'amélioration

Ce guide vise à vous rappeler les points essentiels de votre participation et clarifier le comportement à adopter. Les consignes fournies ici sont absolument essentielles pour que les données des trajets soient valables et que vous puissiez être indemnisé en conséquence.

Quelques rappels sur le programme

Vous devez réaliser les trajets de covoiturage en tant que **passager(ère)** dans les lieux et les horaires définis dans le contrat de travail temporaire.

Ce programme d'amélioration se concentre sur le Val d'Oise, en particulier les allers-retours entre la station de covoiturage de **A et de B.**

Les trajets en covoiturage sont gratuits pour vous, pris en charge par le service. Pour les heures de travail en respectant le fonctionnement normal et pour lequel le questionnaire a bien été rempli, vous serez indemnisé(e) selon le contrat.

Déroulement d'un trajet type (nous vous montrerons sur place avant votre premier trajet)

1. Rendez-vous à la station COVOIT'ICI, identifiez-vous et faites votre demande de covoiturage à la borne en choisissant la destination **"A" depuis B ou "B" depuis A.** La destination sera ensuite affichée sur les panneaux lumineux en amont de la station pour que les conducteurs puissent la voir. Un ticket va sortir avec un code. Prenez-le.

2. Restez près de la borne de covoiturage de manière visible.

3. **Comptez le nombre de voitures disponibles** (sauf les taxis, les auto-écoles, les voitures utilitaires, les camions) passées avant qu'un conducteur s'arrête avec un compteur qui vous sera donné.

4. Tant qu'aucun conducteur ne s'arrête, renouvelez l'affichage de votre demande sur la borne toutes les 10 minutes. Sinon, la demande ne va plus s'afficher sur les panneaux.

5. Ne quittez pas la station avec une demande en cours. Si vous devez vous absenter, annulez votre demande et informez-nous.

6. Lorsque qu'un conducteur s'arrête, validez le trajet à la borne avant de monter. En cas d'oubli, merci de remplir sur le questionnaire l'heure exacte de montée.

7. Comportez-vous naturellement lors du trajet, comme n'importe quel passager. **Ne mentionnez pas que vous faites un test et ne divulguez pas d'information sur le programme d'amélioration.** Pour que nous puissions utiliser les données de vos trajets, ceci est absolument indispensable. Pour plus d'info sur l'étude à réaliser dans la voiture, voir la partie suivante.

8. Avant l'arrivée, **transmettez le ticket au conducteur**. Indiquez qu'ils peuvent se rendre sur covoitici.fr pour encaisser l'argent ou le donner à une association (c'est marqué sur le ticket). Assurez-vous que le conducteur comprenne le message.

9. Si le conducteur pense que le passager récupère la somme payée en cas de non encaissement, expliquez que cela n'est pas le cas et est même impossible : vous avez déjà payé et ne pouvez pas être remboursé(e).

10. Si le conducteur refuse le ticket tout d'abord, **déposez-le simplement sur le siège** en leur rappelant que c'est à eux de faire le choix de ce qu'ils font du ticket. **Dans tous les cas, le ticket devrait être donné au conducteur. C'est essentiel pour le test.**

11. Les informations sur l'encaissement et la donation devront être transmises de manière neutre -- vous ne devrez pas influencer le choix des conducteurs. (Exemple : Vous ne pouvez pas utiliser les phrases comme "c'est mieux de faire un don que de l'encaisser" "j'encaisserais si j'étais vous". Les phrases neutres sont privilégiées, comme "J'ai payé pour mon trajet et je suis censé(e) vous donner le ticket, vous voyez la somme indiquée ? Vous pouvez soit encaisser la somme, soit la donner à une association sur leur site...")

12. Une fois débarqué par votre conducteur, vous **remplissez le questionnaire** en ligne sur https://ecov.typeform.com/to/gSvWw0. Merci de le lire attentivement avant d'effectuer le premier trajet. **Merci d'amener un smartphone** avec suffisamment de batterie pour pouvoir remplir les questionnaires après chaque trajet.

