DRIVING, RESISTING, AND REGULATING DIGITAL PLATFORMS: RIDE HAILING AND URBAN EXCLUSION IN MEXICO CITY

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Driving, resisting, and regulating digital platforms: Ride Hailing and Urban Exclusion in Mexico City

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Abstract

The research discusses the relation of ride hailing platforms and urban exclusion in Mexico City. Social exclusion is a complex phenomenon with economic, political, and cultural expressions. It is identified by the lack of access to opportunities, services, social circles or spaces for the excluded. Private digital platforms have become key providers of services in many countries around the world, succeeding specially in places where public services are weak or deficient, like the Latin American cities. This study uses the case of ride hailing platforms in Mexico City to understand through qualitative research the presence of exclusion expressions. A major component together with the labor relations of drivers is the effect that platforms have had on public services in the city. To deepen in the situation, the research includes discussions about the role of the local government as a regulatory body and its real capacities to safeguard public wellbeing. The thesis concludes that no clear expressions of economic exclusion are recognizable in the drivers, but the precarity and uncertainty of the job represent a potential for it. Regarding the impact on public services, the study finds that the local government is not fit to regulate the platforms effectively due to outdated legal frameworks and systemic factors. Further research is recommended to understand the real effect on the shrinking taxi industry.

Questa ricerca analizza la relazione tra le piattaforme di ride hailing e l'esclusione urbana a Città del Messico. L'esclusione sociale è un fenomeno complesso con espressioni economiche, politiche e culturali. Si identifica con la mancanza di accesso alle opportunità, ai servizi, ai circoli sociali o agli spazi per gli esclusi. Le piattaforme digitali sono diventate fornitori di servizi chiave in molti Paesi del mondo, riuscendo ad affermarsi soprattutto in luoghi in cui il settore pubblico è debole o opera in modo carente. Lo studio utilizza le piattaforme di ride hailing di Città del Messico per identificare, attraverso una ricerca qualitativa, qualsiasi espressione di esclusione sociale. Oltre alle relazioni di lavoro dei conducenti, un aspetto importante è l'effetto che le piattaforme hanno avuto sui servizi pubblici della città. Per approfondire l'analisi, la ricerca include discussioni sul ruolo del governo locale come ente regolatore e sulle sue reali capacità di salvaguardare il benessere pubblico. La tesi conclude che nei driver non sono riconoscibili chiare espressioni di esclusione economica, ma la precarietà e l'incertezza del lavoro ne rappresentano un potenziale. Per quanto riguarda l'impatto sui servizi pubblici, lo studio rileva che il governo locale non è in grado di regolare efficacemente le piattaforme a causa di quadri giuridici obsoleti e fattori sistemici. Si raccomanda di condurre ulteriori ricerche per comprendere gli effetti reali della contrazione dell'industria dei taxi.

The view of Mexico City from Semovi's seventh floor where some of the interviews for the research took place. It shows part of Roma Norte neighborhood and the financial heart of the city, Paseo de la Reforma avenue.

On the next page: A street taxi turning the street on San Cosme avenue in Santa María La Ribera Neighborhood. The taxi is a Nissan Tsuru, a typical vehicle for this kind of service in the past, characterized for being one of the most affordable in the market and defficient safety conditions.

"Puedo escaparme de la ciudad,
cambiarme el nombre y volver a empezar,
meter tres goles, ganar el mundial,
escalar un volcán, así...
No puedo olvidarme de ti"

(Little Jesus, *Copa del mundo*)

Why do digital platforms matter?

An introduction to the research

This text was born from a research project for the Conflict Management and Resolution class of the masters in Urban Planning and Policy Design during the winter semester of 2022. The main theme of that project was the conflict between food delivery workers and the local government in Mexico City that started in 2018. This project focused on how online media were used as tools to build up a protest to demand better road safety conditions in Mexico City after several riders were killed in traffic accidents. The project concluded with some basic reflections about the utility of the protests raising a public debate regarding road safety in Mexico City; but most importantly, it built on existing literature about the difficulties platform workers face in their everyday routines.

Just like the delivery riders, there are plenty of people living in urban settings that rely on digital platforms to carry on their jobs in diverse sectors: transportation, restaurants, home care, and house maintenance, among many others. The rapid rise of this reliance in the past decades has made these platforms key actors in the provision of services for urban dwellers. For example, delivery workers became vital for the richer urban areas during the Covid-19 pandemic to provide groceries during lockdown periods. In a similar fashion, transportation platforms have become basic parts of transportation networks in many cities, both offering for-hire vehicles with drivers and driverless micromobility ones.

The rise of digital platforms providing services in cities happened as part of a technological revolution in which web-based services and new information and communication technologies became central to carry out social and economical activities all around the world. This change could be identifiable since the 1990s, when computers increased their use in many nations, but most clearly since the 2000s, when smartphones and web-based mobile software increased their use exponentially globally. It was during this decade that digital platforms also started to mediate social interactions, street navigation, ratings, access to information, retail, dating, and consumption of services on a widespread basis.

RENTO
RECAMARO
ORO CABALLER
NALA

As any technological shift, the growth of the digital platform providing services came with social and economical changes. In economic terms, existing industries offering similar products had to face new competitors; for example, newspapers with social media or traditional retail with online markets. In social terms, new labor relations were created mostly characterized by remote control of workers, the interaction with algorithms, and, in general, new organization methods. These changes acquired an incredible size as customers and workers became part of the platforms by signing up on them, making them massive communication services and job providers in many parts of the world. These changes inevitably gave way to conflicts between the involved parties when the government couldn't ensure fair competition and just relations between them, something that happened very often in many countries. Exemplary conflicts are the protest from competitors that were affected negatively, hotels that couldn't compete against short-term rental platforms offering cheap lodgings for tourists or taxi drivers against platforms offering for-hire vehicles through mobile apps at reduced prices.

This context is the starting point for this research, where I reflect about how a specific type of digital platform-based service, ride hailing, can create social exclusion in urban areas. The research is centered in Mexico City, where there has been a boom of digital platforms offering services in the past decade and, with it, attention to the implication of this growth from different researchers. This text grows this literature and is aimed at providing a glance at the current situation of ride hailing in the city placing a special emphasis on the potentialities of creating social exclusion and the role the government plays through regulation. Central ways in which social exclusion is discussed include access to services, labor precarization, and

governmental weakness. The study is especially valuable because it increases the literature on social exclusion and its relation with digitization and digital platforms in a Latin American context, instead of focusing on the United States and Western Europe as a big part of the studies do.

Mexico City is an interesting case because platforms have arrived there as an uncomparable labor opportunity for considerable parts of the society. Both ride hailing and food delivery are effective jobs to get decent profits without big investments or specialized qualifications. However, the precarity in which workers perform the job is notable and should be questioned in the perfect narrative that companies sell.

In a similar fashion, short term rental platforms created an alternative for people looking for affordable lodgings when they travel. And although it was useful for some time, the growth of companies like Airbnb has contributed to a housing crisis in many cites of the world. Take for example, the case of the digital nomads arriving to Mexico City since the Covid-19 pandemic which has happened at the same time of an unprecedented growth on rental prices in the city. In 2022, the mayor of the city announced an agreement with the platform to promote the city as a hub for digital nomads, disregarding any negative effect this might have on the city. For moments like this, it is important to study platforms, to avoid accepting narratives that might seem miraculous for our cities, but hide all their negative effects.

This is research about how the life of people living in the city can change in the face of the technological transformation described before. I speak of the way Mexico City has changed after the arrival of ride hailing companies in 2013 to provide taxi services and how it has marked the lives of people there. The main focus of it will be on the way

the arrival of a private service –with the typical characteristics of a digital platform– can create social exclusion in the city through different means. Exclusion is a concept that refers to various situations. My focus lies on its relation to the privation of economic and social opportunities for individuals, mainly through labor precarization and public services reduction.

The study aims to understand if the growth and adoption of ride hailing services in Mexico City increased social exclusion. The thesis defends that private digital platforms providing services can increase social exclusion due to a shift in the way those services are organized, as new actors enter their governance and their interests are not aligned with the public wellbeing. The shift can cause a reduction in access to the services that are transformed due to a pursuit of maximized efficiency and economic profits. This is explained mainly due to the specific nature of digital platforms, which includes a lack of transparency in their functioning, a trend towards monopolistic behavior, a successful discursive strategy as miraculous solutions for urban problems, and a deficit in governmental capacities to regulate them. These characteristics explain the unique type of privatization that digital platforms produce, which in an already existing context of weak regulations and shrinking local administrations have achieved a key role as major service providers in cities.

The thesis revolves around the concept of social exclusion, mainly as conceptualized by Ali Madanipour. He recognizes three main dimensions of exclusion: economic (related to the propension to poverty), political (related to the lack of stakes in public affairs), and cultural (related to the privation of expression and socialization through shared symbols, meanings and traditions). The concept he builds is based on the notion that exclusion is a matter of being able or unable to access something, be it a space, a practice, a social class, a right, or a status. This conceptualization is useful because he accompanies it with clear ways in which exclusion is revealed in time and space and because exclusion is not presented as an absolute state, but rather a process composed by many steps.

I study ride hailing platforms in Mexico City as transportation services providers. Ride hailing is a service that connects people wanting to move from one point to another in a city and people willing to drive them there, like taxis conventionally do, and it relies on a digital platform that mediates their interactions, instead of the traditional street hailing practice. The prototypical company that operates this service is the American company Uber, which started its operations in the United States in 2011. Uber and other companies have become key players in the transport sector in many cities of the world as they have come to substitute taxi and transit services, often subject to weaker regulations than their predecessors. This has happened very often with a considerable amount of conflicts centered on the operation of ride hailing firms as it is perceived as unfair competition by existing public and private transportation companies.

The thesis is centered on the direct and indirect impact the growth of platforms that offer services has had on the lives of people in Mexico City. My focus is on digital platforms that offer services as some of them have come to compete with government-run or government-controlled public services, mostly in the case of transportation and particularly the case of the taxi. This focus allows me to study the way public services change when new actors get involved in their provision, changing both the way they are offered and organized. I study how people working in the

platform have changed their relation with labor, how the government responds to these changes, and how the platform has changed the related transportation services, mostly taxi services.

This is discussed in the general context of Mexico City, where multiple platforms have appeared in the past decade promising efficient and good-quality services through digital applications. It is estimated that in 2021, Uber alone had more than 8 million users and around 200,000 drivers in all the country. The arrival of the first ride hailing platforms in 2013 started a transformation with lots of conflicts in a key sector of public transportation in Mexico City, which caught the government and regulators by surprise. The current picture in the city is one of widespread use of ride hailing platforms by various parts of the population and a weakened taxi industry. The city has proved a very attractive market for a variety of digital platforms and it has registered an unprecedented growth specially on short-term rentals and food delivery services.

Exclusion is studied in different expressions depending on the type of relation people have with the platforms. For drivers, a main focus is labor exclusion, which is centered on the way this work can determine their salary, their working hours, the space where they do the job, and their opportunities to improve their economic situation. For users, the central question is on the services exclusion, this focus deals with who can access the platform –mostly because of its affordability and coverage– and what are the implications for the ones who can't. As an urban service, the central focus is on the spatial exclusion to analyze where it is offered and on services exclusion to understand how it has had an impact on the public transportation access.

This topic is extremely relevant in the city as ride hailing has become a central part of the life of many inhabitants of the city. As a transportation service, it has

A public bus, motorcycles, and cars wait for the green light in Mosqueta avenue in Guerrero neighborhood in the center of Mexico City.

been able to position itself as a reliable, efficient, and safe alternative to the traditionally bad-reputed taxi services, even if it is more costly. As a job generator, it has become a reliable and easy-accessible source of income for many inhabitants of the city, especially after the start of the Covid-19 pandemic. As a part of the governance of the mobility of the city, ride hailing companies have been able to avoid most regulations that the government has set up but kept a positive image among the society and positioned themselves as a key actor.

The methodology for the study will be explained in detail in each part, but generally it was made using bibliographical sources to create the base context of the problems discussed. It departs from texts on social exclusion, urban inequalities, spatial justice, and urban planning to create a conceptual framework. It also includes texts on transportation, the state of Mexico City, and to a big extent, a growing body of literature about digital platforms and the city. A third pillar of the research are interviews carried out in Mexico City between May, June and July of 2023 with people involved with ride hailing, be them drivers, users or regulators. A secondary source of information comes from my own experience working for the Secretariat of Mobility in Mexico City between 2019 and 2021. The reflections that end the text bridge all the sources to present a perspective of Mexico City in the present directly from people who live there and are affected by the changes that the city undergoes.

Organization of the research

The research is divided into four parts. The first one introduces the particular nature of digital platforms as relevant actors in urban life. It explains why these companies behave in a distinct way and how this behavior has been observed to bring new consequences different from other privatizations of services. This part introduces the concept of exclusion and grounds it on the urban context, distinguishing its different types and explaining some of its spatial and social expressions. The second part presents a portrait of the current state of digital platform usage in Mexico City. This part explains important facts about where this digital economy exists, who can use it, and starts introducing its relationship with the population. Then, it introduces the state of ride hailing in the city, explaining its size, its operation, its history, its regulation, and the conflicts surrounding it. The third part focuses on the study of ride hailing as a potential driver for social exclusion in the city. Divided in three main axes, it explains how different parts of the society are affected differently by the growth of these companies and presents narratives focused on labor precarity, the damaged taxi industry, and government regulations. The third part draws on interviews with key actors and users of the service, mixed with data and literature from other cities, and discusses the possible exclusion that the platforms can create. The fourth and final part is a reflection about the main topics discussed in the thesis as a way to draw some conclusions. It is guided also by the question of what can be done about the current situation from a regulatory point of view, it tries to develop a futuristic view of a city where the negative aspects of the technological change can be amended to decrease social exclusion and inequalities.

Platform urbanism and social exclusion

During the Spring of 2023, while writing this text in Mexico City, different people recommended media that used taxis or drivers as their main topic or characters. Among many media that I saw and read, two movies particularly called my attention, *Night on Earth* by Jim Jarmusch from 1991 and *Metaal en melancholie* (Metal and melancholy, in English) by Heddy Honigmann from 1994. Both of them depict conversations between a driver and passengers inside a taxi, while the first one is a fiction set in five European or American metropolises, the second one is a documentary set in Lima, Peru. *Night on Earth* is a comedy and it emphasizes the random possibilities of hailing a taxi in the city and the situations it can derive in, one could say it depicts the most idealized positive sides of this transport. As it is a comedy, the interactions place the characters in awkward situations that are funny because of the randomness of their occurrence, like having a fighting family onboard or setting an improvised confession between a priest and a driver inside the car. *Metaal en melancholie* contrasts sharply with the comedy, it is a documentary centered on taxi drivers in

the mid-90s Lima and their reasons and challenges of driving a taxi. Here, the central focus is the driver as they speak of the economic crises of the country, the insecurity, and the link they share with their car.

Both movies present cities through the views of people riding cars, they also show public transportation as a public space where urban dwellers can meet each other, earn a living and move through space. Two of the stories in *Night on Earth*, both set in the United States, introduce drivers who love their job because it provides them a way to make money: a young woman driving around Los Angeles who rejects an acting career and a recently arrived German immigrant who can barely speak English and is starting to know his way around New York. For both of them the job is not only about making money, but also about meeting people, moving around the city and driving a car, here a perfect vision of the taxi industry is imagined, without precarity, strong government interference, and no signs of tiredness. *Metaal en melancholie* paints a radically different picture, both

in terms of geographical context, Lima in the 1990s as major economic crises had hit the country, and of the nature of the film, being a documentary. Here, the stories revolve mostly around people who can barely make a living income in a city filled with insecurity and poverty, where driving a taxi is often used as a secondary job or an alternative after not finding another source of employment. Most of the drivers here also highlight the difficulties of driving around the city all day, like getting robbed or having to look out all the time for road hazards and heavy traffic. The cars portrayed are often old, with up to 40 years of use, and they are presented as the tools with which people can survive in a city where economic opportunities are scarce and there is a great uncertainty about the future.

What the two movies depict is an urban transportation, the taxi, that has existed in many cities of the world for more than one century and is a key part in the urban mobility as it fills gaps that mass transit or pedestrian trips can't satisfy. Hailing a car in the street has been an essential part of this service, except for vehicles booked in advance, and it implies a degree of uncertainty about who could ride the vehicle and the route the trip might take, which makes taxis spread all over the urban areas. Traditionally also, taxi services used to be highly regulated industries, at least in theory, that required costly permits to be authorized, but could move around the city freely searching for passengers. Very often too, the human knowledge was a basic part of the service, as the driver had to know the city profoundly to provide a quick service for passengers.

It is naive to describe the taxi industry as one without problems and perfectly able to provide efficient mobility and job opportunities in cities, because it relies on a highly inefficient method of ordering vehicles in the limited urban space. However, it is a form of organization widely used in the world that can successfully strengthen mobility in cities, especially when it is effectively regulated to ensure either working public companies or just competition in private markets. The taxi industry depicted in the two movies, both from the 1990s, faced a major crisis around ten years ago when it was faced with a technological revolution that offered an allegedly more effective service to satisfy the same kind of demand, the ride hailing industry. Ride hailing offers the same type of mobility that taxis do, but it is managed by a digital platform, a sort of omniscient technological tool that indicates drivers when to go where, how to get there, and at what cost.

Digital platforms are technological tools that people use to communicate, access services, locate their way in space, acquire knowledge or simply interact with the environment that surrounds them. Platforms are not a recent invention, many firms have provided the infrastructure or acted as mediators to provide people with the goods and services that they need, but as I will show, the digital nature of them is what makes them a particular phenomenon. The rise of digital platforms is, as we will see, an inherently urban act and it has become widespread in many places of the world with the quick growth of internet and smartphone usage in the past decades. This chapter introduces the theoretical and conceptual frameworks needed to start a discussion on how these platforms and their usage can make cities more unequal and increase exclusion.

The first part is centered on digital platforms and a growing body of literature about what has been termed platform urbanism. It explains what digital platforms are, how they work, where they come from, why they are specially functional in cities, and how they can be classified. It then presents some discussions on how

this mode of economical and social organization became so popular in many cities, how it acquired a role as a central actor in some cities and how it is related with previous planning paradigms, specifically the ideas of the smart city.

The second part of the chapter shifts the discussion towards a literature review on social exclusion, particularly focused on urban space. This section explains how exclusion has been defined and how it closely relates to phenomena like segregation, marginality, stigmatization, discrimination, and inequality, overall. It then provides a background on some of the factors and effects of exclusion, spe-

cifically how it can be observed in space and social relations. Finally, it includes some theoretical insights on how some authors have observed the exclusion in the urban space and why it has become an increasing phenomenon.

The chapter concludes with a brief discussion that links both concepts and presents some ideas that guide the rest of the study. Mainly, it makes clear how could exclusion in its diverse dimensions can be related to the use of digital platforms by different actors in the city. It concludes with these questions to introduce the concrete study of this phenomenon in Mexico City.

1.1

Digital platforms and platform urbanism

Digital platform is a term defining internet-based services that urban dwellers use everyday, mostly through smartphones to carry out daily activities like buying groceries, moving around the city, communicating with friends and family, interacting with their government or just finding information about the streets that surround them. Whenever you are using a mobile application to share a picture online, order a taxi to move somewhere, order food delivered to you or search for the shortest route to reach an address in a neighborhood you don't know, you are using a digital platform. Since the breakthrough in the past decade of social media, especially represented by Facebook, as a new virtual public space used not only to communicate with acquaintances and

strangers, but also to organize social interactions, from the Barack Obama 2008 presidential campaign to the movements inside the Arab Spring at the beginning of the 2010's, digital platforms have acquired a central role in the internet-mediated everyday life.

In cities, digital platforms have especially grown in the housing, transportation and retail sectors. As a housing platform, Airbnb has become a central actor offering short-term rentals to tourists coming to visit a city; its growth is such that it has been taxed, banned and protested in many places of the world. In the transportation sector, ride hailing companies, (prototypically represented by Uber), delivery companies (represented by UberEats, Grubhub, Deliveroo

and Glovo), and micro mobility services (represented by Lime and Bird offering bicycles and electric scooters) have become essential for mobility in many places. These companies have appeared in cities everywhere, sometimes as foreign companies and sometimes as local companies (Rappi in Colombia and Didi Chuxing in China, for example), and have received mixed receptions from local governments, ranging from unregulated operation to prohibition.

In the following pages, a broad analysis of digital platforms is presented, studying their origin, the way they operate, their economic logic, the diverse types that have appeared, and some of their specificities that distinguish them from a similar urban phenomenon that arose in the 2000's, the smart city. After this, a brief introduction on platforms will be presented, explaining their value as a new form of capital accumulation and the context in which they have developed, considering the post-fordist and neoliberal turns in urban life.

Identifying platforms and their role in the city

Formally, digital platforms have been defined as virtual infrastructures that allow two users to interact through them, be them on an individual or group scale.[1] Srnicek distinguishes three main characteristics of digital platforms in the present. The first one is their role as intermediaries in interactions between different users, often to carry out some kind of exchange by providing them with a basic architecture that allows them to develop products and services. This characteristic is valuable for the users as it saves them the need to build a marketplace by themselves. A clear example is the way the ride-hailing platform Uber offers the infrastructure to offer and request a taxi service.

A second characteristic is the heavy reliance of platforms on "network effects" which refer to the attractiveness they gain when used by more people, as users deem them more valuable if there are more possible interactions. Perfect examples of this are social media platforms, as they become more attractive for an individual when more people are using them because they get bigger interactions with the posts they share or communicate with more users through messages. This characteristic inevitably leads to a monopolistic position as users tend to concentrate where they perceive there are more individuals to interact with. In terms of platforms that provide services, this is particularly important because as we will see, they tend to concentrate the supply of them in cities and they actively search to attract users by artificially modifying market behaviors.

A third important characteristic recognized by Srnicek is the active attempt of platforms to be attractive to users. In theory, as intermediaries, platforms would be neutral in the service they offer to their users –that is connecting individuals and offering the infrastructure for them to carry out their exchanges–; in reality, platforms mediate the behavior of users, in order to make their environment more attractive. Two clear ways in which they do this is by governing the interactions inside the platform (i.e. censoring a post on Facebook or deactivating a deliverer on Deliveroo) and by cross-subsidization actions.[2] Cross-subsidization is particularly important as the business model of platforms relies on increasing its number of users and reduced costs in comparison to its competitors is an

effective way to achieve it. The key point to highlight from this characteristic is that platforms are not neutral and that they mediate interactions in them to be more attractive, thus earning bigger profits.

In addition to these three characteristics recognized by Srnicek, Barns reviews another set of characteristics of digital platforms that also relate with the way they interact with people. Among them, she points out that platforms have not only a technical dimension (the digital infrastructure), but also a discursive one which gives meaning to them in the public sphere.[3] This discursive dimension pushes a narrative of platforms as innovators in the urban environment, disruptors in outdated industries, and efficient solutions to organize daily life.[4] As it will be shown in the following sections, these narratives

have been highly successful in convincing governments and urban dwellers in accepting digital platforms and valuing them as new actors in urban life.

These characteristics can paint a general picture of how platforms behave in the city. However, these characteristics don't work the same in all the platforms because even if they all rely on a digital infrastructure to mediate individual interactions, there are different types among them. For this reason, it is useful to consider two different typologies proposed by different authors.[5] Srnicek identifies five types based on the way the platform works: advertising, cloud, industrial, product, and lean platforms. Advertising platforms extract information on users, analyze it and by profiling the users, they offer personalized ads to them paid by advertisers; clear examples are Facebook, Instagram, TikTok or Google (in many of its services: Gmail, Google Maps, YouTube,

A billboard inviting people to invest in an ongoing construction planned for Airbnb apartments in the gentrified Roma Norte, saying "Live from your rents! Invest in this all-ready building for short term rents." Roma Norte has become one of the hubs of Airbnbs in the city in the past years.

and its search engine). Cloud platforms are the infrastructures, both physical and virtual, hosting other internet-based services, Amazon Web Services is the biggest example of this today. Industrial platforms transform traditional manufacturing to internet-based processes and are not relevant for this study. Product platforms transform access to a good into a service and traditionally charge a subscription for it. The prime example of this is Spotify, but Netflix and other streaming services fit this description too. Finally, lean platforms are defined as the infrastructure where customers and suppliers can meet and are usually the most visible managing physical services in cities. Usually, these platforms don't own any kind of asset, instead they outsource all the tasks they manage, the capital they need to operate, and the maintenance and training costs that arise from daily work.[6] For example, they don't own the cars to do ride hailing, rooms for rentals or independent contractors for cleaning houses or delivering food. These companies make profits out of charging rents to all the involved in the transactions, as they outsource most of the other processes in their operations.

Apart from the classification proposed by Srnicek, Caprotti et al. have proposed a typology based on three kinds of parties involved in the interactions mediated by the platform.[7] The first type regards the intermediation of online consumers with offline producers and is centered mainly in allowing the selection of a good through a digital interface and provides the distribution. Services offered by online retail shops, Amazon or certain food delivery platforms are good examples. The second type refers to the intermediation between consumers and services providers, where the

A woman rides a private electric scooter in Paseo de la Reforma Avenue in central Mexico City. Electric scooters companies arrived to the city in 2018 without any rules or authorization. After some months of operation and a polemic regulatory process, most companies found the city unprofitable and left Mexico City.

platforms present to the first one the tools to search and very often pay for a specialized service. The platform often determines the amount to be paid and standardizes the service offered. Ride hailing companies and microtasking websites are examples of this type. The third type includes platforms mediating interactions between public institutions and individuals, often to access services provided by the first ones. This kind has become popular in many cities of the world as a way to increase coverage of services, promise transparency, and increase efficiency in access to health-care or transportation.

For this study, it should be noted that I focus on the lean platforms identified by Srnicek and the first and second type proposed by Caprotti et al., because they describe the type of firms that provide services through platforms in cities. An additional conceptual note about the economic nature of digital platforms is useful to understand the way they act when providing urban services.

Digital platforms, like other firms in the past, can be defined as multi-sided ones. This is a term from economics that describes intermediaries –firms– that coordinate the demand of distinct groups of customers that need each other in some way. Platforms have existed before the rise of the technolo-gical companies that I have been talking about in this section, for example, think of newspapers (connecting advertisers and readers), operating systems deve-lopers (connecting software developers and users), property brokers (connec-ting buyers and sellers), and even the government (connecting private service providers and service users). The mul-ti-sided concept identifies firms with three characteristics: they have multiple groups of customers, they produce ex-ternalities from the connection of the multiple groups of customers, and they can internalize externalities produced by one group for the other ones.[8]

Specifically, platforms providing services in cities are described as mar-ket-makers as they allow members to conduct transactions with each other and they profit by charging a fee for these exchanges. This specific nature of platforms makes the service more valuable for members when there is a bigger number of members that can potentially make a match with them. In terms of service-providing platforms this explains their strong need for network effects and the reason why customers may prefer one platform over the other. Ultimately, in theory, this bigger number of potential service providers will be reflected in shorter times of arrival for a taxi service, a shorter time of delivery for a food order or a bigger variety of restau-rants one can order from on a platform.

Multi-sided platforms have specific behaviors regarding the way they set prices for customers too. It has been observed that the marginal cost for different groups to enter the platform tends to be different; for example, in a newspaper the advertiser relies more on announcing their product than the reader on reading the news everyday. This situation leads platforms to give di-fferent prices to different groups, often relying on cross-subsidization, in order to attract more members of the most valuable customer group and create network effects. The routinary use of price adjustment is also advantageous to discourage the use of other platforms offering the same product, a widespread practice known as multihoming.[9] This practice is possible for firms when they have big amounts of capital to spend on subsidies, which is the case of many digital platform companies reliant on venture capitals around the world.

To conclude, it is relevant to mention that the conceptualization of platforms

by their economic nature allows us to understand how the prices of interacting with the mobile applications can change from group to group and why these firms act how they do. As it will be discussed in the final part of this section, these behaviors are an essential part of service-providing platforms in the cities where they operate and rarely can be contained by the government to ensure just prices and fair competition.

The rise of digital platforms in the neoliberal city

How exactly did digital platforms come to occupy such a prevalent role as service providers in many cities around the world? A simple economic explanation would be that digital platforms entered areas where there was an unattended demand for a service or product or, as many companies claim, there was a deficient or outdated industry, often oriented towards services. However, the specific functioning and growth of the companies requires a bigger background to understand their current state. I briefly describe two changes in the economic and political models under which cities developed in the end of the last century, the end of Fordism and the adoption of the neoliberal ideology in government and social organization. This explanation finishes with the discussion of the rise of the smart city as a planning and government paradigm that gives a central place to technology-based solutions as the perfect situation in which digital platforms were able to thrive until today.

Fordism was the dominant social and economical organization in many cities around the world after the end of the Second World War, even if it was adopted to different degrees in different places.[10] As a concept it is defined as a socioeconomic organization model reliant on the manufacturing industry as the backbone of society both in the distribution of wealth and the social integration of the individuals of society. Fordism relied on the private manufacturing firm to give employment to the majority of the working population in cities in industrialized countries, first in North America and then in Europe. Private firms worked not only as employers but also as places for socialization and integration of individuals, which allowed society to be dealt with in big groups as the type of work performed by individuals was similar among them. This mode of production allowed to redistribute wealth among big parts of the population and reduce disparities in considerable sectors of the society.

