The Invisible Hand or the Handgun

Ride Hailing, Violence, and Political Settlements
in the South African Urban Mobility Market

by

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Abstract

Markets are thought to constitute a force that fosters peace and brings both material and non-material improvements to society. Technology and innovation are similarly believed to offer developmental promise. The spread of ride hailing platforms such as Uber to developing country contexts is conceived of as a market formalization tool that produces desirable social outcomes, reducing unemployment while creating modern and efficient transportation systems. Why, then, do we see violence as a central, persistent feature of ride hailing markets in the developing world?

To understand violent conflict in urban mobility markets, I conducted semi-structured interviews with drivers, policymakers, platform executives, activists, and other industry actors in Gauteng, South Africa, the province that encompasses the cities of Johannesburg and Pretoria, and one of the earliest and largest ride hailing markets in the developing world. Relying on theoretical frameworks from new institutional economics and critical legal studies, I show that violence plays an important role in market governance. Violence on the part of taxi associations is embedded in the market's informal institutions and constitutes an enforcement mechanism that underpins the territorial norms that market actors understand as 'laws'.

I explain the emergence and persistence of market violence as the result of a mismatch between the distribution of power and the distribution of benefits among market actors, engendered by ride hailing's entry. To better explain how the market is governed and contested, I propose a more precise typology of power and legitimacy, and clarify the sources of power belligerents rely upon to survive and prevail in conflicts. Finally, I use the contrasting fates of two ride hailing services, *Uber Bus* and *Uber Go*, to illustrate how groups deploy power to contest the market, and how regulatory decisions go beyond traditional market considerations.

By studying a market characterized by both old and new forms of violent conflict, this thesis inserts violence into literatures on markets, which largely ignore conflict; and applies the macro-institutional political settlements framework to the meso level of a specific market. As policymakers contend with the spread of ride hailing firms, a broad and empirically based view of how they are organized, governed, and how they function in different contexts is needed, to better understand how to regulate them.

Keywords

Markets; urban mobility; ride hailing; taxis; violence; labor; institutions; informality; South Africa

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Chapter 1.
Introduction

When he first became an Uber driver, Joseph did not know much about metered taxi territories. Joseph,[1] a young Zimbabwean man in his mid-twenties, saw much promise in the ride hailing market in South Africa, where he is now living.[2] In 2018, he took the first step by creating an Uber driver profile. He then spent three years trying, unsuccessfully, to save up or obtain financing for a vehicle so he can drive it on the platform. In 2020, his profile was approved, but without a car he could not start working. When the COVID-19 pandemic hit and he lost his job at a Johannesburg restaurant as a result, he decided to post on one of many active Facebook groups for ride hailing drivers in South Africa, looking for a "partner" willing to rent him a car to register on the platform. Finally, after finding a partner and agreeing a weekly rent, he was an Uber driver.

But in addition to learning the ins and outs of the platform's interface, bargaining over the vehicle's weekly rent with his partner,[3] and figuring out which places and what times are best to work, Joseph found himself negotiating a much more dangerous work landscape. Early in his driving career, an app request took him to Pretoria's Bosman Station to pick up a passenger. Upon reaching the station, he was surrounded by a large number of metered taxi drivers, who confiscated his car keys, threatened to hurt him, and "tried to hijack" his vehicle. Luckily for him, they believed him when he told them he was not aware of the rules, and let him go after taking all the money he had in his wallet and in his car. Thereafter, Joseph tells me, he has had to educate himself on where the metered taxi territories are, where he was allowed to work, and what places to avoid.

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[1] Not his real name. Interviews are thereafter cited anonymously with reference to the interviewee's industry role.

[2] Driver Interview 19, Uber, 2021.

[3] The owner of the vehicle with whom Joseph has an informal agreement to drive his car for Uber.

1.1 Promises and Puzzles of Markets and Technology

Joseph's story is not unique; ride hailing drivers in South Africa and in many other developing country contexts, keep returning to the topic of metered taxi territories and violence when discussing their work. Since ride hailing's introduction, violence between the two modes has become a stable feature of the market. It stands in stark contrast to the promise a modern technology such as ride hailing represents to drivers and to South Africa more generally. Why is it that violence is such an important part of this market?

Violence is an undertheorized phenomenon in markets. The little literature that does exist on the topic deals mostly with markets of illicit or illegal goods and services,[4] unlike the urban mobility market whose services are both licit and legal. Markets are conceived of as generally peaceful phenomena; in fact, they have been theorized as a moralizing agent, a force to make society more peaceable, and a space in which otherwise destructive tendencies are redirected into productive endeavours.[5] Thus, markets promise to make societies less violent and more peaceful.

Technology makes similar promises. The spread of information and communication technologies is conceived of as helping produce positive development outcomes,[6] as a formalizing force,[7] or at least as amplifying existing developmental efforts.[8] More recently, the rise of ride hailing platforms and their rapid spread in developing contexts have been welcomed because of their promise to improve transportation

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[4] Chimeli and Soares, "The Use of Violence in Illegal Markets"; Andreas and Wallman, "Illicit Markets and Violence"; Prieger and Kulick, "Violence in Illicit Markets"; Reuter, "Systemic Violence in Drug Markets."

[5] Schumpeter, *Imperialism and Social Classes*; Hirschman, "Rival Interpretations of Market Society."

[6] Hanna, "Exploiting Information Technology for Development"; "Knowledge Societies."

[7] Bhattarai, "Emerging Trends in the Use of Technology as a Driver of the Transition to Formality."

[8] Toyama, "Technology as Amplifier in International Development."

systems while simultaneously tackling the problem of unemployment and challenges associated with informal employment in the transportation sector.[9]

These two sets of promises, when contrasted with the empirical reality of the ride hailing market in contexts like South Africa, offer us a set of puzzles:

First, given that markets promise to make societies more peaceable, why do we see violence as an important shaper of the South African ride hailing market, and why has the introduction of ride hailing engendered the creation of new forms of violent conflict?

Second, given that technology, exemplified by platforms such as Uber, promises the formalization of the transportation sector and the realization of positive developmental outcomes, how do we explain the persistence of violence as an informal market governance mechanism in the ride hailing market?

Relying primarily on the analysis of semi-structured interviews with drivers, policy makers, activists, and platform executives, carried out by myself in Gauteng, South Africa, I analyse these puzzles of persistent violence in the province's urban mobility markets. I argue that the violence we observe in association with ride hailing is best understood as embedded in a set of informal, territorial institutions that govern the market. I then utilize the concept of a political settlement—that is a mutually compatible and sustainable combination of power and institutions[10]—and the associated analytic framework to explain how the market is being contested and to identify the sources of power that belligerents rely upon to survive and impose a distribution of benefits in their favour.

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[9] Rizk, "A Glimpse into the Sharing Economy"; Lakemann and Lay, "Digital Platforms in Africa"; Vanderschuren and Baufeldt, "Ride-Sharing."

[10] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 4.

1.2 Thesis Organization

In the rest of the introduction, I present some of the actors of this story—the South African urban mobility modes of interest to this study and the drivers who serve them. I outline the ways in which these modes are spatially regulated and introduce the relevance of such spatial organization to how the market is contested. I then engage with different bodies of literature that may help us understand market violence and the governance of platform-based mobility in developing contexts. The four bodies of literature are "Violence, Markets, and the Law", "Institutions, Political Settlements, and Power", "Technology, Ride Hailing, Informality, and Development", and "South Africa's Violent Mobilities".

In Chapter 4, titled "Territories, Institutions, and Enforcement", I show that the territoriality and violence observed in the South African ride hailing market are best conceived of as embedded in a set of informal institutions—that is norms and rules—enforced by market actors such as metered and minibus taxis. I outline what the rules are, then further analyse their enforcement, paying attention to the violent strategies employed to impose these institutions and thus govern the market. I then explore how ride hailing drivers navigate the market and the rules and norms that govern it, detailing their strategies of compliance and evasion.

Territorial violence and contestation over institutions form part of a conflict over shaping the political settlement, that is the stable distribution of institutions and power, that governs the market. However, why does this conflict exist, why is it still ongoing, and what the sources of power that conflict participants draw on in contesting control of the urban mobility market? In Chapter 5, titled "Power and a Mobility Political Settlement", I use the political settlement framework to answer these questions. Conflict is shown to emerge out of an imbalance between the perceived distribution of power and distribution of benefits in the market, an imbalance caused by the introduction of ride hailing. Additionally, our market participants enjoy substantial "holding power" that allows them to continue surviving and contesting the market, hence the conflict's persistence. I first outline

the sources of the power enjoyed and deployed by minibus and metered taxi associations, and then outline those enjoyed and relied upon by ride hailing.

Up to this point, the thesis will have focused on the market rules imposed by metered taxi associations and enforced against ride hailing drivers, and on the power enjoyed by each group, but most of all minibus taxi associations, as they contest the political settlement of the market. In Chapter 6, titled "Power at Play: Minibus Taxi-Ride Hailing Conflict", I use the divergent fates of two ride hailing services, *Uber Bus* and *Uber Go,* to consider competition and conflict between minibus taxis and ride hailing, and demonstrate how power is deployed by both modes to contest the market's political settlement. I show that in both the absence and existence of violent conflict we can see power at play in governing the market. In the case of *Uber Bus*, minibus taxis have used their power—established partially through violence—to pre-emptively govern the market and ensure that ride hailing does not encroach onto their share of its benefits by introducing this service in South Africa, hence a lack of outwardly violent conflict. In the case of *Uber Go*, however, ride hailing has employed different sources of power to aggressively grow their business, introducing new service offerings with lower prices that increase the potential for competition between the two modes, thereby creating space for more violent conflict.

1.3 Modes and Drivers

Urban transportation markets are spatially regulated and segmented. They are inherently spatial since they offer services to transport passengers from points A to B and are segmented according to how they are organized to receive and deliver those passengers and how they are organized to transport them. For example, urban transportation services may receive passengers at spatially fixed infrastructure, or they may receive passengers at more flexible locations. Examples of fixed transportation infrastructure include bus stops, train stations, and taxi ranks at an airport or mall. More flexible setups for receiving passengers include on-street hailing or hailing via phone or a technological platform. Passenger drop-off is similarly organized through fixed or flexible arrangements.

Just as they are spatially organized according to how they receive and drop off passengers, urban transportation services can be fixed or flexible in how they get those passengers from their origin to their destination, that is their route. They may be organized along fixed routes, as is the case with most mass transit services whether formal or informal, or their routes may be more flexible, as is typical with vehicles transporting a smaller number of passengers. Urban transportation modes are further differentiated by the types and capacities of vehicles they use to carry passengers, and the fare structures they use to decide how much to charge each passenger for their trip.

In the context of this study in Gauteng, South Africa, an appreciation of the spatial organization and business models of urban transportation modes is helpful to understand the spatial violence and governance of the market. The dominant mode, minibus taxis, runs largely fixed routes both within and between urban areas in South Africa. They pick up passengers using their taxi ranks, which constitute a highly visible form of transportation infrastructure along key urban nodes. Less commonly, minibus taxis also pick up passengers on the street along the routes they are serving. Minibus taxis are the preferred mode of urban transportation for most

trip purposes and income groups, especially among low-income Black commuters.[11] The drivers and fleet owners are also predominantly Black; in fact the industry constitutes South Africa's largest Black-owned industrial sector.[12] Minibus taxis are commonly referred to as just "taxis", or by the name of the most common vehicle models used in the industry: "kombi" after the Volkswagen Type 2 model or "quantum" after the Toyota HiAce model known in South Africa as the Toyota Quantum. The latter is now the most common vehicle model for minibus taxis, though the former name persists. These vehicles are 11 to 14-seater minivans.

Metered taxis account for a comparatively small share of the urban mobility market in South Africa.[13] Unlike taxicabs in many cities around the world, South Africa's metered taxis "do not roam the streets searching for passengers".[14] Traditionally precluded by law from being "roaming taxis" and allowed to be available for hire solely by telephone or at a designated rank,[15] metered taxis have been technically allowed to pick up passengers on the street since 2009, when a minor change as part of the National Land Transport Act was included allowing them to be "available for hire by hailing while roaming".[16] The change was meant to anticipate the need for roaming taxi services during the 2010 World Cup held in South Africa.

The legality of the roaming model of hailing a taxi has nevertheless not established a norm of passengers hailing metered taxis on the street or metered taxis making themselves available for hire by roaming. Explanations for why this is the case include metered taxi associations' preference for the rank business model,[17] low, unstable, and/or seasonal demand patterns,[18] municipal regulations or pushback

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[11] Lomme, "Should South African Minibus Taxis Be Scrapped?," 2; Marcano, "E-Hailing and Employment Rights," 276; Barrett, "Organizing in the Informal Economy," 1.

[12] Marcano, "E-Hailing and Employment Rights," 295.

[13] Marcano, 277.

[14] "Market Inquiry into Land Based Public Passenger Transport," 7.

[15] Mabuse and Browning, "The Metered Taxi in South African Cities"; National Land Transport Transition Act (Act No. 22 of 2000), 8.

[16] National Land Transport Act (Act No. 5 of 2009), 12.

[17] "Market Inquiry into Land Based Public Passenger Transport," 48–49.

[18] "Metered Taxi Rationalisation Strategy," sec. 1.7.

against roaming,[19] population sparsity in service areas, associations' reluctance to risk the cost of deadhead kilometres, and safety concerns.[20] Further, the introduction of ride hailing applications has resulted in a decrease in the popularity of hailing them by telephone, resulting in taxi ranks constituting the main method for hiring metered taxis.