Quelques précisions sur le comportement à bord du véhicule

1. Lors de ces trajets, vous êtes déterminant dans l'expérience que le conducteur aura du service. **Merci donc de vous comporter avec courtoisie.**

2. Du fait que vous ne pouvez pas divulguer l'information que vous faîtes un test, vous allez faire des études de manière maline en intégrant les questions qui nous intéressent naturellement dans votre conversation avec le conducteur. Ne vous inquiétez pas, ces questions sont souvent posées même si vous ne faites pas un test. Le défi pour vous c'est de retenir le maximum d'info de la conversation et répondre au questionnaire immédiatement après chaque trajet, sans prendre des notes dans la voiture.

3. Vous devrez parfois justifier le trajet que vous allez faire et la raison pour laquelle vous utilisez le service si jamais le sujet s'évoque pendant votre conversation avec le conducteur. C'est à dire que **vous devrez "créer une identité"**. Exemples du motif de trajet : visite d'amis, de la famille, RDV médical, course, loisir, etc. Exemples de la connaissance du service : a vu la borne en attendant le bus, voulais essayer ; a vu des flyers/ des affiches; a vu des articles de presse; bouche à oreille; intéressé par le principe de covoiturage, etc.

4. Pendant le trajet, vous êtes libre d'échanger avec le conducteur, mais vous devrez au moins collecter les informations suivantes, que vous trouverez dans le questionnaire. L'objectif est de répondre au maximum de ces questions. Ne vous inquiétez pas si jamais vous ne connaissez pas toutes les réponses.

- Les informations basiques sur le profil du conducteur et sa voiture, par observation et estimation

- Si le conducteur a bien vu les panneaux lumineux, et ce qu'ils ont compris

- Si le conducteur connaît le service (en a entendu parlé, connaît le fonctionnement etc.), et comment il l'a connu

- Si le conducteur a déjà pris un passager avant. Si oui, si c'est pendant la période de test

- De manière générale, ce que le conducteur pense du principe de covoiturage

- De manière générale, quels sont les facteurs qui motivent le conducteur à s'arrêter

- Comment réagit-il sur l'idée d'encaisser la somme, comment réagit-il sur la donation

- Comment le conducteur se déplace quotidiennement (moins prioritaire)

Quelques exemples des conversations réelles et comment retirer de l'information

Exemple 1 :

P : Merci de vous arrêter ! Vous avez vu le panneau lumineux ?

C : Oui, j'ai vu "Emmenez 1 passager à A", et je peux gagner 3 euros, mais je ne sais pas comment ça marche, il faut s'inscrire ou pas ?

P : Non, non, pas besoins de vous inscrire, tout le monde peut participer ! Vous allez bien à A ?

C : Oui, montez. …. Comment je fais pour récupérer les 3 euros ?

Information utile : Le conducteur a bien vu et a bien compris le message sur le panneau. Il est plutôt intéressé par l'incitation financière (mais cela n'empêche pas qu'il veut vous aider). Il a peut-être entendu parler du nom de COVOIT'ICI (à vérifier), mais ne sait pas comment ça fonctionne (parce qu'il croyait qu'il fallait s'inscrire)

Exemple 2 :

Pour demander l'objectif du trajet, au lieu de le demander directement, vous pouvez d'abord lui préciser où voulez-vous aller.

P : Je veux aller à l'endroit X à ville Y, ça ne vous fera pas de détour j'espère !

C : Non, non, j'habite à Y. J'ai fini mes courses et je rentre chez moi. C'est sur ma route.

C-bis : Oui, un petit peu, mais ce n'est pas grave, je ne voudrais pas que vous attendiez trop longtemps

P : Merci ! Vous êtes très gentil. Vous faites ce trajet souvent ?