This model also relied on the State as a strong regulator of the economy and the provider of welfare services for the population. Notable public investment in some countries was the construction of infrastructure for transportation and the foundation of state institutions providing public services. After its crisis in the 1970's, the Fordist model gave way to one where less rigidity and more flexibility was the norm as it became easier to move labor and capital from traditionally rich countries to new territories where producing goods could be cheaper. Along with the relocation of manufacturing industries to new territories, cities saw the rise of new economic activities, mostly tertiary ones with finance as a new key sector. With the change to a new model of accumulation of capital, the role of the government became less central and private firms acquired a new one.

The consequence for many cities was the increase of unemployment and a long deindustrialization process that led to the decrease in the income for many governments that couldn't ensure that firms remained in their territory. Sassen identifies in this period a polarization process in urban areas, where workers in the technology or financial sectors earn unprecedentedly high incomes, while people in the service sector tend to live on smaller salaries and work in precarious conditions.[11] One of the reasons for the polarization is the increasing demand for the two types of services on extreme sides of the qualifications and salary spectrum. Overall, she defends that the models that guided the economy in the past century allowed for a reduction of inequalities that was interrupted when manufacturing stopped being a pillar of the economy.

A key idea to remember from this shift is the transition from a socioeconomic model where income and labor was ensured for big parts of the population and where the middle class was predominant to one where labor turned to be more flexible, economical and labor inequalities increased, and governments lost the leading role as the main organizer as they had been in the previous decades. This shift also changed the nature of cities as their main economic activities changed and the type of labor offered to the population became radically different.

During the 1980's, a simultaneous shift happening in the world at different scales, from the national to the local one, was the adoption of neoliberalism as a new way of directing the economy and government. Neoliberalism arose in an era of crises of the dominant Keynesian model and advocated for less intervention of the markets as a way to ensure economic growth; these ideas came with the defense of reduction of regulations, austerity in public spending, privatization of key institutions of the welfare system, and the commodification of urban space.[12] This ideology was

"No to Rainbow Capitalism" protest grafitti on a music streaming platform advertisement during the LGBTQ+ Pride Parade of 2023 in Paseo de la Reforma. Controversy has surrounded the Pride parade in recent years due to the strong presence of private advertisements, among which are digital platforms Uber, Didi, Cabify, and Spotify

"The only membership to save going, coming, and ordering. For only 70 pesos."
An advertising billboard for the monthly all-inclusive membership to Uber servi-
ces, Uber One, in Oaxaca street in Roma Norte neighborhood.

also effective in changing the narrative towards the value of public life and public goods, relating government-led initiatives and sectors with inefficiency and the past.[13]

While many of the main policies advocated by neoliberal ideology were applied at the national level, urban areas had specific transformations mainly in the government, public space, and services sectors. This moment marks the rise of governance as a concept of managing public affairs with the participation of new economic and social actors, recognizing them as relevant stakeholders in the decision-making process. The shift contrasted with the traditional Fordist state that had bigger capacities to set and enforce rules and regulations for the market and society. In a similar fashion, Harvey has explained the shift from a traditional managerial approach of government to one termed entrepreneurial governance. The transformation distinguishes the new role of urban governments as promoters of their cities in order to attract investments in a world where capital and labor are increasingly mobile. The entrepreneurial model exists in a context of reduced local budgets and privatized welfare systems that require external private investments to ensure basic services for the local population through private firms.

A clear consequence of the adoption of the neoliberal ideology and the shift to an entrepreneurial way of governing the city is the privatization of public services. With the reduction of the size and budgets of governments, the privatization of public services became common because of the impossibility of maintaining them, but also because of the idea that private managers rather than politicians could ensure a better functioning of the institutions.[14] Along with the direct privatization of services, contractorization –the practice of hiring privates through public contracts to provide a service– became also more common. What these changes implied was a bigger role of the private sector in the provision of services in cities to ensure transportation, health, education, and public spaces in comparison to the previous decades.

This is the context in which many of the richest cities in the world developed at the end of the 1990s and well into the 2000s, however, another relevant phenomenon to explain the growth of digital platforms is missing, the defense for technology as a way to solve the urban problems. As is common in the history of planning, new technological developments influence ideas about how cities can be organized, the smart city paradigm was an example of this at the end of the 2000s and beginning of 2010s.

The smart city was popularized at the beginning of the 2000s through competitions sponsored by private technology companies offering grants to develop urban projects based on computerized systems provided by them and through private-public associations.[15] Although the concept has a blurry definition, Hart et al. propose that it can be generally identified by "the inclusion of telecommunications, digitalization, and automation, leading to a data-driven transformation of urban policy, planning, and governance."[16] The idea behind the concept is that technological tools can solve traditional issues in a more efficient way in cities everywhere. Through the widespread adoption of these tools to collect data, mediate interactions, and decide the "smartest" decisions to take, urban development can overcome wicked problems typical to such a complex environment. In the urban landscape this is done through mobile apps, physical sensors in streets and buildings, compilation of data of every aspect of daily activities, and computer-based provision of services. The vagueness of the

concept makes it, however, very often more powerful as a discursive tool to promote cities to attract investment, rather than a real technological solution to problems.[17]

Two notable criticisms from the literature should be highlighted from the smart city concept: the "technological solutionism" and the depoliticization of urban issues. Hart et al. point at the technological solutionism attached to the smart city ideology which is the pervasive idea that problems in the world can only be solved by technological solutions, generally coming from big technology corporations.[18] One of the main issues of this is the assumption that technological solutions can not only solve any complex problem as miraculous cures, but also are the best tool to do it. This solutionism is very attractive both at a political and discursive level because it does not only exist in the urban policy realm for public officials and policymakers, but also among the society in general that interacts with major technological companies everyday. The biggest risk of this belief is that technology is then regarded as the go-to solution for any problem arising in the city, regardless of the consequences it might have and without

questioning the actual convenience of it and, sometimes, even the way it could work.

The second criticism is the shift of urban problems from a political realm to a mere technical one. Vadiati reviews diverse authors that study the literature on smart cities to show that the construction of smart cities brings together governments and companies to deal with problems, which are treated as apolitical issues in the lens of the rational and pragmatic smart city.[19] Furthermore, Graham warns of the adoption of the smart city ideology to an extent where urban development and government is depoliticised and regarded merely as an issue of technical efficiency of providing urban services. [20]

The rise of the smart city ideology took place in many places of the world and has been a popular topic in the urban development literature in the past decades. With the growing inclusion of technology in the urban realm and the growth of technology companies to provide services, digital platforms acquired a central role in daily life. I turn now to describe this phenomenon, which has been termed by some as platform urbanism.

Platform urbanism as a new paradigm

Considering the explanations about digital platforms and the economic changes that gave way to the smart city paradigm, we can start outlining the role the first ones play on the urban environment. The term platform urbanism is used as a framework to define a way of urban development and urban life "facilitated by a growing number of digitally-enabled, socio-technical assemblages that engender new kinds of social, economic and political intermediations."[21] The concept refers to a different moment than the one marked by the smart city

paradigm, as it is characterized by a decentralized conception of the city, where the main focus is the interaction of diverse urban actors with and through digital platforms to carry on daily activities.

Caprotti et al. make a comprehensive comparison between the two concepts, from which I highlight some aspects.[22] They define the platform urbanism framework as one describing mostly private digital infrastructures oriented towards making profits through the provision of

Four delivery riders for the Colombian digital platform Rappi wait for the green light in San Pedro de los Pinos neighborhood in May of 2020, during the Covid-19 partial lockdown in Mexico City. During the pandemic, even if there was not an official lockdown in the city, most workers were sent home during the first months. Delivery riders carried groceries all throughout this period

services, instead of the partnerships between private companies and governments to improve specific aspects of the city as promoted by the smart city paradigm. The smart city relies on a heavy discursive strategy of technology as the tool to help make government or public issues more efficient. In comparison, platforms often just arrive at a place to offer a private service and convince customers they are the best option, partly aided by the good reputation technological solutions have.

The space of the city also plays a different role in each of the frameworks. In the smart city ideology, technological solutions are tailored to a place, which means that a company works closely with the government to develop specific ways of solving a native problem. While they may use solutions applied elsewhere and policy transfer is expected, the smart ideal implies adjusting everything to the specific context using the technological tools available, mostly data, web-based services, automation, and computerized systems. This is radically different with the platform ideology as the digital assemblages are generic and can work anywhere in the world. The technological development that digital platforms champion is the way in which the algorithm-based organization can serve any city in the world in an effective way, thus making the model profitable, instead of requiring big processes of adjustment in each context. This is a benefit

that also provides digital platform companies with the flexibility to move rapidly in the world, setting in a city anytime.

Another key difference is the role the government plays in the platform environment, where it has a position of either regulator or observer as most of the activities are carried out by private companies, often self defined as mere technology firms. Furthermore, the individual relations are governed through private contracts between the platform and users, often referred to as contractors, and the platform and customers. This is contrasting with the smart city ideal where the government is the leading actor in transformations, aided by private companies to improve infrastructures through service contracts or public-private partnerships. The main goal of these partnerships is to improve some public service or function and companies earn profit by participating in convenient projects. The key point to observe in this difference is that the government plays an active role in the smart city paradigm, while in the platform urbanism framework it works in a secondary role, just controlling the public aspects of the interactions, very often in a reactive way, through regulations.

Finally, another key characteristic of platform urbanism, which is a central argument made by Srnicek, is the heavy reliance on data. Digital platforms involve constant interactions with users and customers which are recorded to feed algorithms that organize the service the technology is mediating. This information is a highly valuable asset as it allows platforms to organize the interactions in the most optimal way, like linking a customer with the nearest taxi, but also in the most profitable way, like when they match the willingness to pay of a tourist searching lodging in a city. One of the characteristics of the high value of the information is the pervasiveness it has due to its recollection through smar-

tphones and the massive scale of its recollection due to the number of users being recorded by the platform. As such, a central part of platform urbanism is the analytics carried out with the data by the owner companies, very often in servers installed in remote locations from the place where they operate. Unlike the platform, smart city advocates defended the inclusion of technology as a tool in making a certain service or infrastructure more effective and data here could play only a secondary role. For example, think of a restricted parking area in a city center where data about available spaces is provided to cars passing as an informative method to guide them to the streets where parking is available. Here, one of the most relevant criticisms made by many authors is the ideal of the adoption of technology as an end, rather than a means to solve an urban problem. This meant that there was a strong persuasion in the smart city ideology that technology by itself was something positive to be pursued, rather than a way to solve a specific problem, as was discussed in the previous section.

Complementary to the analysis by Caprotti et al., Barns has done an extensive critical theorization of the platform urbanism concept, some ideas about its discursive position, its reliance on the sharing economy, and its private management of data are worth highlighting. In her research, Barns analyzes the way platform companies have grown and she finds that the alignment with certain progressive urban politics has allowed them to be regarded as innovators in the digital age, while their defiance of existing rules and laws is allowed or disregarded by the general opinion.[23] She also discusses how the rise of platforms relied on the positive narratives associated with the sharing economy, which portrayed it as one that improved the efficiency of underused assets (cars, rooms, time) and allowed individuals to generate social value by turning them

into micro-entrepreneurs.[24] Think, for example, about the way Uber advances a discourse of being your own boss or how delivery companies advance one about using your free time to create profits. A third finding by Barns points how there is a narrative built around platforms as innovators in industries that are perceived as "laggard" and can be replaced by software-enabled services provided by a technology firm, which often happens without real evidence to back this idea but with big amounts of funding.[25] A final remark raised by Barns is about the way these platforms produce a virtual urban ecosystem parallel to the physical one based on the platform infrastructure which increasingly mediates interactions among people. However, the private nature of this gives total control to companies about the interactions and the data that is recorded from the users there.[26] This is something to question in a public welfare perspective as it has been noted that platforms benefit greatly from existing infrastructure and public resources that urban areas provide, without having to pay for it.[27]

The description made by the critical literature on platform urbanism provides a clear view of a distinct moment in urban life than the one when the smart city paradigm was stronger. The concerns raised about the asymmetry of capacities and resources between platforms, local governments, and users are an interesting starting point to discuss the possible negative effects on the well being in urban areas. By understanding the particular way in which this urban transformation has developed it is that a proper analysis on how they can increase inequalities in the city can be carried out; before that, I turn to a brief review on the meaning of social exclusion.

1.2

Urban exclusion

The urban environment has traditionally been a place where social phenomena tend to be most observable, partly because it concentrates big numbers of people or because they are living closer to each other. One of the characteristic phenomena in societies tends to be differentiation, be it for social reasons, for cultural reasons or economical reasons. In its worst shape, differentiation reveals itself in segregation, which can be expressed through lack of social interactions among different groups of people or, in extreme cases, through a clear spatial materialization, like ghettos. This section is centered on social exclusion, a term which refers to the rejection, separation or eviction of individuals or groups from the society. This review will prove it is a term that refers to diverse processes that involve the relation of individuals with the society, but necessarily start from the difference or inequality that is perceived as characteristical to them. Although a basic sociological background is provided to introduce the concept, the main focus is on the way exclusion is identified in the city and space. As I will show, exclusion and its related expressions have a clear spatial dimension.

Defining social exclusion

Exclusion is a phenomenon that has traditionally been studied by sociologists specifically as social exclusion. A first formal definition that works for this research identifies it as a process by which individuals are pushed to the margins of society and prevented from participating, partially or completely, because of their poverty, lack of competencies or for discrimination reasons.[28] This process leaves individuals in a marginalized position in the society as it affects the way they participate in economic, social, and political activities.

Nowosielski, citing Gallie and Paugam, points that most definitions of social exclusion refer to a "situation of multiple disadvantages in terms of labor market marginalization, poverty, and social isolation" and that these "dimensions of social exclusion are seen as mutually reinforcing" that constitute a "vicious circle that leads to a progressive deterioration in people's labor market situation."[29] A third and central definition of exclusion is the one offered by Ali Madanipour, who conceptualizes it as an operating mechanism of society that has institutionalized access to places, practices, groups, rights, resources, or information. This mechanism is key in the society to maintain order and in itself isn't regarded as a problem until it isn't accompanied with inclusionary efforts.[30] According to these definitions, excluded individuals ideally can't access with ease the job market, can't freely use public spaces, can't be part of social groups or can't be represented fully by political and government institutions that could process their demands.

Poverty plays a crucial role in exclusion according to these definitions. While poverty and exclusion are not the same thing, they often overlap and are often causes or consequences of each other. Poverty is defined as the inability to achieve a certain standard of living, often due to a lack of resources, that guarantees a type of diet, participation in activities and conditions of living customary in a certain society.[31] Fixed parameters, like poverty lines, are set to identify and measure poverty in a certain population because this definition is relative to a specific time and place.

Poverty has a major connection with exclusion because it can impede individuals to carry out daily tasks or participate in social activities, either because of material barriers, like the inability to pay for transportation, educational services or basic living needs, but also because of the stigmatization it can place upon people, for example, for living in a certain neighborhood. So, it is fair to say that individuals that suffer from material poverty in a society can be excluded when their privation prevents them from participating fully in a society. At the same time, exclusion can reinforce or produce material poverty when individuals are prevented from gaining economic wealth by limiting their participation in the society. However, even if poverty is a prime driver for exclusion, Nowosielski recognizes that definitions also identify features like race, nationality, ethnicity, age, sex, sexuality and disability as causes.[32]

To understand how exclusion occurs, Turok et al. identify three features of exclusion that appear regardless of the paradigm that is used to explain it and which can help envision who are the excluded, why they are excluded and how can this condition change.[33] These are relativity, agency, and dynamics. Re-

lativity refers to the need to be excluded from a particular society and in a specific place and time, this means that exclusion can only be observed in relation to something else, rather than just by a particular situation. This feature allows further distinction between exclusion and poverty because poor individuals can be excluded from a society depending on the inequality of income in a whole society, and can also shape the perception of the way they live in comparison to other members of society. This is, for example, that someone earning a certain amount of money can be poor if they are below a defined wealth threshold, but is richer or poorer in comparison to other individuals depending on the city and year where they are living. Relativity is also important because when studying exclusion by causes distinct to money, other circumstances like specific rules, qualifications for a job, institutions or stigmas about a place can explain it. For example, think of the way racial minorities or immigrants in a country can face different degrees of discrimination, it is often not the same when there have been integration policies or sanctions for these behaviors than when public actors position xenophobic discourses on mass media.

Agency is the feature of exclusion as an action made by someone, usually beyond the control of the excluded, and not only as a passive event or a spontaneous situation. This means that exclusion happens after an act that some agent does, which could directly (for example, racial segregation policies) or indirectly (for example, a private provider setting an unpayable price for a service) exclude someone. Other examples of agency can be seen on housing policies placing certain populations in specific neighborhoods or in the decisions on where to place goods and service providers in a city considering who can access them easily.

Finally, dynamics refers to the characteristic of exclusion to be a long-term process, which means that it is not produced in a single moment and that instead it explains a condition that affects individuals for long periods of their life. Particularly, when discussing economic privation, excluded individuals aren't people who just lost their job or someone who can't pay a month's rent, but individuals that have been unable to leave this condition for a long period. This condition, in turn, makes them marginalized individuals unable to acquire economical security because of the same consequences of their precarious position. The long-term condition affects individuals not only on a material level, but also on a personal one as it can influence morale, self-esteem, socialization, and their feeling of belonging to a community.[34]

The features of exclusion are useful to understand how it can happen, how it affects individuals and how it can be identified, but they don't explain the specific type that individuals can suffer. As social life is composed of many activities where people interact every day, it is complex and not made up by a single dimension. Going to school, working for a company, participating in an election, buying groceries, going out for dinner, strolling through a park or visiting a museum are all acts that involve social activities. In this sense, it can be affirmed that exclusion can happen in different ways and, thus, it exists in different types. Some studies classify exclusion by the specific dimension that it affects. Nowosielski, for example, recalls classifications proposed by Gordon et al. that are exclusion from adequate income, labor market exclusion, service exclusion, and exclusion from social relations. Another classification referred by the same author is the one by Wolfe that includes the exclusion from earning a livelihood, exclusion from social services, welfare and security networks, exclusion

from consumer culture, political choice exclusion, exclusion from popular organization, and exclusion from understanding what is happening in society.[35] For this research, the key idea to get from these classifications is that exclusion can happen in different areas of social life and that different kinds of exclusion can overlap. It is also assumed that different kinds of exclusion arise from different causes and produce different consequences.

A deeper and more useful categorization for the study is the one made by Ali Madanipour, who conceptualizes exclusion as an opposite of inclusion and through a dialectic understanding he identifies three main types: economical, political and cultural.[36] Economical exclusion is poverty –the lack of access to a proper income–, be it because of unemployment or having a low-paid job, while economic inclusion is access to resources and opportunities made possible through employment. Political exclusion is the lack of political voice, that is representation and participation, and it can be expressed either through institutional formal means, but also through everyday relations and interac-

tions. Finally, cultural exclusion refers to the disconnections from symbols, meanings, rituals, and discourses, that create a loss of identity and status; cultural inclusion refers to the possibility of sharing these that allows people to express, communicate and develop a sense of self and common identity, enjoy social recognition and secure a status.

These typologies and definitions are very useful to start using the exclusion concept in this research. Using the typology proposed by Madanipour, I will start by identifying three main types of exclusion, determined by the main element that he mentions (income, political participation, identity and status), to group other types of exclusion in them. This is, using the Madanipour typology to classify other typologies, for example considering labor or services exclusion as an expression of economic one; or gender, age and educational discrimination as cultural exclusion expressions. With this in mind, I move on to explain a brief note on how exclusion materializes in space and through which mechanisms.

Social exclusion and space

It has been observed that social exclusion has a strong spatial expression. Think, for example, on the opportunities determined by the area in which someone lives inside a city, limiting the welfare facilities they have access to, the type of public spaces they can use close to home, the type of people they interact with, the length of the trips to other places and the vulnerability to environmental hazards. To understand this link, the ideas by Madanipour and Turok et al. about spatial exclusion are discussed.

According to the conceptualization of exclusion proposed by Madanipour, it is a phenomenon that makes up the organization of the hierarchical order of the society by dividing it in different classes, functions and territories. He states that this process is unavoidably spatial as access is an issue of placement and distancing that is mediated through visible and invisible socio-spatial barriers that make up a segregated social organization and create exclusion when individuals are unable to go to the other side of the barriers.[37] These

Viaducto Miguel Aleman is one of the main high-speed driveways circling the central area of Mexico City, a good example of a physical barrier. It can only be crossed through long bridges and divides Tacubaya neighborhood in two parts

barriers, in turn, have different spatial, temporal, and institutional forms that can appear subtly or aggressively in everyday life or through institutionalized laws and customs. Particularly, he identifies four spatial barriers that can create exclusion: symbolic thresholds, physical barriers, spatial clusters, and locations. Symbolic thresholds are the softest form of barriers in space, they are made up of norms, codes and symbols that our conscience interprets as an invitation or a prohibition to go into somewhere. This understanding is highly dependent on the context and the socialization process as someone foreign to a society can hardly read these queues. Physical

barriers are a harder type and they involve material and institutional enforcement to control who can access a territory. These barriers can visually mark the different components of society and define the socialization process that takes place inside the territory, they also define the public or private character of a space by marking the power over some space. Clusters refer to the concentration of certain groups of the society to segregate them from the rest, it is a way to ensure they live in a certain space and limits their movement. Location refers to the system of distribution of social and economic value based on land price, reputation, and stigma; it leads to

mension also has different types, among which the exclusion or hope is the worst as it implies the privation of perspectives of the future for individuals. This type of exclusion is a consequence of a deteriorating condition in the present that impedes individuals to make plans for future moments and conceive an improvement in their quality of life, thus taking away any incentives to do it.

When speaking of space it is also useful to consider the ideas of Turok et al., who make a list of five drivers of social exclusion in cities and how planning can provide spatial solutions to them. Two of them are specially relevant when talking about spatial exclusion and can add to the proposed framework by Madanipour. They characterize them as the limitants in income and consumption and the effects of the neighborhood where individuals live.

When talking about income, the authors recall that poverty is a main driver of exclusion everywhere, but they make clear that its relation with consumption is one of the easiest ways to identify the mechanisms in which exclusion works.[38] Using the case of Great Britain as an example, they mention a growing inequality between rich and poor households in the second half of the past century, which has expressed itself in the concentration of individuals with similar incomes in geographical areas. Certain poor neighborhoods also undergo a process of depopulation, which in turn reduces the demand for basic services and makes these areas a second priority in comparison to more populated ones. Along with depopulation, privatization of basic services leaves these areas unserved as they represent less profitable markets than richer zones, which further damages the quality of life of already underserved neighborhoods. This process creates isolation from services for poor residents to some extent, which increases their

the creation of areas for certain social classes, be them rich or poor, marked by physical barriers and stigma. This last barrier explains why people move in certain neighborhoods that they perceive as apt for them and usually not everywhere in space.

Madanipour's general discussion leads him to conclude that the general sense of freedom of individuals is highly related to their social interactions, which means that socially excluded individuals tend to be spatially excluded too. The discussion made by the author is not limited to space as he notes that exclusion also takes place in time. This di-

exclusion as they have to pay bigger monetary and non monetary costs to access basic services. When the missing services are related to healthcare and education, the potential of exclusion for individuals is even worse as these affect their capacities to increase their income through the labor market.[39]

A second idea from these authors is centered on the role the neighborhood of residence can affect the lives of individuals. They propose five clear ways in which inclusion or exclusion because of the neighborhood can be identified: quality, image, stability, cohesion and connections to the city.[40] The quality of a neighborhood can affect personal values of individuals but also influence their behaviors when illegal activities and marginalized populations are present there; this characteristic affects the sense of being part of the society and self-esteem in individuals. The image of the neighborhood matters specially when it is negative as it can be a reason for discrimination of individuals trying to access different social circles or the job market. Furthermore, the negative image can drive businesses and services out of an area, thus increasing the marginalization of an area and the people living there. Stability is related to the population turnover and abandonment of an area, it affects neighborhoods by promoting bad reputations as people are moving out all the time and, in the worst cases, abandoned dwellings go out of the market, thus increasing deterioration of the material conditions of plots of land. Turnover also creates an uncertain atmosphere between the people living in a neighborhood as the evolution of the place becomes unclear, which harms the overall cohesion of the population there. The stability of a neighborhood is a key to limit exclusion and stigmatization as it allows to build communities among the inhabitants, which then can provide emotional and practical support for disadvantaged individuals. Finally,

the connection to the rest of the city is important because it allows the individuals to physically get involved in the space outside the neighborhood and benefit from it. This is important both in terms of labor, participation and welfare coverage, all of which provide opportunities for inclusion.

These two proposals on the effects of exclusion in space provide clues on how to look for clear marks while carrying out the research in urban environments. They highlight the central role of socio-spatial barriers and the way individuals relate to them to understand how daily life involves exclusionary practices. They also point how exclusion is a social process that involves not only individuals but the society as a whole with its stigmas and perceptions. With all this context in mind, I turn now to the final reflection of the chapter on how to work with two theoretical frameworks and carry out the research.

1.3

Platform cities and urban exclusion

After reviewing the two bodies of literature on the central concepts of this thesis it is useful to clearly point to the possible connections between them to understand how they guide the rest of the research. This final part of the text does this by answering the following questions: what are the exceptional transformations that platforms have brought to cities, how do platforms affect urban dynamics, how can platforms affect negatively the lives of people, how could platforms create social exclusion, and what are the expressions of exclusion sought after in the research.

First of all, it has to be pointed out that digital platforms are part of a bigger technological transformation centered on the widespread adoption of web-based information and communication technologies in several areas of human life. This adoption came with the decrease in the cost of computerized systems and network services that allowed for widespread use in many parts of the world. This rapid growth since the 1990s can easily be seen in the change of internet users during the past decades. The rise of digital platforms as ecosystems where people can interact through their smartphones is one step in this technological revolution and should be understood in this context when thinking about its implications. This means that the digitalization of life happens in various ways and has been occurring for some time now with changes, for example, in the way we consume media, we share information, we register our memories or we communicate with each other.

As it was explained, platforms have specially strong effects in urban areas because they depend on their particularities to thrive, like the agglomerations, the wealth of inhabitants, and the vast amount of services located there. Because of this, urban life has been heavily transformed by the technological revolution of which I talk about; transportation, retail, socialization, job-hunting, space navigation, and even the dating practices have changed. The main issue is that they are now mediated by a third party, the platform, and previous practices of social and economic life in the city have transformed or even disappeared. For this reason, it is interesting to study the effects of the transformation on the lives of urban dwellers.

It must be noted that, like it was introduced, platforms and the algorithms that they use are not neutral in their organization of activities, in the sense that they pursue clear goals of efficiency, profit or engagement of users. Think of the network effects that were explained and how companies have to keep attracting users to make the business profitable, that when considering their operation as multi-sided markets are pushed even more to keep users engaged in using the platform to ensure some degree of success. Because they are private, platforms tend to have a profit-making goal, while space efficiency, user satisfaction, quality of service or compliance of the law are secondary. For this reason too it is interesting to analyze platforms in a critical way.

Another relevant aspect of the transformation has to do with the asymmetry of capacities and resources between the government and the companies that was explained. Platform companies have become relevant actors in the industries where they have entered because they employ thousands of people in cities and provide thousands of customers. This relevance has made them participants in the management of key industries in cities, some clear examples are transportation, housing, retail, and delivery. This new configuration of the governance of the industries poses challenges for governments as they have to interact with the platform as regulators or partners without having clear legal frameworks and experience that guide their action. Related to this is the technological solutionism that was introduced, which advocates for platforms and technology firms as problem solvers in every aspect of urban life, often ignoring the negative consequences they create.

The virtual and computerized environment in which platforms exist is also a key characteristic to keep in mind as it is a new geography of urban spaces. As any cartography, this one is created by a clear actor and it is shaped according to its interests, so it is not neutral. This is important to keep in mind because just like social interactions in the platform are not spontaneous, the interactions of users with space through the virtual ecosystem aren't either. The access and the governance of this virtual ecosystem is private by principle and it is held by the firms that have created it, which poses a challenge for society when questions about accountability, transparency and neutrality are raised. The ownership and management of all the data recorded through the platforms is one of the most important issues related to the private nature of the platforms, as it is composed of the information about the lives of millions of urban dwellers and it is analyzed as a pure private asset.

I defend that the nature of the digital platform as we know it today can be exclusive because it has no incentive to provide social wellbeing over economic profit, thus it disregards the possibility of leaving individuals out of social, economic or political activities. Here I bridge both bodies of literature to understand how this exclusion can happen in cities after the arrival and widespread adoption of services through digital platforms.

Due to the asymmetry in capacities and the lack of experience dealing with this new technology, governments are challenged to deal with platform companies operating in cities. The private nature of the companies and their increasing participation in services poses a risk for universal access, especially when considering that they are driven by profit and often are transnational firms. The lack of accountability and transparency add to this risk as the operation of the platform is difficult to understand for anyone who doesn't know its algorithm. Their discursive placement is also a risk as they have become almost immune to criticism in the face of their apparent innovation and solutionism to complex problems.