The metered taxi industry thus relies on dedicated taxi ranks, which are located at key nodes including commuter rail stations, malls, airports, and occasionally other centres of commercial activity. They thus operate on a *de facto,* though not *de jure,* fixed pickup business model, which directly informs the emergence of a regime of spatial violence in the market in the wake of the introduction of ride hailing platforms to the South African market. Unlike minibus taxis, metered taxis offer a costlier service and are used by a wealthier passenger base. Their vehicles are sedans which typically carry a single passenger to their destination of choice. Though called "metered taxis" and required by the National Land Transport Act to be "equipped with a sealed meter, in good working order",[21] in practice the fare is informally negotiated by the driver and passenger, and many of the vehicles are not equipped with functioning meters;[22] there is a marked lack of enforcement of the requirement of carrying a sealed meter in good working order.

Ride hailing, on the other hand, is an on-demand services that is digitally hailed using a ride hailing application. Both its pickup and drop-off locations and routes are flexible, communicated between drivers and passengers through the platform, whose algorithms conduct the trip matching. The mode, locally known as e-hailing, dates back to 2013 in South Africa when Uber launched its service in Johannesburg.

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[19] "Metered Taxi Rationalisation Strategy," sec. 4.3.4.
[20] "Operating Licence Strategy (2013-2018)," sec. 2.8.4.
[21] National Land Transport Act (Act No. 5 of 2009), 12.
[22] Georg and Rose, "Licensing Metered Taxis Does More Harm than Good."

Uber is not the only large ride hailing platform in South Africa, however. Also established in the market is Bolt, formerly known as Taxify. Launched in 2016 in South Africa, Bolt enjoys widespread use thanks to a less restrictive on-boarding process for drivers and passengers,[23] more widespread acceptance of cash,[24] and 10 to 40 per cent cheaper prices than Uber.[25] More recent market entrants include inDriver, which launched in Gauteng in 2019 and operates on a business model in which passengers propose fares for drivers to accept, reject, or negotiate.[26] DiDi, the large Chinese ride hailing platform, launched in South Africa in March 2021 and accepted its first trips later that year, only to shut down operations in the country in 2022.[27]

There also exists a variety of formal public transit services which are a less popular form of mass transit compared to the minibus taxis but are nonetheless prominent. Municipal bus services include Metrobus, operated by the City of Johannesburg, and Tshwane Bus Services, operated by the City of Tshwane (the municipality that governs the city of Pretoria). In anticipation of the 2010 World Cup in South Africa, Johannesburg's bus rapid transit system, Rea Vaya, was opened in 2009. Private providers of bus transit services include the Public Utility Transportation Corporation (PUTCO), which operates commuter bus services across the province.

Commuter rail networks operate across the province: the Public Rail Agency of South Africa (PRASA) operates Metrorail Gauteng province-wide with a very large ridership, while the smaller, faster, and more expensive Gautrain operates ten stations and an 80-kilometre right-of-way, and primarily serves business centres in and between the cities of Johannesburg and Pretoria. Gautrain boasts a disproportionately rich and white passenger base and has been criticized as

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[23] Driver Interview 6, Bolt, 2020.

[24] Driver Interview 26, Bolt, 2021.

[25] "Taxify Steadily Gaining Ground in Africa as Uber Falls Victim of Its Pricing."

[26] Wilson, "InDriver, the Set-Your-Own-Fare Ride Service, Has Launched in Joburg."

[27] Magubane, "Uber Competitor DiDi Seemingly Ditches SA Following Driver Strike"; Malinga, "Chinese E-Hailing Firm DiDi Pulls Plug on SA Operations."

funnelling public funds to wealthy South Africans.[28] This thesis focuses on ride hailing and different types of taxi services as opposed to formal transit providers, but Gautrain features prominently as its stations and their surroundings are the sites of the fiercest territorial violence in the ride hailing market.

Table 1: Typologies of urban transportation modes in South Africa.

Category	Pickup Type	Route Type	Vehicle Type	Common Names
Minibus taxis	Fixed (taxi ranks) Flexible (on-street hailing)	Largely Fixed	11 to 14 seater minibus	Minibus taxi, Taxi, Kombi, Quantum
Metered taxis	Largely Fixed (taxi ranks, telephone)	Flexible	Sedan	Metered taxi, Taxicab
Ride hailing service	Flexible (digital platform hailing)	Flexible	Various, most commonly sedan, increasingly hatchback	E-hailing Specific services: Uber, Bolt (Taxify), DiDi, inDriver, etc.
Formal public transit	Fixed (stops, stations)	Fixed	Various large buses, trains	Specific services: Metrobus, Metrorail, Gautrain, Rea Vaya, Tshwane Bus Services, PUTCO, etc.

Most drivers interviewed for this study worked for Uber and/or Bolt, which together constitute the majority of the digital ride hailing platform market in South Africa.

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[28] Maromo, "Protesters Threaten 'to Burn the Gautrain.'"

Like metered and minibus taxi drivers, the vast majority of ride hailing drivers are Black. However, unlike the metered and minibus taxi industries, which have an established history in South Africa, there is a sizeable minority of ride hailing drivers who come other African countries.[29] Drivers and activists often point out to a large community of Uber drivers from Zimbabwe.[30] Interviewed drivers who were foreign nationals came from Zimbabwe,[31] Nigeria,[32] and Malawi.[33]

Compared to metered and minibus taxi drivers, interviewed ride hailing drivers tended to be younger—in their early twenties to early forties—and were more likely to have college degrees or be pursuing high education while working for the ride hailing platform. This is representative of ride hailing driver demographics according to the literature.[34] The literature also notes that metered and minibus taxi drivers are more likely to have a criminal record, owing to their being older, to their industries' history of violence, and to driver screening on platforms, especially Uber.[35]

The particularities of each mode help inform the types of strategies at their disposal—in Khan's terms the "weapons of warfare"[36]—and their vulnerabilities, in the conflict over the market's political settlement. For example, metered taxis' reliance on taxi ranks to receive customers informs their specific strategies of territorial violence while limiting their capacity to compete with passengers whose trips do not originate in or near the nodes of activity served by their ranks.

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[29] de Greef, "Driving for Uber When You Can't Afford a Car"; Harrisberg, "Uber Pledges to Boost Safety for S.Africa Drivers as Accidents Rise."

[30] Activist Interview 1, 2020; Driver Interview 14, Uber, 2020.

[31] Driver Interview 1, Uber, 2019; Driver Interview 19, Uber, 2021.

[32] Driver Interview 11, Bolt, 2020; Driver Interview 28, Bolt, 2021.

[33] Driver Interview 15, Bolt, 2020.

[34] Danielak, "Navigating Urban Encounters," 142; Marcano, "E-Hailing and Employment Rights," 277–78.

[35] Danielak, "Navigating Urban Encounters," 142.

[36] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 6.

Chapter 2.
Literature Review

2.1 Violence, Markets, and the Law

Violence is a severely undertheorized phenomenon in markets. In fact, markets are thought to be inherently rational, civilizing, and peaceful. This predominant view refuses to see violence as anything but an aberration on a fundamentally peaceful free market. Albert Hirschman traces the intellectual history of a particular conception of the market as a force promoting peace in society and a space in which tendencies which may otherwise destructive are replaced by productive energies. The Enlightenment concept of *doux commerce* sees the market as "a powerful moralizing agent which brings many non-material improvements to society"[37] and as a function through which people are rendered more gentle, prudent, measured, and well-mannered in order to realize the benefits of trade. In this view, "capitalism, in and of itself, could only lead to peace."[38] Joseph Schumpeter echoes this view, albeit at a more macro level, by theorizing that capitalism should negate the impulses that lead to imperialism and conquest: "In a purely capitalist world, what was once energy for war becomes simply energy for labor of every kind."[39]

Adam Smith's pervasive metaphor of the invisible hand[40]—used to argue that the market settles on societally-optimal prices, brings about a greater good, and achieves societal benefits through private individuals' exercise of their self-interest in the marketplace—carries an affect of freedom from coercion. The *invisible hand* is largely incompatible with the idea that free markets are sometimes shaped and

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[37] Hirschman, "Rival Interpretations of Market Society," 1465.
[38] Hirschman, 1476.
[39] Schumpeter, *Imperialism and Social Classes*, 69.
[40] Smith, *The Theory of Moral Sentiments*, 273–74.

governed through violence and intimidation: that the market equilibrium is not maintained by an *invisible hand*, but through men wielding very visible *handguns*.

Therefore, there is little investigation into how markets can be *not* peaceful or alternatively how the introduction of markets could *lead* to violence in society. Further, violence is ignored when it comes to thinking about how markets are organized, regulated, and how they actually function. Foundational texts in economic sociology contain little mention of coercion and violence, except perhaps to contrast the "economic ethic of merchants" and market society, constructed as peaceful, with the violent ethic of the social order that preceded them,[41] and to claim that while politics deals with "violence [as] the core subject", economics instead deals with human appetites.[42] The small body of theory about markets and violence is largely localized to illicit and illegal markets.[43] Missing from the discussion is how markets that deal in goods and services which are licit, that is conforming to societal norms and values, and legal, that is forbidden by the formal institution of the law, can also feature violence as a central governing force.

The critical legal studies literature, though not centrally concerned with violence, provides a useful framework for thinking about the forces that govern markets and societies. Oliver Wendell Holmes Jr., an intellectual precursor to legal philosophical traditions including critical legal studies, proposes a definition of the law not as a set of principles or ethics, but as the prediction of what "our friend the bad man" will face at the hands of courts in response to his actions.[44] In this view what the legal system will actually *do* is what the law *is*. Scholars in the critical legal studies tradition build upon this definition to separate the *is* from the *ought* as they describe, positively, what legal regime is at play in any particular context.

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[41] Smelser and Swedberg, *The Handbook of Economic Sociology*, 234.

[42] Smelser and Swedberg, 122.

[43] Andreas and Wallman, "Illicit Markets and Violence"; Prieger and Kulick, "Violence in Illicit Markets"; Reuter, "Systemic Violence in Drug Markets"; Chimeli and Soares, "The Use of Violence in Illegal Markets."

[44] Holmes, "The Path of the Law."

Scholars associated with critical legal studies have accordingly conceived of conflict not as a failure of the law or as a phenomenon arising out of a lack of legal enforcement, but rather as *the law.* Alvaro Santos analyses the persistence of the drug trade and drug trafficking not as a failure of law or as a market in which the law is absent, but rather as a "legal regime" in itself.[45] I find this view helpful for analysing our case of a violent market. For example, if in the South African urban mobility market law enforcement agencies and the courts will not, for some reason or another, persecute the violent actions of taxi associations, then the violent enforcement of territorial institutions is understood to constitute the law governing this market space. I build upon Santos' conception of the drug trade, relying on the above definition of *what the law is,* to argue that violence is not a phenomenon indicative of the absence of law or its failure, but rather is a major force governing this market.

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[45] Santos, "The War on Drugs and the Challenges to Liberal Legality," 6.

2.2 Institutions, Political Settlements, and Power

Since neoclassical economic theory takes the emergence of markets largely for granted as the organic development of free exchange, it is not traditionally concerned with the norms that underly, enable, and govern markets. However, seeing that social landscapes are inherently contested, there is a need to explain what rules and norms establish the order necessary for markets to function. The new institutional economics (NIE) literature offers such an explanation. Douglass North defines institutions as "the rules of the game in a society", or "more formally… the humanly devised constraints that shape human interaction".[46] Mushtaq Khan offers an alternate, though similar definition, identifying institutions as the "rules that define the right to do certain things or make decisions of a particular type".[47] Institutions thus consists of formal and informal "rules, … behaviour, conventions, self-imposed rules of conduct" and their enforcement characteristics.[48]

It is important to distinguish between this definition of the word *institutions,* as it is used within this body of literature, and with the common use of the term to mean *organizations*. In this thesis, I use the word *institutions* as it is defined in the NIE literature. Our organizations of interest, on the other hand, are the different groups that govern and contest the urban mobility market. I primarily focus on the market segments which are referred to as separate industries in the South African context and each operates a different transportation mode, as well as the different bodies of the state which deal with the transportation market.

Scholars additionally define formal and informal institutions. Khan defines formal institutions as those rules "defined openly and in public by laws and … externally enforced by formal governance agencies" such as "the police, prosecutors, regulators,

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[46] North, *Transaction Costs, Institutions, and Economic Performance*, 5.

[47] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 9.

[48] North, *Transaction Costs, Institutions, and Economic Performance*, 9.

courts, and so on."[49] Informal institutions, on the other hand, may refer to internalized norms governing individual or group behaviour or otherwise refer to "rules that are not formally written down … but which are nevertheless enforced by third parties who may [or may not] be formally within the state but whose operations in any case rely on the mobilization of informal power". [50] The latter is the definition I am deploying in identifying the mobility market in South Africa as being governed by informal institutions which are violently enforced by market actors. Though the market actors are not "third parties", the rules they enforce are not formally written down and their operations to enforce those rules rely on the mobilization of informal power. In Chapter 4, I show empirically how the market's violence can be understood within the framework of informal institutions, relying on the above definition of institutions and on the political settlements framework.

Within new institutional economics, the literature on political settlements provides a useful theoretical framework for understanding the contestation of the institutions that govern the market, and how the distribution of political, organizational, lethal, and other forms of power between the different modes characterizes this contestation. Mushtaq Khan defines a political settlement as a "combination of power and institutions that is mutually compatible and also sustainable in terms of economic and political viability".[51] The framework has the necessary explanatory power to account for why a market conflict emerges and the sources of power that the groups draw upon to contest the market's political settlement. In Chapter 5 I use the framework to explain the origin of violent conflict in the market. Specifically, I point to a mismatch between the perceived power of different market groups and the distribution of benefits they each enjoy from the market since the introduction of ride hailing. Khan posits that:

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[49] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 9–10.

[50] Khan, 10.

[51] Khan, 4.

> If powerful groups are getting a distribution of benefits that is too low given their relative power, these groups will strive through different means including conflict to change institutions till they are satisfied or they give up.[52]

The introduction of ride hailing platforms has disturbed the market political settlement that preceded it, leading to especially metered taxis receiving a lower distribution of benefits, one inconsistent with their perception of their relative power in the market. They have thus strived, largely successfully, to change market institutions to receive a slice of the pie consistent with their perceived relative power. The power enjoyed and exercised by minibus taxis and ride hailing is similarly explored.