C : Oui, je travaille à Z et je prends le même chemin tous les jours et je roule toujours seul. C'est bien le principe de covoiturage, ça me fait de la compagnie….

Information utile : Depuis cette conversation, nous connaissons le trajet quotidien du conducteur et l'objectif du trajet (domicile-travail au quotidien, course cette fois-ci). Nous pouvons déduire qu'il est une personne sympa qui fait du covoiturage pour parler avec les autres (mais cela n'empêche pas qu'il est aussi intéressé par l'argent, même si ce n'est pas évoqué dans cette conversation).

Exemple 3 :

Avant de descendre de la voiture, vous devrez donner le ticket au conducteur et noter leurs réactions. A chaque fois que vous faites une demande, un prix sera imprimé aléatoirement sur le ticket, soit 3 euros, soit 7 euros. C'est à dire que vous n'aurez pas le même prix pour un même trajet à chaque demande. Le prix pourrait être assez élevé en vue des conducteurs.

P : (avec le ticket sous la main) Je suis censé(e) vous donner ce ticket. En fait, j'ai payé mon trajet et vous pouvez récupérer la somme indiquée sur le ticket. Si vous ne voulez pas encaisser, vous pouvez aussi donner cette somme à une association. C'est un principe de partage de frais.

C : Ah, je ne savais pas du tout que c'était payant ! Je vous rends service. Je n'ai pas besoin d'être payé.

P : Merci, vous êtes très gentil, mais si vous ne voulez pas être payé, vous pouvez aussi donner la somme à une association.

C : Mais si je n'encaisse pas, vous récupérerez votre monnaie non ?

P : Non, j'ai déjà payé, et même si vous ne traitez pas le ticket, je ne récupérerai pas mon argent.

C : D'accord. C'est vrai que l'idée de faire un don est intéressante. Je vais garder le ticket. Comment je fais pour faire un don ?

P : Vous allez sur le site de COVOIT'ICI et tapez le code. C'est expliqué sur le ticket.

C : Super ! (Jette un coup d'œil au ticket) ... 7 euros ?! Vous avez payé tant que ça ?!

*P : Euh… non, non, **normalement je suis censé(e) payer, mais les deux premiers mois sont gratuits pour moi, donc j'ai encore des trajets gratuits. Mais je ne pense pas que ce***

soit si cher. J'ai cherché sur le site, ce n'est pas si cher que ça d'habitude. Peut-être que le service a augmenté le prix pour attirer davantage de conducteurs ?

Information utile : Le conducteur ne connaît pas parfaitement comment fonctionne le service, et n'a peut-être pas vu le panneau, où le prix est affiché. Il est intéressé par la donation plutôt que l'encaissement. Il trouve le prix élevé pour les passagers (dans ce cas-là, lui rappeler que ce n'est pas la vraie somme que le passager a payé. Si le conducteur ne commente pas sur le prix, vous pouvez ne rien mentionner).

Information pratique

La station de A : [L'adresse anonymisée]

La station de B : [L'adresse anonymisée]

Pour demander un trajet pour B, plusieurs destinations possibles selon votre « identité » : [L'information anonymisée]

Pour demander un trajet depuis A, la station est juste à côté du [L'information anonymisée], et pas très loin du centre-ville.

Pendant les heures de pointes, vous aurez plus de chance d'être pris(e). Vous pouvez aussi travailler en demies journées sous condition de couvrir les heures de pointes du matin ou du soir.

Lien du questionnaire : https://ecov.typeform.com/to/gSvWw0

Lien du service : www.covoitici.fr

Le mot de la fin

À tout moment, avant, pendant ou après votre covoiturage vous pouvez contacter le service COVOIT'ICI au 01 79 73 89 73.

En cas de difficulté avec le questionnaire en ligne ou avec ce guide, contactez directement Diane au 06 61 31 15 52.