The challenges that these companies pose could produce exclusion when uncontrolled, which would be expected in places where the government is surpassed in capacities and resources. As it has happened in many industries, like the ones regarding transportation or retail, platforms are highly competitive businesses, although not always because of their profits but by the huge investments they receive. What follows in many of these cases are urban conflicts were affected individuals demand harsher controls for the newcomers and sometimes better conditions for themselves. In the worst cases, the platforms have been able to displace individuals from the sectors they transform; the

gentrification processes fostered by short-term rentals, the reduction in uses of certain public transportation, and the disappearance of physical retail in parts of cities are good examples.

Exclusion, understood as a process by which individuals or communities are left out or denied access to parts of the social, economical, political or cultural aspects of life, is natural to any society and, as Madanipour explains, it is a problem when it is not reduced by inclusionary practices. It can happen in many forms but I use the typology proposed by this author: economic, political, and cultural. Focusing on the economical and political ones, I trace the exclusionary practices through three main ways: exclusion through labor precarity, exclusion through privation of services, and exclusion through digital barriers.

Exclusion through labor precarity refers to the lack of access to a stable and safe job that allows an income high enough to satisfy the necessities of individuals. Precarity can be expressed not only on unsafe working conditions, unfair labor control, unstable amount of working hours or uncertain wage. In this case, precarity represents a potential of economic exclusion as it affects the source of income of individuals, sometimes by damaging their health or sometimes just by not offering enough money as a wage. Here, the predominant type of exclusion is economic as it is related to labor, which is the main source of income for individuals, but it can also be political when individuals are denied a possibility to voice their demands and have them solved by governments or employers.

Exclusion through privation of services refers to the economical harm that causes not being able to access a basic urban service, like transportation, healthcare, education or public spaces. This idea relies on an assumption that social mobility and quality of life are improved when people can satisfy their needs to the biggest extent. Access to services can be either provided by the government or through a private, in which case, the matter of accessibility is linked to affordability and consumption. This observation is supported by the effect on the consumption that Turok et al. describe in their proposal.

Exclusion through digital barriers refers to the potential that appears when interacting with the particular characteristics of digital platforms. Issues like the digital divide, digital literacy, lack of bandwidth, and the lack of transparency in the management of the virtual ecosystem are central issues here. This part relies on the concept recalled by Gilbert, citing the work by Pierre Bordieu, of technological capital which refers to the capacity of individuals to exploit the benefits that information technologies offer, similar to his concept of social capital.[41] This exclusion refers to the possibility of being left out of economic opportunities or communities because of not being able to use digital tools at their full capacity. For example, someone not being able to access a service booked online due to the lack of knowledge on how to use a website.

These three hypotheses are not absolute, in the sense that they don't attempt to explain everything that can be observed from the case study, but they are aimed at identifying some specific examples of exclusion. The third one especially tries to delve into the digital exclusion dimension of urban studies through the example of platforms providing services. These three ideas are useful to structure the research. This framework sets the basis for the rest of the study to which I turn now, by presenting the context of the case study about ride hailing platforms in Mexico City.

Notes

1   Nick Srnicek has written a basic reference to understand the digital platform not only as a service-tool, but also as a new method of capital accumulation. This section uses a lot of his work as a base for the conceptual framework. See: Srnicek, Nick, "Chapter 2: Platform Capitalism", *Platform Capitalism* (epub version), Polity Press, Cambridge, 2017.

2   Cross-subsidization is a business practice of charging different prices to consumers where some pay more, thus "subsidizing" the ones that pay less. In digital platforms where firms provide different services, these actions take place by offering services at different costs. The classic example is charging for advertising on social media, while allowing users to scroll through it and post for free.

3   Barns, Sarah, *Platform Urbanism. Negotiating Platform Ecosystems in Connected Cities*, Palgrave Macmillan, Sydney, 2020, p. 144.

4   *ibid*

5   See Caprotti, Federico *et al.*, "Beyond the smart city: a typology of platform urbanism", *Urban Transformations*, (2022)4:4 and Srnicek, "Chapter 2: Platform Capitalism", *Platform Capitalism*

6   Srnicek, "Chapter 2: Platform Capitalism", *Platform Capitalism*

7   Caprotti, Federico *et al.*, *ibid*

8   Evans, David S., "Some Empirical Aspects of Multi-Sided Platform Industries", *Review of Network Economics*, vol.2, issue 3, September 2003, pp. 192.

9   *ibid*, p. 195-198.

10   This explanation is derived from David Harvey's analysis on the shift from Fordism to flexible accumulation models in Harvey, David, *The Condition of Posmodernity. An Enquiry into the Origins of Cultural Change*, Blackwell Publishers, Oxford, 1989.

11   Sassen, Saskia, *Expulsions. Brutality and Complexity in the Global Economy*, The Belknap Press, Cambridge, 2014, pp. 16-17, 25.

12   Rossi, Ugo and Vanolo, Alberto, "Urban Neoliberalism", in *International Encyclopedia of the Social and Behavioral Sciences*, Second Edition, Elsevier, 2015, Volume 24, p. 846.

13   See Harvey, David, "Neo-Liberalism as creative destruction", *Geografiska Annaler: Series B, Human Geography*, 2006, 88:2, pp. 145-158.

14   See: Harvey, David, "From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism", *Geografiska Annaler. Series B, Human Geography*, 1989, Vol. 71, No. 1, pp. 3-17.

15   Hartt, Maxwell *et al.*, "The Promise and the Peril of the Smart City", in Zwick, Austin and Spicer, Zachary, *The Platform Economy and the Smart City. Technology and the Transformation of Urban Policy*, McGill-Queen's University Press, 2021.

16   *ibid*, p. 216.

17   *ibid*

18   *ibid*, pp. 217-220.

19   Vadiati, Niloufar, "Alternatives to smart cities: A call for consideration of grass-roots digital urbanism", *Digital Geography and Society*, 3(2022), pp. 2-3.

20   *ibid*

21   Caprotti *et al.*, p. 4.

22   The following discussion is based on the comparison made in Caprotti *et al.*, pp. 3-4.

23   Barns, *op. cit.*, pp.95-96

24   *ibid*, pp. 102-106

25   Barns, *op. cit.*, p. 127.

26   *ibid*, p. 134.

27   Celata, Filippo and Chiara Certomà, "Digital platforms and socio-spatial justice in the (post-)pandemic city: Introduction to the special issue", *Digital Geography and Society*, 3(2022), p. 2.

28   This definition is adapted from the one proposed in European Council, *Joint report by the Commission and the Council on social inclusion*, European Council, Brussels, March 2004, available in https://ec.europa.eu/employment_social/soc-prot/soc-incl/final_joint_inclusion_report_2003_en.pdf, p. 9.

29   Nowosielski, Michal, "Challenging Urban Exclusion? Theory and Practice", *Polish Sociological Review*, 3(179), January 2012, p. 372.

30   Madanipour, Ali *et al.*, *Social Exclusion in European Cities. Processes, Experiences and Responses*, Routledge, London, 2000, p. 76.

31   Nowosielski, *ibid*, p. 370.

32   *ibid*, p. 372.

33   Turok, I. *et al.*, "Social Exclusion: In What Sense a Planning Problem?", *The Town Planning Review*, vol. 70, no. 3, July 1999, p. 364-366.

34   Turok, *ibid*, p. 365.

35   Nowosielski, *ibid*, p. 372.

36   This concept and its typologies are discussed in Madanipour, Ali, "Social Exclusion, Space, and Time" in LeGates, Richard T. and Stout, Frederic (eds.), *The City Reader*, Routledge, London, 2020, ebook version.

37   Madanipour, "Social Exclusion, Space, and Time"

38   Turok, *ibid*, pp.373-374.

39   *ibid*, p. 376

40   *ibid*

41   Gilbert, Melissa, "Theorizing Digital and Urban Inequalities. Critical geographies of 'race', gender and technological capital", *Information, Communication & Society*, vol. 13, no. 7, October 2010, pp. 1000-1018.

A delivery rider cycles through Paseo de la Reforma Avenue in central Mexico City. Senior citizens are common workers for digital platforms in Mexico City, due to the defficient coverage of retirement pensions .

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2

# *Mexico City, the local government and the platform economy*

A brief context note on Mexico City

Mexico City is the capital of the country, it is located in the Valley of Mexico basin upon what was the Aztec capital, Tenochtitlan. The city itselt is only the central state of the metropolitan area made up of municipalities in two other states: Estado de México and Hidalgo. The whole metropolitan area has a population of 22.4 million inhabitants, out of which 9.2 live in the central state.

The metropolitan area has little coordination in its political administration and few things are managed in a metropolitan level. The metropolitan area, however, is closely related as every day people come to the central state for working and studying. This creates constant intense fluxes between the periphery and the center, which rely on public transportation.

The central state has an area of 1,495 square kilometers. The city has an urban area in the Northen part of the state, a rural and conservation one in the Southern half of it. The bigger part of the population concentrates in the urbanized areas. The city got its current size after its growth during the past century, particularly the period between 1950
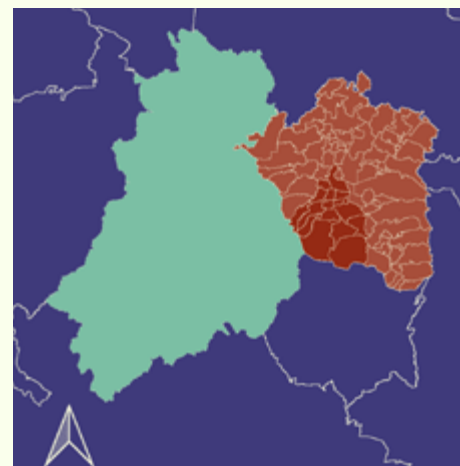
Top left: Location in Mexico of Mexico City and Estado de México, the two states where the metropolitan area is. Top right: Focus of the two states, showing the 76 municipalities that make the metropolitan area.

Mexico City is properly composed of only 16 municipalities, the central city is located between Benito Juárez, Cuauhtemoc, Miguel Hidalgo and Venustiano Carranza.

1. Álvaro Obregón
2. Azcapotzalco
3. Benito Juárez
4. Cuajimalpa
5. Coyoacán
6. Cuauhtémoc
7. Gustavo A. Madero
8. Iztacalco
9. Iztapalapa
10. La Magdalena Contreras
11. Miguel Hidalgo
12. Milpa Alta
13. Tláhuac
14. Tlalpan
15. Venustiano Carranza
16. Xochimilco

Population distribution sextiles in Mexico City by AGEB

Number of inhabitants

- 0-1500
- 1501-2500
- 2501-3400
- 3401-4400
- 4401-5800
- 5801-22000
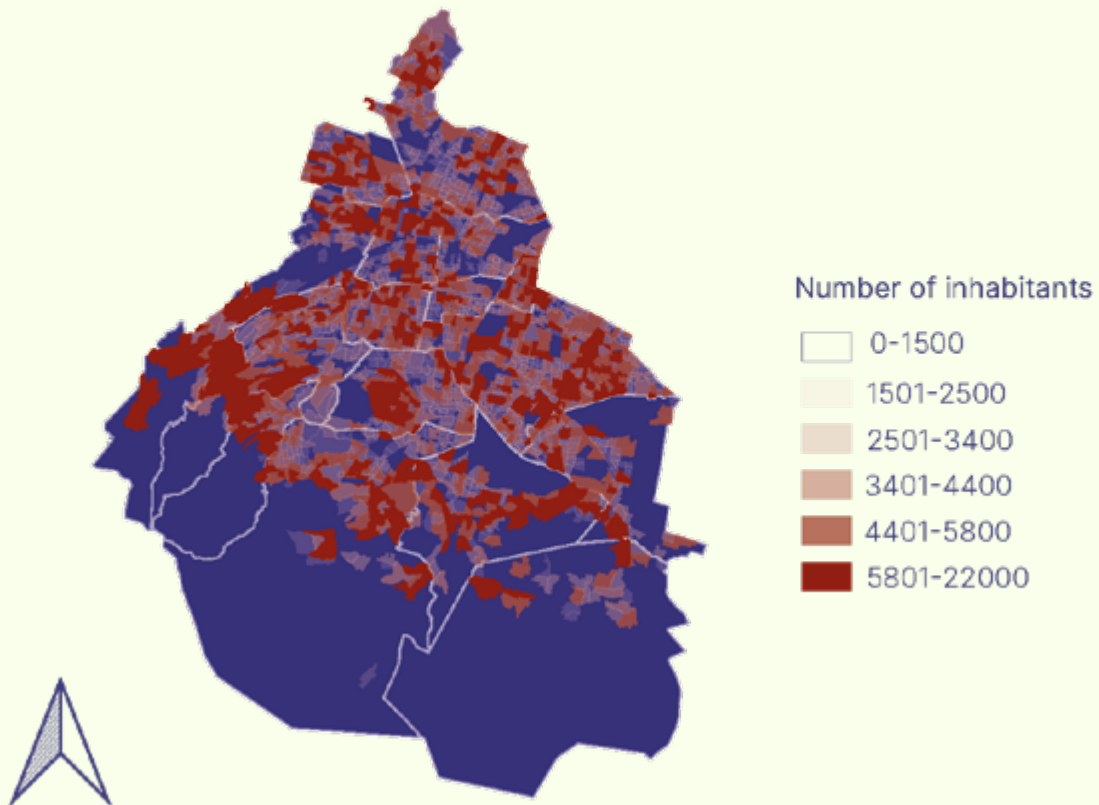
This map shows the AGEBs (the statistical unit used by the National Statistics and Geography Institute (INEGI) to measure indicators in space) with the biggest concentrations of population in the city. As it can be seen, the highest densities are more common outside of the central city but at the AGEB scale there is not a homogeneous distribution in one municipality.

Made by the author with data from Instituto Nacional de Estadística y Geografía (INEGI), 2020.

and 1980 when the import substitution model of the Mexican economy allowed the industrialization of the city and the country. The city grew a big share of its sprawl through informal settlements built by immigrants coming to work in the city, which were later recognized in exchange of political support.

The city lies in a valley and, as such, a big part of the most vulnerable areas of the city are built on slopes or former lakebeds. These situations make the city highly vulnerable to floodings and earthquakes. The central part of the city suffers a similar vulnerability as it was built over a lakebed and has undergone periods of suburbanization and repopu-

lation in the past century. Recent population changes include the depopulation of the central area after the 1985 earthquake and its following repopulation in the 2000's.

The city holds a political relevance in the country since its foundation. In the previous century, it was a federal territory, for which it received plenty of subsidies on basic services, something that continues to this day. The position of mayor is a highly relevant one in the country as it is regarded as the second most powerful after the president.

Rate of dwellings with computers in Mexico City by AGEB

Percentage of dwellings with a computer, laptop or tablet

- ☐ 0%-20%
- 20%-46%
- 46%-61%
- 61%-77%
- 77%-100%

Maps displaying the access to different services in dwellings of Mexico City. These maps portray the inequality that characterizes the city, which is not equally distributed in space. As it can be seen, the central city concentrates the dwellings with higher access to services, which is related to wealth as these are private ones.

The contrast between access to computer and internet is notable, with the latter been a bit less widespread. These maps could act as a proxy to understand wealth distribution in the city and familiarity with internet.

Made by the author with data from INEGI, 2020.
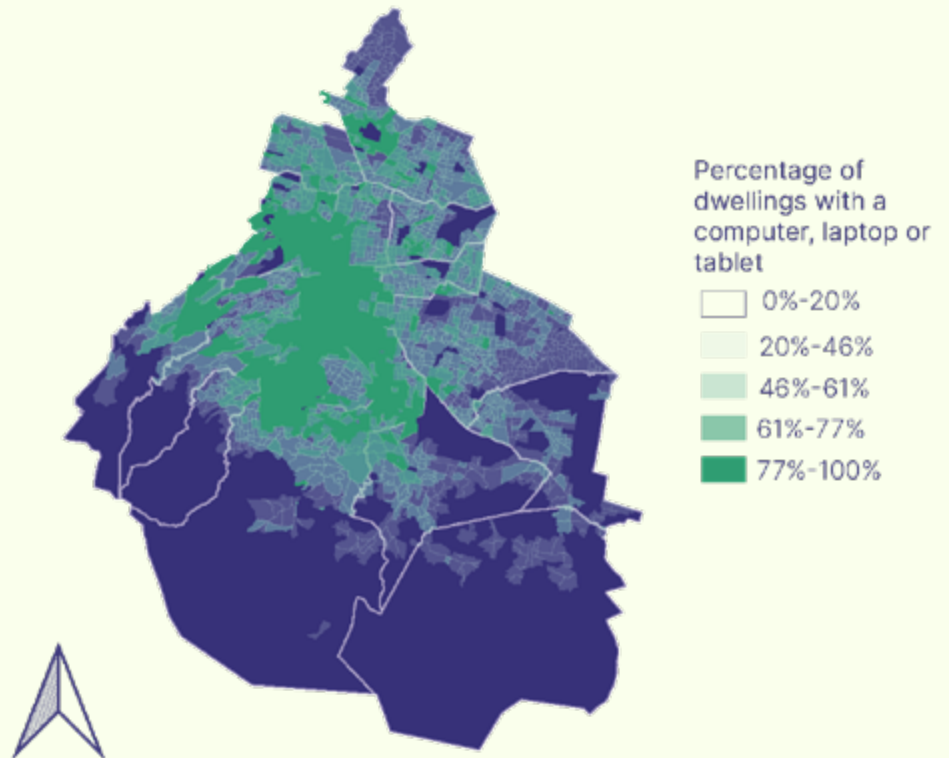
Rate of dwellings with internet access in Mexico City by AGEB

Percentage of dwellings with access to internet

- ☐ 0%-30%
- 30%-60%
- 60%-75%
- 75%-85%
- 85%-100%
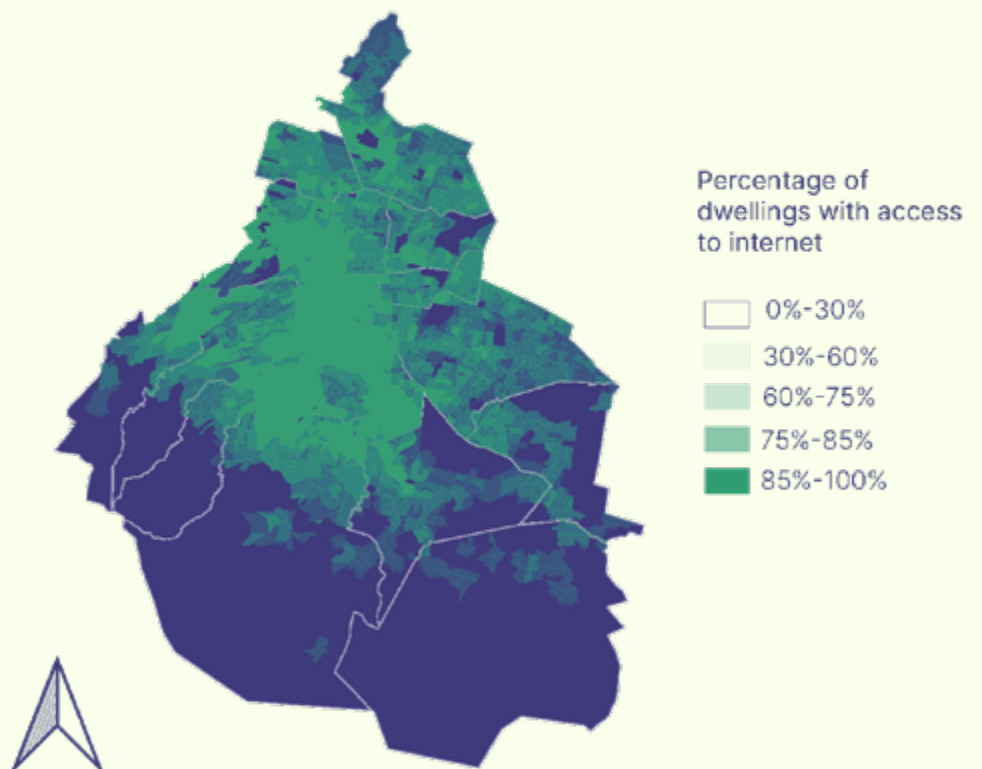
Rate of dwellings without computers and access to internet in Mexico City

Percentage of
dwellings without a
computer and access
to internet

- 0%-10%
- 10%-20%
- 20%-30%
- 30%-50%
- 50%-100%
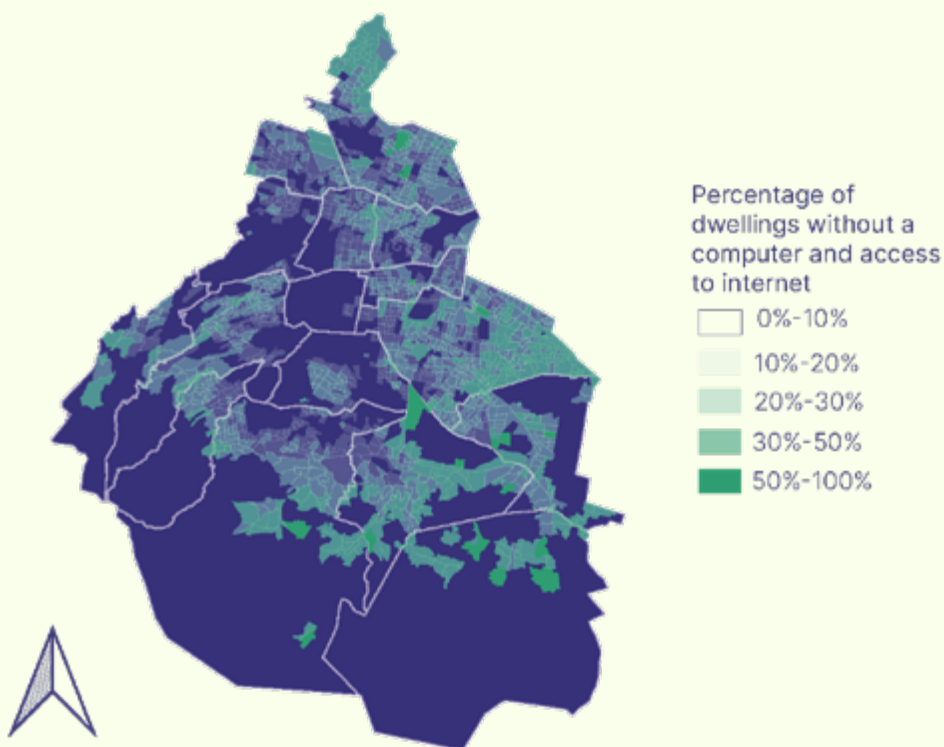
This map reveals a further marginalization picture of the city as it shows people without access to internet or a computer in their house. In line with the other maps, the Eastern part of the city is the one with the lower access. Similar situations occur in other areas outside of the central city in some parts of municipalities to the South and West.

Made by the author with data from INEGI, 2020.

The public transportation services

The public transportation network of the city is made up of diverse transportation modes. The biggest and most symbolic is the subway system (Metro) which covers most of the center of the urbanized area of Mexico City. Along with it, the mass transportation services include BRT lines, one suburban train, one electric train route, and two cable car lines.

A vital part of the system is the concessioned bus servive that covers most of the city. This mode offers routes everywhere in the city and is given in diverse conditions. One of the bigger problems in this service is the unsafe conditions of some of its vehicles.

Among the services present in the city, there are minor micromobility ones. The bigger is the public bike sharing service which covers mostly areas in the central city but has expanded in the recent years. Along with this one, private micromobility companies have operated in the city in the past, mostly offering electric motorcycles, dockless bicycles, electric scooters, and electric bicycles.

Other types of services include the taxi service which is operated in two main types: street or base. This industry carries a bad reputation as insecure and unreliable, but recent programs have aimed to change this. This service is an alternative to the rest especially during night, when other services have stopped running or have low frequencies.

Together with the public transportation services is a wide set of private services with little or no regulations. Among them there is the ride hailing service, the microtransit one, interstate transit, and car sharing.

Mass transportation network of Mexico City

Mass transportation services routes
— Bus Rapid Transit
— Electric Train
— Cable Car
— Subway
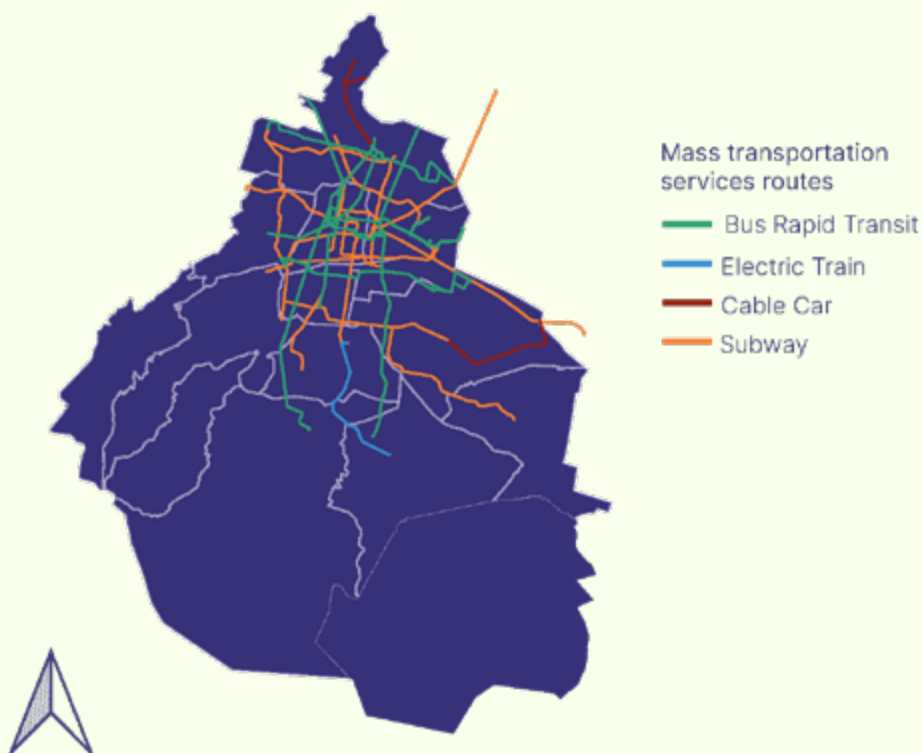
This map shows the network of mass transportation services in Mexico City. The backbone of the network is the subway system built since the 1960's. Followed by it, is the BRT network known as Metrobus, made of street level routes. Smaller local services are the electric train in the South of the city and the recently built cable cars that serve montainous areas outside the central city.

Made by the author with data from Agencia Digital de Innovación Pública (ADIP), 2023.

Mass transportation coverage and population distribution in Mexico City

Mass transportation network

— Routes

Number of inhabitants

- ☐ 0-1500
- 1501-2500
- 2501-3400
- 3401-4400
- 4401-5800
- 5801-22000

Mass transportation coverage and dwellings without computers and internet access in Mexico City

Mass transportation network

— Routes

Percentage of dwellings without a computer and access to internet

- ☐ 0%-10%
- 10%-20%
- 20%-30%
- 30%-50%
- 50%-100%

These two maps show the coverage of the mass transportation routes in the city, compared with the distribution of population and services.

The first map reveals big parts of the population underserved by mass transportation, some of these zones are located in geographically difficult to access areas. The development of the urban sprawl in the recent decades happened at the same time that investments in mass transportation decreased, which explains the high reliance on smaller transportation modes for daily trips.

The second maps shows marginalized areas of the city with no access to the mass transportation network. These marginalized areas are also some of the most recent part of the sprawl, which might explain them being left out.

Made by the author with data from INEGI, 2020, and ADIP, 2023.

About the local government

A few considerations could be mentioned about the local government that are relevant for the study. The first one is that as a federation, all the states composing Mexico agree on giving up part of their power to the federal government. This is the case with certain taxes and regulations. For example, taxes on wealth (income and profits) are set on the federal laws, making it impossible for states to collect them. However, taxes on use of infrastructure, certain environmental issues, administrative matters, and services are governed at the state level. In a similar way, the federation makes the regulations regarding labor, technical norms, health, public infrastructure, competition, to name a few. At the local level, governments can set specific rules on the use of public infrastructure, zoning, services, business operations, for example.