The political settlements literature traditionally operates at a higher level of analysis, dealing with state organizations, political coalitions and industrial groups and helping explain how institutions and policies result in disparate developmental outcomes in different contexts.[53] I find it applicable, however, to this case where the contestants are not political coalitions or agencies of the state but rather market segments, and where what is at stake is not the benefits, say, of a country's agricultural production but the urban mobility market in a large metropolitan area. I believe this is appropriate for three reasons:

Firstly, the modes in our story contest a clear distribution of benefits, similar to the cases Khan explores, against a backdrop of a distribution of power. Secondly, in their contestation they rely on many of the same sources of power Khan outlines and on their embeddedness in the patron-client networks around which they are organized and through which their relationship to the state and its political ruling coalition is structured. Thirdly, as I outline in Chapter 5, some of these market actors—namely the minibus taxi associations—participate in South Africa's ruling coalition by fulfilling broader societal governance roles, for example using their

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[52] Khan, 4.

[53] Khan, "Political Settlements and the Analysis of Institutions."

violent capacities to maintain order and apprehend suspected rioters and looters in times of social unrest. I therefore extend the framework by applying it to this meso analysis level.

However, the typology of holding power relied upon in the political settlements framework is in need of better specification in order to precisely describe the contestation of a space like the urban mobility market in South Africa. Khan defines a group's *holding power* as its "capability … to engage and survive in conflicts". He further unpacks it into a groups ability to impose costs on others and their ability to absorb costs inflicted on them by others.[54] Nevertheless, when considering the types of power that enable such cost imposition and absorption (and thus survival and eventual victory in the conflict over the political settlement), Khan's framework is less precise, mentioning "economic strength", and "non-economic capabilities [such as] political ability to organize, the number of people that can be mobilized, and perceptions of legitimacy" as potential sources of such holding power.[55] The latter group of non-economic capabilities are the ones Khan mainly focuses on and he refers to them under the catch-all term "organizational power".

For the purposes of my analysis, I tease out these different capabilities and use the phrase *organizational power* more restrictively to mean the ability to mobilize people, which is a capacity essential to the functioning of patron-client networks because they rely on organizing clients to deliver votes, income, or even policing capacity, among other exchanged goods and services. I distinguish *political power*, which I define as the ability to enact or contribute to shaping policy or political change, from embeddedness in political ruling coalitions, which is source of political power and legitimacy. Despite discussing conflict and violence, Khan does not elaborate on violence and the role it plays in defining the political settlement. I find it helpful to further tease out *lethal power* to mean the ability of a group to deploy

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[54] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 6.
[55] Khan, 6.

injurious force to people and property, while recognizing that such ability is greatly aided by a group's organizational and political powers.

I believe these distinctions are essential since the different belligerents of the urban mobility market in South Africa enjoy such divergent sources of non-economic power which cannot be meaningfully described as "organizational". For example, I show that minibus taxis' lethal capabilities, their embeddedness in South Africa's political ruling coalition, and their ability to mobilize drivers en masse are distinct but related and mutually reinforcing sources of their power, which they exercise in the market and outside the market. These sources of power also grant them legitimacy, which further amplify their political and other types of power. Ride hailing, on the other hand, draws upon a political power based in ideology and beliefs surrounding technology and modernity, even when the market sector does not enjoy the same type of organizational power and embeddedness in South Africa's political ruling coalition.

Further, I complicate the distinction that Khan draws between economic and non-economic strengths, as sources of an organization's holding power since I find that those too are related and mutually reinforcing. For example, political power can arise from economic power as seen in ride hailing platforms drawing on their economic resources to exercise a strategy of "guerrilla growth" that allows them to become massively popular and "too big to ban", which then helps them gain popular legitimacy and political power.

2.3 Technology, Ride Hailing, Informality, and Development

Technology carries a stable association with modernity and progress. This takes on a specific form in developing countries, where governments often feel the need to be seen as adopting and spreading technological innovations in order to aid their development. The spread of information and communication technologies is conceived of, popularly and within scholarly literature, as helping produce positive development outcomes,[56] which leads governments in both developing and industrialized contexts to increasingly centre technology and innovation in their policy platforms. As Pfotenhauer and Jasanoff put it, "it seems as if all governmental functions *must* cater to a discourse of innovation in order to appear economically defensible, politically legitimate and suited to this historical moment."[57]

The rise of ride hailing firms—a particular example of technological innovation—has been couched in a discourse of modernity, efficiency, and disruptive transformation. This rhetoric contrasts ride hailing with the inefficient, offline, and unpopular forms of transportation service that are ripe for disruption by the platform firms. Even in industrialized economies, ride hailing carries this reputation; Gibbings and Taylor show that in Canada a sociotechnical imaginary surrounded Uber's potential role in helping build Winnipeg's status as an "innovative city", contrasted with the taxi industry which was "stuck in the past".[58]

Digital platform firms more generally, and ride hailing companies especially, increasingly see developing countries as a prominent part of their business future. SoftBank's funding of ride hailing firms around the world,[59] DiDi Chuxing's investments in similar start-ups in developing countries and their acquisition of 99

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[56] Hanna, "Exploiting Information Technology for Development"; "Knowledge Societies."

[57] Pfotenhauer and Jasanoff, "Panacea or Diagnosis?," 784. Emphasis theirs.

[58] Gibbings and Taylor, "A Desirable Future."

[59] Bosa and Zaveri, "This Map Shows How SoftBank Dominates the Global Ride-Sharing Industry."

in Brazil,[60] Uber's acquisition of Careem, previously their largest competitor in the Middle East and South Asia,[61] and the company's redesign of the app to better perform in low-connectivity networks,[62] all attest to the increasing importance of the developing world to these platform firms. The discourse of ride hailing platforms—whether multinational firms or local start-ups—replacing the "archaic" taxi service and "modernizing" urban transportation is especially prominent in the developing world.[63] Platforms like Uber help spread this view, arguing that African "governments are embracing technology companies such as Uber [to] address mobility challenges and help cities to move smarter".[64]

The literature on ride hailing platforms in developing contexts is relatively scant. The scholarship that does exist tends to be quite optimistic and embrace the promise of modernity that Uber will bring. Since the popular adoption of digital platforms in industrialized western societies preceded their rise in developing contexts, scholarship has focused on anticipating their potential effects, or assessing their early effects, in the cities of the developing world. For example, Lakemann and Lay,[65] and Bhattarai,[66] are optimistic that governments and populations can reap the development dividends associated with formalizing informal work through digital platforms. Lakemann and Lay claim that unlike in developed contexts, where the increased use of digital platforms is equated with the gig economy and is considered a pathway to precarity, in Africa "the opposite may be true".[67]

[60] Reuters, "China's Didi Chuxing Buys Control of Brazil's 99 Ride-Hailing App."

[61] "Uber Buys Rival Careem in $3.1 Billion Deal to Dominate Ride-Hailing in Middle East."

[62] Schwab, "How Uber Quietly Redesigned Its Interface for the Rest of the World."

[63] Gardner, "Ethiopia's 'Ubers' Are Working with Little Internet, Few Smartphones and No Funding."

[64] Lits, "Uber Reshapes Urban Mobility in Sub-Saharan Africa."

[65] Lakemann and Lay, "Digital Platforms in Africa."

[66] Bhattarai, "Emerging Trends in the Use of Technology as a Driver of the Transition to Formality."

[67] Lakemann and Lay, "Digital Platforms in Africa," 1.

Similar to Hernando de Soto's conception of informal workers as heroic entrepreneurs,[68] the authors conceive of African informal workers as entrepreneurs for whom formalization currently "does not pay". They argue that the "Uberization of work" may reduce the barriers to formalization and constitute a steppingstone for highly informal economies to develop "more productive activities, or even fully formalized business".[69] In their argument they reflect a conception of Uberization as a process of modernization and formalization—a break from an informal past— which they ultimately view as positive. Other positive effects associated with digital platforms in Lakemann and Lay's view include the potential provision of better service to customers at lower prices, providing higher earning potential for platform workers, and expanding governments' capacity to generate tax revenue, all suggesting that the positive effects "seem to outweigh the negative ones". The authors analyse challenges to the Uberization of Africa, including protests and violence by existing taxi drivers as mere "adjustment costs". Similarly, Rizk welcomes ride hailing platforms in Egypt for their potential resolving issues of unemployment and the challenges workers in the informal transportation sector face, all while improving the efficiency and quality of urban transportation networks through innovative technology.[70] In this thesis, I show how this optimistic view of ride hailing and its association with innovation and development is an important source of holding power for ride hailing platforms, enabling them to engage in the conflict over the market's political settlement.

The aforementioned works, in addition to adopting a view of ride hailing firms as modernizing forces bringing positive developmental outcomes, operate on an assumption of an inherent link between ride hailing platforms and formalization. They thus contrast Uber with the informal mobility services that pre-existed the entry of ride hailing firms in these transportation markets. The ideological contrast

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[68] de Soto, *The Mystery of Capital*.

[69] Lakemann and Lay, "Digital Platforms in Africa," 6.

[70] Rizk, "A Glimpse into the Sharing Economy."

between the *modern* Uber and *pre-modern* informal transit can make us miss similarities between the market dynamics, arrangements, and forms of governance that characterize ride hailing firms in both developed and developing contexts, and those that characterize the formal and informal transportation services ride hailing seeks to replace. Key among these is the persistence of informal modes of governance alongside formality: as Ananya Roy argues their relationship is often one of coproduction and symbiotic interdependence,[71] not one of formalization and erasure. Roy argues that informality is a mode of urbanization; one that is not classifiable into an "informal sector", that cannot be easily equated with poverty, and that does not neatly contrast with formality but rather can interact with it and even serve it.[72] Using her conception of the relationship between formal enterprise and informality, I conceive of violence as an informal mode of governance that shapes the ride hailing mobility market in South Africa.

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[71] Roy, "Urban Informality."

[72] Roy.

2.4 South Africa's Violent Mobilities

South Africa's transportation market has been characterized by a history of violent conflict, arising from the apartheid era, and continuing to the present day. Minibus taxis arose as a much-needed informal transit service for Black South Africans, who were excluded from most other forms of public or private transportation service under the apartheid government. This service still constitutes the most popular form of transportation in urban South Africa, especially among low-income black commuters.[73] Under an informal regulatory regime in which violence was a legitimate mode of governance and competitive strategy, South Africa's minibus taxi industry evolved with informal business practices and a high degree of violence, leading to "mafia-like" operations.[74]

Violent competition was particularly intense surrounding ranks and routes. In one of the earliest scholarly examinations of the taxi wars, Meshack M. Khosa conducted fieldwork in three South African townships in Gauteng, describing in detail what is at stake in these wars: the drawing of boundaries of mobility market territories and thus access to passengers, and the ability to set prices,[75] both sites of violent market contestation between metered taxis and ride hailing in South Africa. He also drew typologies of the belligerent of these taxi wars along lines of government recognition (legal versus illegal fleet operators), types of routes run (long- versus short-distance operators), and time of market entry (old operators versus new market entrants). Though there are specific differences between the two conflicts, the centrality of territories, access to passengers, and control over prices that Khosa describes can be extended to the ongoing "Uber wars"[76] contested primarily between metered taxis and ride hailing. I show how the conflict is fought

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[73] Lomme, "Should South African Minibus Taxis Be Scrapped?," 2.

[74] Dugard, "From Low-Intensity War to Mafia War: Taxi Violence in South Africa (1987-2000)."

[75] Khosa, "Routes, Ranks and Rebels."

[76] Bell and Armytage, "What the Violent 'Uber Wars' Tell Us about Zuma's South Africa."

using the imposition of similar market institutions to gain favourable distributions of benefits.

A 2001 report by Jackie Dugard of the South African Centre for the Study of Violence and Reconciliation identifies interethnic and political dynamics that underly the differentiations between the belligerent taxi fleet owners Khosa describes and which contributed to defining the violence between them. Political dynamics underlay much of the conflict between long- and short-distance taxi operators, as different types of taxi operations were variously dominated by pro-Inkatha Freedom Party (IFP) and pro-African National Congress (ANC) fleet owners. The metered taxis that operated the long distances between cities in KwaZulu-Natal and Johannesburg were attacked for being pro-Inkatha, and similarly, as part of the "hostel wars",[77] taxis carrying Inkatha-aligned migrant workers who were hostel dwellers were routinely attacked by the more settled, ANC-aligned, township community members.[78]

This shows that the minibus taxi industry were embedded in South Africa's political coalitions at the time, but I maintain that this feature of the market was not restricted to the late apartheid and early post-apartheid period of Dugard's analysis. In Chapter 4 of this thesis, I show how minibus taxis are similarly embedded in South Africa's contemporary political ruling coalition, a stable one dominated by the ANC, and the industry's fundamental importance to broader structures of societal governance and the maintenance of social and political stability.

In analysing the governmental response to the taxi wars both during and after apartheid, Dugard and others point to the construction of the taxi entrepreneur as an important symbol of personal initiative, economic transformation, and racial uplift, and, echoing de Soto, as trailblazing economic pioneers who succeeded

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[77] Rueedi, "The Hostel Wars in Apartheid South Africa."