Ce guide contient beaucoup d'information mais après une première fois, vous verrez que ce n'est pas compliqué et que l'ensemble se déroule naturellement. Nous allons vous montrer comment marche la borne et les panneaux quand vous passerez pour signer le contrat. N'hésitez pas à nous contacter pour que nous vous accompagnons lors de votre premier trajet.

E Dictator Game Webpage

Figure 5: Screenshot of the ticket cash-out and donation page. This page will appear once the driver enters the code of the ticket. The upper part of the web page shows the basic information about the trip (departure, destination, date, passenger number, gain level). The lower part of the web tells the driver that she can split her gain between her account and a charity *Les Restos du cœur*. The amounts need to add up to the exact amount in the ticket for the choice to be validated.

F   Questionnaire for Hired Passengers (Translated into English)

1 Your name : *

2 4-digit code printed on your ticket: *

3 Number of cars passing by towards the right direction before someone picked you up: *

4 Brand of the driver's car (leave it blank if you are not sure):

5 Approximate age of the driver: *

- ○ 18-30
- ○ 30-45
- ○ 45-60
- ○ 60+

6 Gender of the driver (if several people were in a car, please reply with the gender of the person who was driving): *

- ○ Female
- ○ Male

7 How many available seats were there in the car before you got on (excluding baby seats)? *

8 Number of children in the car:

9 Did the driver see the screen and the compensation level? *

- ○ Yes, he/she saw both
- ○ He/she saw the screen but did not pay attention to the compensation level
- ○ No, he/she did not see the screen

10 Did the driver know the service (Covoit'ici) before picking you up? *

- ○ Yes, has heard about it
- ○ Yes, knew how it works
- ○ Yes, has registered on the website
- ○ No, didn't know

11 Has the driver picked passengers up before using the product? *

- ○ Yes
- ○ No
- ○ I don't know

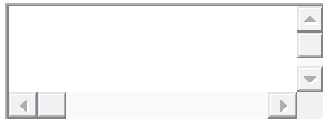**12** If yes, was it during the experiment period (June and July 2017)?

- ○ Yes
- ○ No
- ○ I don't know

13 It's a... *

- ○ Regular trip (several times a week)
- ○ Irregular/occasional trip

14 Please note down regular trips of the driver (if mentioned):

Example: Each week day at 8 a.m. from village A to village B

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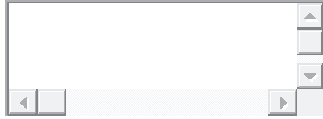**15** What's the driver's general impression of ridesharing? *

- ○ Positive
- ○ Neutral
- ○ Negative
- ○ Not clear/with doubts
- ○ Didn't talk about it

16 What are the motivating factors mentioned by the driver for picking up passengers? *

Multiple choices possible

- ☐ To gain money, to reimburse fuel costs, etc.
- ☐ To socialize with people
- ☐ It's convenient to stop/It's on the way
- ☐ To help people out and to show support
- ☐ To protect the environment
- ☐ Other (please specify)
- ☐ We didn't talk about it

17 Could you note down some of the driver's narration to support your choice on motivations?

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└─┴────────────────────┴──┴─┘
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18 How did the driver react when he/she leant that it was possible to cash out partial or entire amount of the compensation printed on the ticket? *

Multiple choices possible

- ☐ Rather negative/Didn't want to get paid
- ☐ More or less neutral/Didn't react
- ☐ Rather positive
- ☐ He/she thought that the compensation level was high
- ☐ He/she thought that the compensation level was OK/Didn't react to compensation level
- ☐ He/she thought that the compensation level was low
- ☐ Other (please specify)

19
How did your driver react when he/she leant that it was possible to donate partial or entire amount of the compensation to charity?
*

- ☐ He/she was enthusiast
- ☐ He/she was so enthusiast that he/she even planned to donate
- ☐ He/she was neutral/didn't react specifically
- ☐ Other (please specify)

20 Weather during the waiting periode : *

- ○ Nice weather
- ○ Cloudy
- ○ Rainy/greasy

21 Other comments:

Send response