A second thing to consider is that Mexico City as a state with its own government is quite a recent thing. Before 1993, the city was governed through a branch of the federal government. This meant that local government was not elected, but named by the president, and 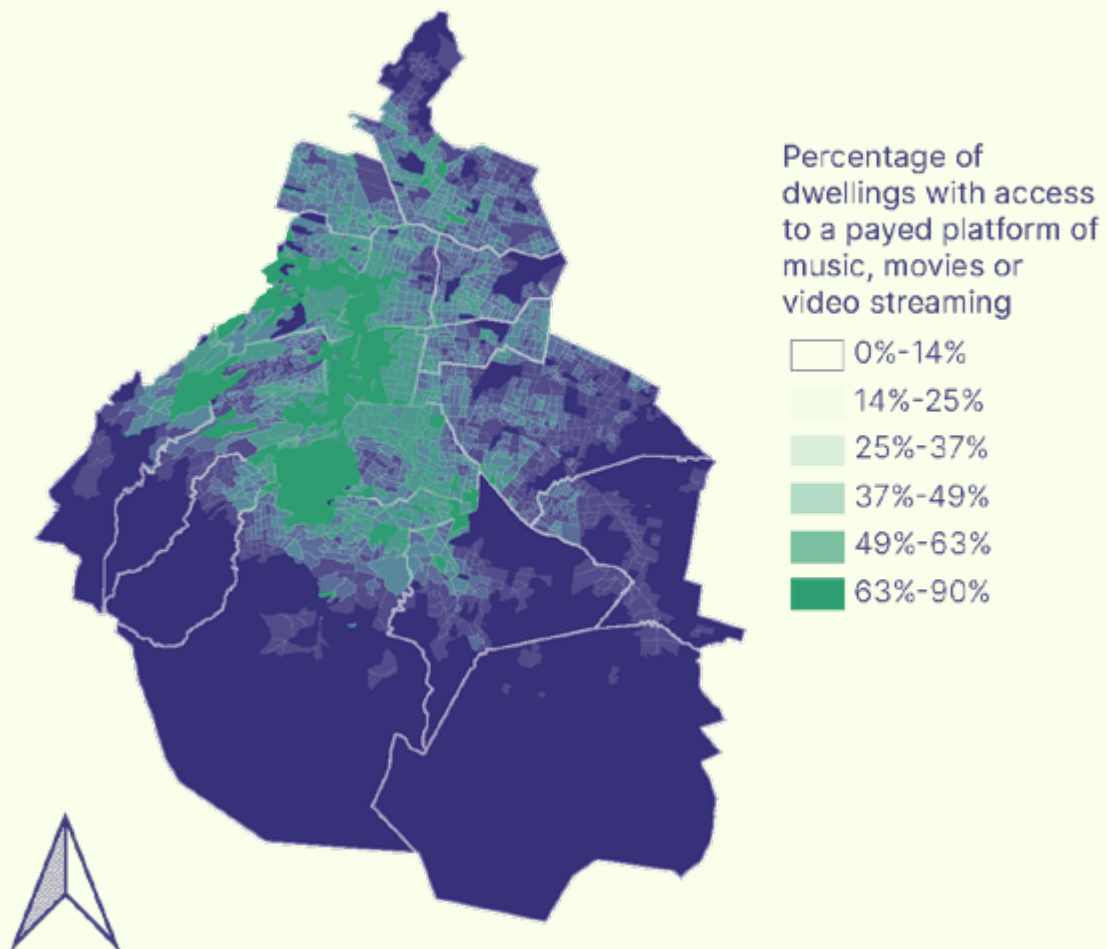the political rights of the local population were limited. However, one of the ways in which this model worked to provide stability for many decades, both at the national and local levels, was through corporatist organization of society. In the city, the ruling party served the demands of the population through collective organizations, either spatially (illegal settlements) or activity (transport workers, business owners) related. This system partially changed towards the end of the last century as the demands couldn't be served anymore and the party changed its ideological orientation. The government of the city finally changed in 1993 and had its first elected mayor in 1997.

Another thing to consider is that since the first local election for mayor, leftist parties have governed the city. First, it was the PRD (Partido de la Revolución Democrática) until 2018 and then a derived movement from it, Morena (Movimiento de Regeneración Nacional) since 2018. These governments have been characterized by an opposition to the federal governments in ideological and political terms, frequently advocating for certain progressive and redistributive policies. However, major areas of urban issues, like housing and zoning haven't followed this trend in the same extent as social rights, public health, education, and welfare.

In the present, the government is made up of 22 Secretariats in charge or managing the urban issues. Along with general transportation issues, ride hailing operation is among the responsabilities of the Secretariat of Mobility (Semovi). This secretariat works as the general guide for the companies in the city providing public transportation, be them public, public-private, or private.

Rate of dwellings with a subscription to an entertainment platform

Percentage of
dwellings with access
to a payed platform of
music, movies or
video streaming

- 0%-14%
- 14%-25%
- 25%-37%
- 37%-49%
- 49%-63%
- 63%-90%

This map shows an interesting overview of the dwellings with a subscription to a payed entertainment platform. Further research into this one could point interesting insights about the users of platforms in the city, as there are few other sources available.

Similar to what the previous maps showed, the access to this service is concentrated in the richer areas of the city, although this one seems even less accessible than having a computer or access to internet as there are no AGEBs with a percentage higher than 90. It should be considered, however, that ride hailing is a service that relies even more on banking transactions and smartphone use as every use requires them. This could point that digital literacy factors could make it less widespread than these platforms, which require a monthly payment and are based on televisions, computers or smartphones

Made by the author with data from INEGI, 2020..

3

Ride hailing in Mexico City: drivers, taxis, the local government, and the future of regulations

This chapter presents the stories of three perspectives of ride hailing in Mexico City through the eyes of people living there, whom I interviewed between May and July of 2023 for this research. The chapter answers many questions about how people relate to the ride hailing platforms in Mexico City, either as workers, competitors or regulators. I present a narrative that aims to explain how digital platforms define the lives of people in the city through daily or constant interactions, but also through the consequences of their operation. This narrative is focused on the things people told me about their work, their workplace, the way they move around the city, the way they interact with other users, the value they find in the platform, and the perception they have of it. Additionally, a big part of the narrative focuses on a question of regulations, it tries to understand how the government has tried to regulate this service and to what extent it has been successful. These insights on the governance of platforms in the city are valuable to understand how potential exclusion can be tackled and how public services have been affected by the arrival of platforms.

The main tool to build the narratives is the interview. I chose to interview people because of two main reasons: a technical feasibility and as a defense of individual human experiences in a digital environment as a valuable source to understand a social phenomenon. The first reason, the technical one, can be understood when we discuss digital platforms. As it has been said before, the information about the physical assets that make up the platform tend to be private and the business model of these firms relies on keeping it like that. In the case of ride hailing, it is impossible to know for sure how many users the platforms have, either as drivers or passengers, in the city because the information is not

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public. The implication of this is that it is impossible to study this service through quantitative data without making a recollection with this specific purpose, which is out of the reach for this research. In a similar fashion, to think of representative surveys to users of the platforms is also an undoable task with the resources available.

The second reason for using the interviews has to do with the value of personal experience relating to a digital interface as it allows for perceptions and opinions that would be lost in a quantitative analysis. By studying a social phenomenon as social exclusion, the daily practices of individuals within the society and the space of the city become powerful windows into the way in which social organization is taking place. These windows can reveal behaviors and habits that can be explained by the people interviewed and show potential expressions of exclusion; specifically, the labor trajectories, social interactions in the workplace, labor conditions, profits, and the negative effects of the interactions with the platform could be good examples of this. Interviews also act as a defense of the individual knowledge that people acquire in the daily interaction with the platforms, which by itself is a way of questioning the technological solutionism that these firms advocate for. What I mean by this is that interviews trust in the experience of individuals to understand social events and phenomena happening in the city, which big data and quantitative analysis can't show. The result is hopefully a partial picture of the relation of the city with the platform made by the people who are directly affected by it, rather than a sole analysis of the numbers and movements of individuals in space.

The following text is made up of five more sections. The first section presents an overview of the methodology of the study, it explains who was interviewed, how the interviews were carried out, what information was sought after in each, what information was actually acquired, and what were the major missing parts that could provide a broader look at the ride hailing industry in the city.

The second section starts the narrative by introducing a story of ride hailing drivers working in Mexico City at the present. It uses the experience of the drivers to understand how this job functions, why people enter the platform, how are the profits made, what are the risks and positive aspects of it, how does the platform work, and how has the job changed in the recent years, among other questions. Additionally, this part includes a small case study on a group of drivers that sort out the complications of platform work through other digital tools and organization between them; it is an interesting look at how individuals can find detours in the platform work to make it more convenient for them.

The third section continues telling a story of a taxi base in Mexico City (sitio de taxi, in Spanish), which is one of the types of taxis available as public transportation. This story is based on an interview with one of the older drivers there and it is centered on his daily routine, the way the job works, the relation of the base with the neighborhood, the history of the place, the changes since the arrival of Uber, and the challenges of the present. This retelling works as an example of the way ride hailing has changed taxi services of a certain type and it doesn't intend to be conclusive as there are thousands of these bases in the city and surely they have different histories.

The fourth section tells the story of the regulators from the government, who are indirect actors in the relation with the platform as, I will show, the private nature of the service pretends to be out of the scope of public laws of

transportation. This narrative is centered on three main topics: the current state of ride hailing in the city, the way the ride hailing services affect the mobility, and the way the government tries to regulate them. This insight is extremely valuable as it presents a description of the challenges to reduce the negative effects of ride hailing from a local government perspective. It is useful too to foresee how potential exclusionary practices could be dealt with through the context-specific legal and informal tools of Mexico City. This part also includes some interesting views of the difference between the contrasting visions of technology firms and a local government led by a Leftist leaning major, directly from people involved in it.

A final section tells the insights from a single interview with a public official who discussed a future vision for the regulation of digital platforms in the city. This part works as a concluding comment for the chapter as it presents some ideas on how to change the state of digital platforms in Mexico City to build a less unequal society and improve the overall mobility. This section focuses on the questions on what can be done from here and what is missing to better regulate the negative effects of technology firms. I include this insight as it is an interesting reflection of the reach of local governments when they face transnational corporations that surpass their capacities and resources. I defend this commentary as it is useful to think of the future in an optimistic way instead of a disempowered one.

3.1

About the methodology

To build this narrative, nine interviews were carried out with different actors with a distinct relation with the ride hailing platforms in the city. The bigger share of interviews was made up of ride hailing drivers (5), followed by government officials (3) and a single taxi driver. All the interviews were carried out between May and July of 2023, most of them in person (7) and a few online (2). The choice of the people interviewed depended on the type but was either by random encounter (ride hailing drivers), relation with someone from my social circle (ride hailing drivers and taxi driver) or specific choice for their professional activity (government officials). In the case of the ride hailing drivers, further

interviews were done using a snowball method.

The interviews were semi structured with some basic questions to start a conversation and get key pieces of information, all of them lasted between 45 and 100 minutes. The three types of interviews conducted required a unique base questionnaire that focused on the relation with the platform and nature of the job for ride hailing drivers, the changes in the service for the taxi driver, and the current state and ways of regulating the platforms for government officials. While most of the interviews were carried out in offices or restaurants, four of them were done while riding a taxi or for-hire vehicle as a passenger, which

was significant in the type of references and topics that were talked about.

The interviews with the ride hailing drivers were focused on identifying potential social exclusion mostly through labor practices. Because of this, the job and the way they carry it out was the main object of the interview, while trying to connect the personal context to see how it affects certain outcomes of the relation with the platform. A secondary focus was on the reasons why they chose this job, the positive aspects of it, and the risks of doing it; here, the main interest was to see how certain is their income and what it entails in terms of health, social interactions, and personal safety. A third focus was on the way drivers relate to the platform and the city, this focus helps to understand a bit of the spatiality of the work and the particularities of the algorithmic nature of the organization. In this case, the interviewees served both as informants on the nature of the job, but also as

examples of labor trajectories to identify any possible sign of exclusion.

The interview with the taxi driver focused on identifying the potential social exclusion through the privation of public services. The main focus of the interview was on understanding how the taxi service has changed since the arrival of ride hailing platforms to the city. The aim of this was to understand if the public service had been affected negatively, as it is commonly assumed, and how that affected the mobility of people. After the recollection of the history of the place and the labor trajectory of the driver, some questions regarding the continuity of the service and the current challenges were made clear. A second focus was on the daily operation of the taxi service and how the job is carried out, these observations were very useful to understand how contrasting or how similar the service is to ride hailing. This information was useful to draw some ideas on how to solve the unequal condition of both services, in order to solve the negative effects ride hailing has had on it. This interviewee provided information on the current state of a public service.

The interviews with government officials had three main foci: the state of ride hailing in the city, the way it affects the mobility of people, and the way the government can or can't regulate it. The interviewees worked as valuable informants on the state of the platforms as they are members of the Secretariat of Mobility of Mexico City, the organization in charge of regulating and authorizing them. They also have been active participants in the regulatory process since at least 2018, when the current administration of the city started. This information was useful to understand the type of service ride hailing is, how important it is for the city and how it has changed since its arrival in 2013. The second focus is on the role of the platforms in the mobility of the city, which is useful to understand the effect on other transportation services, mainly the taxi industry, and how it has become an essential part of the lives of many inhabitants. The third focus was on the way the government relates with these platforms, mostly by trying to make them comply with certain regulations as other transportations services. This focus showed the extent to which the local authorities can control the effects of ride hailing in the city and reduce its negative impacts, while

A Tesla electric car working for the ride hailing platform Beat rushes through Gabriel Mancera Avenue in Del Valle neighborhood. Beat introduced high scale Tesla vehicles in their platform in Mexico City in 2020 as a premium service after the local government started offering discounts on contributions from ride hailing companies for electric vehicles.

showing how regulations work in reality. These interviews also allowed something unforeseen, a conversation about the future of ride hailing in the city and how governments can deal with corporations in such an asymmetrical relationship. This focus on the future is the central theme of the last section of the chapter. The interviews allowed me to understand how the transformation of public services and the institutional weakness could prevent successful policies to improve potential exclusionary practices in the ride hailing industry.

What follows is a retelling of the main topics and discussions that made up the interviews. Each section has further divisions focused on key ideas that explain deeply the relation with ride hailing from different actors. A complete list of the interviewees and the questionnaires used can be found at the end of the study in an annex.

3.2

Drivers: working in the ride hailing platform

One Friday in July of this year I boarded a for-hire vehicle I ordered through Didi, the second major ride hailing platform in Mexico, in the center of Mexico City. It was peak rush hour in the center of the city and traffic was as bad as it can be, I booked a ride to arrive at an appointment. I managed to get a vehicle very quickly as it appeared to be finishing a ride just some meters away from me. When I got into the vehicle the driver tried finishing his previous trip on his smartphone but had trouble doing it to the point that he restarted his phone. After this, the application on his phone stopped working and he grew very frustrated, ranting and hitting the smartphone as he was telling me this wasn't the first time this happened and he would have to pay for the previous trip as a penalization. His biggest worry was that the previous passenger thought that he didn't want to finish the trip in order to get a bigger

payment for it, even if they had already gotten off the vehicle. This, he told me, was the worst outcome because additionally to the monetary penalization, his rating inside the platform would go down because of a technical error. After some minutes the application finally started working and he was able to finish the previous trip and start a new one, but his mood was still upset. The rest of the trip wasn't very comfortable for him, as the heavy Friday traffic and his slow-working smartphone made driving a stressful situation. I finally arrived at my destination after a trip of around fifteen minutes, we said goodbye, and he continued searching for his next trip.

This episode is an illustrative first-hand experience of two particular characteristics of platform work as described by the people I interviewed for this research. The management of

the job by an automated digital platform is the first characteristic and it displays the way this job is carried out by mere instructions of a virtual boss without any possibility of failing at it without getting penalized. This situation, as I mentioned, brings drivers frustrations and a feeling of disempowerment when working. The second one is the precarious conditions in which the work has to be carried out, as regardless of heavy traffic or tiredness profits are highly mediated by serving the platform demands and there isn't a certain income guaranteed. These two characteristics will show up again in the following pages, but they are useful to start this retelling by obviating that pla-

tforms require human labor to function and that this relationship is complex and can bring negative consequences on the workers. I start now by defining the work I am talking about, driving for ride hailing, by some testimonies of people that do it, later I will turn to answer questions on why does people enter this job, how is profit made through it, what do individuals value from the job, and what negative effects it has on them. Additionally, I briefly describe a hopeful workers organization that has managed to solve some of the negative aspects of the job and attempts to reduce the asymmetries between them and the platform on a daily basis.

The job

Ride hailing in Mexico City begins as it does in any city in the world. Every working day the driver opens an application in their phone where they have a profile connected to their personal and bank information. This application has access to the GPS on their smartphone and presents them with a dynamic map with information on the distribution of trips around the city; some areas offer bigger profits than others as they have bigger demand from users on the other side of the app. The driver then starts moving in the city in search of a trip, which the platform will automatically assign to them with an established fare and profit and which can be accepted or not by the driver. In case they accept, the driver will travel to a spot in the city to get the passenger. Once the passenger boards the vehicle the trip will start and it will finish when the vehicle arrives at the destination the passenger marked on its side of the platform. After this, the passenger could either pay automatically through a bank account linked to their profile in the platform or by cash directly to the driver. After ending the whole trip,

both users, driver and passenger, are asked to rate the other, which makes up the rating of both of them inside the platform. The driver then repeats the process of searching for a new trip until they wish to disconnect from the platform. In general, this is the way most ride hailing platforms work in any major city, changing only details on the fares, information available to drivers, penalties, bonuses, and dynamic fares.

This digitally mediated process offers a job that is arguably simple, as it only requires driving a car and following the instructions set by the platform. Any uncertainty factor, such as not knowing the city or not knowing the expectations of the passenger is solved by the platform as it offers GPS navigation, rating systems, and mediated communication between the people involved. What results is a job that gives clear and simple instructions to the driver, thus making it highly accessible to any person, which is one of the main selling points by the companies: that anyone can become a driver. In reality, there are few comprehensive

studies about the profile of the drivers in Mexico City that confirm this publicity. It is impossible to create a specific profile of the ride hailing driver in Mexico City due to the lack of public basic information as the companies keep it private and the local government doesn't have a registry that relies on incomplete information delivered by the firms. Official data from the government of the city indicates that between August of 2020 and July of 2021, more than 16,000 vehicles were registered by the ride hailing companies as actively giving the service.[1] Information from the period between January of 2019 and June of 2022 indicate that more than 26,000 people had been authorized a legal permit to carry out the job.[2] This number should be smaller than the reality, as it does not include the people who got permits since 2015, when the first regulation came into place, and it can't be officially confirmed with the one registered by the platform owners. Uber, the main ride hailing company in Mexico, claims that by September of 2021 they had more than 8 million users and 200,000 drivers in 70 cities of the country.[3]

The key point here is that ride hailing today is an industry made up of tens of thousands of people in Mexico City and a significant statistical analysis would be required to know profiles of the drivers. The interview approach that I used to know the profiles of the drivers is useful to know certain types of people in detail to at least know that they are part of the working force and, to a minor extent, know from them their perceptions of the people working in the platform. In this following section, I present the details as told by them.

One of the few studies on the profile of drivers, a 2021 survey to drivers from the ride hailing platform Didi, revealed that 93% of the respondents were men and more than 74% were older than 36 years.[4] This information was especially revealing when comparing it with other platform workers, delivery riders, who had a 68% share of people younger than 35 years. This was confirmed by drivers that I interviewed, they said that it is an easy to perform job, thus making it easily accessible to anyone who knows how to drive and has a decent familiarity with digital devices. Among the interviewees, I identified people with finished high school, unfinished bachelor's degrees, and finished bachelor's; both male and female drivers, in their thirties up to late fifties; all of them living inside Mexico City and not in the metropolitan area. The drivers were both people that have the job as a full time occupation and main source of income, and as a part time occupation and complementary source of income. From their perceptions, they think this job is done in a majority by men, younger adults and not the elderly, coming from everywhere in the metropolitan area of Mexico City, and often not pertaining to upper income households.

In theory, the job has no spatial and temporal concentration as the flexibility allows drivers to work in the area they prefer at the time they want to. However, the demand for trips shapes this temporality and geography, having the areas of the central city and the weekend, starting from Friday morning until Monday early morning, as the most busy moments for the job. At the same time, the dynamic fare that the platform sets is an incentive for drivers to cover all areas with demand and for passengers to use the service, to find less costly alternatives or to wait until the demand is reduced.

For these reasons, the working hours vary a lot between workers and are highly dependent on two factors: the amount of profits that they aim for and the familiarity they have working in the platform. Among all the drivers interviewed, there was a strong correlation between the need for bigger profits and the higher number of working hours per

day. Often, drivers who need bigger profits will work longer hours in the hope of getting more trips, even if the demand is low. Drivers who need less profits tend to choose shorter work hours, often in the most profitable moments of the week and when there is less traffic, which is the case of late nights, especially during the weekend. This difference is also reflected in the amount of pressure they feel when working the job, as bigger work hours are a response to a bigger necessity of profits that equals working through the hours with more traffic and a higher level of tiredness. Among the interviewed drivers, people who had the job as their main source of income

Among the most experienced drivers that have worked for years on the platform, the working hours tend to be the most cost-effective in terms of energy, gas, and time. Their experience in the platform has allowed them to distinguish between moments of the week when they can make bigger profits working less time. These moments concentrate on the weekend (Friday through early Monday morning) and during the rush hours of weekdays, especially during the morning commute (usually from 7:00 to 11:00). One of the drivers spoke of the time when she had little experience and not knowing peak hours implied wait times of 40 or 50 minutes between trips. There is a preference among certain drivers to work during the night, after 19:00, when the traffic conditions start to improve and driving is less stressful. The experience in the platform allows the drivers also to avoid dead hours when demand is scarce and they have to be either moving around the city or waiting in a busy area. This allows them

"It is supermarket. It is pharmacy. It is everything. Order now" reads on an Uber Eats billboard on the street in San Pedro de Los Pinos neighborhood. The ad refers to the possibility of ordering a wide range of products through it.

to save money otherwise spent on fuel for the car and lets them use the time in other activities if they know they can meet their profit goal in certain moments of the day.

The geographical distribution has a similar process as it is determined by the platform through an algorithmic organization. This organization is never disclosed by any platforms but in theory it is determined by the demand of trips at a given moment, it concentrates more drivers in the places where there are more potential passengers by offering them higher profits. From the interviewed drivers, I observed they follow this automatic allocation by moving to the places with more demand, which are displayed on the app dynamic maps, but also because of routinary activities in the city. This secondary mobility is product also of their experience working as they observe areas with high demand in specific moments of the week, for example those concentrating offices in the morning or nightlife and restaurants during the night. A common situation in most of the drivers is the avoidance of areas of the city they perceive or they know first hand that have high criminal activity. In this case, drivers avoid them to prevent robberies and prefer to reject trips to these places, which could be interpreted as a strengthening of the stigmatization of certain areas of the city. The geography of the service, however, is ultimately limited by the platform as they set unilateral boundaries to where trips can be requested from, following a profit-making strategy.[5] This is a first indication of an exclusive nature of the service.

Because of the way the service is given to passengers, through a platform and in a small vehicle serving a single trip, the work tends to involve few people at a time. There is no accessible data on the average number of passengers per trip, but the perceptions of drivers indicate that the commonality is one or two passengers at the time. The job requires drivers to move constantly inside the city or to wait at a point –for example, the airport– to be ready to get a new trip at any moment. This implies that the job is carried in an individual manner at all times and contact with other drivers is not encouraged by the platform. In Mexico City there are no formal waiting or resting places dedicated exclusively to ride hailing drivers, unlike for certain types of taxi drivers, which makes socialization a difficult process without any specific mechanism, like previous social relationships or the use of social media. The majority of the drivers stated that the solitude of the work is not always a bother for them, especially when they are not working long shifts. Although there is a possibility of socializing with passengers, drivers all stated that it is not the common thing to do and often contact is reduced to mere greetings and talk about a specific preference about the trip (music, route, air conditioner or payment method). As it will be explained later, the interactions are mediated by the platform, which can have positive or negative implications for the drivers.

Entering the ride hailing platform

Drivers agree that starting to work for the platforms is easy and fast. In general, the process in Mexico City is made up of signing up and creating a profile on the digital platform through a smartphone. This profile requires basic information about the person, personal documents (ID, driver's license), bank details, and proof of lack of criminal records. At the same time, the person registers a vehicle with its valid official license, although some platforms allow drivers to register without a car. In some cases, basic psychometric and safety tests are conducted in person or remotely through the app. These requirements could be thought of as the first entry barriers to access the job, as people with criminal records, no smartphones, driver's license, and bank accounts wouldn't be able to even register on the platform.

After this process, the company asks for a permit for the registered vehicle to the Secretariat of Mobility of Mexico City, which has a variable time of process from a couple of days to several months. Although this permit is required to legally work in the city, many drivers work with it because of the impossibility of the government to enforce the requirement. The whole process of signing up in the application and starting to work can take two or three days if all the documents are correct.

The process of entering the platforms is quick and easy, which is something valued by the interviewed drivers. As there are no actual examinations on the skills and knowledge of the persons to work as drivers, the job is accessible to anyone holding a driver's license, which in Mexico City can be acquired in minutes, and has access to a car. Access to a car does not always imply owners-hip, as two cases of the interviewees showed. One of them talked about how he started on the job by recommendation of a friend who had a registered car that was not being used during certain days of the week. He later calculated that his profits were high enough to buy a car for himself through credit, which he ended up doing. Another one retold a similar experience, where he entered the platform in an urgency to get an income and used a car owned by someone else. In these cases, the norm is that the driver pays a fixed amount of money for using the car each day.

Having a car is an entry barrier which is easily surpassed by drivers through contact with owners of fleets of registered vehicles ready to use and convenient loan offering programs by car companies specially directed towards ride hailing. In some cases, platforms also connect drivers without cars with fleet owners looking for people to drive the vehicles. From the perceptions of three of the interviewees, the rent of cars is a common practice in the industry, it can be convenient if the daily rent is not very high, and it is a useful method to start working immediately. One of the interviewees pointed to the familiar support he received to receive a loan like this even if he didn't have a positive credit history. The support from a close family member who acted as a warrantor for the loan allowed him to get a vehicle after working in the platform for six months in a rented vehicle. This was his car for the following six years and allowed him to get financial stability in that period and pay the loan without complication. I point to this example to reflect on the possibility of some part of the population of the city to get a car through credit even if they are underbanked and don't

The start of evening rush hour in Viaducto Miguel Aleman. Rush hours are periods when dynamic pricing tends to go up in ride hailing platforms. due to the high demand of trips and lack of drivers to cover it.

have a positive credit history, something which is common in the whole country.

In the past, the first ride hailing platforms, especially Uber, required high-end vehicles as a strategy to distinguish themselves with the run down taxi vehicles, but this requirement has ceased to exist. Although the local legislation sets a minimum cost for the vehicles that can be registered for this service, it is ignored by the companies as lawsuits have been raised to question the validity of this regulation. Talking with a government official, they mentioned that the average conditions and value of the cars in ride-hailing platforms has had a significant decrease in recent years, but they still are better than taxi vehicles in the city in most cases. Thus, the cost of vehicles is an entry barrier that has

become more flexible in the present and can be easily surpassed.

Drivers are paid weekly for all the trips they made in the previous days, which makes the job a fast source of income once people start working. This is recognized as a major reason to enter the platform by some drivers. A common occurrence in two cases was that through the recommendation of someone working already on the platform or owning a car, drivers were advised to enter to earn money fast. Along with the lack of academic or professional experience requirements, this job is a unique opportunity for people out of the labor market. The main skill that the platform requires is familiarity with digital devices, although this is not strict as the interfaces are optimized to be highly legible and used

by any person. But, as I will show further on, the familiarity and skill of managing digital applications and knowing the city are skills that allow drivers to perform the job more easily, and thus earn bigger profits. In this sense, there are few entry barriers related to academic or professional experience and the ones related to skills have to do with being able to drive and having a minor level of digital literacy.

Among the interviewed drivers, the planned length of their career in the platform was highly variable and was closely related with the reasons why they entered and the role the income plays in their general financial situation. Drivers that entered as an urgent source of income think they will stay in the platform for a short period of time, because they expect to get another job opportunity soon. One driver spoke of this occupation as an in-between jobs one, as he was recovering from a failed business and entered the platform while his financial situation improved. Drivers that have this job as a secondary or even just complementary source of income perceive their stay in the platform as short term or incertain, because they don't necessarily rely on the money. This kind of driver has a unique perception of the value and positive aspects of the job, which will keep coming up in the rest of the study. An interviewee spoke of how even if they have been working for the platform for several years, the periods in which they work are highly variable; some seasons they work a couple of hours in their spare time and some years they've worked some nights when the profits are bigger.

On the other hand, drivers who entered the platform as a planned step of their professional trajectory tend to see it as more of a long-term job. This is similar to drivers who have this job as their main source of income as they become more reliant on it. It should be noted that the absence of professional and academic requirements to enter the platform is a key determinant for some drivers to enter it, as it provides a job opportunity with an income otherwise very difficult to acquire. Thus, it could be argued that the lack of alternatives to equally profitable jobs make the length of the stay in the platform longer. The value of the job is thus different between individuals as it is relative to other opportunities they can access, however, profits are also different for everyone, as I show next.

Earning money through the platform

One of the characteristics of platform work is the payment per job completed, that means that there is not a fixed hourly or shift salary. This mechanism is one of the basis of the flexibility of the job as each worker is bound to complete only the amount of tasks that they want. In economic terms, this means that each person can win just as much money as they want, at least in theory. The reality, however, is a bit more complex as the competition for getting the tasks, the variable demand, and the unilateral setting of fares by the platform all influence the real amount of money that each person can make. A basic characteristic of the job, however, is that every worker earns a different amount of money, depending on the trips they do and the moments of the day the work.

Earnings in the platform are made by each trip and in some platforms bonuses are given to drivers after completing a certain amount of trips in a set period of time. The profit for the drivers is the total amount of money earned for the sum of trips and bonuses minus any penalty

they might have received during the job. The payment is usually done weekly and transferred directly to a bank account, except when payment is done in cash. There are recent models of payment in the city, mostly used by the platform InDriver, where passengers and drivers bid for trips and if there is a matching offer the trip is confirmed, but no users of this platform were interviewed.