[78] Dugard, "From Low-Intensity War to Mafia War: Taxi Violence in South Africa (1987-2000)."

despite economic crisis.[79] The industry itself was hailed in the 1980s as the "first flowering of Black entrepreneurship that would create a new middle class and help subdue revolutionary fever".[80] This symbolic importance of the industry contributed to a deliberate policy and ideology of non-intervention in the market violence surrounding minibus taxis, to the extent that in 1987 and amid taxi-related violence the then-Minister of Transport expressed that due to the "fact that the taxi industry is very important for the small entrepreneur … I have asked the police not to crack down on them".[81] Khosa additionally cites the "marriage between taxi operators and industrial capital"—evidenced by the taxi industry's status as a vital customer for automotive manufacturers and its status as a major consumer of petrol—as reasons for the maintenance of the (violent) status quo.[82]

The literature additionally reports that law enforcement, for its part, has been at best negligent and often inflammatory. One of Dugard's informants, a police station commander in Gauteng's Katlehong township, said to taxi drivers, "You just kill each other and I'll pick up the bodies".[83] Elsewhere, evidence was mounting that the police used their authority to "promote rifts between [taxi] associations, resulting in widespread allegations that the police manipulated the taxi industry" to achieve their ends of "destabilising and dividing black communities and undermining the ANC" in the post-apartheid era.[84] We find echoes of a deliberate policy of market non-intervention on the part of law enforcement and policymakers in the contemporary governance of the three modes analysed—metered and minibus taxis and ride hailing—as well as the conflict between these modes.

Commentators on the persistence of the taxi wars thus argue that the taxi wars have been the main form of violence characterizing the post-apartheid era, and

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[79] Khosa, "Accumulation and Labour Relations in the Taxi Industry," 55.

[80] Keller, "Deadly Free Market."

[81] Dugard, "From Low-Intensity War to Mafia War: Taxi Violence in South Africa (1987-2000)."

[82] Khosa, "Accumulation and Labour Relations in the Taxi Industry," 58–59.

[83] Dugard, "From Low-Intensity War to Mafia War: Taxi Violence in South Africa (1987-2000)."

[84] Dugard.

attribute that fact partially to the continued success of violence as a means of profit extraction.[85] This shows that violence is understood by market participants and outsiders as a strategy of market competition, within the logic of this specific market. Indeed, the market is still characterized by a high degree of violence between fleet owners; for example, in a single incident in 2018 eleven taxi drivers were shot dead in what was assumed to be an ambush ordered by a rival fleet owner.[86] However, beyond being a strategy of market competition, violence's full role cannot be understood without conceiving of it as embedded in a set of informal market institutions that govern who can serve which customers and how, and what befalls them if they violate these institutions.

In contrast to minibus taxis, the smaller taxicabs—known in South Africa as "metered taxis"—are largely absent from the literature on violence in the mobility market of South Africa. This is perhaps owing to their relatively small share of the transportation market in South Africa, though recently they have been implicated in an outsized portion of the violence in the mobility market. In 2010 ahead of the FIFA World Cup in South Africa, members of the metered taxi industry threatened violent action against the introduction of a bus rapid transit (BRT) system in Johannesburg. Later, four people in a sedan vehicle opened fire on a BRT bus.[87] Though the shooting was not conclusively linked to the metered taxi industry's threats, the incident suggested that metered taxi actors, too, were ready to use violent tactics against perceived threats to their livelihood.

With the introduction of ride hailing, metered taxis became increasingly involved in deadly attacks on ride hailing drivers. The burning alive in 2018 of 21-year-old Siyabonga Ngcobo, a student at Tshwane University of Technology and a part-time driver on Taxify, brought light to the brutality and scale of the violence metered taxi drivers are capable of against ride hailing drivers. Ngcobo was kidnapped,

[85] Dugard; Khosa, "Routes, Ranks and Rebels"; Sekhonyane and Dugard, "A Violent Legacy."

[86] Reuters, "Eleven Taxi Drivers Shot Dead in South Africa on Return from Funeral."

[87] "BRT Bus Comes under Fire in Soweto."

forced into the boot of his Taxify vehicle, and the vehicle was then set on fire in what was widely perceived as a crime committed by metered taxi drivers.[88]

This thesis thus constitutes an effort to examine the metered taxi market segment's violence in addition to the minibus taxis. In a previous examination of metered taxi violence, Danielak takes an infrastructural perspective to urban violence, focusing on the interplay of the infrastructural design and the actors who occupy this transportation infrastructure as they engage in and avoid violence.[89] In contrast, I focus on the territorial institutions that govern the market and the ways in which the modes contest the market's political settlement.

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[88] "Taxify Death."

[89] Danielak, "Navigating Urban Encounters."

Chapter 3.
Methods

3.1 Case Selection and Context

This thesis is situated within the broader context of the MIT Political Economy Lab's Political Economy of Ride Hailing project, which seeks to understand the workings of ride hailing platform markets around the world. I analyse the urban mobility market in Gauteng Province, South Africa, focusing specifically on the ride hailing and taxi market segments. I selected the case of South Africa as the country constitutes one of the largest markets for ride hailing platforms in Africa and the global south. According to Uber, their service area has expanded to serve more than 80% of South Africa's urban population,[90] an estimated 32 million people.[91] South Africa was ride hailing's first African market, with Uber launching in the country in 2013.[92] Gauteng is an especially rich case study for this thesis because it is in turn the largest urban mobility market in South Africa. Gauteng is the country's most populous and densest province and is home to two of South Africa's most populous cities, the country's largest city and financial centre of Johannesburg and the executive capital of Pretoria. Johannesburg has the distinction of being Uber's first African city, its fourth outside of the Americas and Europe,[93] and its 34th overall.[94] The introduction of Bolt (formerly Taxify) and other platform firms has further established ride hailing in the South African urban mobility market.

Though violence has accompanied the market entry of ride hailing firms in cities around the world, as established taxi operations reacted violently to a perceived threat to their livelihood, South Africa constitutes an especially rich case study for

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[90] Uber, "Sponsored Content: Uber Now Serves 80% of South Africa's Urban Population."
[91] World Bank, "Urban Population - South Africa."
[92] "Uber's Expansion into Africa."
[93] Russell, "Uber Comes to Africa with Johannesburg Launch."
[94] Shapshak, "Uber Growing in Africa as Nigerian Capital Abuja Named Its 400th City."

the study of market violence for two key reasons. First, South Africa has a long history of violence in the mobility market—namely the aforementioned "taxi wars". This history provides an established context of market violence, in the same industrial sector as ride hailing, through which its persistence and change can be studied. Second, in most urban contexts initial waves of violent protest by taxi drivers in opposition to the entry of firms such as Uber were repressed by the state or have otherwise come to pass. This is markedly not the case in Gauteng, where violence between the metered taxi and ride hailing industries is a continuous feature of, and a force that shapes the ride hailing market since its inception. The province then provides a context through which we can understand the roles that violence as an informal institution plays in transportation markets.

3.2 Data Collection

This thesis draws on 36 semi-structured interviews conducted primarily with ride hailing drivers on Uber and Bolt platforms in Gauteng, South Africa, undertaken during two field work trips between 2019 and 2021 and completed by myself. During the data collection process, I relied on a realist, theory-driven approach to the construction of the interview.[95] The first fieldwork period took place in December 2019 and January 2020, preceding the start of the COVID-19 pandemic in South Africa, and initially relied on a semi-structured interview instrument prepared for the Political Economy of Ride Hailing project (Appendix A). The second fieldwork period took place in August 2021 and focused on changes in the market and driver working conditions during the COVID-19 pandemic. During that fieldwork I relied on a follow-up semi-structured interview guide (Appendix B) in addition to the initial instrument, albeit with questions more closely tailored to the South African context. The second fieldwork period also included three follow-up interviews with drivers who were interviewed the previous year. Initial interviews with drivers took place in their vehicles in the course of a ride. Care was taken to not significantly oversample drivers serving certain areas in the province.

In addition to interviews with ride hailing drivers, I interviewed ride hailing activists, a policy executive at Uber, the director of transport policy for Gauteng Province, and an informal Uber fleet owner. Interviews ranged in length from 20 minutes to nearly two hours, and were recorded if the interviewee consented. 28 interviews were recorded, versus eight driver interviews not recorded due to lack of driver consent or in one case a technical mishap. For those interviews not recorded I promptly transcribed the conversation from my notes following the end of interview. In my analysis, I also make use of continued correspondence with my informants subsequent to their interviews, conducted through WhatsApp conversations for those informants who agreed to be contacted through their private phone numbers.

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[95] Pawson, "Theorizing the Interview."

The choice of interviewing primarily drivers, as opposed to mainly or only firm executives and policymakers, is important since drivers are the most appropriate informants for the study of the market's informal institutions. Not only are the ride hailing and taxi drivers on the "frontline" of the conflict over defining the distribution of benefits in the market; they carry out this contestation in organization with each other and of their own command, and not at the behest of firm executives, fleet owners, or industry leaders. Simply put, they are the ones most intimately familiar with the rules and norms that govern the market, and the power and strategies involved in its contestation.

The breakdown of interviews by the interviewees' industry roles is presented in Table 2.

Table 2: Interviews in Gauteng, South Africa (2019-2021).

Industry Role[96]	Dec 2019–Jan 2020	Aug 2021	Total
Uber driver	10	7	17
Bolt driver	7	6	13
Metered taxi driver	1	-	1
Ride hailing organizer/activist	1	1	2
Platform executive	1	-	1
Provincial governmental official	1	-	1
Fleet owner	-	1	1
Total	21	15	36

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[96] Interviewees often fulfil multiple industry roles. For example, interviewed activists were also drivers and/or small fleet owners. Many of the interviewed drivers drove for both Uber and Bolt. Categorization by platform here denotes which platform was used to first hail their ride.

3.3 Analysis

I analysed data collected during fieldwork using a grounded theory approach.[97] Initial inductive analysis occurred during the transcription process and my subsequent review and discussion of interview transcripts and field notes. This initial process led to the emergence of violence as a central theme (alongside arrangements relating to driver access to vehicles), despite my initial semi-structured interview instrument not mentioning violence explicitly and only briefly probing driver relationships to other transportation modes such as taxis. My informants, from drivers to platform executives to governmental officials, kept returning to violence as an important market force. Insights from this process informed the development of the follow-up interview instrument during the COVID-19 pandemic and led to the search for theories that explain violence's centrality to the market. Exploration of the bodies of literature on markets, violence, mobility, and informality did not yield a robust explanation for the ride hailing market phenomena. For example, the literature on market capitalism conceives of markets as making societies more peaceable, sometimes investigating why imperialism persisted despite global markets and trade,[98] while the literature on technology, platform firms, and development conceives of technology platforms such as ride hailing as formalizing tools with the potential to promote positive developmental outcomes in African and other developing contexts,[99] outcomes which certainly do not include increased violence.

More focused subsequent coding related to violence raised the questions of why, despite the South African ride hailing market's relative maturity and despite the literature suggesting that a new ride hailing market could promote positive development outcomes, market violence persists. It raised the question of whether

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[97] Charmaz, *Constructing Grounded Theory*; Glaser and Strauss, *The Discovery of Grounded Theory*.

[98] E.g., Schumpeter, *Imperialism and Social Classes*; Hirschman, "Rival Interpretations of Market Society."

[99] E.g., Rizk, "A Glimpse into the Sharing Economy"; Lakemann and Lay, "Digital Platforms in Africa."

the South African urban mobility market was experiencing a particularly prolonged and particularly violent period of market disruption following the introduction of ride hailing platforms; whether the violence observed in the market is simply a reflection of violence in South African society at large; or if indeed the violence is a more stable feature of the market's functioning. The empirical evidence and the emergence of new forms of territorial violence following Uber's introduction pointed towards the latter: to violence as a relatively stable feature of this market, one that plays a role particular to the market's dynamics. But what role does it play?

Through the next stage of coding, I realized that my informants' references to "territories" where ride hailing drivers are "not allowed" to work, their labelling of payments exacted under duress as "fines", and their description of the rules they follow in order to avoid violence, all pointed to a relatively stable regime of norms and rules that govern the interaction of market actors, that is market institutions. Seeing that the violence was embedded in the market's informal institutions or "laws",[100] I made use of distributional analysis from the critical legal studies literature to identify the struggle, the players, what is at stake, and the strategies of contestation in the market,[101] and went back to the literature in search of a theory to elaborate violence's role in the informal institutions that govern markets, how market actors contest control of the market, and the types of power they draw on to do so. In the new institutional economics literature,[102] and specifically the political settlements framework,[103] I found helpful ways of analysing why and how this market is contested. Though the political settlements framework operates at a higher level of analysis, that of political parties, coalitions, and industrial groups, I find it applicable to this case and extend it by applying it to the lower level of analysis of market segments, or, in this case, transportation modes. I also

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[100] Santos, "The War on Drugs and the Challenges to Liberal Legality"; Holmes, "The Path of the Law."

[101] Halley, "Distribution and Decision: Assessing Governance Feminism."

[102] North, *Transaction Costs, Institutions, and Economic Performance*.

[103] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions."

contribute to the political settlements framework by better specifying the different types of power at play in conflict occurring at the meso-level of market segments, and how actors draw on them in contesting the market's political settlement.

Chapter 4.

Territories, Institutions, and Enforcement

Violence between taxi and ride hailing drivers is characterized by an intense territoriality. Although, as previously mentioned, minibus taxis have a longer history of the so-called "taxi wars", metered taxis have been implicated in a disproportionate share of the violence since the introduction of ride hailing, owing to the perceived overlap between their and ride hailing's passengers. However, as I will later show and investigate, minibus taxis are increasingly associated with violence against ride hailing drivers as well.

The conflict over the introduction of ride hailing in South Africa has evolved from its early days, in which it was characterized by metered taxi associations violently protesting, calling for the banning of the platforms, and unsystematically attacking Uber drivers, to one characterized by a set of relatively stable, systematic, and violent, rules that define market territories. In the first three years of its operation in Gauteng, Uber operated in a legal grey area in which it was tolerated but not officially sanctioned or licensed, a situation characteristic of platform firms' early operational strategies.[104] Protests and direct action focused on calling for the banning of these illegal platforms. In once such event in 2016 metered taxi drivers attacked the provincial transport minister, Ismail Vadi, as he announced to reporters' the provincial government's plan to start issuing Uber vehicles similar operating licenses to metered taxis, effectively sanctioning them in the province.[105] Early ad-hoc violent protest strategies included requesting Uber vehicles to remote locations or metered taxi strongholds only to attack the drivers, a strategy widely

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[104] Pollman and Barry, "Regulatory Entrepreneurship," 390.