As all of the interviewees told me, all the expenses for the functioning of the service are paid by them; these include the car fuel, maintenance, a mobile data plan, any refreshments or facilities they offer for passengers, and government fees for registration or revision of the vehicles. The only infrastructure that the platform offers is the digital application that connects users. As part of the requirements, companies ask drivers to hire yearly insurance that can cover medical emergencies and car accidents. These insurances are often offered by specialized companies that have designed specific services for ride hailing drivers and, according to two interviewees, tend to be useless, as they cover very specific situations, and are difficult to claim in case of an accident. Additionally, according to one driver, the common situation among the insurance packages that are affordable is that they cover only the moment when drivers carry a passenger and not the whole shift when vehicles are connected to the platform. Because of this, accidents are an ever present possibility to cut profits.

Drivers, however, learn with time working on the platform the best ways to make money. Comparing the habits of a recently enrolled driver in the platform with one with seven years of practice, it is possible to see this. The first driver spoke of taking any journey because that is the way to make a profit, although after some weeks he started to realize that time with no trips had patterns and could be avoided completely. He couldn't quite yet identify the precise moments when this happens but was in the process of doing so. He spoke, however, of how the pressure to earn a set amount of profits everyday made it difficult to follow the rational optimization of car use and pushed him to continue searching passengers at all times. The veteran driver had a radically different routine due to his built knowledge of the platform, the evolution of the demand, and access to a collective network of information. His knowledge of the platform allowed him to identify different types of dispatch of vehicles that are not always mentioned by the platform. The best example is the way he can trick the specific dispatch of vehicles for trips leaving the airport of the city, which is made through an invisible queue inside the platform, but can be skipped when a vehicle is positioned just outside the area where the lines are organized. His knowledge of the demand for trips in the city is so precise to the point that it shapes his daily routine. He knows which area of the city is sure to provide big profits at which time during the week; this shapes his routine and his mobility when working. The knowledge has shaped his routine to work at some hours during the morning and some hours during the night, both of which change depending on the day of the week. The access to a collective network of information will be explained with the detail in the final part of this section, but suffice to say that it provides him with real time and accumulated information about the state of the city. This allows him to have reliable information on where to find profitable trips, even if the platform is not showing it. Some studies have proven that platforms don't always treat users uniformly and some of them are more favored than others; partially explaining this, economic reasons and discriminatory practices have been observed.[6]

Some assets that are very valuable for increasing the profits in this job are financial planning education, digital

literacy, and knowledge of the city. Financial planning was mentioned by two drivers, a veteran and a rookie, as a key to make the job profitable. In the case of the rookie, planning was key for him to start working without losing money, which implied earning more profits than the costs of gasoline, food, and car maintenance. This planning was basic in the sense that it just limited how many hours he should work and which trips he could take. Sometimes, however, this same planning forced him to search and make trips even when he was exhausted or during the worst traffic moments in the city. For him, earning bigger profits came with an unpleasant experience of anxiety, stress, and tiredness. In a contrasting fashion, a veteran driver with previous experience mounting businesses successfully and with a formal training in a mathematical field carried out a very detailed financial planning of her job. She spoke of a detailed spreadsheet where she recorded all the costs that driving the car required, perfectly adjusted to current prices, and was able to translate them to a cost of driving per kilometer. These calculations, along with previous experience working some years for the platform, helped her decide to work on very specific periods of the week, when traffic was minimal and driving was more profitable for her. This same planning allowed her to calculate perfectly the moment she could change cars, when renting her car to another driver stopped being profitable, and when to retire from this job. One thing she noted in the years she worked for the platform is that profits were decreasing in the recent years, in comparison with 2016 when she started. This is an observation that has been noted by several reports both in Mexico and other countries, some reasons for it are the increased commissions that platforms are charging and the increase in drivers offering the service, thus reducing potential passengers for each one.[7]

Digital literacy is a valuable asset as mentioned by one of the drivers as it allows the use of technological tools, mostly based on the smartphone, to optimize the driving in each trip. The clearest example of this is the way using additional sources of information to the ride hailing platform can help drive faster inside the city. The most common tools are other GPS applications that give more information on road conditions than that provided by the ride hailing platform; Waze, a digital platform for GPS navigation, for example, provides real time information on police stops, speed sensors, road closures, and, arguably, the best information on traffic conditions. The knowledge on how to use different digital platforms to complete the trip is a useful asset because it makes driving easier, potentially avoiding traffic and shortening travel times. An additional commentary on this will be provided in the case study to show how digital environments of platforms can help the performance of the job.

To a lesser extent, knowledge of the city is a valuable asset as it can give information on the best way to perform the task of transporting a passenger. This information is valuable especially when it refers to the security of certain areas and when drivers can't use the digital tools properly. This knowledge is similar to the one in which traditional taxi service relied upon in the past century, as it allowed drivers to find their way in the city whenever a passenger presented a destination. In the case of ride hailing, this knowledge is useful when the platform fails, something that is prone to happen in areas with slow internet connection and smartphones with little technical capacity. Think, for example, of the episode I spoke about at the beginning of the chapter; in this case, one of the major sources of frustration for the driver came from not knowing the best route to reach the destination because his smartphone stopped working. Ul-

timately, the knowledge of the city can translate into knowing which streets to avoid for potential protests or police revisions, or which shortcuts to take to save some minutes.

As a final note on income, it should be mentioned that profits vary a lot from platform to platform and very often newer drivers enjoy bigger profits as a way to remain. Although, as it was mentioned, working hours vary, the interviewees agree that this is still a profitable job to the point that it can provide the operational costs, the payment of a loan to repay a credit used to buy the vehicle, and ultimately, the living income for a person. For this reason, it could be pointed out that drivers regard the job as one with more positive than negative characteristics, some of which are presented next.

The perks of the job

When listening to the stories of the drivers and what they find good about their job, flexibility and freedom in the performance come up all the time. Flexibility refers to the absence of strict rules to perform the job, mainly related to working hours and schedules. This condition makes it possible for drivers to choose when and for how long they work, which is contrasting with traditional jobs outside of platforms where normally employees have an entry hour and a fixed number of working hours per week. The possibility of choosing one's own schedule is based on the premise that drivers are contractors hired by the platform to perform an individual job and not employees pertaining to the company owning the platform. This, however, doesn't always hold true, as will be discussed in the later section about government actors.

The interviewed drivers valued flexibility for various reasons. One of them spoke of the way he could adjust his working hours to the hours of the day when his wife wasn't working and could take care of their daughter. For him, flexibility allows him to participate in the household activities and spend time with his daughter, something that previous jobs didn't allow him due to the fixed working hours. Because he is a veteran driver and his job is not the sole income of his household, the flexibility allows him to start his shifts at variable moments of the day, but also to take pauses to have lunch or rest when he is tired after working for several hours. In this sense, flexibility is a positive characteristic when there isn't a heavy income pressure or a driver knows how to take advantage of changing fares on the platform.

A second driver described how flexibility in the working hours of the platform is positive for her as it allows her to work in her main job for as long as she wants. In this case, the driver used ride hailing as a secondary and even additional source of income, which wasn't central for her financial stability. The possibility of connecting at any moment meant that she could complete a trip even in the briefest periods of spare time of her day, for example when she was going to travel somewhere in the city to meet a client or a friend. The high demand for trips on the platform allowed her to get trips at almost any moment and gain some profits on car trips that she was going to do anyway. Flexibility also meant that the commitment to the job wasn't strict and she could stop working on the platform for months when she didn't need the money. The job allowed such flexibility that during a period when her other sources of income were faulty, she started working more hours than ever before and was able to earn a sig-

nificant income from ride hailing to cover her daily needs.

Another driver also spoke positively of the flexibility when just signing up for the platform as it meant a beginning at his own pace. For him, the absence of strict schedules implied that he could adapt the new routine at his own pace, without feeling pressure from a boss or supervisor. Although this provided him freedom on how to organize his new job, it also meant that he had no clear exit hour other than the moment when his profit goal was achieved, something that was unpredictable.

A second characteristic highly appreciated by the drivers is the high accessibility to enter the job. As I explained before, the entry process from the moment the application is downloaded on a smartphone to the one when profits are paid to the driver lasts only some days. This means that it is a job that can provide money for drivers in a very fast way through a formal and legal way. This is specially valued by people who have faced difficulties entering the labor market due to a lack of professional or academic qualifications. In this case, platform work is a solid opportunity to acquire income through a job that might appear to be not as precarious as other alternatives. One driver spoke strongly preferring ride hailing because of his previous experience doing manual labor before joining the platform, which was more tiring and provided a considerably lower salary. In his case, the lack of qualifications and personal situations that excluded him from the labor market for a long time complicated his job search for years until he started using Uber. It could be argued then, that ride hailing is a unique opportunity to access a formal job for individuals outside of the labor market and that it acquires a bigger value when they don't have many alternatives. This is something that might be the case in Mexico because of high levels of precarity and informality in the labor market, but might not be like that in countries where there is a bigger offer of jobs for workers with low levels of specialization.[8]

Another characteristic liked by some drivers is the simple nature of the work. Driving is something that three out of the five interviewed drivers said they enjoyed, especially when road conditions are optimal. The tasks demanded by the platform tend to be simple for the drivers, as they are assisted at all times by automated processes of the platform. The clearest example of this is the way the application on the driver's smartphone guides the driver on a specific route and reminds him of the process to be carried out during the trip, commands like buckling up safety belts and reminding the passenger to check for forgotten objects happen in each ride. The simplicity of the job meant that drivers move from one point of the city to the other without having to interact with passengers or even decide which route to take, their only duty is to ride the car. This process, although tiring, is something that two drivers enjoyed because they like driving and being around the city. In terms of social interactions, drivers spoke of them being minimal, generally only salutations and minor indications of which route to take. The minimal nature of conversations is something that didn't bother the drivers because it allowed them to perform the job without an additional task –socializing with the passenger–, unless there was a problem or an abuse. To one driver who described herself as very sociable, the continual social interactions with people was another positive characteristic; she said that even if she doesn't engage in long conversations with passengers, the small talk and getting to know people was something refreshing for her.

A final characteristic enjoyed by some drivers is the space where the job is per-

formed, the car and the street. Although the city plays a secondary role in the job as drivers never leave the car while on duty, watching it from the vehicle is enjoyable for some drivers. This is something that was partially appreciated by one driver when he spoke of valuing the job because it isn't performed inside an office with direct supervision or a strict routine. The unfixed space where the job takes place is something appreciated by some drivers, although the assessment becomes more complex when the

The tolls of the job

risks of doing it are considered, which I discuss in the next part.

The strong narratives pushed by ride hailing companies through their ambitious public relations campaigns never mention the toll the job can have on the people who perform it. The past decade has seen a rise of protests all around the world by platform workers demanding better working conditions, especially related to payments and safety in the job. Among the negative aspects that drivers mentioned I distinguished four categories: labor conditions, relation with the platform, political exclusion, and discrimination.

When talking about the conditions in which the job is carried out, it is possible to distinguish several situations that cause anxiety or frustration to drivers. The first one is the insecure and hazardous environment in which the job can take place, the streets. Though it was not perceived by every driver in the same way, two of them clearly mentioned that insecurity is a major threat when performing the job. This situation is something that isn't controlled by the platform as it is an external condition related to the state of the city, but the unquestionable commands that the platform gives can put drivers at risk if they are ordered to enter an area with high crime rates. Drivers with experience and with social networks of information know which areas of the city are best to avoid at certain moments of the day and can reject trips that appear suspicious.

However, this is something that can't always be done if drivers want to obtain a positive acceptance of trips rating, which the platform rewards, especially when they have a small total of trips. There are some platforms that avoid showing the final destination of a trip and only provide minimum information on the amount paid, which makes it difficult for drivers to make a confident decision. Experienced drivers, however, have learned to distinguish trips that could be dangerous, especially from a possible robbery by a potential passenger; they try to look at the passengers rating, number of trips, and in the platforms where it is possible, the destination. It would be difficult to train the platform to include this type of knowledge as it has been observed that security and crime prevention through algorithmic and artificial intelligence engines tends towards racial profiling and neighborhood stigmatization.[9] The main demand made by drivers in this subject is a bigger support from platforms in the event of crimes through a bigger provision of information about trips and more flexible cancellation policies for trips that represent a risk.

In a related sense, car accidents are a big negative aspect that some drivers point out as very often they have to cover the whole cost of the repairs. Although they are required to have a valid insurance that covers a certain level of damages in the case of an accident, drivers agree that these premiums are tricky and in reality they don't finance whole repairs.

One driver told a recent story where the insurance company tried constantly to avoid reimbursing him the money used for the reparation of the damages from an accident. In this event, the insurance company first alleged that the accident didn't occur while working, later through bureaucratic complications they postponed the payment up to the point where he didn't receive the money in the following four months. He told me events like this shape the perception of drivers that the type of insurance that they hire is really only the minimum in order to be able to work for the platform and in reality it's like working without one. The two hazards just discussed are examples of precarity in the platform work, as the wellbeing of workers is not guaranteed by the employer, be it by putting them in direct physical danger or economical uncertainty.

Another street hazard mentioned briefly by a driver was the vulnerability to government and police abuse, especially when they are enforcing existing regulations. This event, even if it is rare, means a threat to drivers as the platform won't verify they are carrying out the job complying with regulations and, thus, they are prone to be fined if they are inspected by the police. A prototypical case is the one related to the authorization that vehicles have to have to perform the job, which is a document issued by the local government but can take months to be ready after it is requested. One driver spoke of driving six months without this authorization because he has not received it from the government and attention from the office in charge is minimal. In this case, he worked during times when he was certain that there were no inspection points set in the streets to avoid getting fined.

A second situation that represents a negative condition to perform the labor is the outsourcing of all the resources needed to complete the job. The clearest example is the vehicle and the cost of maintaining it. The case of the lack of insurance is an example of the fragility of the permanence on the platform, as big scale accidents can mean significant losses for drivers, which both damage their main tool to make money and force them to pay unforeseen costs. For these workers, losing the car means losing their way to make use of the platform and could only be regained by renting one, which is less profitable, or buying a new one, which might imply contracting debt.

The outsourcing of resources also happens at a formation level. One driver spoke of the absence of training on how to perform the job properly by the platform. This might appear contradictory to the previously discussed simplicity of the tasks, but a rookie driver explained how it has been difficult to start driving without previous experience. He pointed out that, unlike a traditional job, he didn't receive any training other than basic safety advice and a tutorial on how to use the application. He wished he had received information on how to optimize the use of the platform and some kind of training to drive around the city. This demand is understandable in the context of Mexico City, where the issuing of a driver's license doesn't require effective examinations of driving skills or of knowledge of the local driving codes. This situation is further worsened when the platforms don't perform examinations on the skills of drivers or any kind of inspections of their driving. In this issue, a key element of the platform economy comes to light, the use of ratings by users as a method to ensure quality of the service. The effectiveness of this method is questionable as ratings are affected by many factors and may not work to provide a quality service in all of its aspects, someone might receive a high rating for doing a trip in a short time at the cost of disregarding driving rules. This situation has been observed in

Another Tesla electric vehicle working for the platform Beat. Unlike conventional vehicles in the platform, these were property of the company and driven by drivers hired by the platform as workers. Beat left Mexico and Latin America in 2022.

other types of platform workers, specially delivery riders.[10] The lack of training for workers is another expression of precarity in the job, as they might endanger themselves by not having good driving skills or be prone to driving tickets that harm them economically.

A third situation related to the labor conditions when performing the job is the potential of excessive work demand by the platform. Although the platform allows drivers to decide how many hours they work, not all the hours and trips make the same amount of money. Unlike a conventional job, ride hailing uses dynamic fares as a way to incentivize

users to interact with the platform. As discussed previously, two-sided markets work like this, they require a similar amount of users on both sides of the market to function and a way to attract when they are missing from one side is commonly done by economic incentives. The dynamic fare makes different hours of the day worth different values, which negates partially the supposed flexibility to work whenever a person wants. In reality, just like the most experienced drivers confirmed, there are times of the day when it is not convenient to work because there are not enough passengers to make driving around profitable. For these reasons, work is performed

rest and work performed at night has been proven to be especially detrimental for human health.[11]

Another driver expressed that the job is very stressful and can cause a lot of anxiety when it is difficult to meet a profit goal. As a rookie driver, he has little knowledge on the best times to drive, thus prefers to make non-stop shifts until his goal is met. He spoke of how the shift becomes extremely tiring and stressful because trips don't show up on the platform or they are worth very little. This situation is only worsened if the job is carried out regardless of the traffic conditions, when it requires a bigger level of attention to drive and there is a higher potential of conflict in the street with other drivers. This is a prime questioning of the supposed flexibility that the job allows for drivers, as they might disconnect at any time but unlike a conventional job they are not guaranteed a set payment. This happens because platforms don't recognize the time that drivers spend connected to the platform and cruising in search of passengers as working hours based on the premise that they are only getting paid by the task completed. This situation has raised a complex debate about the real value of time in platform work and it has led some cities to force platforms to pay hourly minimum wage to workers.[12]

A second category of negative aspects recognized in ride hailing work by the interviewees is the asymmetrical relation with the platform. One expression of this asymmetry is related to the economical earnings that the platform gives to drivers. The amount of money paid per trip is defined completely by the platform and it can change at any moment without any possibility of negotiation by the worker. Although platform work bases this model of payments on the assumption that their workers are independent contractors who can accept or deny a task, it is impossible in reality

more in certain hours and when this happens it should be taken advantage of to the maximum.

One driver spoke of how bonuses are an incentive to do long work shifts and cause exhaustion towards the end. The impossibility to take breaks as the period of time to complete a set amount of trips to earn a bonus makes the job exhausting at times. In his experience, the bonuses appear at the times when driving is more tiring, late night and early morning of the weekends, and make him finish his shift without any energy. This situation reveals a clear precarious nature of the work as long shifts without

to keep rejecting jobs expecting higher paying ones. Drivers agree that rejecting high numbers of trips is penalized by the platform and that accepting almost any job is rewarded by it. In this sense, the real economic earnings of the platform are always variable and the profitability of the job is uncertain for drivers, which in its worst expression might appear as a potential expression of economic exclusion. One driver remembered she used to make more money seven years ago working for the platform, but it seems that every year profits are decreasing without any reason for it.

Together with the unilateral setting of payments, another way in which economic earnings are reduced is by the imposition of new commissions charged by the platform and taxes set by the government. In the case of commissions, the contract that mediates the relation between the driver and the platform can be altered unilaterally at any moment, something which is common in most digital platforms today. This unilateral modification of the working contract can mean that commissions can change from at any moment without any need to explain them or negotiate them. This situation creates economic uncertainty for drivers as their profits are always susceptible to change. It has been documented that Uber has increased commissions for drivers in moments when the company tries to convince investors of the profitability of the business model.[13] In a similar fashion, the creation of new taxes to regulate the platform economy in Mexico City have ended up reducing the profits of workers rather than companies or raising the prices for customers. This situation has an explanation which will be discussed later, but it is relevant at this moment because some drivers have a perception that new taxes will always harm their profits and not the companies. One driver mentioned a clear change in the transparency of her profits some years ago when a new

national regulation forced digital platforms to explain charges made to users. She noticed that her profits decreased and she couldn't quite understand why, while the platform never responded to claims of incorrect payments.

A second expression of the asymmetrical relation is the latent possibility of getting disconnected from the platform. None of the drivers that I interviewed had experienced this but two of them retold stories of friends that had suffered this situation. While it is not very common, it can happen when a conflict arises between a passenger and the driver, when a reclamation is made, and, on rare occasions, without an explanation. This is the ultimate display of the disparity in the labor relation between the worker and the platform as it is absolute and can't be contested. This potentiality is a source of uncertainty for workers. As a consequence, it has been reported that people sell registered profiles to work in the app for people who can't register anymore and between drivers it is known that individuals move to less profitable platforms when they are disconnected from the major ones.

A third expression of the asymmetrical relation has to do with lack of human contact when dealing with the platform. The digital platform business is characterized by the automatization of some of its infrastructure and its simplification of processes to make it replicable in any place of the world. For some drivers, the absence of human attention when having a problem with the platform is a source of discontent, for example, when making a reclamation about a payment or when asking for help with the complying regulations. This situation, however, is not the same for all drivers, as one of them told me, the ones with the most experience and higher rating get speedier attention and can actually get human-based support in little time. What this entails for some drivers is that the treatment

inside the platform can be unfair and that conflict resolution inside the platform prioritizes quick solutions rather than careful examination of problems.

A third category of negative aspects brought to attention by the drivers is related to discrimination or abuse suffered in the workplace. Discrimination by passengers can occur sometimes, according to two drivers, while performing a trip, mostly motivated by class divides. This discrimination is related often with the need of passengers to arrive quickly to a destination and the impossibility to do so. One driver described this discrimination as arrogance of some passengers as they appeared to think of the job as one of low value, in comparison to other professional positions associated with a higher social status. Another driver spoke of how passengers can have little empathy for the drivers and can have dehumanizing treatments toward them by ordering them to drive faster or demanding them impossible ways to drive towards the destination. In these cases, drivers have little protection towards passengers unless there are damages to the vehicle, in which case the platform might penalized the users monetarily.

A clearer display of discrimination is the one associated with gender, as it is common for a stereotype of women not being as good as men driving shows up frequently. One female driver described how she is used to these commentaries which commonly end up there, she explains that the low presence of female drivers reinforce this stereotype. She reported also having suffered harassment by men on a few occasions, which luckily ended up when she set a verbal limit to the passenger. She explained that she doesn't feel unsafe doing the job, although comments like this might be annoying to receive. An interesting case that might be worth looking at in further research is the one of Laudrive, a ride hailing platform only for women

passengers and drivers, that launched in Mexico City as a response to increasing gender-motivated violence. This driver mentioned that she signed up for it and was interested in the evolution of the service, but it never became significant for her work as the platform closed after some months of operations. This is an interesting case of a platform born as a solution to a specific urban problem that appears to contradict the logic of some other platforms described in Chapter 1 that work in the opposite direction, basing their narratives on technological solutionism and one-fits-all models.

Finally, a fourth category of negative aspects relates with the lack of mechanisms for the drivers to improve these conditions. As it was discussed before, the asymmetrical relation impedes drivers to change the conditions in which the job must be carried out. At the same time, there are no tools to protect themselves from abuses by the platform or to voice the abuses to government authorities. Two drivers spoke of a lack of representation and participation in the setting of regulations by the government. One of them expressed that even if there are collective organizations of drivers, he didn't think political issues were relevant in their interactions. However, he felt that the government doesn't take into consideration the needs of drivers when new regulations are set into place or inspections are carried out. This category is a clear example of political exclusion as there are no formal inclusive mechanisms that help drivers voice their demands. Although there are several collective organizations and unions of platform workers, they don't seem to include the majority of drivers, as perceived by the interviewed drivers.

Sharks Mexico.Com

Los Sharks:
A study on solidarity and grassroots organization

The longest interview I conducted with a driver was also the most memorable one. During this interview, Ricardo drove me around Roma and Escandón, two neighborhoods in central Mexico City where he was going to start working that Sunday, and later we sat down to have lunch at a taco restaurant he wanted to try for some months. The interview lasted almost two hours and he spoke to me about many issues related to his job as driver but also about how they relate to his life. His story was an invaluable window to the value platform work can acquire in certain contexts, but most of all it was a glance at a social organization and a collective response to the perils of doing the job.

When I met him he was about to complete seven years working for ride hailing platforms, in which period he had used three different cars, one rented and the other two bought through credit. During this time, the job has become his main source of income and it's his long term plan to sustain his economic stability. In his household, he provides a part of the income, the other part is provided by his wife who works as a doctor. He first entered ride hailing at a period when he had difficulty finding a stable job that allowed him to earn enough money for his recently born daughter. Someone recommended him to join the platform and lent him a car in exchange for a daily fee, he worked like this for six months before deciding to buy his own and keep a bigger share of the profits. This first car was bought through credit thanks to a close family member who served as warrantor for the loan. His profit remained stable

for the next six years and he was able to pay the loan back without any problem. After this time, he decided to upgrade his vehicle by buying a new one as the previous one constantly presented mechanical failures. This third vehicle is the one he currently drives, it is a shiny blue Kia Rio which he was able to buy through credit supported by his wife as a warrantor for the loan.

He explained to me in detail his schedule of work on the platform, all of which stick to the previously detailed flexibility of platform work. He shared his perceptions of the risks that the job involved, mostly telling me about how he suffered an armed robbery a couple of years ago when he lost his car, but was finally recovered by the police. He also told me about the positive aspects of platform work which are centered heavily on the accessibility the job has for people with difficulties to enter specialized labor markets due to a lack of qualifications. Due to personal reasons, he spent some years of his late twenties and early thirties without stable employment and quit his bachelor's before finishing. Because of the lack of a bachelor's degree and, later, professional experience he was unable to get a job that paid enough to acquire his economical independence and sustain a daughter after he got married. In this context, ride hailing changed his life in a positive way unlike any other job he had before.

Although he mentioned the high risks that the job entails, like insecurity in the streets, propensity to car accidents, abuse from police officers, and the ever

present possibility of getting disconnected from the platform, he has a very positive opinion of his job. His opinion and satisfaction with the job, however, is not determined solely by the economic profits, but also by the work environment which he is part of. This was an exceptional experience because he is part of a close group of drivers who have built a solidarity network that supports each other during the job, spends time together during breaks, and has allowed members to build friendship relationships.

Ricardo is part of Sharks or Sharks México, as the sticker on his car says, which is a group of around 30 drivers. The main goal of the organization is to take care of each other, which their slogan clearly states: *tú me cuidas, yo te cuido, todos nos cuidamos* (you look out for me, I look out for you, we look out for each other). The organization is a continuation of previous groups with more members, all of which Ricardo has been part of and which he came in contact with through Facebook groups. There are plenty of groups on Facebook that group platform workers in Mexico City, both doing delivery services and ride hailing. He told me normally the first contact is through Facebook and then the driver gets invited to a smaller group chat based on the instant messaging platform WhatsApp.

Today, Sharks, has a much more sophisticated way of working. The group is based on four main digital platforms with different purposes. The core of the organization is the constant communication between the drivers when they are performing the job, for this, they use a group chat on WhatsApp and the instant voice chat application Zello. These two apps allow drivers to report when they start working, talk in real time, inform when they are about to start a trip, inform where they are headed to, and inform if they are in a dangerous situation or if they have suffered an accident. They are the base of the group as it is through here where the information is exchanged and communications exchanged during the working hours. Another app used is the navigation platform Waze, in which users can add information to the shared map that everyone else will see. It is used by the group to share specific locations of police inspections, dangerous spots or places where they require assistance. A fourth app that all drivers must have installed on their smartphone is called Life360, it is a location sharing platform which allows users in a group to see the position tracked through the GPS of a smartphone of any member of the group. This app is used as a last resource to locate drivers if they don't respond to communications and are thought to be in danger or having suffered an accident. Along with these apps, every member is connected to one or many ride hailing platforms through which they acquire trips.

These organizations became popular in the past ten years and their main goal was to provide information about dangerous areas inside the city. A secondary goal of the groups was to provide information to potential new workers on the sign up process or any complication with the platform. A third use of the groups was as markets between workers, where cars or motorcycles were rented or, in the case of delivery workers, new and second-hand protection gear, carrying equipment or bicycles were sold. Today, Sharks has evolved into a more complex

Ricardo's newly acquired Kia Rio 2023. This is Ricardo's third vehicle since he started working thorough Uber and Didi. He cleans the car three times per week because he knows customers pay attention to its condition.

organization that serves many more purposes.

As a first central purpose is the exchange of information on traffic conditions, dangerous areas, police inspections, and passenger demand. Although the ride hailing work is often accompanied by GPS navigation platforms, not only during trips but also when cars are cruising, drivers can't have complete information about the state of the traffic in a city as big as Mexico City. For this reason, the information shared through the organization is very valuable as it saves time for drivers as they don't have to look at their GPS apps for long times and they manage to avoid congested areas that would prevent them from making more trips.

A second piece of information is the dangerous areas for driving in the city. Although stigmatization of geographical areas is a common practice among the drivers that I interviewed, it is sometimes informed by prejudice or unverified reputation. In the case of the information provided through the group, it comes from first-hand experience shared by members who are familiar with the areas. Ricardo told me how the diversity in the origin of the drivers, who come from all parts of the metropolitan area of Mexico City, is an asset for this as each can report on the place where they come from and can detail streets where crimes are common or complete neighborhoods to avoid. Sometimes, although less common, information about specific passengers or methods of committing robberies is shared so drivers can prevent engaging with them. This is an effort to solve the incomplete information that the platform tends to provide and even if it is not perfect it gives drivers a feeling of safety bigger than before.

A third type of information that is shared through the group is the exact location of police inspections targeted to drive hailing vehicles when they appear on the streets. Drivers communicate with each other to avoid these areas as they suspect police officials who would want to ask for bribes in exchange to avoid a fine if the driver isn't complying with any legal requirement. This information complements the one available with a commonly used navigation platform, Waze, where users can see inspection points and it saves time for drivers who can plan their routes in advance.