[105] Shapshak, "South African Politician Attacked, Beaten By Anti-Uber Taxi Drivers."

used by taxi drivers around the world during that period, for example in Colombia[106] and Egypt.[107] As the provincial director of transport policy explains:

> During the time when [Uber was first introduced], … metered taxi people would … call in the Uber driver and then they send [them] to a remote location where they are attacked.[108]

4.1 Demarcating Territories, Establishing Institutions

Though rhetorically metered taxi associations have maintained their earlier position that ride hailing is illegal and the ban on its operation in the country should be enforced,[109] their strategies have shifted and become more pointed towards defending their exclusive claim to the provision of specific types of services in the specific locations that provided the majority of their business before ride hailing's introduction. Since metered taxi drivers do not pick up passengers on streets and rely almost entirely on taxi ranks at aforementioned commercial nodes and transportation hubs, including train stations, malls, and airports, the market is governed through institutions that delineate these nodes as territories and define who can and cannot serve them and in what way. These market institutions are enforced violently by metered taxi drivers through a variety of strategies aiming to protect their exclusive right to serve and profit from demand arising at these nodes.

I refer to the rules as *territorial* since they are always associated with space and divide the market into discrete territories which can be analysed as constituting a core, or the territory proper, a boundary, and a hinterland. As we would expect in a territorial conflict, we find a relatively peaceful hinterland and a concentration of conflict especially along the boundary of the territory and in its core when it is contested. Ride hailing drivers are free to pick up and drop off in the hinterland, that is in areas not seen as metered taxi territories, but the platforms often instruct

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[106] Griffin, "Uber's Colombian Speed Bumps."

[107] Tariq, "حرب شرسة بين التاكسي التقليدي وشركة أوبر وأخواتها في القاهرة."

[108] GP Transport Policy Director Interview, 2020.

[109] Driver Interview 16, Bosman Metered Taxi Association, 2020.

them to go not only to the boundaries but to the heart of such territories, for example in the case of Bosman station. This ignites the instances of violent conflict this work focuses on.

Further, I refer to markets *institutions* because my informants consistently refer to "territories"[110] and "strongholds"[111] where ride hailing drivers "cannot"[112] or are "not allowed to"[113] pick up or drop-off passengers, using words that betray an affect of rules, norms, and laws. One driver explains that the violence he experiences in the ride hailing market is not haphazard but systematic; the metered taxi associations have rules for how the market should function and they "impose those rules violently".[114] The attitudes of drivers, policymakers, and industry executives and the language they use to refer to these territories show that these informal, violently enforced territorial demarcations are the *de facto* law governing the urban mobility market in Gauteng. I use the word *law* to refer to the rules and norms governing this space as they *are,* not as they *ought* to be,[115] following Oliver Wendell Holmes' guidance to conceive of the law through the eyes of "our friend the bad man," focusing on what the legal system will actually do in response to his actions.[116]

What are these territories, then? And what rules apply to them? Stations serving Gautrain—the province's 80 km commuter rail system, which has a reputation for a disproportionately wealthy and white ridership—are chief amongst taxi territories, with metered taxi associations at most stations prohibiting picking up passengers in or near their station's taxi rank. All Gautrain stations constitute such territories for

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[110] E.g., Driver Interview 2, Uber, 2020; Driver Interview 13, Uber, 2020; Driver Interview 23, Uber, follow-up, 2021; Driver Interview 26, Bolt, 2021.

[111] GP Transport Policy Director Interview, 2020.

[112] E.g., Driver Interview 7, Bolt, 2020; Driver Interview 17, Bolt, 2020; Driver Interview 26, Bolt, 2021.

[113] E.g., Driver Interview 2, Uber, 2020; Driver Interview 4, Uber, 2020; Driver Interview 16, Bosman Metered Taxi Association, 2020; Driver Interview 30, Uber, 2021.

[114] Driver Interview 10, Uber, 2020.

[115] Halley, "Distribution and Decision: Assessing Governance Feminism," 254.

[116] Holmes, "The Path of the Law," 4.

ride hailing drivers, though the range of what you can and cannot do varies significantly depending on the specific station. Passenger pick-up is nearly always prohibited, at least on the station's premises, whereas the "legality" of passenger drop-off varies by station.

Pretoria Station, more popularly known as "Bosman Station", is the territory where such institutions are the most restrictive and most strictly and violently enforced. Bosman is the largest station in South Africa's executive capital and is located at the southern edge of the city's central business district, a short driving distance from the offices of the country's executive branch, including the presidency, cabinet departments, and civil service. The station is commonly cited as the most dangerous no-go zone for both passenger pickup or drop-off; attempting either or simply entering the station area as a ride hailing driver can prove deadly. Most Uber and Bolt drivers interviewed have had particularly violent interactions with metered taxi drivers at Bosman Station and will avoid going near it or at least serving it directly. A Bolt driver summarized it by saying "Bosman [is] a no-go area"[117] while an Uber driver described it as such:

> Bosman, I avoid the entire station—not even across the street. Because whenever they can see that is an Uber, even 200m away, they can follow you. So Bosman is very, very dangerous! Bosman is where there's a lot of business, and it's the strongest territory for metered taxi.[118]

Close to Bosman on the spectrum of violent sanction is Park Station, a Gautrain station located in Braamfontein in Johannesburg central business district. As Johannesburg's main station and one similarly situated near governmental and business offices, my informants also commonly cite it as a no-go zone, albeit not to the same extent as Bosman. The same Uber driver explains it as Bosman's equivalent for Johannesburg:

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[117] Driver Interview 26, Bolt, 2021.
[118] Driver Interview 10, Uber, 2020.

> In Joburg, there's [a] station that is a problem. You know those big stations where there's business, where people arrive? In Pretoria it's Bosman; in Joburg it's Park Station.[119]

There, ride hailing drivers are also not allowed to pick up passengers, though drop off—which some drivers argue does not interfere with the metered taxis' business model[120]—is sometimes peacefully attempted.

An arrangement more typical of stations with lower ridership numbers than Bosman or Park stations is one where drop-off is allowed, while pick-up is prohibited. This is the case at a number of malls in the province, including Eastgate Shopping Centre,[121] Newtown Junction Mall,[122] and Mall of Africa,[123] as well as with Pretoria's second Gautrain station, Hatfield, and with the Sandton Gautrain station north of Johannesburg.[124] Despite Hatfield Station's relative proximity to Bosman, drivers are aware of a different informal regulatory regime applying to the station and often repeat the mantra that in "Hatfield you can't pick up. Bosman you can't pick up or drop off."[125]

More lenient arrangements include the ability to pick up at the back gate or across the street from the station, which is the case with Centurion Gautrain station, south of Pretoria.[126] On the other end of the spectrum is Midrand Station, centrally situated between Johannesburg and Pretoria, whose metered taxi association is unique in allowing pick-ups by ride hailing vehicles at the station's main entrance, as long as they do not attempt to pick up a passenger who has not requested them using the platform, or otherwise cruise for passengers in the area:[127]

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[119] Driver Interview 10, Uber, 2020.

[120] Driver Interview 18, Bolt, 2020.

[121] Driver Interview 7, Bolt, 2020.

[122] Driver Interview 13, Uber, 2020.

[123] Driver Interview 13, Uber, 2020.

[124] Driver Interview 9, Uber, 2020.

[125] Driver Interview 22, Bolt, follow-up, 2021.

[126] Driver Interview 9, Uber, 2020.

[127] Driver Interview 9, Uber, 2020; Driver Interview 18, Bolt, 2020.

> Here in Midrand … we [can only] pick [up] someone who has requested. Then if someone doesn't have an app, then they go to them [metered taxis]; they are the ones who transport them.

The unevenness of this informal regulatory regime across transportation nodes can be attributed to diversity in the power of each node's local metered taxi association, and to differences in the importance of each node to the metered taxi industry. Khan equates a group's ability to carve out a larger slice of the pie for themselves, to effectively impose and absorb costs in the conflict over a political settlement to that group's holding power—"their ability to engage and survive" in this conflict.[128] A more restrictive and more violent institution, such as at Bosman station, can be then attributed to the local metered taxi association's larger organizational, political—and if I may add—lethal, power.[129] These, in turn, can be due to the relative size of the association, the strength of its organizing, and the importance of the transportation node they control to the taxi and industry and to the city. The latter originates from the station's ridership and the types of institutions and offices it serves.

The power of the associations at Bosman and Park Street stations may not be enjoyed by a smaller metered taxi association at a less critical transportation node. In the above quote, a ride hailing driver sees these stations as being particularly problematic because they are "those big stations where there's business, where people arrive,"[130] in contrast with smaller stations whose demand for taxi service is not as substantial and whose taxi associations are not as large, for example the aforementioned Hatfield and Midrand. The holding power and its sources for the three modes contesting this market—minibus taxis, metered taxis, and ride hailing platforms—are analysed in a subsequent section.

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[128] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 6.
[129] Khan, 7.
[130] Driver Interview 10, Uber, 2020.

Although the particularities of the market's governance and its norms, for example the precise rules at a given station or mall, are contested and developing over time—after all, political settlements and institutions are "inevitably evolving all the time"—the combination of power and institutions governing the market is "fairly robust in its broad outlines".[131] Importantly, we do not find evidence that the territorial demarcation and spatialized violence seen in the market constitute a transitory condition that will be resolved once ride hailing platforms are established—an "adjustment cost" brought by market disruption, as Lakemann and Lay view it.[132] To the contrary, we find that the norms are robust. Especially in the case of the Bosman station, we find evidence of the strengthening and expansion of the station's territory between early 2020 and mid-2021. For example, drivers who previously reported that they were able to drop off passengers at the McDonalds outside the station were unable to do so since that area is now patrolled by metered taxis.[133] One driver even lamented that the area where he is not allowed to pick has expanded significantly and now extends to Burgers Park, some 500 metres away from the station proper:

> They're expanding their territory. You know Burgers Park that side of Bosman? … Next thing they say don't pick up here. … They say we are picking up [their] clients there.[134]

Metered and minibus taxis and ride hailing employ different strategies in contesting this political settlement. Taxis do so by violently enforcing the aforementioned institutions, amongst other means, while ride hailing navigates, survives, and challenges these institutions using a variety of tactics. The following two sections describe the strategies used by market actors to enforce and to navigate the institutions in more detail. They shed light on the ways in which the

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[131] Khan, 22.
[132] Lakemann and Lay, "Digital Platforms in Africa," 1.
[133] Driver Interview 18, Bolt, 2020; Driver Interview 22, Bolt, follow-up, 2021.
[134] Driver Interview 26, Bolt, 2021.

different modes inflict costs on each other and absorb the costs imposed by their competitors as they contest the political settlement of the urban mobility market.

4.2 Enforcing Violent Institutions

Enforcement is central to institutions, and is an important constituent of the market's transaction costs, whose importance to economic growth and development motivates the new institutional economic approach.[135] Khan centres enforcement in his analysis of informal institutions as he advises us to "see informal institutions as informal enforcement mechanisms based on power that are important for delivering benefits to powerful groups who would not immediately benefit from the creation of the modern formal institutions of capitalism".[136] Violence in South African mobility is an important institution that governs the market in that it acts as an informal enforcement mechanism based on power. What specific enforcement strategies are used by the market actors, as they seek to impose a division of benefits that is in their favour? Less abstractly, how do taxi associations enforce the sets of territorial definitions and service rules outlined in the previous section, and what do they do to ride hailing drivers who break those rules?

Controlling Space, Catching Ubers

Since the market institutions imposed by metered taxi associations, ride hailing's main competitors, are spatial and territorial in nature, the tactics metered taxi drivers employ rely first and foremost on controlling space and being vigilant in order to identify ride hailing vehicles and drivers attempting to pick up (or in some cases drop off) passengers in their territory. To that end, metered taxi drivers waiting for their turn to serve passengers often stand on street corners near their rank, or otherwise sequester and control access to node entry points and the garages of the commercial centre they serve.[137]

Territorial control also requires the ability to correctly identify offending vehicles and drivers. A senior policy executive at Uber explained that the firm has resisted

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[135] North, *Transaction Costs, Institutions, and Economic Performance,* 29.

[136] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 18.

[137] Driver Interview 17, Bolt, 2020.

governmental efforts to require "marking" ride hailing vehicles to better regulate them, on the grounds that it makes drivers less safe and more vulnerable to attacks from rival industries:

> Why do you want these vehicles marked? … It was a safety issue to say [to government officials], "You're making somebody already vulnerable *more* vulnerable. If not them, physically, it's their asset."[138]

Nonetheless, metered taxi drivers have evolved accurate and fast methods of telling if a particular vehicle is a ride hailing vehicle, even while ride hailing drivers, fearing for their safety, seek to not to outwardly identify themselves as driving for Bolt or Uber. This is particularly important when a vehicle is not carrying passengers in the back, because the perceived threat to metered taxi territory primarily stems from ride hailing drivers attempting to pick up passengers in their territory. Metered taxi drivers rely on knowledge of common vehicle makes and models used in the ride hailing industry, as well as spotting the metered taxi license, a sticker that ride hailing vehicles have been required to display on the corner of the windshield since 2017.[139][140]

With time metered taxi associations have only become better at spotting Ubers and Bolts, and so their violent enforcement of the market's territorial institutions has only become more efficient. For example, a driver I interviewed both before and during the COVID-19 pandemic reported stricter enforcement and ability to spot ride hailing drivers, even if they are for personal reasons and not because of a platform request:

> Til now [they are violent]. Especially at Bosman, they don't want us there at all. [It is] not better at all, because Bosman even if you go in for your own agenda, on your own time, and they see you are a Bolt driver, they will come and fight with you.[141]

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[138] Uber Policy Director Interview, 2020
[139] Mabena, "Uber Operators Must Apply for Operating Licences."
[140] Driver Interview 8, Uber, 2020.
[141] Driver Interview 22, Bolt, follow-up, 2021.