The last type of information that is shared is the state of passenger demand around the city. The collective nature of the group provides multiple opportunities to explore the demand of passengers beyond the information given by the dynamic maps of ride hailing platforms. The drivers can tell if an area is busy by seeing it when they drive by it or by picking up passengers there. The organization is also a support for rookie passengers as experienced ones can explain to them special allocation of trips in certain areas of the city, such as the ones starting from the airport. This organization has a unique member who has studied the demand patterns of the city and is continuously informing fellow drivers on which areas to avoid or go to at certain moments of the day, as Ricardo told me, he is an invaluable asset and someone who seems to be able to decipher information that the platform keeps from users. Although I couldn't interview this person, his fellow members have a lot of trust in him as his advice has worked in the past. This information is a good example of collective action to counter the incomplete information that the platform provides to users while performing the job.

A second purpose that the platform serves is one related to solidarity in case of need. The organization is a network of drivers willing to help each other under the promise that others will help them if they need it. For this reason, the group

demands active participation of all members through sharing of information or traveling to assist nearby members who require support. Everyday, drivers report through Zello to the group when they start their shift and do the same when they disconnect from the platform. The biggest tool designed to provide safety from crimes to drivers is the protocol to report the start of a new trip. It is made up of these steps:

1. The driver reports the start of a new trip, the location, the destination, and the number of passengers through Zello. They use codewords to keep the message private from the passengers even if they can hear it. In case something seems suspicious he can report it from now so other drivers pay special attention to it.

2. Any other driver connected to the group on Zello replies to the first driver, they confirm that they received the message and remain attentive to the trip. At this moment, any driver can also offer advice in case they notice a risky situation, for example, avoiding a certain street.

3. During the trip, drivers can report any situation that makes them suspicious of the passenger or the area where they are. They do this through either Zello or WhatsApp, always using codewords and, sometimes, just by sharing the location in the group chat. This is another call for attention to the group that something might be off. At this point, drivers can also use Waze to send a geographically located signal asking for support.

4. If the trip finishes correctly, the driver informs Zello and continues searching for a new one. In case the driver doesn't inform of the end of the trip, the driver that confirmed with him at the beginning will ask for new information.

5. In case there is no answer after some minutes from the driver that was doing the tip, the rest of the group accesses the location through Life360. The location is shared with the group and the drivers that are close to it are asked to travel there.

6. When they arrive at the location, drivers provide any support they can.

The protocol is a complex collective action that promises drivers safety while performing the job. When I asked during the interview about contacting the police in the case of an emergency, Ricardo told me they don't really trust them and they have proven ineffective in the past. He also told me that, luckily, the type of crimes that drivers suffer are robberies of their possessions and profits and that car robberies are rare. Although the applications of ride hailing platforms have panic buttons that connect users directly with the local police, he told me they don't trust them because they have been useless in the past.

In addition to the security support that the group provides, it also allows solidarity against the alienated nature of the job. As ride hailing involves individual drivers moving in different directions all the time and without any possibility of meeting each other and socializing, it can be a lonely job. Other drivers that I interviewed confirmed this, they told me they rarely meet other people working on the platform and that one of the only ways of doing it is through Facebook. Sharks serves as a counter for this situation because the constant communication allows drivers to socialize through digital means at all times when they are working. Simple exchanges like the ones on information explained before to jokes, memes, or anecdotes of experiences lived during the job allow drivers to feel less lonely. Furthermore, the constant communication allows them to organize real life meetings all during the day;

whenever someone is taking a break to have lunch or just to rest at a parking or public space, they report it to the group and if someone is near and is in the same situation, they meet in person. These exchanges have allowed the members to build real friendship bonds among them through time. A key moment for this is the frequent reunion to have tacos late at night in the same place every week or going for breakfast at the house of the mother of one of the members every weekend before or after the shift.

All the stories Ricardo told me were interesting to hear because they questioned some of the narratives of platform work, but also offered solutions to some of the most problematic aspects of it. For him, the ride hailing was not only an opportunity to acquire economic stabili-ty, but also to enter a social circle which helped him overcome personal situations. It must be made clear, however, that this was not thanks to the platform, which itself never gives any incentive for drivers to socialize or organize, but thanks to grassroots efforts among gig workers in Mexico City who resort to collective organization as a way to find safety and better working conditions that neither the government or companies provide. For this, his story was inspiring to continue thinking on how the precari-zation and potential exclusion provoked by digital platforms can be reduced in Mexico City. His story, unfortunately, is contrasting to the one told by a member of an industry that has lost a lot of its members and size in the past decade, to which I turn in the following section.

3 . 3

Taxis: working in competition with a digital platform

I first met Felipe, a taxi driver, for our interview a few meters away from his house in Juárez neighborhood in the center of Mexico City. He was on the street giving the daily maintenance to his vehicle with the hood open and some cleaning cloth on his hand with which he moved something in the insides of the vehicle. After meeting me, he quickly store everything in the trunk of his car and prepared to drive towards his base. We were on board an old Nissan Tiida with more than ten years of use, painted white, which is one of the required colors for taxis in Mexico City. His car showed its age, as most of the interiors were worn out and, unlike more modern vehicles, it didn't have any screen displaying a GPS or a computer to pair a smartphone to. We arrived at the base where he usually waits for passengers and continued talking for around one hour.

Our conversation was filled with retellings of memories of things that happened decades before and the con-trasts between the past and present always showed up. Our main topic in the conversation was the way driving a

taxi has changed in the city in the past ten years, especially after the arrival of Uber to Mexico City, the first ride hailing platform to function in the country. I will present now some of the issues that we spoke about with the goal of presenting the decline of a public service that competes directly with ride hailing platforms and the way it has changed the people involved with it.

The taxi industry in Mexico City

Officially, the local law recognizes four different types of taxi services in Mexico City dependent on the way it can be hired, if it's on the street (taxi libre in Spanish, to which I will refer as street taxi), on a specific place or base designated for that (taxi de sitio in Spanish, to which I will refer as base taxi), through a previous booking (radiotaxi), and on authorized places in bus terminals (taxi de sitio con base en terminales). These different services have different fares, different rules, and different patterns in their painting to be identified by users. Traditionally, the highest number of taxis in the city have been street taxis, which are proprietors of a permit to give out the service. Ideally, the taxi industry is a highly regulated market because its demand can reach a limit, thus making the profits for taxi drivers reduce for every new participant in the market. For this reason, taxi industries have been highly regulated since their conception, often through the issuing of a limited number of medallions or licenses which allow participation in the service and which acquire a high value due to their scarcity. This has not been the case in Mexico City in the past decades because taxi licenses have been given out as clientelistic rewards to achieve political support and because there have been a large number of taxis giving out the service without being authorized.[14] In 2023, it is estimated that there are around 70,000 active taxi concessions in Mexico City, out of the 140,000 that have been authorized, although a precise calculation about the amount of actual taxis and its evolution is impossible to get due to the absence of records.[15]

The particular situation of the taxi industry in Mexico City has always been difficult to change due to its size and the political entanglements of its organization. The industry has a bad reputation from decades that relate it to informality, abusive fares, insecurity, reckless driving, and unsafe vehicles.[16] This is one of the reasons why Uber and other ride hailing platforms have been so successful in disrupting the market, just like the literature presented in Chapter 1 explained. Although there have been government programs to try to improve this negative reputation, officials admit that it hasn't been enough to change it drastically.

Among the types of taxis in the city, the base taxi or taxi de sitio is unique because it has a higher fare than the street one and can only be hired in the base to which it is registered. These taxis have a different reputation, are used by a certain type of customers, and have experienced a marked reduction in the number or people driving them. Felipe works for one of these bases in the center of the city and he explained to me some ways in which their history has changed in the recent decades.

Sitio Niza 139

There is an urban legend surrounding the taxi base Sitio Niza 139, according to which, this base was the first one in the city and the country. It takes its name for the street, Niza, where it was located when it was founded in 1917, which is around the corner from its current location. The base currently employs just nine drivers after one member died a couple of months ago from health complications. However, it is said that the base had more than 200 taxis during its best years in the past century, more than 50 members still during the 1990s, and 39 before the beginning of the COVID-19 pandemic.

The base is a civil association, similar to a cooperative, where members split all the expenses derived from permits, utilities for the physical location in the street, and payments to political leaders who can mediate their relation with the government. This organization elects a president every year who represents the members with other associations and together with a team of two more elected members manages the budgets and services that the base offers. The president is in charge of paying the services, requesting the necessary permits from the government, and acting as the representative of the base in assemblies or meetings with other taxi associations from the city. As any cooperative, the strength of the base relies on the number of members that make it up as economic contributions then can be divided between more people and are, thus, reduced.

The base provides a physical stand for drivers to wait for passengers in the street. This base is located in a busy street in one of the most rapidly gentrifying neighborhoods of Mexico City, which is an advantage for them as plenty of people walk the street at all times. The location of the base is determinant for the demand of trips from passengers as it is derived from the economical activities and people living in the vicinity. In the case of this base, the trips have been traditionally hired by tourists, office workers, and people living in the surrounding blocks. As the base is close to a major touristic street, Paseo de la Reforma, it had been recommended by hotels as a safe option for tourists to move around the city or do day trips to nearby attractions.

The base provides the physical space where drivers can rest between trips and reserved parking spots where they can get in line to get a passenger. The base works not only through walk-in passengers requesting a ride but also by telephonic hiring of trips. In the past, the base employed two telephone operators who worked in the stand to manage the two telephone lines that are used to hire a vehicle. Their job would consist of answering the phone and assigning the trip to the next available taxi, either through communication in person or through a radio message. Today, the telephones are answered by whichever driver is on the base waiting for a passenger and they are the one who gets that trip.

The base has expenses that must be covered every month or year in order to maintain the stand and parking spots on the street. The most important one is a yearly permit issued by the local government to be recognized as a taxi base, this one is required to continue working in that stand. Apart from the permit, every year too the association has to pay for five parking spots marked on the

street that are reserved just for the taxis waiting for passengers. As part of the services provided to members, two telephone lines, basic office supplies and electricity has to be paid on a monthly basis. These expenses are covered through individual payments done by the members every ten days and are currently set at 250 Mexican pesos; to put in perspective this amount, Felipe mentioned that an average ride amounts to around 200 Mexican pesos. In case a member of the association is unable to pay at the due date, they can be given credit and the expenses will be covered through the money saved by the rest.

To start working as a taxi driver of the base a person must overcome several barriers that have been set by the association. The main one is the trust that is demanded by the members, as Felipe puts it, they don't trust anyone and search for people they already know. As being part of the base ideally brings a lot of benefits, the most important one being the possibility to use a fare considerably higher than street taxis, members need to know the person will be responsible in following payments and obligations. Another barrier is the demand to have experience giving the service because the base retains a good reputation about its service. Unlike street taxis, base taxis have traditionally been regarded in the city as safer, more comfortable, and with better vehicles. The possibility of tracking to a physical location, the base, the service allows customers to identify someone responsible in the case of a robbery or a forgotten item. Thus, the quality of the service is something that remains central to keep the good reputation of the base. For these reasons, it

The logo and description of services offered by the association running Sitio Niza 139, taken from one of the sides of their stand in Juárez neighborhood. They list courier and touristic trips services.

The taxi plates of the vehicle that Felipe rents daily to work. The letter A and five numbers is used as the format for street taxi plates in Mexico City. These plates have the name of the state issuing them; Distrito Federal was the name of the city until 2013.

is uncommon for new members to enter the base in recent years. This is something that moving around the city seems to be happening in many other bases where notices searching for new taxi drivers are frequent.

Even after all the changes that the base is undergoing, drivers still work here and make a living out of this job. The job starts every morning by arriving at the base and getting in line to be assigned a passenger as they walk to the stand to hire a vehicle. Some members rely on previous clients who hire them directly through their phone without needing to go directly to the stand to start the ride, similar to how ride hailing platforms work through their mobile applications. After the trip is completed, drivers return to

the base to wait for a walk-in passenger or a client to hire them over the phone. Similar to a work shift, drivers leave the base at the end of the day and return home where they store their vehicle. Among the drivers in this base, Felipe told me there are people coming from all around the metropolitan area and the majority coming from locations far away. The demand for trips varies a lot on the day and season of the year as the service is highly dependent on the economic activities carried out in the vicinity. During the weekend, taxis are used by people returning home from a night out; during weekdays, office workers who use them go back home at times when public transportation has stopped running or when they are going to far away locations. In general, customers have some

kind of relation with the neighborhood in which the base is located, they work, live or walk by it everyday. There seems to be a certain loyalty among customers who use the service as many of them personally know the drivers and have trust in them to perform the job optimally. This is something that distinguishes the base from street taxis and even ride hailing services.

The profits made by the members are highly variable. Even if they don't have a threat of losing their job, like platform workers when they are disconnected, the decreasing demand for the service has diminished their incomes sharply. Drivers here are free to keep all the money they get from fares, excepting only the payments made to the association. At the moment of the interview, all the drivers accepted only cash as a payment for the fare. The money acquired through the payments is not the total profit as costs of maintaining the vehicle and, most importantly, the gasoline needed to

drive are discounted from it all the time. Felipe was telling of the importance of gasoline at all times,as it represents the possibility of earning an income through any trip, this is something that he learnt from a friend when he started working more than 27 years ago. The taxi fare is always fixed depending on the area of destination, this is something that certain passengers value as regardless of traffic, time of day or demand for trips they will always pay the same. The costs of riding for passengers are contrasting with ride hailing ones as there are no dynamic fares and the fare is not calculated through a function of kilometers traveled and time spent in the vehicle. In general, Felipe described a decline in the profits for the base since at least twenty years, he speaks of the 1990s as the best time for taxis in the city, his retellings are nostalgic of this time and reveal a lot of the reasons why this job is so valuable to him. These perceptions are discussed in the following part.

"El taxi es algo sagrado": Attachment and personal memories

One of the main questions unsaid during our interview is the one concerning why taxi drivers have remained in the base despite the decreasing profits and the possibility of earning more money through ride hailing. I never asked this question but I had a couple of answers to it, centered on the attachment to the job, the difficulty of getting a new car, and the sense of belonging to the neighborhood as drivers. Felipe explained his experience might be particular because he is currently one of the oldest members of the association, but was generally shared by many of his colleagues.

At the first moment, he spoke about the value the job holds for him because it allowed him to have financial stability

for the past 27 years, which he hadn't achieved through other jobs. Before driving a taxi, he was a car repairman, so he already had a special interest in automobiles. He started working when a friend of his convinced him to start driving a taxi and later invited him to work in the base. He worked first as a street taxi and a base taxi and later chose only to work for the second. He explained that at the beginning he had barely any knowledge of the city outside the central part but managed to reach any place using Guía Roji, a physical catalog of maps of Mexico that was very popular before the widespread adoption of GPS apps. For him, the taxi was a refreshing job opportunity also because it allowed

him to know all of Mexico City and know a lot of people.

One of the things that he values the most about working in the base is the role they have played in the neighborhood historically. Juárez is an old neighborhood in Mexico City and has changed a lot since its foundation at the beginning of the past century. It is a centric place, close to the historical center and important touristic and financial centers. In the past it used to be a high class neighborhood filled with big mansions and single family dwellings, but after a process of partial suburbanization of the city and the earthquake in 1985 that affected the whole center in a bigger scale, made the area lose inhabitants and attract poorer households. It was this neighborhood in which Felipe grew up, as he was born and still lives less than five blocks away from the current location of the base.

Historically, the base had been a service that catered tourists and people living in the surroundings of the stand. It is common that drivers pick up their clients that live a few blocks away from the stand if they already know them. Despite a generalized decline in the number of passengers, local clients are a major source of trips for the base. As the stand is occupied at all times of the day, people living nearby know the drivers and have friendships with them, even if they didn't use their services. This closeness to the people of the neighborhood have made them valuable members of the community. Felipe mentioned how he knows the owners and workers of nearby restaurants, the policemen in charge of the area, the people living in the block where the stand is, and workers from nearby hotels. Because of this, he feels that his work as a taxi driver from this base is impossible to separate from his neighborhood.

The decline of the base is also partially explained by Felipe due to local pro-

cesses. He remembers a first decline in the amount of trips, especially the ones made at night, came in 2000 after the catastrophic burning of Lobohombo, a nightclub no more than two kilometers away from the base. This event marked a new era in the nightlife of the city and led to a hardening of the inspections of nightclubs in the central area of the city, which in turn caused many of them to close down. As the base is located close to many of the places that closed, the number of trips from people going to clubs and bars during the weekend decreased. Later on, the arrival of Uber to the city in 2013 completely transformed the taxi industry. For the base, it meant a decrease in passengers but also in drivers, who preferred to work in ride hailing platforms now. A third moment that affected the demand for the base was the 2017 earthquake in the city, which, according to Felipe, provoked a depopulation of the area for some months. This event particularly reduced the trips made by people who lived close to the base as they moved to other parts of the city. Finally, the COVID-19 pandemic was another event that gravely affected the base. Although the drivers never stopped working and there was not an official lockdown of the city, the absence of trips made the work unprofitable. He remembers how most drivers wouldn't be able to get more than a trip per day or even none, during the peaks of new cases in the city. For many drivers coming from places far away from the base, this resulted in economic losses from buying gasoline and not being able to do a single trip due to the nonexistent demand. The pandemic caused more drivers to leave the base.

Today, Felipe, drives a vehicle for which he pays a daily rent to the owner, which is something common among his colleagues. He told me it would be impossible to buy a new vehicle because of his impossibility to get a loan due to his age, unstable income, and lack of
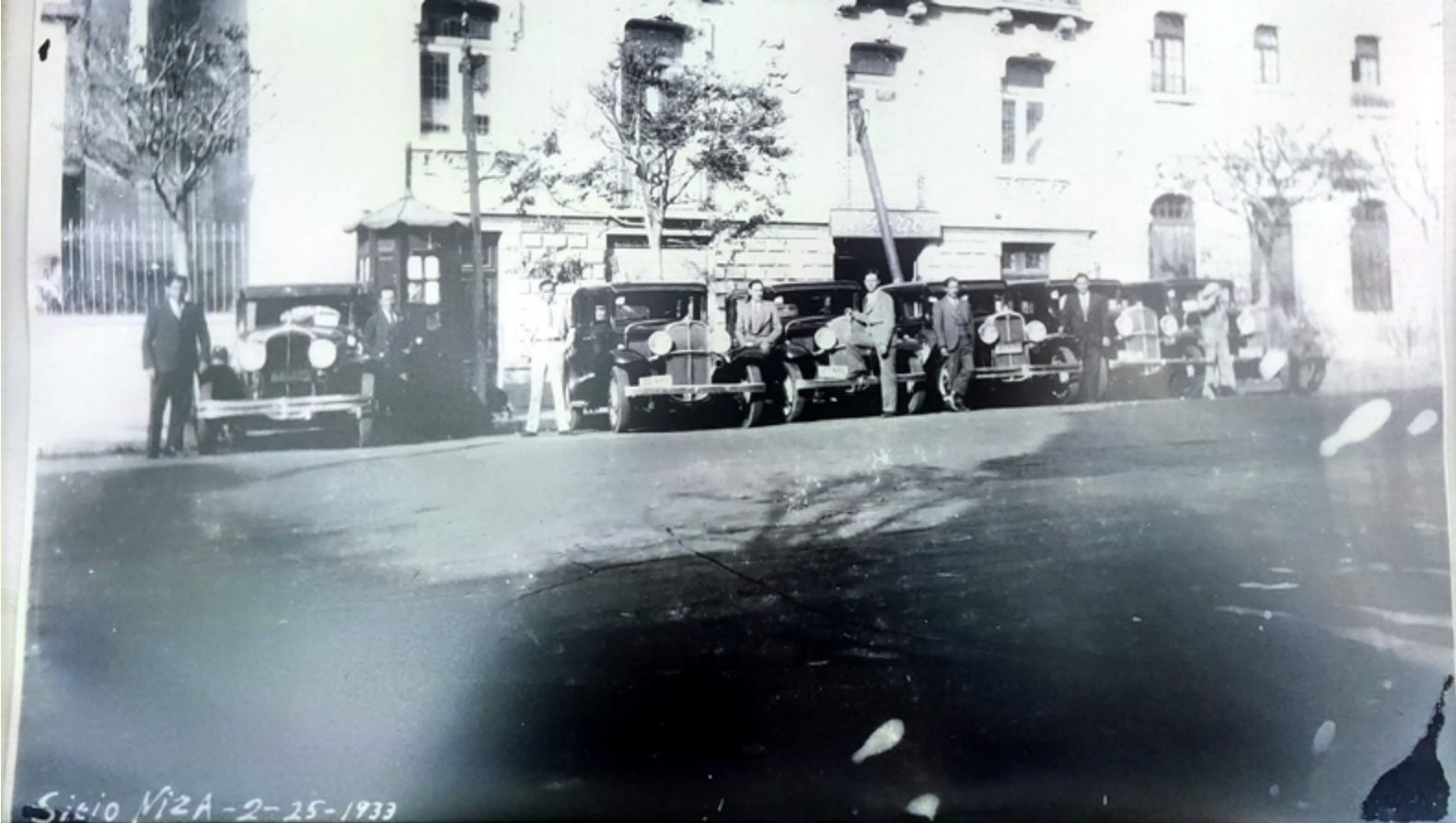
On top, an old photograph kept at the taxi stand of Sitio Niza 139 showing the drivers in 1933 in their original location in Niza street.
Bottom, the taxi stand in the present with just Felipe's car to start the service for the day.

credit history. For this reason, it would be difficult for him to enter a ride hailing platform. He, however, is not interested in joining a platform because the job has an emotional significance for him too. In the golden years of the base, the vehicles used to carry out the service used to be more luxurious and this type of taxis had always been distinguished from street ones as more reliable, safer, and carrying a different type of passenger, something like an executive service. This memory makes Felipe convinced that the service is valuable to the inhabitants of the city, and as he says it, is worth fighting for.

Furthermore, he mentioned how his parents used the taxi base when they lived in this street and it is something that connects it to them. The myth about being the first base in the city serves as an example of a proud past that he feels for the association as it has been a place where he has made friends, known people, and earned money to sustain himself. Nonetheless, Felipe is perfectly conscious of the challenging situation for the base to survive more years, something which he also explained to me.

The present and the future of the base

After all the changes in the past twenty years in the base, people who use it are normally clients that personally know the drivers and rely on their services frequently. Also, people who work close to the taxi stand tend to use it at certain times of the month and, still, some tourists get recommended to the base to travel around the city or do day trips. Even if the job is less profitable each day, drivers hold on to it. One of the reasons for this is that taxi licenses in the city are a valuable asset and in the past could be highly profitable as they could be rented or used directly. Drivers in this base are not alone, as Felipe explained, because this same situation has happened in many other associations everywhere in the city. The main turning point was the arrival of Uber in 2013, which at first started operations without any kind of regulations. Taxi drivers have organized protests against the operation of ride hailing platforms at first, but then asking for a fair regulatory treatment. In contrast to Uber, taxi drivers have to pay yearly fees to have their vehicles authorized and are more prone to police inspections in the streets. Felipe told me that the demands of drivers have changed over time and now they are pushing for Uber to be recognized as regular taxis, in order to be subject to the same regulations.

Among the challenges in preserving the base, there is one related to a generational change. Felipe explained to me that most of the drivers in the association have been part of it for many years and they tend to be older adults or elders. They hold attachment to the taxi specially if they own the license and if they had parents that had the same job as them. The generational inheritance of the license and of the tradition to do the job is not carrying up to the next generation as it is increasingly seen as unprofitable. The absence of new young workers is a major problem for the survival of the base as the collective division of the payments is everytime a bigger burden for the ones remaining.

The decline of the base creates a vicious cycle for drivers because of the decreasing economic gains. The absence of passengers limits the profits of the drivers who have no money then to maintain their vehicles, buy new ones, improve the infrastructure of the base, and remain for a longer period in the

base offering the service. This situation reinforces the negative reputation of taxis as using worn down vehicles or not being reliable. For example, Felipe's car is more than ten years old, which is the limit in Mexico City for vehicles carrying out public transportation, this sets him in a vulnerable situation if he were to face a police inspection.

The decline of the base has also been translated to the organization of the association itself, as there is a growing apathy among the members to do the directive tasks. He explained to me how the absence of members makes the management tasks rely more on less people, which discourages drivers from being named leaders of the association. A couple of weeks before our interview, the base participated in a protest at Mexico City's central square demanding better job conditions, an increase in their fares which have remained unchanged in ten years, and the regulation of ride hailing. He recalled how organizations among different associations used to be more active and how protests were bigger, which allowed them to make a bigger disruption and call more attention to their demands. Felipe told me how protests are less frequent nowadays in comparison to eight or six years ago, but that seems to him to be because there are less taxis on the street now, not because of the acceptance of the conditions in which they compete with ride hailing, something that I detail up next.

Competing with the platform

The main difference that I could notice among the way both industries work is the role of technology in the job. The daily operations of the base rely on walk-in passengers, a record of contacts of clients of each driver, two telephone lines, and the knowledge of the city by the drivers. The way a trip is started and completed is radically different from ride hailing drivers, here the driver has to know how to get to the destination and the fare is fixed the moment the trip starts. The drivers are contacted either by direct personal interactions in the base or by telephone, which severely limits the amount of people that can reach them. Then, the route from the place of departure to the destination is not normally guided by any technological device, because in theory the drivers have little incentive to do the job quickly. After getting there, the taxis usually don't pick up another passenger on the street, because the fare they would have to charge them for not being on the base is not convenient for them. A clear example of the technological gap is the way Felipe told me used physical maps in the past until his eyesight stopped being very sharp.

There is an apparent generational gap between this type of drivers and the ones doing ride hailing. This age difference has implications sometimes in the way they can use technological resources at their reach. The case of Sharks in comparison to the base illustrates this contrast perfectly, as in one case drivers are experts using a whole environment of applications, while on the other drivers rarely use any platform. In the case taxi drivers are using a technological device, they opt for GPS navigation platforms to know how to reach a destination they don't know. This could arguably be an example of exclusion through the lack of digital capital, as explained in Chapter 1.

Another aspect in which the taxi base is surpassed by ride hailing platforms is in the cost of operating. The base relies

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SITIO NIZA 139

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completely on the individual contributions of its members to exist, as they pay for the infrastructure, the legal requirements, and the physical organization that allocates passengers to drivers. This is a stark contrast to the platforms, which provide the allocation mechanism to the drivers and it doesn't require them to participate in it at any point. Through the charging of commissions on every trip, the platform can cover its operating cost, but due to the big number of users, the individual contribution is not significant. Unlike a little association like the base, for the platform, drivers and users are expendable assets. The platform companies also benefit from being transnational companies that can finance their different branches through the profits they make elsewhere or through the liquidity they get from new rounds of investment. Furthermore, the base could rarely build a two-sided market to the size as the platforms do, particularly because of the network effects that they invest a lot of money in achieving. In this aspect, it is also important to consider the discursive strategies and public relations budgets of the platforms that have imagined them as solutions for mobility in the cities, something that the taxi industry has failed to counter.

Regardless of the financial state of the base and the challenging future, the association has a strong conviction to keep it for a long time and is convinced that there are enough clients for taxis and ride hailing platforms in the city. Felipe told me during our interview that he and his colleagues were willing to do whatever it takes to preserve this legacy because it is part of their lives and of the history of Mexico City. Something that impressed me after our conversation is the strong role that space plays in his job in comparison to platform work, where most of the tasks are carried out in a virtual environment. However, a big absence was felt all during the interview as he told me that the government rarely looks out for them if it's not for charging new taxes or permits. Even after the nostalgic and at times hopeless tone of our conversation, Felipe was in a good mood that day and got ready to start his shift. I said goodbye to him and started walking while he greeted everyone in the nearby restaurant as they arrived to open for service that day.

The Sitio Niza 139's taxi stand on Marsella street. The stand acts as the control hub for the drivers, in the past it was were the telephone operators would manage the bookings. Today it hosts the telephones, the files for the management of the association, the permits for the operation, a television to watch while killing time, and lost items.

3 . 4

Local government: living with ride hailing platforms

I worked for some years on the seventh floor of the Secretariat of Mobility of Mexico City (Semovi, for its name in Spanish, Secretaría de Movilidad), where I met the three officials that I interviewed to talk about the role of the government in this issue. Juan, Isabel, and Gabriel (not their real names) are three young high ranking officials working for Semovi, they are in charge of many of the duties of the department but they were all central in the regulatory process for digital platforms offering transportation services, since the start of the current government in 2018. They all studied in the same university, a prestigious left-leaning public institution in the South of Mexico City, where they majored in Political Science. They are part of the government of Mexico City that started in 2018, led by Claudia Sheinbaum a member of the leftist party Movimiento de Regeneración Nacional (Morena). As part of this government, they have been in charge of improving mobility in Mexico City with public wellbeing as a central goal, through public solutions that stren-

gthen State-owned or concessioned services of transportation. One of the core principles of the current government has been the preference of public rather than private solutions to the problems of the city. Their experience in dealing with digital platforms offering transportation services was guided by this context.

I met with them at different moments to speak about their visions on how ride hailing and other digital platform-based transportation services have changed the mobility of the city and how they are actually governed. They shared insights about the ways in which the government relates to the platforms, the current state of the services, the way regulations work, and the unsolved challenges for the future. Here, I present a general overview of the interviews I had with them, mostly regarding the way the government deals with these companies, how they affect public services, and how a local government takes on the role of regulator.