Weapons of Market Domination

After being identified and "caught"[142] by a metered taxi driver, ride hailing drivers face a variety of violent tactics which I analyse, following the political settlement framework, as strategies of imposing costs on their co-contestants of the urban mobility market. I special attention to what Khan calls the "weapons" of the political settlement "warfare".[143] Drivers report physical violence and damage to their vehicles, or the threat thereof, as common enforcement mechanisms. Metered taxi drivers often wield and use knives,[144] blunt instruments such as hammers, baseball bats, or steel pipes,[145] or large stones.[146]

There are less frequent driver reports of the use of acid attacks[147] and firearms[148], the latter more closely associated with minibus taxi violence. Cases in which metered taxi drivers have burned vehicles, often with the drivers inside being burned alive, have received widespread media attention,[149] compared to the aforementioned, more everyday forms of violence. Drivers are intimately familiar with news of such murders,[150] frequently discussing them on WhatsApp groups, holding vigils for murdered drivers, and publicly protesting.

Stoning, in particular, both vehicles and drivers, is a strategy that metered taxi drivers readily admit to employing. A metered taxi driver with the Bosman association explained that as a matter of policy they stone ride hailing vehicles and drivers, but do not regularly use gunfire like their minibus cousins:

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[142] Driver Interview 2, Uber, 2020.

[143] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 6.

[144] E.g., Driver Interview 26, Bolt, 2021.

[145] E.g., Driver Interview 5, Uber, 2020; Driver Interview 13, Uber, 2020.

[146] E.g., Driver Interview 5, Uber, 2020; Driver Interview 8, Uber, 2020; Driver Interview 22, Bolt, follow-up, 2021.

[147] E.g., Driver Interview 18, Bolt, 2020.

[148] E.g., Driver Interview 13, Uber, 2020.

[149] "Taxify Death."

[150] E.g., Driver Interview 22, Bolt, follow-up, 2021; Driver Interview 18, Bolt, 2020; Driver Interview 17, Bolt, 2020; Driver Interview 10, Uber, 2020; Personal communication with ride hailing activists.

> Here, we stone them. … [But] we don't use gun, no. No gun, like kombi,
> the big ones… this one [points to minibus taxi] they use guns.[151]

Levying *Fines*: Rhetoric of Legitimacy

In addition to physical violence towards the driver and/or their vehicle, metered taxi drivers commonly trap ride hailing drivers who have ventured into their territory and forcibly take their car keys or their vehicle,[152] as they decide and impose the punishment for violating the rules they are imposing. Combined with physical violence and vehicle damage and hijacking, metered taxi drivers impose costs more directly on ride hailing drivers by exacting payments from them. These payments are variously rationalized as "fines" or "fees", the former being the common term both ride hailing and metered taxi drivers use to describe these payments,[153] in addition to more neutral terms like "money".

Bolt and Uber drivers refer to these payments as fines or fees even as they experience and recognize them as exacted under duress—while surrounded by belligerent taxi drivers who have taken their car keys and threatened them with a weapon—or simply stolen from their wallet or vehicle. In many cases, the "fine" is simply the sum amount of cash the driver is carrying or storing in his vehicle at the time.[154]

However, the terms "fine" or "fee" betray an affect of authority, legitimacy, and a legal regime which ride hailing drivers do extend to these payments, variously recognizing the authority of metered taxi associations to levy fees and fines on their territory and highlighting that the market's territorial demarcation and violence are understood by market actors to constitute a legal regime or a set of institutions.

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[151] Driver Interview 16, Bosman Metered Taxi Association, 2020.

[152] E.g., Driver Interview 4, Uber, 2020; Driver Interview 22, Bolt, follow-up, 2021; Driver Interview 19, Uber, 2021.

[153] E.g., Driver Interview 2, Uber, 2020; Driver Interview 3, Uber, 2020.; Driver Interview 26, Bolt, 2021.

[154] E.g., Driver Interview 9, Uber, 2020; Driver Interview 12, Bolt, 2020; Driver Interview 26, Bolt, 2021.

Drivers often show much deference for these market institutions and believe it would be inappropriate to violate them, as exemplified by this driver plainly stating his respect for the rules that metered taxi associations impose and arguing that it would be "wrong" for him to break these rules:

> [I don't have issues.] It's just that I respect them. … I respect them because if you request me while you are [in a Gautrain station], … I am gonna tell you that I can't pick [you up] because of metered taxis. You can go where there is a safe place … Simple. … Because they don't allow us to pick up in Gautrain and if I … go pick up [there] it's wrong. It's just wrong. I can't go to pick up at the Gautrain when they say we [cannot].[155]

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[155] Driver Interview 30, Uber, 2021.

4.3 Navigating Violent Institutions

Effectiveness of Enforcement

The enforcement mechanisms I have described—violence, destruction of vehicles, hijacking, exacting payments—and the accompanying threats are successful deterrents since ride hailing drivers widely report avoiding metered taxi territories as a result. These violent enforcement mechanisms could be argued to constitute a set of high transaction costs, which point to inefficient institutions and are associated with impaired economic performance.[156] However, those carrying them out must think of the enforcement strategies as worthwhile and efficient, since they are quite effective at deterring rule-breaking. Often, drivers will report that their first (and maybe only) violent encounter with a metered taxi driver happened when they first started on the platform and did not yet know the territorial demarcations and the accompanying rules, and that thereafter they have avoided these territories. For example, this driver recounts his first metered taxi encounter:

> When I started, I did not know, so I got into trouble at Bosman once. They tried to hijack me, I just gave them the cash I had, 400 rand, and they let me go.

He clarifies that subsequently they "won't bother [him] too much" since he now "know[s] what places to avoid".[157] Similarly, this driver recounts his first time getting "caught" by metered taxi drivers:

> I didn't know about these taxi territories. … I was once caught two or three months after starting. I went directly to their territory without knowing. … I just begged them to not break the car; they wanted to me to pay a fine. … I did pay it so that I can get the car and leave them.

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[156] North, *Transaction Costs, Institutions, and Economic Performance*.

[157] Driver Interview 19, Uber, 2021.

Thereafter he educated himself using driver WhatsApp groups on "where I should go and where I should not go … and what to do if I get caught" and learned how ask assistance from fellow drivers on WhatsApp and other platforms.[158]

Technological Infrastructures of Conflict

Driver groups on WhatsApp and Facebook operate as a sort of infrastructure designed to help ride hailing drivers navigate the violent market and avoid or absorb the costs imposed by their competitors. One driver explained that the main purpose of these groups is to warn "against metered taxi" territories "because that is our biggest enemy".[159] Another explained that he does not face many issues because he knows where metered taxi territories are and is continuously avoiding them, because Facebook and WhatsApp driver groups keep him constantly informed about the territories and any changes therein, and because he knows about his ride hailing driver friends' violent experiences with them:

> I'm also avoiding [metered taxi territory]. If you request me on the wrong place, I notice because I'm always doing my business in Pretoria and I've been there for a while. So most of the time I know the places where they park their cars and they can give you problems. … We got Facebook and WhatsApp group also. So always if someone experiences a problem he posts where and how did it happen. So [the group] exactly tells you "When you approach this place you must be careful" or "Don't drop on this side". Because like Bosman Station, they broke my friend's car with a stone.[160]

The ride hailing platforms, user interfaces, and algorithms operate as infrastructures of conflict too, though one whose role in the conflict is a rather inflammatory one. Despite the platforms' spatial capabilities—already in use to delineate service and non-service regions and areas where surge pricing is in

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[158] Driver Interview 2, Uber, 2020.
[159] Driver Interview 17, Bolt, 2020.
[160] Driver Interview 15, Bolt, 2020.

effect—drivers complain about Uber and Bolt's unwillingness to use the platforms' technological capabilities to protect them by preventing requests from metered taxi territories, and cite it as evidence of the platforms' lack of interest in protecting drivers' safety. For example, an Uber driver asks:

> Why are they not [intervening]?... Uber knows that it's dangerous to pick up right at Bosman station, right? But if someone request ... Uber can give you now a trip in Bosman station, but they know very well that it's not safe to pick up there. … Which means they don't even want to interfere [to protect drivers].[161]

He elaborates that it would be quite easy for platforms to define those out-of-service areas in their application if they were serious about protecting drivers, proposing that Uber display a message informing passengers that they are outside the Uber service area or simply not giving them a match. Further, he expresses his frustration about having to explain to passengers that he is "now allowed to pick up" in this area, failing to answer the "simple questions" of why Uber allows the passengers to request pick up in Bosman and why the driver has accepted their request:

> Because if Uber is serious, … if someone requests a ride from Bosman station, they must send a message to the client "No Uber is available in this area. You can't get an Uber" [because] the clients don't know. But what surprises the client [is their ability to request from a banned area], and the client will ask you a simple question. You tell the client, "Ah, it's not allowed to pick up you there by Bosman Station". The client will ask you, "Why did Uber allow me to request and why did you accept my request?" So like [in] those restricted areas, like dangerous areas, Uber can ban the network completely. … There's no signal for Uber, you don't get any request ... Because people, they've died![162]

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[161] Driver Interview 10, Uber, 2020.
[162] Driver Interview 10, Uber, 2020.

This driver further complains that at the time of the interview when "the request comes, you don't even see where the rider is, and you see the [pick up location only] after you accept the request,"[163] leading to situations where the driver must negotiate a safe pickup location nearby after accepting the request, cancel the request and accordingly risk sanctions, or ask the passenger to cancel the request and also risk being penalized. Though both platforms now allow drivers to see the approximate pick-up area when the receive a request, they still heavily penalize request cancellations up to and including banning the drivers from the platform, with little recourse if the driver has cancelled due to a safety consideration. The design of the platforms' interface, algorithms, and system of driver incentives and disincentives thus constitute an infrastructure through which the violence is amplified in the service of platform growth in the urban mobility market.

Uber's policy director in Sub-Saharan Africa counters by arguing that the decision to go to a dangerous area is ultimately the drivers' and the passengers' decision and not one for which Uber can assume responsibility:

> No, we can't tell [passengers and drivers] to avoid [dangerous areas]. I mean, they are independent operators, they can drive wherever they want to drive. But the same time, we've tried to find pick up areas that are safer and to put our own security [there], because the Gautrain station will tell you that … "outside of the station is no longer our responsibility". So that's what we try and do, but we can't say to drivers, "Don't go to Bosman station." They decide to go.[164]

In adopting this position and defending it based on the independent contractor relationship, Uber denies the control they do exercise over their drivers and the effect it has on their safety, ignoring that the platform's interface instructs drivers on where to go and sanctions them for not complying.

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[163] Driver Interview 10, Uber, 2020.
[164] Uber Policy Director Interview, 2020

Asked what steps Uber has taken to address the safety issues, she cites Uber's "own security", which are private security forces that Uber has installed at key nodes, including Gautrain stations. These private security forces are staffed by private security company Hi-Risk and though covered in military gear—combat boots and bulletproof vests—there is a policy of secrecy around whether they are at all armed.[165] One driver claims that Uber's security "are useless, they don't deal with nothing,"[166] while another notes that Uber's security forces are nowhere to be seen at Bosman Station specifically, and that the station simply has "too many" belligerent metered taxi drivers for Uber's security services to be effective. He notes, however, that the Gautrain station's own security are no more helpful since he recounts that metered taxi drivers have stopped and threatened him, and have taken the money in his wallet all while the station's security "were there and … did nothing".[167] The deployment of private security forces also has the potential of inflaming the violent conflict since their presence has not deterred metered taxi associations from attacking ride hailing drivers.

In addition to paying so set up their own private security forces at key nodes, my informant claims that Uber has given drivers the information about dangerous areas necessary for them to make the decision whether to go there or not, and has equipped the application with additional security features for drivers. These include a panic button available to both drivers and passengers to connect them to the closest private security service,[168, 169] fulfilled by private on-demand emergency response companies Aura[170] and ICEplus.[171]

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[165] Kerr and Nieva, "Being an Uber Driver in South Africa Can Be Lethal."

[166] Driver Interview 13, Uber, 2020.

[167] Driver Interview 9, Uber, 2020.

[168] Uber Policy Director Interview, 2020

[169] "Uber Partners with Private Security Companies to Improve Driver Safety."

[170] "Uber Adds New Safety Features for Drivers"; "Aura."

[171] Caboz, "There Is a Panic Button for South African Uber Users"; "ICEplus."

Through painful first-hand experience and lessons learned from other drivers in physical and online networks, drivers learn to navigate the violent landscape that is the South African urban mobility market. They learn how to evade or absorb the violent costs that their competitors seek to impose on them, and that the technological platform facilitates through sending them there and penalizing them if they refuse, not adequately addressing the safety concerns through the platform interface and algorithm, information to passengers and drivers, private security forces, and panic buttons. Accordingly, drivers use their own infrastructure of physical and online networks to form their own rules for how to navigate, evade, or even challenge the metered taxi associations' violent institutions. Drivers often clarify that they have a blanket policy to reject or cancel requests when they realize the request would take them to metered taxi territory, even if it means being penalized by the platform, for example outright stating, "If I see 'Gautrain', I don't pick up"[172] and that "since [my first violent encounter] I don't drop off at Bosman, I don't pick up from Bosman".[173]

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[172] Driver Interview 26, Bolt, 2021.
[173] Driver Interview 9, Uber, 2020.

Between Compliance and Evasion

Other drivers attempt to still serve the customers, but they establish, and operate under, rules to avoid violence, following strategies that teeter the line between compliance and evasion. For example, many drivers ask passengers waiting to be picked up to move to a safer location. In one particularly conservative case, the safer location is a full kilometre away from their original pick-up location at the Bosman Gautrain station:

> If you try to pick up there, they're going to break your car. I don't go within one kilometre of Bosman Station. [If I get a request] I tell them to come to where it's safe for me…. If they can't come, they have to cancel, because I won't go there. … [I will drop off passengers] one kilometre away from Bosman Station; I won't come closer.[174]

More daring drivers attempt, often successfully, to pick up at locations closer to the dangerous territory in question, for example across the street from the Gautrain station or mall. One driver mocked the metered taxi drivers in Pretoria's central business district who prevented him from picking up passengers at a nightclub, only for him to successfully pick them up at a nearby McDonalds. Laughing, he recounted:

> They said "What are you doing? … You can't see we are here?" I'm like "I didn't know I can't pick up here. I am sorry. … It won't happen again." … I just left. And I told the passengers to come to McDonalds. They came! These guys [metered taxi drivers] are idiots![175]

Another driver has had success picking up passengers across the street from the Sandton Gautrain station north of Johannesburg, where the local metered taxi association prohibits ride hailing drivers from picking up.[176] It is important to note that such a tactic may only be possible in the specific territories in question, which are not heavily guarded compared to, say, Bosman Station. Thus, drivers must

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[174] Driver Interview 11, Bolt, 2020.
[175] Driver Interview 17, Bolt, 2020.
[176] Driver Interview 18, Bolt, 2020.

make many types of contextual decisions when navigating the market's spatial violence. Other limitations prevent drivers from employing such tactics, notably the expansion or readjustment of territorial boundaries by metered taxi associations in response to Bolt and Uber drivers' tactics of evasion, noted previously with the Burgers Park example, and the unfamiliarity of some clients with the local streets or their unwillingness to walk to a safer location. If a passenger is unwilling or not able to figure out how to reach a safer pick-up location, drivers will most often cancel the trip because the risk is too high:

> It's tough because some clients [especially Gautrain users] they're new. … You don't know or you're not familiar with the place. And I'm telling you to go wait for me in such and such place. You can't make it. So I just cancel like that because myself I'm also scared for my life.[177]

Still other daring drivers opt to apologise, feign ignorance, bargain, or attempt to flatter metered taxi drivers, when confronted with a potentially violent situation. These tactics may prove effective at helping ride hailing drivers avoid violent institutional enforcement, though they are not reliable, and they often still come at a cost of paying the metered taxi drivers to let them go:

> I had a fight … once at Bosman Station. … I apologized to them. I told them I am not from around here and if ever there is something wrong that I did, then they should explain to me and after that I won't do that thing again; they don't need to attack me. If we fight, I won't even know what I am fighting for. They should … tell me what I did wrong, that this is their place.[178]

The tactic of apologizing, feigning ignorance, and deferring to the metered taxi association's authority proved mildly effective for this driver, since the association did not cause harm to him or to his vehicle, though they still took all the cash that

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[177] Driver Interview 22, Bolt, follow-up, 2021.
[178] Driver Interview 12, Bolt, 2020.

he had on him.[179] In Park Street Station in Braamfontein, Johannesburg, another metered taxi stronghold, similar tactics appear to be successful:

> In Braamfontein … those guys [metred taxi drivers] came running…. They opened all the doors. They said, "Man, it's impossible what you're doing. You drop off right in front of us, you want to pick up in front of us!" So I just talked to them. I said, "Hey guys, I'm sorry, I'm just a new driver, I don't know. So guys forgive me. I will not repeat this." And then something just came into my mind. I grabbed [some money] and I said, "Guys, you can have a cold drink." Yo! They were so excited![180]

In rare cases, violating the rules may elicit only a warning, as was the case for this driver, who pointed out that with certain types of passengers, in this case an older white man, ride hailing drivers are less likely to be attacked, though he was firmly told to not come back:

> Bosman I was also told to not come back. I picked [up a passenger]. Then they [metered taxi drivers] come, they say "Don't ever come back, we see your face! If you come back here!" They let me go with the client. It was a mdala umlungu [old white man].[181]

In navigating the violently enforced institutions of the urban mobility market and attempting to absorb the costs their competitors impose upon them in the market's political settlement, ride hailing drivers make use of a range of strategies, including compliance and avoidance, asking passengers to move to safer locations, relying on driver networks, apologizing, feigning ignorance, or bargaining. The effectiveness of these strategies depends largely on the specific context of the territory in question, of which drivers must be acutely aware.

Drivers develop the necessary knowledge, awareness, and strategies through experience and technological infrastructure such as driver WhatsApp and Facebook groups, against a backdrop of the platforms' technological infrastructure that puts

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[179] Driver Interview 12, Bolt, 2020.
[180] Driver Interview 29, Uber, 2021.
[181] Driver Interview 13, Uber, 2020.

them at risk by refusing to exclude dangerous metered taxi territories from the platforms' service area and instead opting to introduce ineffective and potentially inflammatory solutions instead. The previous examples highlight the complex set of strategies used to enable, enforce, and navigate the market's conflict, and the roles of technology in shaping it.

Chapter 5.
Power and a Mobility Political Settlement

Though markets are conceived of as cultivating peace and stability, and reducing individual and societal predispositions to violence,[182] the introduction of ride hailing in South Africa has been accompanied by increased territorial violence. I have shown above that the urban mobility market in South Africa is governed by informal institutions that are widely recognized by market participants and violently enforced by some of them. These institutions are also contested daily, which heightens the violence between market actors.

How do we explain the discrepancy between the view of markets as spreading peace and the centrality of violence to the governance of this market? Further, how does ride hailing continue to operate despite taxi protests and territorial violence? In this chapter I use the political settlement framework to answer these questions, understand the relationship of market actors to the social order, and elaborate my analysis of the nature of their violent conflict.

By clarifying the sources of power which enable market actors to effectively govern the market and contest the distribution of benefits in their favour, a political settlement analysis can help us explain why, especially in a developing context, calls to regulate, price, or outright ban ride hailing platforms succeed or fail.

5.1 A Power-Benefits Mismatch

In Khan's political settlement framework, conflicts erupt when "a group believes that the underlying distribution of power has changed and the distribution of benefits is not reflecting it, or if changes in distributions of benefits do not reflect the perceived distribution of power".[183] The latter is the case in our market of

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[182] Hirschman, "Rival Interpretations of Market Society," 1476; Schumpeter, *Imperialism and Social Classes*, 69.

[183] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 7.

interest since the introduction of ride hailing in South Africa has caused a change in the distribution of the market's benefits such that the distribution no longer reflects the perceived power of metered and minibus taxi associations. Conflicts end, on the other hand, when "the relevant groups accept a distribution of benefits as compatible with the distribution of power"[184] through the establishment of a new distribution of power, a new distribution of benefits, or both to various degrees.

What is identified popularly and within the literature on entrepreneurship and platforms as "technological disruption" can then be understood as a disruption in the distribution of benefits relative to the pre-existing distribution of power in the urban mobility market, resulting in an incompatibility or mismatch between power and benefits. Since this market is dominated by "powerful groups" who were, before ride hailing's introduction, "likely … to achieve the distributions of benefits they desire"[185], the disruption has engendered a significant conflict over the definition of the political settlement—that is the stable combination of powerful groups, institutions, and distribution of benefits in the market. South Africa's social order and the political, organization, and lethal power of taxi associations in South Africa explain the persistence of violent conflict over the distribution of benefits in the urban mobility market, when in many urban contexts around the world waves of violent responses to the introduction of ride hailing applications were brief by comparison and were quelled by the state.

Metered Taxi Perceptions of Ride Hailing Power

That there is a mismatch between the perceived distribution of power and distribution of benefits in the market is clear from my conversations with drivers. Benefits previously enjoyed by metered and minibus taxis are now enjoyed by ride hailing applications, or at least there is a pervasive perception that this is the case, evidenced by the common framing of the problem as ride hailing "stealing" their

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[184] Khan, 7.
[185] Khan, 22.

customers.[186] The perceptions of benefits transfer to ride hailing is especially held by metered taxis, given the two modes' similarity as single-passenger cab services and the perceived overlap in their clientele. Minibus taxis, offering a mass mobility service for a typically lower-income passenger base, have not seen as marked of a decrease in the benefits they enjoy from the market. However, as I will later show, minibus taxi associations increasingly perceive ride hailing as a threat to their share of benefits in the urban mobility market, both because of ride hailing platforms' cheaper service options in South Africa and their foray into mass mobility elsewhere.

Khan returns to the phrase "perceived distribution of power"[187] and points to the importance of "beliefs [and] expectations … about the relative power of different groups" in contributing to conflicts or inversely to their resolution and the emergence of a stable political settlement.[188] My discussions in the field around these beliefs, meaning the perception of relative power in the market, similarly point to the power-benefits mismatch that underlies the conflict. Metered taxi associations view themselves as more powerful than ride hailing platforms, at least in the local context which matters to them. Flexing his muscles, a metered taxi driver explained to me that his mode is a force to reckon with in this market: that they are the ones with the ability to protect their territory and the ones with international precedence, the letter of the law, and the sympathy of law enforcement on their side. He touted their violent strategies to protect their territory, argued that ride hailing is not licensed to operate in South Africa (and that it is similarly banned in many countries around the world), and agreed that the police is on the side of metered taxis in this conflict.[189] Nonetheless, he explained, ride hailing platforms' backing by investors, especially from oil-rich Arab nations,

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[186] Adebayo, "South Africa: 'Who Stole My Passengers?' Uber Cabs, Metered Taxis and the Search for Common Ground."

[187] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 7.

[188] Khan, 7.

[189] Driver Interview 16, Bosman Metered Taxi Association, 2020.

leads them to the mistaken belief that they are a powerful force in South Africa. "Uber … doesn't want to talk to us," he explains. "They think they are the bigger guys… they think that they are smart. … They think they are powerful."[190]

Ride Hailing Perceptions of Metered Taxi Power

I have previously established that ride hailing drivers see metered taxi associations as relatively powerful. They express fear, exemplified by a driver saying that he "scared for [his] life",[191] of deference, exemplified by a driver saying that he "respects them" and that it would be "wrong" to violate their rules,[192] and extend a legitimacy and an authority to the metered taxi associations' motives and strategies. How could this lead to a mismatch in the perception of power between different market groups? This is because actors associated with ride haling do not share similar perceptions of metered taxi power. Specifically, there is a gulf between the perception of drivers, who are on the frontlines of this market contestation, and the platform executives, whose decisions about platform interface and algorithm design and security interventions enable the conflict, as I have established in the previous chapter.

Platform executives consistently view metered taxis as a waning industry and a weakening force in the market. A senior Uber policy executive based in South Africa laments that with the introduction of "e-hailing services, everyone is up in arms about that business [metered taxis] being killed" when that industry "was on a decline, anyway, after the [2010] World Cup."[193] Some Uber and Bolt drivers, despite fearing metered taxi violence and recognizing their power, may also view the industry as being on a downturn, even if it is not currently a weak player. They describe metered taxi associations as an industry incapable of attracting

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190 Driver Interview 16, Bosman Metered Taxi Association, 2020.
191 Driver Interview 22, Bolt, follow-up, 2021.
192 Driver Interview 30, Uber, 2021.
193 Uber Policy Director Interview, 2020.

business,[194] or even as a victim of unfair competition through artificially low prices set by ride hailing platforms, which is weakening the industry.[195]

Necessity of Contrasting Perceptions of Power

It is worth noting here that both ride hailing and metered taxi drivers consistently view the more heavily armed and more politically embedded minibus taxi industry as a powerful force, which partially explains the comparatively lower tensions between minibus taxis and other modes. That the parties mainly implicated in the conflict over market control do not agree on their relative power is not surprising, however; in fact, should they agree on a distribution of power and what it may entail for the distribution of benefits in the market then the conflict would not be necessary to engage in at all, because its outcome would predictable. While noting the challenge of precisely identifying the sources of power of each group contesting a political settlement, Khan points to the paradoxical nature of this information. If such information was accurate and common knowledge among the actors, "the chances of winning or losing could be more precisely estimated and most conflicts might never begin".[196]

In the conflict over defining a political settlement, Khan defines an institution's capacity to engage and survive such conflict—that is, its ability to impose costs on others and absorb costs impost on itself in turn, and ultimately achieve a distribution of benefits in its favour—as its "holding power".[197] In the contestation of the South African urban mobility market, metred and minibus taxi associations enjoy a marked ability to violently impose costs on their competitors without facing punishment from the state and with only minimal retaliation in kind from their ride hailing market competitors.

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[194] E.g., Driver Interview 13, Uber, 2020.

[195] Ride Hailing Activists/Drivers Interview 1, 2020.

[196] Khan, 7.

[197] Khan, 6.

On the other hand, ride hailing applications have been allowed to operate and carve out a large market for themselves in Gauteng. Despite metered taxi protests, they have not been banned. In fact, since their introduction to the country ride hailing platforms enjoyed a widespread ability to operate in a legal grey area, under charter licenses,[198] and in 2016 were issued operating licenses similar to those issued to metered taxis.[199]

What is the power being deployed in each of these cases? Determining the extent and the sources of the power enjoyed by each group is difficult, as previously noted. Fortunately, precisely quantifying the relative power of each group is not necessary, since my aim in observing the sources of power is to further clarify how the market is governed and contested, not to predict how this specific conflict will be resolved. In the following sections, I identify some of the sources of power at play in this market contestation.

[198] Gedye, "No Fare, Cry Uber Taxi Competitors."
[199] "Metered Taxi Drivers: 'We Don't Want Uber in SA.'"