Ten years of regulations (and lack of thereof)

The arrival of ride hailing companies to Mexico City took place as the typical disruption of digital platforms in urban spheres. They arrived without requesting an authorization and without having any kind of rules to follow or taxes to pay. At the beginning, they arrived just as premium services offering luxurious

vehicles that could be ordered through a mobile application, as was the case with Uber, or just mobile applications that allowed to hire public taxis and set a different fare than the ones governing radiotaxis and base taxis in the city, as was the case with Yaxi and EasyTaxi. The quick growth of these platforms is easy

to understand in a city where insecurity is a major problem and public transportation, especially taxis and buses, has a bad reputation.

Uber, along with the Spanish company Cabify, quickly grew in the city as an alternative for taxis since their start of operations in 2013. They disrupted the mobility in the city because they provided a better alternative to taxis as they had newer and more expensive vehicles, they often had cheaper fares, and relied on formal procedures of completing trips, leaving out common informality in the city of negotiating fares or destinations before riding as a passenger. They arrived looking for the network effects identified in the literature as during these years it was common to get free rides by recommending the service to other people through personal codes. Later on, other companies arrived in the city: the Chinese Didi in 2018, the Greek Beat in 2019, the Estonian Bolt in 2019, and other minor companies, like the Mexican Laudrive in 2018 or the Russian InDriver in 2021.

After the arrival in 2013, two years of growth followed for the companies without any kind of regulation, it is calculated that by 2015, Uber already had around 10,000 drivers and more than 500,000 users in the city.[17] After these years of growth, protests started in 2014. The main demand of the protests at that time ranged from the prohibition of ride hailing to the creation of similar regulatory conditions between ride hailing vehicles, at that time mostly pertaining to Uber, and taxis, as the latter had to pay permits, yearly inspections and specific driver's licenses.[18] The taxi sector was impossible to ignore as it is calculated that it was made up of more than 140,000 authorized concessions and an unknown number of illegal taxis, but it was also highly organized due to the presence of associations and unions. Massive protests of taxi drivers took place in Mexico City in 2015, which Uber used as an opportunity to advance their narrative as an alternative to the chaotic taxi industry and grow their base of customers.[19] This was a perfect example of the amount of money Uber had available to grow in the Mexican market, as it was common that during the days of the protests the company would offer free trips up to 150 Mexican pesos for new users.

The result of the growing pressures was the creation of the first regulation in 2015. This regulation recognized ride hailing as a different service than the taxi and was based on three main requirements: a yearly permit, a 1.5% contribution of the total price of each trip to a fund for mobility infrastructure, and basic technical requirements for vehicles, among which the minimum cost of the vehicle (200,000 pesos) was the main differentiator. It should be noted that this regulation was built after a consultations process in which Uber was involved and the result was agreed upon. What resulted was a minimal regulation that barely changed the conditions in which the service was offered as there was no interference in the allowed number of vehicles, the fares or the coverage area.

In 2019, after the ruling party lost the election for mayor of the city in 2018, new regulations were published by the new government. The first one set certain conditions for the vehicles: a minimum cost of the vehicles (250,000 Mexican pesos), a maximum of ten years of age, a distinctive card to indicate that it is used for ride hailing, and a yearly mechanical inspection. It also mandated certain requirements for the driver during the service, like a specific driver's license, the prohibition to receive payments in cash, and the prohibition of picking up passengers in the street in fixed locations. Although the regulation didn't set new taxes or fees to pay for companies, it was intended as a qualitative one that

tried to build a similar regulatory treatment with taxi drivers.

Along with this first set of rules, that same year a data-sharing obligation was published. This regulation forced the ride hailing companies to share with the government information about their operation in the city as they did in other cities, particularly in the United States. The regulation was set as a first step in a bigger regulatory process, it was intended as a way to know the precise state of the ride hailing industry in the city and its potential negative consequences on the public wellbeing. The regulation mandated the sharing of information on the number of trips, the number of kilometers traveled, the time spent without passengers, the share of female drivers, the number of car accidents, the presence of dynamic fares, and the amount of hours worked by each driver every day, among other data. Ideally, this information was going to be used to understand how congestion was influenced by ride hailing, but also was an effort to understand road safety, labor conditions, and gender presence in the industry. Due to a legal resource used by the companies (explained later in the section), the regulation failed and the information was never shared to the government. Other obligations were set in 2019 by the national government regarding the explicit payment of taxes for platform workers, particularly ride hailing and delivery ones.

That same year there were a series of highly publicized cases of crimes committed by ride hailing drivers that shocked people in social media.[20] The demand for improved security in the service led the government to create an obligation for all the drivers involved in transportation services in the city, among which were ride hailing ones. This new rule forced ride hailing companies to share with the government weekly information on the name of the driver using a specific car, identified by its license plate. The goal was to create an updated and reliable database of the people involved in transportation services, in order to facilitate the prosecution of crimes perpetrated during the service. From that moment until 2023, no new regulations have been published by the local government, something that has kept the protests from taxi drivers active from time to time. In spite of the regulatory continuity, the situation of the ride hailing industry has changed due to other factors, as was explained to me by the interviewees.

Ride hailing in Mexico City today

Juan is a high ranking official at Semovi and he is one of the people in charge of regulating digital platforms that offer transportation services in the city. I met him at his office in one of the upper floors of the central headquarters of Semovi and my main questions for him were about what is the state of ride hailing in the present, how are regulations working, and how has the relation with the companies changed since 2019.

There have been many digital platforms offering transportation services in Mexico City during the past decade. After the ride hailing platforms, microtransit ones followed, Mexican companies Jetty, Urban, and Tiim offered vans to transport people through popular routes into congested areas of the city. At the same time, Mexican companies offering shared electric motorcycles appeared, Econduce first and Skut later on. In these years, the most visible, as in many cities of the world, were the micromobility companies that appeared in a flash and filled the central city with hundreds of electric scooters, electric

The SEMOVI main building in Álvaro Obregón avenue in Roma Norte neighborhood.

bicycles and conventional bicycles. These companies caused a particular challenge for the government to regulate due to their number and good reputation, among them were Bird (a branch of Uber), Mobike, Lime, Dezba, Grin, Vbike, and Movo. Two common characteristics of all these companies were their rapid irruption in different extents in the city and their operation, at least in a first moment, without any kind of authorization or rules for them. At the present, the majority of the companies are gone and only a few micromobility and motorcy-cle-sharing remain apart from the ride hailing. Regarding ride hailing, only four companies remain in the city: Uber, Didi, Cabify, and InDriver.

The first thing Juan told me is that the pandemic transformed the mobility patterns of the city completely and that the government still has to understand them. This applied to ride hailing too as the demand for the services grew and, possibly, the number of drivers. This is in line with a major study conducted in Mexico City about delivery

On the left, private dockless bicycles owned by the bike sharing digital platform Dezba in Paseo de la Reforma avenue. On the right, the public shared bicycle service Ecobici in Alvaro Obregón avenue. Bike sharing companies arrived to the city in 2018 with thousands of units on the street then, in 2019 a regulation was enforced to order their operation. Most of the companies left the city in the following years, in contrast, Ecobici was created in 2010 and renewed in the recent years.

riders, which shows that the amount of people working in this industry increased during the pandemic because they lost their previous job or their salaries were reduced.[21] The implications of this change have come in several ways; for example, it has been observed that the quality and state of the vehicles in the ride hailing service has diminished. They seem to be highly contrasting with the vehicles with which Uber started its operations in Mexico ten years ago, when they were high-scale, and even, luxury cars. In the past, it was expected that the arrival of ride hailing would pressure taxis to improve their conditions, but it seems to be happening in the opposite direction.

The change of ride hailing hasn't been only due to the pandemic but also because of certain decisions made by the companies. In general, the entry barriers to use the platform as a driver and as a passenger have been reduced. For drivers, the service has stopped being limited to certain types of cars as companies have stopped asking only for limited models or following the rule that set a minimum cost of the vehicle. This situation has become more flexible as new companies have entered the market and a difference in their fares and commissions acts as a differentiator of the demand they serve, as was confirmed by the drivers I interviewed. This means that companies have incentives to ask different technical requirements in an intent to gain a share of the market that has still possibility to grow. Furthermore, the requirement of a minimum cost of the vehicle can't be enforced on certain companies that have filed lawsuits against the regulations in 2019. For passengers, the service started accepting cash payments in 2019 after the same lawsuits suspended the enforcement of the rules. What this caused is a diversification of the customer base as now people who didn't have bank accounts could use the service.

Juan told me that after ten years of the beginning of operations the types of passengers have changed a lot, although the service keeps being preferred by middle and high income parts of the society. One of the constant differences that remain with taxis is the higher cost of the service and the need for a smartphone to request the service. This condition, however, has changed too as the access to mobile data and smartphones has grown in the country. Although the government has tried to take advantage of the digitalization by launching its own app to hire taxis, Mi Taxi, it hasn't come close to the popularity of ride hailing apps.

When he continues talking about the problems facing ride hailing, one of the main problems that he mentions is the conflict with taxi drivers as it hasn't been solved through government actions. Although there is no precise data, there is a perception that ride hailing has negatively affected the taxi industry and that the number of vehicles has decreased in the past decade. Before the pandemic, there was a certainty that the most affected part of the taxi industry had been the base taxis. About this issue, he tells me that the main demand of the taxi drivers at this moment is setting equal conditions between them and ride hailing, specially in the permits and cost of operations part. He recognizes too that the protests have reduced their size and intensity since their worst moments between 2015 and 2019.

Among other issues that he mentions are the lack of precise information about the drivers, something that the registration of 2019 tried to avoid, because the companies are not complying even with the most basic rules. He mentions also that it is still a service that is concentrated in the central city and the richer areas of the city. Through all the issues that he mentions a constant problem keeps showing up, the lack of informa-

tion about the service and those involved in it. These conditions appear difficult to change for what he told me about the weak intervention of the government in the industry. To better understand the reasons behind this situation it is useful then to discuss the real capacities of the government as a regulator of this industry.

The local government as a regulator

Isabel is another high ranking officer at Semovi, she also started working there in 2018, but she has a long career in the local government dealing with transportation and mobility issues. She was part of the regulatory process that started in 2019 and has worked also on issues related to the bus and taxi services in the city. I met her for a conversation regarding the way in which the government of the city regulates services and what are the limits to its capacities. Along with the insights of Juan, her conversation helped me build a partial vision of how ride hailing is regulated in the city.

Our conversation started with her describing how digital platforms have been regulated by the city, not only ride hailing but also micromobility services. She identified two moments in the regulation: the chaotic arrival and the following assimilation. The first one is characterized by the sudden appearance of a service in the city and very often a positive adoption by certain types of inhabitants of the city. This moment often brings conflict as the platforms work without any order or rules and when they compete with other services, they produce protests regarding competition. At this moment, the government is forced to produce some kind of regulation or supervision for them, issuing permits, organizing pilot projects and organizing meetings to discuss their operation in the city. Not without public controversies, the government is forced to create a regulatory framework for the platform in hopes of achieving order and an optimal integration in the mobility of the city. This is when the second moment starts, a period in which companies file lawsuits against the regulations to try and see which of them they can suspend or, in the best scenario, cancel. This is the most complicated period for the government because it is when most regulations can be canceled if they don't have a solid legal base, as has been the case with most of the rules published for ride hailing. The absence of that solid legal framework is the subject for the next part of this section.

Without considering the drawback that the local government has suffered in the recent past, how does it regulate in theory? The government, as the executive branch of the State, is able to publish ordinances and codes that have to adjust to the existing laws and rules issued by the local assembly of representatives, the legislative branch. In turn, these ordinances have to be in line with the national laws. For this reason, the regulatory capacity of Semovi is quite limited, partially because it has not been designed as a regulatory body. A clear example is the way in which its functions are limited to govern the mobility aspects of certain services and not their prices, which complicates supervising an industry as a whole. To make it more clear, in the case of ride hailing, the local government is allowed to determine rules on technical requirements or mobility guidelines, but it can't interfere with the prices of the service, even if they compete with the existing public transportation services. One of the reasons for this limitation is the alleged

private nature of the ride hailing service, which is conceived as an economic transaction organized and completed by two private actors, the passenger and the driver, and just allowed through a digital platform without it even being involved in the service.

In reality, the regulatory capacities of Semovi are quite limited. Although the institution has the power to publish as many ordinances as it wants to manage mobility in the city, the legal drawbacks have proved a clear limit to this practice. Particularly in the case of ride hailing, it has prevented the latest regulations to work and be applied. What has been left for the government is the use of the local police and administrative inspectors to set checkpoints in the streets to verify that drivers have at least the permit to work as ride hailing vehicles. However, even this practice is quite ineffective as drivers can easily avoid the checkpoints by using other streets or working at other times. The rest of the regulations, like the obligatory identification card, the prohibition of using cash payments or the technical requirements for the vehicle are impossible to enforce. One solution that this government tried to improve the regulatory practices of the platforms and avoid corruption was organizing simultaneous meetings with representatives with all of them. This is an example of what was described in the first chapter as the creation of wide governance practices. In the case of platforms, meetings with the companies are promoted and are used as tools to reach

An "pirata" taxi, as illegal taxis are referred to in Mexico City. This vehicle has the reglamentary colors but lacks valid plates to work as a taxi. This situation was common in the past as the taxi industry was highly profitable and difficult to control due to its political power and size.

agreements and try to avoid lawsuits, although they have proven ineffective.

The regulation of 2015 would point that this kind of meetings would work to build consensus among the involved parties of the mobility of the city to create rules that benefit the wellbeing. So, what was the difference between 2015 and 2019? And, why was one regulation allowed and the other one wasn't? Ideas about the particular context of the city, i.e. the taxi movement, the real impact of the regulations in the profits of the platforms or the different role of the ride hailing companies in the mobility of the city in two moments could be considered. One interpretation in line with the ideas of

Graham and Srnicek would suggest that platforms wouldn't be willing to sacrifice the monopoly to their most valuable asset, data, and information about their service. A finding that kept coming up through these two conversations was the clear asymmetry in capacities that exists between the government and the companies, which seems to be balanced in favor of the latter. Isabel, however, is confident that a government of the size as the one of Mexico City is able to deal with transnational corporations coming to offer services in the city. Through her experience in the public transportation sector in the city, she was able to highlight some of the main limits to achieve proper regulation in recent years

A sticker in Felipe's car with the emblem of the Movimiento Nacional Taxista (National Taxi Movement). This organization is a national collective of tax associations born as part of the protests against ride hailing companies in 2016. The movement was powerful in those years because of its effective capacity to block major avenues in cities everywhere in the country. In recent years it has gone quiet.

Governing a technological transformation

At this point of the conversation an obvious question comes up, why did the regulations fail in 2019 and what is needed to make new regulations work for the public well being? Both Juan and Isabel after five years of dealing with platforms everyday are convinced that the legal framework governing them is outdated and allows them to operate almost freely. The experience with the lawsuits that suspended the regulations of 2019 has allowed them to reflect on

the reasons why judges sided with the companies. Two reasons in the provisional rulings were that Semovi didn't have the attributions to set some of the rules it was setting or that providing information about the service would harm the business model of the companies. While the first argument might be formally true, inspecting it through a transportation planning and mobility perspective becomes highly questionable. Both of the officials agree that the legal fra-

mework needs to widen the conception of transportation and its governance beyond the management of road rules and guidelines for public transportation.

One of the frequent reasons for the weakness of the ordinances is the short period of time that is available to create regulations after a platform arrives. Due to the disorderly arrival and the social demands that follow, regulations have had to be published in a short period of time. This has meant that they had to be created following the laws at hand and, mostly, through the executive branch of government. The result then are regulations based on ordinances that may or may not adjust to the existing law, but rarely legislative changes that address the technological transformation of services in transportation. What I mean by this is something both officials told me about, that the efforts to deal with platform urbanism have not been shared by the legislative branch in charge of making the laws that the government has to enforce.

The consequence of the sole role of the government as regulator is having to create ordinances that are based on laws made for mobility and transportation from another time in the city, when digital platforms didn't exist. Issues like the management of data, the categorization of new services, and the labor rights of platform workers are completely out of the legal framework in the city at the moment. A major consequence of this gap is that ordinances have to be made with laws that seem to not be able to govern the new services, especially when the discursive and public relations campaigns of the companies have been successful. When this happens and lawsuits against regulations are filed, the judiciary in charge of them ends up suspending them because of procedural issues. The best example of the discursive strength of the platforms is how Uber was considered a completely diffe-

rent service in comparison to taxis in the 2015 regulation, something that is questionable from a transportation and economics perspective. After the lawsuits are successful for the companies, the local government has no option than to try another regulation with a different legal basis until the laws change, something that in the case of the taxi drivers persuades them that the government is not trying to do anything to respond to their demands and regulate the platforms. A first answer to this problem that both officials are convinced of is that it is needed to expand the way regulations are made for platforms in the city, either by increasing the capacities of local government or by shaping legislation at different and higher levels of government.

Isabel spoke briefly about another issue that she perceives in some of the institutions that can influence the enforcement of regulations. She shared that her experience has allowed her to perceive a prioritization of private property and economic profit over public wellbeing and mobility when it comes to transportation in certain legal frameworks and judiciary institutions. Although we didn't go deeper in this idea during our conversation, it would perfectly align to some of the literature discussed in Chapter 1 regarding the adoption of neoliberal ideology in urban government and the entrepreneurial shift identified by Harvey. This is an interesting comment because it points to a more structural factor shaping mobility in the city, which can't really be changed through mere regulations and would require a political shift in the way institutions and laws are thought of in Mexico City. This idea will come up as a central topic in the final section of this chapter which revolves around just that, a conversation as a reimagination of the regulations for the future.

3.5

Regulating platforms: ideas for the future

The final interview I had at Semovi was with Gabriel. He is another young official working for the city since 2018, he likes to guide his analyses with a rational choice perspective and he relies on Economics to guide his regulatory approach. During these years, he has advised several topics inside the institution, which has allowed him to evaluate ride hailing in the light of the bigger transportation system of the city. I wanted to speak to him about the way the local government actually manages public transportation, beyond its official legal capacities, in the face of institutional weakness and informality in a city like Mexico City. However, unexpectedly our conversation digressed into some of his insights after years of trying to regulate digital platforms in a place where the overwhelming majority of the population doesn't even use them because the major modes of transportation are others. He presented to me a reflection of what he had learnt after five years of dealing with the platforms as transportation providers through a strategy based on technical regulations trying to reduce their negative externalities. What follows is a series of ideas on how regulations could look for the city if they are to avoid the mistakes made in the recent past.

A few considerations should be made clear about the context in which his insights arose. The 2019 regulation was centered on data sharing as a way to deeply know the ride hailing service. One of the main characteristics of platforms, specially the space-based ones, is the continuous collection and production of data based on the positioning services in smartphones. This creates gargantuan private databases storing the mobilities and cartographies of users and the city, which, at a second moment, are analyzed to find patterns and guide algorithms to guide the operation of digital platforms. Ideally, access to this information could provide a way to monitor the operation of a private service and measure its negative externalities on the city. In reality, this information is the core of the platform business model, as Srnicek defends, and its monopolistic mining is what could make platforms more competitive. Following this thesis, it would be understandable the resistance of the companies to share the information. As I described before, the suspension of the data sharing requirement prevented the regulation from even happening and after that, no other major ordinance followed. What Gabriel discussed with me had these events as a starting point and he carried on talking about what went wrong and how to move on from it.

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Outdated laws and the neoliberal trap

A recurrent idea in all three conversations with the public servants was that the legal framework is outdated. As I explained at the beginning of the study, digital platform companies have huge budgets that allow them to arrive anywhere in a matter of weeks or months. The natural consequence for this, just like Barns explains, is that cities and governments are faced with companies and services that they don't have the right tools to govern and instead of guiding their development or arrival, they are just left with a role of regulator. In the case of Mexico City, the three officials agreed that this isn't even possible due to the lack of a proper set of laws that gives the government capacities to look out for the public wellbeing over the private profits.

Gabriel was confident that this is an example of a legal framework that is governing a city that has changed a lot in the past decade. He referred to the way platforms have carried out a technological transformation of the city, in which computers play a central role in the management of services and interaction with people. The result was a transformed landscape of the mobility of the city with new private actors that claimed to be offering new transportation modes. In the case of ride hailing, as other digital platforms, their organization model based on independent contractors without a formal employment relation with the company and the outsourcing of all the physical assets, made it an unprecedented service. This set a first obstacle to

guide the growth of ride hailing, even when cases of abuse towards drivers, apparent increase in congestion, irregular security conditions, and uncontrolled price spikes were constant in the city. In spite of this, the regulations during the recent years were published although they had little success.

One of the biggest mistakes, he told me, of the recent regulatory process for ride hailing was to think of it as a technical matter. The current regulatory capacities of Semovi are centered on the operation of transportation as a means to facilitate the mobility of the inhabitants of the city. When it comes to public services, the institution has a complete say on their fares, their organization, their operation rules, their logistics, and their infrastructure. In contrast, when it comes to private services, the Secretariat has much limited capacities focused on the authorization of permits and certain rules about how they can operate in the city. Among these small capacities there are none to regulate the prices and amount of vehicles coming into the transportation markets of the city. This, by principle, makes Semovi an incomplete regulatory body as it is really unable to ensure the optimal functioning of a market by preventing monopolies or unfair competition.

Regardless of this regulatory weakness, the ordinances of 2019 had to be published in an effort to change the state of ride hailing in the city.

These regulations were focused on the mobility side of the service and their justifications were based on technical arguments centered on reducing the negative impacts of the service in the city. This, however, was easily contested by the affected companies and rejected by the courts. Gabriel recognizes here that the main problem was one of principle, to think that a private company which operated just like taxis should be dealt with on a technical level, just to set technical rules to reduce its impact. He is convinced now that, in reality, this was always a political issue of a company trying to get rules that favored it by building a narrative that it was a distinct service. In consequence, the regulation of this service should have started as a political issue, centered on the observable unfair treatment between ride hailing and the taxi industry.

This, however, was out of the scope for Semovi as their action has been limited to public transportation issues and private mobility authorization, leaving the political issues to the local legislature. What this has meant for the work of the government is to narrow the governance of transportation and mobility in the city to technical issues, when it has a strong political dimension that shouldn't be ignored. The disruptive rise of ride hailing came with conflicts and affected sectors, so to think of its regulation should start by observing how some parts of the public wellbeing were harmed. For this, a whole rethinking of the legal capacities of the local government must come first, in order to give it capacities to deal with such challenges. What Harvey has identified as the neoliberal and entrepreneurial shift in urban governance seems to be present here and seems to be one of the reasons for the regulatory weakness of the city. Through the words of Gabriel, I come to recognize that there is a trap in the current legal framework that makes political issues be thought of as mere technical ones that require technocrats to be solved. The reality, however, seems more complex and it would seem to require wider approaches that manage mobility as a whole and that move past the mere reduction of externalities to strategies that ensure public collective transportation through different means.

Politics and reparations as regulation

We come to a point of the conversation where it seems obvious that, just like Juan and Isabel told me, the other political actors of the state have to take part. This seems like a particularly difficult problem in the Mexican context, where the role of the lawmaker in the local legislatures tends to be quite trivial and is reduced to voting as part of the party it belongs to. In case that the legislature has a majority controlled by the same party as the executive, it facilitates creating laws or amendments that allow the government to carry out its plans. In the opposite case, it is just a space for political opposition, where legislative work

rarely occupies the main focus. In this context, regulations for digital platforms are currently led by the executive branch of the state but should also be pushed by the local legislature as a way to provide the government with tools to carry out its job. However, scaling the problem to this level means transforming the technical issue into a political one for which political negotiations have to be carried out to create coalitions big enough to approve a new legal framework. Then, to have an even more robust framework that allows whole regulations it would be needed to make changes in the laws that govern federal issues, like labor and income taxes, which make the negotiation issue more complex. For example, to tackle an issue like the employee/contractor condition of platform workers in Mexico City it is needed to make changes on the federal law regarding labor, which would require a high level political negotiation to be amended.

The main idea during this part of the conversation is that regulations are not only technical tools, but political ones when they involve the mobility of people in such contested contexts. Both Gabriel and Isabel agree that it is a duty of the government to take on this challenge in order to improve the mobility and transportation of Mexico City. They are both convinced that it is only through fair competition in the taxi industry that this kind of service can achieve its whole potential. The three of them agree that platforms arrived to stay in Mexico City and have managed to capture a considerable part of the market while also becoming a substantial source of employment

for thousands of people. Thus, the key question is what is the best way in which the service can exist in the city.

Gabriel mentioned a perspective on regulation that departed from everything we had talked about during our conversation. He distinguished two moments in the arrival of Uber to the city. The first one took place ten years ago when the company arrived in the city and changed the taxi industry during the course of two years. This moment is when the technological transformation led by digital platforms took root in Mexico City, with it came a moment in which people started to question the state of the taxi industry and opted to choose the new service. Similar to what Srnicek describes as the rise of platform capitalism and Harvey identifies as a consequence of the change of the method of accumulation of capital, the city experienced a change in the economical, labor, and mobility relations of the people using or affected by ride hailing. The result is a new state of the city where the digital interfaces and the platform mediated relations have become numerous and are impossible to ignore. A consequence of the transformation, just like any other technological revolution, is that some people take part in it and others are left out. In the case of digital platforms this is very clear, young people who are proficient in the use of smartphones and mobile applications take great advantage (think of the case of Sharks), while others are left out and face challenges to continue their traditional lifestyle (as was the case with Felipe).

The second moment Gabriel talks about is the recent years when platforms are now part of the daily life city, conflicts have decreased, and a new normality has been put into place. In the light of this new state, the government can still regulate if the assumption that mobility is not fully guaranteed for the society or if the operation of the service damages other options that can provide it. For him, a novel focus for the local government is to look out for the affected people after the technological revolution, a way of thinking of regulation as a means to repair the damage. In his proposal, the government role should be oriented to find ways in which the party damaging the affected can provide reparations. He advocated for a less controlling regulation and one more focused on repairing the harm that platforms produce. In the case of ride hailing in the city this would mean getting the companies to provide resources to the affected competing sectors of the public transportation network, especially taxis, in order to make them more competitive and finally achieve the fair conditions they demand. One of the arguments for this approach is that ride hailing and digital platforms can actually solve logistics problems in traditional services through algorithmic allocation of resources, for example, through an optimal allocation of vehicles for passengers demanding rides. This vision is an ideal and it would require a strong political commitment, something which the administration ending in 2024 will be unable to do. He told me that the legitimacy of a new mayor making this promise during the election campaign might be the best asset to achieve this new focus.

Existing platform urbanism

This third interview was a good way to bring together the insights that the three officials shared with me because he made a balance of what didn't work and how the future governmental action should be oriented to be successful. After these conversations I got some ideas on what the platform urbanism of the ride hailing industry looks like in Mexico City. The story of the growth and assimilation of ride hailing in the transportation network paints a clear portrait of how digital platforms have come to occupy a place in the city. I discuss now some of the characteristics of these processes as a way to conclude this chapter and identify the platform urbanism present in Mexico City.

As the insights shared by both the government officials and ride hailing drivers described, there are asymmetrical relations around the service. The workers and the company have one and the government and companies have a distinct one. In the first one, workers are powerless to abuse and reliance on the company, especially when they have few labor opportunities and need the income. In this relation, there is no third party that can mediate and avoid abuses, which makes platform work operate in the terms that companies prefer. In the

second relation, even though the government has the legal authority and popular legitimacy to regulate the transportation services in the city, the lack of formal capacities makes it powerless in many instances. In this sense, the asymmetry between the two parts, government and companies, comes to light anytime the latter display their enormous economical resources and the "better ask for forgiveness than for permission" strategy. The asymmetry is even clearer when one considers how prepared are both sides to deal with data-based services, while the platforms are built on this model and know it to perfection, the government has been taken by surprise, and at least in Mexico City, bureaucratic change takes several years.

Something that is also clear from the insights is that there are contrasting visions that guide the companies and the local government. Isabel described briefly a bit of her experience dealing with executives leading the policy relations of the companies and she contrasted how different their objectives are from those stated by the government plans. She confirmed the existence of a technological solutionism that regards platforms as the solution for the mobility issues of the city. Furthermore, she observed that profit is the main driver in this vision as the companies advocate for regulations that don't harm their business model, without even questioning the social wellbeing.

Although there isn't precise information, the officials all suspected and have qualitatively observed the growth of ride hailing in detriment to the local taxi industry. While it is clear that some customers completely changed their transportation option, it is unclear to what extent this damaged the market and how relevant was ride hailing for the downsizing of the taxi industry. It is unclear if the direct competition was the main factor or if it was the flight of workers from the taxi work to the ride hailing one. This lack of clear causality makes it impossible to trace the potential of exclusion by privation of services.

The current situation of ride hailing platforms in the city continues to adjust to the one described in the literature as opaque and unilaterally controlled. In this sense, the platform urbanism developing in the city is still one-sided and depends mostly on the companies that own the digital infrastructures. Juan told me that some months ago prices soared in Uber to hire a taxi at night in some areas of the city after a massive concert took place in a major venue. Although people went on social media to protest the sudden change, a trend which had been happening in the previous years, the government couldn't really do anything about it. As he told me, the lack of capacities to regulate private fares makes it impossible for Semovi to act upon it, even if it disrupts the mobility of the city and makes transportation inaccessible to people when there are no other options. The problem is complex because issues of insecurity, quality of the transportation modes, coverage of the transportation network, and the governance of the metropolitan area of the city all play key roles on why ride hailing has acquired such a significant role. This

was a perfect example to highlight a dystopian, but not so impossible, future where private companies can freely set prices that only benefit them because the public alternatives have disappeared or can't satisfy the passenger demand. The three officials are hopeful that the government can change rapidly enough in the coming years to face this condition and build up a more accessible mobility in Mexico City.

An almost empty taxi base in San Pedro de los Pinos neighborhood. The association places things on the street to save the parking places for the taxis that could offer customers their service.

Notes

1   Secretaría de Movilidad, *Tercer informe de gobierno, 2020-2021*, Gobierno de la Ciudad de México, p. 89.

2   Secretaría de Movilidad, *Cuarto informe de gobierno, 2021-2022*, Gobierno de la Ciudad de México, p. 83.

3   Uber México, "Uber celebra 8 años de generar oportunidades a través del movimiento y la tecnología en México", *Uber Newsroom*, published September 8, 2021, accesed September 2023, https://www.uber.com/es-MX/newsroom/uber-mexico/

4   Azuara Herrera, Oliver et al., *Plataformas digitales en México: ¿Cuál es el perfil y preferencias de aseguramiento de los conductores y repartidores usuarios de DiDi y DiDi Food?*, Banco Interamericano de Desarrollo, May 2022, p. 9.

5   For a deeper explanation on the economics and geographical distribution of the service see: Marquet, Oriol, "Spatial distribution of ride-hailing trip demand and its association with walkability and neighborhood characteristics", *Cities*, volume 106, November 2020 or Clewlow, Regina R. and Shankar Mishra, Gouri, "Disruptive Transportation: Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States" (Research Report), Institute of Transportation Studies - University of California Davis, October 2017.

6   Regarding the different distribution of profits among driver a good example is Suhr, Tom et al., "Two-Sided Fairness for Repeated Matchings in Two-Sided Markets: A Case Study of a Ride-Hailing Platform", *KDD '19: Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, July 2019.

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8   It is calculated that in June of 2023, 55.5% of the total employed population in Mexico was working in informality, see Instituto Nacional de Estadística, Geografía e Información, "Indicadores de ocupación y empleo" (press release), June 27, 2023, accessed September 2023, https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2023/enoen/enoen2023_07.pdf.

9   Some studies detailing longer wait times for racialized users include: Ge, Yanbo et al., "Racial discrimination in transportation network companies", *Journal of Public Economics*, volume 190, October 2020, and Hughes, Ryan and MacKenzie, Don, "Transportation network company wait times in Greater Seattle, and relationship to socioeconomic indicators", *Journal of Transport Geography*, volume 56, October 2016.

10   For a good example of aberrant driving due to work-pressure and reward systems of ride hailing drivers in China, see: Shi, Jing et al., "Aberrant driving behaviors among ride-hailing drivers: direct and indirect effects of personal attributes and work-condition factors", *International Journal of Crashworthiness*, volume 27, issue 3, 2022.

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4

Ideas on exclusion and digital platforms in Mexico City

In the summer of 2023, while I was writing this text, major heat waves hit Italy and Europe continuously and all throughout the season. I came across an article in the New York Times covering a particular heat wave during mid-July that raised the temperatures above 30 degrees and its effects on urban life in Milan. One of the focuses of the article was the inequality in access to work environments with air conditioner and cooler places during the hours of highest temperatures. Among the interviewed people in the article were delivery drivers cycling in the city to complete orders made through digital platforms. In one of the cited conversations, a delivery worker reflected on how unequal is the right to rest during a work shift in Milan, even if the conditions to perform the job are unbearable due to the high heat. He talks of how in any conventional job paid by the shift or the hour one can rest at least for some minutes and still get paid,

but the paid-per-job nature of platform work meant resting is losing potential profits. He sums it up through a direct question: "If I take a break, what will they eat?"[22]

It could be surprising to find that the same worries and precarity in which delivery riders perform their job in Milan can be found among ride hailing drivers in Mexico City, but it isn't. Using platform urbanism as a framework noting a new way to arrange economic and social activities in cities through the effective replicability of the organization of labor anywhere the digital platforms arrive. This is exactly part of what I could observe during the interviews that I carried out for this research and it would show a potential of economic exclusion because of the latent uncertainty of income. As a way to bring together everything in the previous chapters of the thesis, I make a recount of my observations and how they can relate to

the hypotheses I presented before. The following pages include a clear listing of the main findings about platform work in Mexico City, its regulation, and the way it has affected public services. Following this, the findings are used to identify expressions of exclusion or potentials of exclusion as described in the first chapter. Finally, the text concludes with a brief reflection on the state of digital platforms in the city and some ideas to achieve a better coexistence with them in the future.

Main findings

I distinguish three main groups of findings arranged depending on the issue they relate to: platform work, the state of the taxi industry or the role of the government. Regarding platform work it was clear that it has become an important source of income for people in Mexico City and it acquires more value as individuals struggle to insert themselves in the job market. Due to the speedy and simple process of entry to the job, it has become a reliable option for people who need money fast or who struggle to find other jobs. One of the reasons for this is the absence of requirements for specific qualifications to perform a job other than holding a driver's license, which is fairly easy to get in the city. It was also observed that ride hailing work is diverse in terms of who does it, although it seems to be mostly performed by men, and it is relied upon both as a main and a secondary source of income. The role of the income from this job also determines how many hours drivers work every week and how often they connect to the platform. If it is the main source, then shifts of 10 to 12 hours are common; if it is secondary, then the shifts tend to be shorter and less strict in their routine. Drivers also talked about the uncertainty of the income, in the sense that although experience provides information on how much money could be made, it is not assured by the end of the day. Income depends on passenger demand, platform allocation of trips, the dynamic pricing, and penalties given to drivers, but unjustified cuts in the payments are common. The uncertainty is caused also by the lack of a set salary in the contract between the platform and the driver, something that conventional workers have. Another important observation was the physical and emotional toll that the income uncertainty takes on the drivers, this occurs due to the long work hours that can happen when profits have not been enough and forces drivers to keep working, even when conditions are undesirable, like heavy traffic or late hours.

Among other characteristics of the platform work it was observed that they adjust to certain descriptions in the literature: untransparent, highly hierarchical, precarious, and unilateral. For drivers this means that they can't contest the rules set by the platform on how to perform their job even if they are supposed to be hired as contractors. In the worst cases, the unilaterality is reflected in unjustified salary cuts and penalties for workers. However, it was seen that some of the parts of the asymmetry of information between platform and workers can be lessened through collective organization. The case study on Sharks showed how sharing information between drivers can improve safety, efficiency, and monetary gains during the job. Derived from this case study, it was also observed that technological literacy is a very valuable asset for the job as it allows to perform it more efficiently and overcome the insufficient information that platforms give to workers. The digital environment in which part of the job takes place seems also to be an

age differentiator among the workers, as they seem to be younger than some taxi drivers.

Finally, it has been observed too that ride hailing is a job that allows sufficient incomes in Mexico City and that it is more profitable than jobs that have a similar accessibility, which makes it highly appreciated. The accessibility has improved as entry barriers related to luxury or high scale vehicles have been removed and the issue of owning a car can be easily overcome by driving a rented one. The flexibility of the job makes it attractive as it can be arranged to the personal schedule, unlike conventional jobs, but it is also a negative aspect when there is high pressure for income. It is questionable the extent of the flexibility as the amount of profits is not the same at all times and they are concentrated in certain days and hours, which makes the job unequally profitable. In turn, this questions the alleged flexibility as drivers have to work at certain times if they want to earn big profits, even if they don't have a mandatory fixed schedule.

The second group of findings regards the state of the taxi industry in the present. It was observed that base taxis have a strong spatial dimension due to their ownership of a stand in a fixed location and the clients they usually serve. It was clear that passenger demand has decreased considerably to the point that the profitability of the job is questioned, it isn't clear that there is a causality between the rise of ride hailing and the shrinking of the taxi industry but they happened at the same time. The reduction of the taxi industry is not only centered on the lack of passengers but also the lack of drivers, at least in the case of bases, which makes this model difficult to sustain due to a bigger load of administrative work and bigger costs to retain the organization. It was observed too that there is an abysmal technological difference in the way the job is carried out, where taxis are very little prepared to compete with ride hailing. The limited use of digital technologies during the job allows it to be accessible to workers with little digital literacy, which often also represents a generational difference. It was also noted that there is a strong perception of unfair competition between the taxis and ride hailing which seems to remain unresolved as there have been no significant changes in the regulatory conditions of both. When comparing both services, although both of them are carried out in significant precarity, it appears that the taxi drivers have worse conditions. The bigger authorization fees, vulnerability towards the police, its bad reputation, and unchanged fares could be important factors explaining this.

The third group of findings regards the role of the government in the relation of ride hailing with the city. It was observed that the regulations published by the local government have had minimal effects on the development of ride hailing in the city, mostly because of the limited aspects that they order. Issues like the maximum number of vehicles, prices charged for the service, their organization method, and the negative effects the vehicles have on congestion remain unchanged. The weak regulatory power of the local government was clear and it is partially explained because of the lack of a legal framework that can govern digital platforms as service providers. This lack of legal frameworks appears to be caused by the little involvement of the legislative and judiciary branches of the government in the governance of digital platforms and it is only left to the executive.

There seems to be also bigger systemic problems with the governance of the mobility in the city, as formalities to protect the private property and individual profits have impeded the development of regulations even if they are

pursuing the public wellbeing. Some of the characteristics of the governance of platforms align with the neoliberal and the entrepreneurial shift in the urban sphere noted in the literature. Complimentary to the systemic change that weakens the local regulatory capacities is distribution of regulatory capacities in different levels of government, where the federation is in charge of creating rules for labor and income taxes. An interesting observation derived from this is that the regulation has to be framed in a bigger discussion about its whole model not only of mobility, but also on labor and income taxes, which unavoidably makes it a political rather than a mere technical issue.

Finally, it was observed that there is a consensus that ride hailing has become a key service for the mobility in the city, both in terms of the number of passengers and the number of drivers employed. For this reason, there appears to be some agreement on a regulation that organizes its operation, rather than one that prohibits it. It was observed that ride hailing platforms act exactly as described in the literature on platform urbanism, growing rapidly without authorization, building technological solutionism narratives, altering prices of its service as they please, and resisting regulations at every chance.

Social exclusion and ride hailing

A final analysis is relevant now to understand how the findings just listed relate to the hypotheses presented at the beginning of the study. These hypotheses were aimed at identifying social exclusion through three mechanisms: labor precarity, privation of services, and digital barriers. As a beginning point, it is important to state that in the case of Mexico City, platforms are a way to escape economic exclusion because they provide a satisfactory income and employment for drivers at the present. Thus, the direct threat of economic exclusion because of poverty is opposed directly to being employed in a ride hailing platform, but the job is filled with potentials for economic exclusion which I discuss now.

The first hypothesis trying to identify exclusion through labor precarity is the strongest in the observations made. As it was shown, precarity is a constant in the ride hailing work and it is expressed through uncomfortable work conditions, uncertainty of the permanence in the platform, uncertainty of the profits, discrimination in the workplace, envi-

ronmental risks (road accidents and crime), lack of defenses against abuses from the platform, and exhaustive work shifts. Although exclusion is not directly present, there is a potential for it in the possibility of being disconnected at any moment or being paid an insufficient salary to sustain the personal needs. This potential is based on the absence of clear working terms setting the value of labor, just life a minimum wage does for conventional workers. Particularly, the possibility of getting banned from a platform represents a real risk to cut personal income, when it happens it pushes drivers to use other platforms, often with lower entry barriers and lower profits. The outsourcing of physical assets also allows a great amount of mobility for companies that can decide to stop operations in a country suddenly, which leaves workers unemployed. On a complimentary note, the lack of capacities of the local government to regulate labor issues and the operation of platforms adds to the precarious nature of the work.

The second hypothesis regarding the privation of services is less clear and lacked significant information to be confirmed. Although there was a clear observation that the public taxi service has shrunk in the city and its quality and reputation have not improved significantly in the recent past, there was not enough information to prove a direct causality. A lack of reliable records describing the evolution of the numbers of active taxis in the city makes it difficult to trace a clear effect since the arrival to ride hailing in the city. However, it should be noted that taxi drivers migrated to ride hailing platforms because of the bigger benefits they provide in economic terms. Following what the interviews showed about base taxis, it could be confirmed that ride hailing has shrunk at least the profits for this type of service, which in turn has made the job unattractive and reduced its coverage. The spatial nature of this specific service makes it important for people living close to the taxi stand, which might mean that losing it could reduce the public transportation for this part of the population. The lack of effective regulations for ride hailing would be consistent with a possible shrinkage of the taxi industry, as there are no effective mechanisms to ensure a fair competition between both services. In conclusion, this hypothesis requires deeper research with other sources of information to be better analyzed.

The third hypothesis about exclusion through digital barriers was confirmed. There was an observable gap in the digital literacy capacities between the drivers of both types of services, which determines how easy it is for them to access the better paying one. In turn, not knowing how to use digital platforms and mobile applications is a motive for economic exclusion because it impedes the most profitable work. In a similar sense, the digital nature of platforms define their technological distinction from conventional transportation

services, even if they compete directly with some of them. In the case of Mexico City, this distinction has allowed for a legal distinction in their regulation that makes the government incapable of ordering them in an efficient way.

Apart from the hypotheses, there were other expressions of exclusion that were noted but hadn't been considered. A clear example of political exclusion was observed in the way ride hailing drivers are powerless in facing both the platform to ask for better work conditions and the government to participate in the regulatory process. This lack of participation is explained partly by the independent contractor concept that platforms use to hire the workers, which in theory prevents them from getting any kind of say on the job they accept. Other expressions of exclusion were observed on the cultural type as discrimination for gender, place of origin, and the type of job were noted as part of the routines of ride hailing drivers. Similar stigmatizations of geographical areas of the city and the people living there were observed among the ride hailing workers.

Overall, it can be concluded that ride hailing by itself can't produce clear expressions of economic exclusion when the profits it offers are bigger than similar alternatives, that is jobs that can be accessed with a high level of qualifications and through simple hiring processes. However, the precarity of the job takes a toll on the physical and mental wellbeing of individuals that have no kind of social security, and it represents a potential of economic exclusion. Also, the latent uncertainty of profits and of permanence in the platform make the economical stability of drivers quite fragile, something that in itself is not an expression of exclusion. The lack of controls on platforms is a situation that could worsen the precarity in which workers perform the job and, if profits decrease, a bigger potential for economic exclusion could

occur. Ride hailing did create a condition of exclusion regarding political and cultural dimensions.

It should be noted that further research should be done in this topic to understand better the direct effect on public services. One missing actor from this research was the customer base of both ride hailing services and taxis, their insights could have given clues on how the platform relates to their mobility and potentially excludes them. This research would also be improved through a deeper look at the algorithmic nature of the workers' management, particularly concerning ratings and discrimination, as this practice has been observed in other places.[23] Finally, further research should be carried out comparing the characteristics of ride hailing with other digital platform based jobs in order to get a wider overview of the local expression of platform urbanism in Mexico City.

Regarding the spatial implications of the research, it could be noted that they relate mostly to the effects on transportation and the relation of people with the platform-mediated reality. On the transportation side, the private and profit-oriented nature of the platform limits the reach of the service to the convenience of the company that owns it. To operate, platforms have to define a specific coverage area that may or may not cover whole cities or neighborhoods, often avoiding areas of difficult access or with low passenger demand. Although dynamic pricing tries to solve the coverage issue, on the long term the platform can't sustain losses on a routinary basis and has to keep a minimum concetration of vehicles in the territory. This is something that is not the case with public transportation as its main goal tends to be the maximum coverage possible to serve people. Especially the taxi service aims to solve the coverage issue as the vehicles are allowed to move anywhere in the administrative area of the city or state that issued their permit. The taxi service tends to serve not only very route-specific trips, but also trips that can't be done through any other public transportation, making the public network bigger and connecting more areas.

For this reason, ride hailing is potentially spatially-exclusive as it leaves out of the service people who are out of a coverage area. The research acquires relevance in this aspect if it is considered that ride hailing has grown at the same time that taxis have decreased their number in the city. As ride hailing has grown, it has become a more present option for the mobility of the inhabitants of the city, however, it is not regulated in terms of coverage or costs. This makes the private service one with big potential of excluding areas of the city which the taxis used to connect. On the first place, because it can shift its coverage area at any moment and leave out areas of the city. On a worst case scenario, due to their profit-driven nature and lack of fixed assets in the city, the companies can leave at any time and stop providing the means to ensure mobility they used to do. This is something radically different with public services which tend to be based on legal and political basis central to the social order of societies and getting rid of them is more complicated or can be at least contested by citizens. On a second note, the lack of controls on the fares of the service allows companies to charge any amount of money they want to complete a trip. This situation is exclusive as there is a maximum price that different users are willing to pay for it and eventually those who can't afford it, can't move through this transportation mode.

In summary, the lack of control of the operations of ride hailing and the reduction of the public transportation services in the city create a big potential for exclusion in spatial terms. The con-

sequence of it is the lack of access to affordable transportation modes, public or private, that could prevent individuals to access opportunities outside of their vicinity and take part in the daily life of the bigger city.

A second spatial implication regards the relation of platform users with their surroundings as their interactions are increasingly mediated by digital platforms. It was interesting to see how ride hailing drivers get to know the city through the traffic in the platform, as it reflects the activities of the passengers when they request trips. The drivers get to know the names of the streets and the more convenient routes directly through the information provided by the platform. This happens specially when the drivers have not performed any driving job before and are not familiar with many areas of the city. In some cases, the platforms break mental barriers of places where the drivers couldn't go before. For example, someone talked about how driving for Uber has taken him to the richest areas of Mexico City, which he didn't know and wouldn't have visited otherwise. Although the relation with space is minimal as it is carried out inside a vehicle, the potential of profit that the urban area represents for the platform has to defy the segregation that their users might be used to.

This part of the research requires further investigation as it was not a central focus, but some observations could be made. The creation of a paralel digital cartography held true in the interviews and it is necessary to perform the job efficiently. The massive size of the geographical systems and updates on the state of vehicular congestion make ride hailing possible in the city. This information is key for drivers to perform the job efficiently even if they don't know anything about the space in which they are moving. This is something that changed from the way that taxis used

to operate, as they relied on drivers who had a fair amount of familiarity and knowledge of different areas of the city. In a certain way, digital platforms make their users less reliant on their own knowledge of the city, as it is now always accessible through the mobile applications.

It should be noted that the information that they provide is not neutral nor complete and it is regulated mostly by the purposes the platform intends to achieve. A very good example of this is the absence of warnings for drivers when they drive through areas where there are high rates of crime and violence. As one of the drivers told me, when he started working for Uber he would go anywhere in the city and it wasn't until he was in an area that he could perceive as unsafe that he would know it. For the platform this makes sense, as complete information about the conditions of the city could prevent drivers from picking certain trips and could affect the coverage area.

This is something that is even less explored in the governmental side and should require a bigger discussion. One of the characteristics that was discussed about digital platforms is the unilaterality in their governance. This unilaterality translates in cartographies solely defined by either the company owning the platform or users of the platform collectively filling it. This situation doesn't consider communities and the inhabitants of the urban spaces being mapped even if many of their interactions are being affected by these cartographies. This was not a central topic in the thesis so further research is needed to draw observations.

Living with platform urbanism in Mexico City

During the years that followed the Mexican Revolution that ended in 1917, many groups of artists created works extolling the ideals defended by the victorious factions during the armed conflict. Among these groups, there was Taller de Gráfica Popular, a society of artists founded in 1937 that used etching to spread the ideals of the revolution among the population of the country. The Taller exists until the present and since its beginnings it has oriented its work to discuss social issues, trying to defend social justice and denounce the inequalities in Mexico. Among the works published by the group is an etching on paper of 1947 called México se transforma en una gran ciudad (Mexico transforms into a big city) by Alfredo Zalce. The etching depicts an undefined urban landscape inspired by the rapidly urbanizing Mexico City of the 1940's.

The period between the 1930's and the 1950's was one in which Mexico City grew rapidly as a consequence of the national industrialization process and expanded from its traditional core to the contiguous rural and natural territories. Due to the centralization of many economic activities, thousands of people migrated from rural areas of central Mexico to the urban sprawl in search of higher salaries and a better quality of life. This is the city that Zalce is depicting, one in which industrialization and urbanization were quickly changing everything and where towers were being raised everywhere. The transformation, of course, brought with it social changes and left many of the inhabitants of the city behind. His etching gives as much space to people living in the street and the urban poor as it does to the modern buildings as a metaphor for the violent transformation that was happening in the still predominantly rural country that was rapidly urbanizing. In the etching, the new Mexico City spreads until it is out of sight, but the human figures are everywhere too, working, looking for food or just lost in the middle of the buildings. Zalce keenly advances a critique about how the city was growing into a "big city" without including everyone, something so obvious that filled streets and corners with displays of poverty and exclusion.

The transformation of which I have spoken in this study reminds me of this etching. As it did eighty years ago, Mexico City is transforming into another city, one where digital technologies, algorithms and computers are improving the efficiency of services, logistics, and the production of wealth. I agree with what Gabriel said during our interview, digital platforms have brought with them a technological transformation that changed social, economic, political, and labor relations. And just as in the city depicted by Zalce, the urban transformation doesn't include everyone. The dreams of technological solutionism overlook the negative consequences that they bring to people who can't understand smartphones, who can't rely on gig work, who are out of the banking system or who have been historically discriminated against by society. But it doesn't stop there, the transformation also has brought damages to the public wellbeing due to the impossibility of any authority, at least in the case of Mexico City, to limit and guide its development. In the end, what the government is facing is a group of transnational corporations with big budgets trying to avoid regulations and following a vision purely guided by profits, disregarding the effects it can have on the city.

It would be naive, however, to think that ride hailing could disappear from the city at this moment, most of all because of the thousands of people it employs as drivers. So, it seems that platform urbanism is an unavoidable state already existing in Mexico City, and from this a question arises, how can the city live with it? Derived from the research, I recognized a few ideas that could be useful to answer this question in the future. First of all, it is clear that legal frameworks must be updated to the present, but this should be done in a way that doesn't follow the technological solutionism narratives. Following these narratives gives important roles to private corporations under the promise that they can fix urban problems more efficiently, something that seems unfounded at the moment. It should be noted that the update of legal frameworks is something that requires the involvement of the whole political system of the city and the federation, as the whole set of laws governing urban issues should make sense among them. This, then, requires a bigger involvement of the legislative bodies of the city in the task of managing digital platforms in the city.

In second place, the political side of regulations should be brought back to the discussion, as regulating only technical aspects seems useless, even if it is the only current possibility for local governments. This means that regulations should be discussed not only regarding the way the service operates in the public space, but also its role in the whole life in the city. This unavoidably would lead to question labor relations, competition with other services, and the service offered to customers. What might result from this is a whole new conception on the role of ride hailing plays in the city, where it is properly accounted for its negative effects, regulated inside the transportation markets it affects, and inspected in its treatment of workers. The insights from the public officials seems to support this idea, as ride hailing would be technically regulated in an easier way if it follows existing rules set for its type of transportation.

As a third idea, I sustain that public transportation competing with digital platforms should receive bigger attention as an option to take away protagonism to ride hailing platforms. Unlike other digital platforms that might not have direct competitors in cities, ride hailing does and its growth has come simultaneously to the reduction of public alternatives. One of the reasons why thinking of Mexico City without ride hailing might be difficult has to do with the reliance on it by workers and passengers. This can be avoided if public alternatives, whose main goal is public wellbeing and not profit, are offered. In this sense, recovering the coverage of the public taxi industry and improving its state should be a priority in providing better options for the mobility of the city. The profit-driven nature of platforms should not be ignored, especially when they tend towards monopolizing whole industries, as price spikes and worsening of the quality are prone to happen, just

like some of the observations in Mexico City showed.

Finally, a fourth idea regards the importance of looking at the labor relations inside the platform environment as their nature is in part what allows ride hailing to work like it does. The flexibility that the job offers is, as I showed, a double edged sword that can derive in precarious working conditions for drivers. However, the flexibility also allows the platform to efficiently use its resources as it is not paying salaries to workers who are not performing a job, which according to the companies, only happens when they have a trip. This efficiency is a way in which profits are sought after by the companies, but it comes at the cost of stress and precarity for workers, and it hasn't been contested yet in Mexico City. Continuous profit reports by the platform companies prove that the main way in which they have increased their profitability is by cutting profits to drivers and by demanding unrealistic paces of work for them. Future regulations should consider this, as the operation and efficiency of the platform is based on the unprecedented labor relation with drivers, a similar case to delivery riders. If these services are to be regulated in a similar way to competing industries, it should be considered that regulatory conditions should aim to have a bigger control on the labor conditions for ride hailing workers, and not by the deregulation of labor conditions of other industries.

These four ideas are formulated as general routes through which the relation with digital platforms can be thought of in the future. Certainly, they overlook many aspects of the complex state in which they currently work in the city, but could be a useful starting point. Most of all, they could work as starting points also for other digital platforms that share similar problems in the urban sphere, like the short term rentals and the delivery

riders. Further research should show if the characteristics I described about ride hailing occur in other cases, in which case, these ideas could gain bigger value in a discussion of platform urbanism in Mexico City.

The recent technological transformation that many urban settlements of the world have undergone has happened as many other revolutions have happened before, with benefits and negative consequences. Although this shift found the local government unprepared to deal with it, new ideas on how to deal with the new normal could improve the way in which the technology works for the city. The city portrayed by Zalce during the 1940's continued growing and changing during the following fifty years, until it reached the size it has today. And just like the industrialization of the country continued there were periods in which the Mexican state managed to redistribute the wealth created under that economical model. Such was the success of it that it allowed Mexico City to remain the most important hub for national im-

migrants for many decades and build a solid network of public transportation connecting the vast urban territory. This is a possibility that seems complicated today, in a context of a shrunken neoliberal state with a smaller budget and a less politically central role in the country. But, just like the etching intended, unveiling the unseen or ignored issues that the urban change brings with it is a first step towards improving the condition. This research hopefully will serve this purpose, to reveal how digital platforms can produce exclusion in our cities and put on a fight against it.

Rome, September 2023

Notes

22   Bubola, Emma, "Heat Divide Leaves Low-Income Workers Among the Most Vulnerable", *New York Times*, published July 18, 2023, accessed September 2023,   https://www.nytimes.com/2023/07/18/world/europe/heat-workers-europe-italy.html.

23   See Ge *et al., op. cit*.

Appendix
About the interviews

List of interviews

Nine interviews were carried out for the research in Chapter 3. In chronological order, the interviewed people were the following:

1. Ride hailing driver, male, in person, May 2023, 25 minutes

2. Ride hailing driver, male, in person, June 2023, 32 minutes

3. Ride hailing driver, female, online video call, June 2023, 47 minutes

4. Ride hailing driver, male, phone call, June 2023, 39 minutes

5. Taxi driver, male, in person, June 2023, 56 minutes

6. Government official, male, in person, June 2023, 35 minutes

7. Government official, male, in person, June 2023, 110 minutes

8. Ride hailing driver, male, in person, July 2023, 120 minutes

9. Government official, female, in person, July 2023, 45 minutes

Two guide questionnaires where used for the interviews with ride hailing drivers and government officials, one for each.

Questionnaire for ride hailing drivers

1. Beginning:
   How long have you been working?
   What is the job like? Travel, schedules, flexibility
   How does it work? What do you need? Do you own the car?

2. How did you start this job?
   What do you value and what don't you value?
   How is it financially?
   Do you have stability? Do you work somewhere else?
   How is the relationship with the employer?
   What work alternatives do you have?

   How can you supplement your income?

3. Discrimination and space
   Have you ever felt discriminated in your job? From your employer or from customers?
   How is the relationship with passengers?
   How does the language barrier feel to you?
   How is your relationship with the space in the car?
   Changes in recent years
   How has it changed since the pandemic?

Has coverage changed?
How have customers changed?
Who uses the service today?

4. <u>Work organization</u>
   Do you belong to a group?
   What is the purpose of belonging?
   Do you share information?

5. <u>The Future</u>
   How has work changed with the pandemic?
   What needs to change to improve your income?

Questionnaire for government officials

1. <u>General status of mobility platforms in Mexico City</u>
   Brief History
   Changes after the pandemic

2. <u>Users</u>
   Who uses mobility platforms in the city (drivers and passengers)?
   What coverage do they have?
   What type of trips?
   What modes do they replace?

3. <u>Their role in the mobility of the city</u>
   How have the platforms changed mobility in the city?
   Cab sector
   Relationship with Ecobici
   Negative and positive effects

4. <u>The government relation</u>
   How is the government's relationship with the platforms?

5. <u>Regulations</u>
   How are platforms regulated?
   Legal and extralegal capabilities
   Limits of regulation
   Discrimination
   Labor precariousness

6. <u>Technological solutionism</u>
   What vision of mobility do the companies operating the platforms have?
   What values create disagreements between the government and the platforms?
   Do their ideologies and backgrounds influence their vision of mobility?

7. <u>The future of mobility platforms</u>
   Is it possible to think of mobility without platforms in Mexico City?
   What has been missing for the emergence of fairer platforms?
   What is missing for more effective regulation?

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All pictures taken by the author, except *México se transforma en una gran ciudad...* by Alfredo Zalce in page 121.

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