5.2 Taxi Power

Violence, Embeddedness, and Societal Governance

Minibus and metered taxis derive much of their power from their client-patron network structure and their embeddedness in South Africa's political ruling class, though minibus taxi associations are significantly more powerful, organized, and politically connected. The taxi wars of the late apartheid and early post-apartheid era saw minibus taxi associations engage in conflicts over territories, organize themselves along ethnic and political lines, and substantially arm themselves. Associations aligned with the African National Congress (ANC) and the Zulu-dominated Inkatha Freedom Party (IFP) violently contested taxi ranks, routes, and commuter hostels, and were deployed to carry out violent attacks against rival political factions.[200]

Such clientelist relationships are still a predominant feature of South Africa's contemporary ANC-dominated political ruling coalition. The violent capacity of minibus taxis should not be understood as merely tolerated, overlooked, or helplessly observed by South Africa's ruling class; rather the violent industry is embedded within the ruling class and is useful to it for broader goals of societal governance. Take the example of the period of civil unrest that followed the imprisonment of former South African president Jacob Zuma for contempt of court in July 2021. This period of unrest, the worst South Africa has experienced since the end of apartheid,[201] was also fuelled by rising unemployment and economic inequality caused by the COVID-19 pandemic and saw hundreds of deaths as well as widespread looting of some commercial areas in KwaZulu-Natal and Gauteng. Minibus taxi associations took a leading role in the security response to this unrest. They formed barricades with minibus vehicles, protected shopping malls at

[200] Dugard, "From Low-Intensity War to Mafia War: Taxi Violence in South Africa (1987-2000)."
[201] "Where Does South Africa Go from Here?"

gunpoint, fired into the air to dispel crowds, and arrested, beat, and shot suspected looters.[202]

The role of minibus taxi associations during the July 2021 unrest has been described in the popular media as cases of "vigilantism".[203] I argue that the term is misleading since it implies violent crime-fighting activity carried out by the drivers in their individual capacities, obscuring the minibus associations' level of organizing and the essential role their organizational and lethal power provide South Africa's ruling political coalition. Far from spontaneous vigilantism carried out independent of government action, the evidence shows that minibus taxi associations responded to the unrest in an organized fashion and that governmental bodies relied on their capacities for law enforcement and crisis response. Abner Tsebe, the chair of the South African National Taxi Council (Santaco), articulated that the industry is mounting an organized response to the unrest and deploying taxi drivers and vehicles at locations in anticipation of unrest,[204] while Randall Williams, the mayor of Tshwane, the municipality of the country's executive capital of Pretoria, included the taxi associations among a number of organizations working to "prevent lawlessness".[205]

Like other clientelist societal structures, South Africa's patron-client networks, within which the minibus taxi associations are embedded, are based on the "exchange of organizational muscle and material benefits".[206] The exchange includes the associations' lethal and organizational power, exemplified by their role in the 2021 unrest, but also legitimacy and control of their slice of the urban mobility market. The taxi associations themselves see their seemingly disparate functions—

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[202] "South Africans Organise to Confront Looters"; Agence France-Presse, "Vigilante Bus Drivers Take on Looters in Riot-Hit South Africa"; Thomson Reuters Foundation, "South Africans Rally to Protect Property as Violence Rages"; "South African Protests for Zuma."

[203] Agence France-Presse, "Vigilante Bus Drivers Take on Looters in Riot-Hit South Africa"; "Vigilantism Grows in S. Africa as Citizens Tackle Unrest."

[204] Charles, "#UnrestSA."

[205] Henderson and Prinsloo, "As Rioters Overwhelm Police, South African Civilians Step In."

[206] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 63.

for example quelling unrest and providing rides—as perfectly compatible and self-reinforcing. Under South Africa's ruling coalition and political settlement, the governments' aims of suppressing riots, protecting private property, and maintaining political stability fully align with the taxi industry's business interests, in more ways than one. While they receive legitimacy and control of market institutions in exchange for their organizational (and sometimes lethal) muscle, taxi associations are directly self-interested in protecting the stability of their customer base, since taxi ranks are located in and around large centres of commercial activity. Bafana Magagula, Santaco's strategy manager, illustrates this alignment of interests as he explains why it is important for taxi associations to organize to preserve commercial institutions, combat looting, and prevent property destruction.

> Our plan is to make sure that our taxi drivers must protect the malls. Any structure that is demolished where large groups of people are working, we are losing [money]. … If we don't protect those structures, at the end of the day we will be out of business.[207]

Essential for their contestation of the mobility market, minibus taxi associations' organizational and lethal power, their respected status as law enforcers, and their embeddedness in South Africa's political ruling coalition are self-enforcing sources of power. These lead to governmental deference to them to regulate the market as they see fit and to market actors fearing them and recognizing their control over the urban mobility market. The provincial director of transport policy explains that violence and political power, which he calls 'influence', are mutually reinforcing weapons that taxi associations wield to have govern the market as they wish:

> It's the violence and they've also got a lot of influence. … It's a huge industry, so, with the politicians … they have the influence. … They can influence policy direction to say "No, we don't want this, say no!"[208]

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[207] Henderson and Prinsloo, "As Rioters Overwhelm Police, South African Civilians Step In."
[208] GP Transport Policy Director Interview, 2020.

Drivers—who are notably the actors who engage in the everyday contestation of the market—recognize, respect, and fear minibus taxi power. A driver I interviewed directly connected the minibus taxis' domination of the market to their lethal power—directed both against each other and against others—and their place in the country's ruling coalition, reinforced by acts such as quelling civil unrest. He started by contrasting Uber's tenuous influence over the market to the minibus taxi associations' control:

> Uber … don't have much of control… The minibus taxi guys, they've got much more control than everyone, than anyone in Johannesburg. Even the government, they never say a word.[209]

and then continues to substantiate this great control the minibus taxi associations exert through recounting how they "stopped the looting" in July 2021 and they continuously employ lethal power for market competition.

> Recently there was looting, ne? The taxi guys, they are the ones that stopped the looting. Remember? Here [in] … Joburg, some parts of KwaZulu-Natal, some parts of Eastern Cape, they said "Stop this shit!". They stopped. These ones, they shoot to kill! They are in full control, these guys. Themselves, they kill each other every day.

Though metered taxi associations do not enjoy the same "full control" over the mobility market, they retain key strongholds like the ones outlined above and derive their control from a mutually reinforcing combination of organizational, political, and lethal power, similar to minibus taxi associations but to weaker extent than the latter. My informants in ride hailing and the metered taxi industry claim that the state aligns itself with metered taxi associations and tacitly supports their defence of their territories, or at least turns a blind eye to their territorial violence. Ride hailing driver testimonies on the topic often describe the police's complete inaction when sought to intervene in bloody encounters the drivers face with

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[209] Driver Interview 27, Uber, follow-up, 2021.

metered taxi drivers.[210] Drivers often claim that they see evidence of law enforcement agencies "work[ing] with" metered taxi drivers,[211] and that the industry's violence, especially at Bosman Station, is "supported by the South African Police Service".[212]

Though not as essential to South Africa's ruling coalition as minibus taxi associations, metered taxi associations still retain organizational, political, and lethal power, are embedded in the country's clientelist networks, and enjoy the power to define market institutions as a result. Metered taxi associations themselves say that both the letter of the law and the political establishment are in support of their actions. An interviewed metered taxi driver explained that the police are "on [their] side" and that in Bosman Station specifically, an area with a large police presence, the police have full knowledge of the rules they are imposing. When asked how the rules came to be set, he said that they informed the local police station through a memorandum of the establishment of the informal institution and started stoning ride hailing vehicles to enforce the rules:

> We just [went] to the police station and we signed the letter: "Not allowed to drop and pick here." … And then also we fighting. We're stoning their cars.[213]

While the metered and minibus taxi associations have these three sources of power—organizational, political, and lethal—in common, it is important to note the relative difference in their power because it helps us explain their differing strategies of warding off competition from ride hailing. Though he recognizes "violence [and] influence" as sources of both minibus and metered taxis' ability to impose costs on their competitors with little or no punishment or retaliation, the province's director of transport policy clarifies that metered taxis cannot have their

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[210] E.g., Driver Interview 12, Bolt, 2020; Driver Interview 5, Uber, 2020; Driver Interview 4, Uber, 2020.

[211] Driver Interview 4, Uber, 2020.

[212] Driver Interview 10, Uber, 2020.

[213] Driver Interview 16, Bosman Metered Taxi Association, 2020.

way because of weaker political, organizational, and lethal power. Khan specifically lists the "numbers of people that can be mobilized" in addition to political power as essential to a group's ability to effectively impose and absorb costs in the contestation of a political settlement.[214] Compared to their minibus counterparts, metered taxis' organizational power is weakened by their smaller numbers, which leads to weakened political power and an inability to impose their vision of outright banning ride hailing platforms from the country:

> [Minibus taxis] can influence policy direction … but the metered taxi [industry] was smaller and they were sort of slower in terms of responding [to ride hailing market entry]. And some of them have moved from metered taxi to e-hailing. … [Still], they do have key strongholds, even the airport.[215]

Foreignness, Fairness, and Legitimacy

Metered and minibus taxi associations draw on popular and governmental perceptions of their legitimacy, an important source of holding power,[216] as they engage in this conflict. Power and legitimacy are mutually reinforcing, as the industries' lethal and political power lead to their being perceived as legitimate forces governing the market, while their legitimacy leads to their continued ability to impose costs on their competitors. Both modes promote their legitimacy vis-à-vis ride hailing by emphasizing their South Africanness and ride hailing platforms' foreignness. This can be seen, for example, in the metered taxi driver describing ride hailing as being backed by foreign investors and competing unfairly in the market as reason for banning it. A ride hailing driver recounted to me that metered taxi drivers, as they were stoning his car at a Gautrain station, explained to him that Uber should not be allowed to operate in the country because it is foreign and engaging in unfair competition:

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[214] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 6.
[215] GP Transport Policy Director Interview, 2020.
[216] Khan, 65.

> [Metered taxi drivers] said that Uber found them [already] here. They were operating before Uber. … They say that Uber doesn't have a license for transport here, [that] Uber is not [a] South African thing. It's for outside …, like America. Now they say [Uber, Taxify/Bolt] takes their job and that Uber is cheaper than them.[217]

The rhetoric of foreignness extends not only to the platform but to the drivers themselves, who count many more foreign workers among their ranks, mostly from surrounding countries, compared to the established taxi industries. This has elicited the introduction of draft labour migration policies at the national level proposing complete prohibition or quotas on the number of foreign workers employed in industrial sectors that explicitly include ride hailing, justifying such potential legislation through claims of unfair competition by the platform firms employment of foreign nations "willing to take anything for wages".[218]

In these statements and examples, we see that ideas of nativism, anteriority, and Africanness versus foreignness, are employed and combined with claims of artificially low prices, unfair competition, and rising unemployment to establish the metered taxi associations' legitimacy, delegitimize ride hailing companies, and justify their territorial violence and destruction of property. When asked whether it was fair to take the law into one's hand and stone ride hailing vehicles around Gautrain stations, a metered taxi driver laughed off the suggestion that it was unfair and explained:

> They're illegal. They are doing injustice to us. … Why would I do justice to them?[219]

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[217] Driver Interview 5, Uber, 2020.

[218] "Government Wants to Block Foreigners from Taking Certain Jobs in South Africa – Including Uber Drivers."

[219] Driver Interview 16, Bosman Metered Taxi Association, 2020.

Legitimacy of Violence

Minibus and metered taxis are additionally aided in their contestation of the market by a legitimacy extended to violence itself as a mode of governance. We have established how minibus taxi violence is legitimized and even sometimes seen as useful for establishing order in the market and in society at large, but have not shown the same for metered taxis. Violence carried out by metered taxis is read by both market actors and governmental officials as a legitimate form of market competition or alternatively as a form of protest against unfair market competition or unfavourable economic conditions. An Uber driver who previously worked as a metered taxi driver—albeit not for one of the large associations responsible for the violence, is full of empathy for his market competitors even when describing how they hit him with a blunt object on the head at Mall of Africa, leading to his hospitalization.

> I can't blame them much… as they're fighting mainly for their territory. And they're not realizing the way of making money, or maybe they are making money that way [by fighting for their territory]. But to me, from my experience, I used to work as a metered taxi driver. And I promise you, I was earning 2.5 a month.[220]

His understanding of the motives behind the violent tactics of metered taxi drivers betrays a market context in which violence is a legitimate mode of governance and enforcement mechanism for market institutions. In addition, he shows an understanding of the violence as protests against difficult economic conditions, exemplified by his past experience as a metered taxi driver and earning only ZAR 2,500 a month, less than USD 170 in late 2019 when the interview took place. Governmental bodies also read the violence as a type of protest from an embattled industry, and see it as an effective and legitimate form of protest since they are likely to listen to it. The provincial director of transport policy explains:

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[220] Driver Interview 13, Uber, 2020.

> [Metered taxi associations say:] "It's disrupting our industry, we're no longer getting customers." And they start protesting. And the way they protest is that they make it violent so that you listen to them quicker. So, the protest is [whatever] makes government react in any way; … the way [it] takes place here [is] in the form of … violent protest. So we take that as a protest. … Sometimes … they besiege roads [or] this building and say, "We have come to issue a memorandum" and we have to act on it. So it was not entirely … violence. [It is] also based on the memorandums that we've received. But obviously, the ultimate thing is that if there's violence and there are people who are dying, then that obviously … takes much more attention … and precedence [above] all the others. But really, it's about protest.[221]

Ride hailing platforms also draw on various types of legitimacy as a source of power, which I include in the next section on the sources of power wielded by ride hailing platforms in the South African urban mobility market.

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[221] GP Transport Policy Director Interview, 2020.

5.3 Ride Hailing Power

An analysis of the sources of power that ride hailing enjoys in the mobility market can help us explain why, despite calls for banning it from metered taxi associations, ride hailing platforms continue to operate and even expand. Metered taxi associations make it clear that they do not think ride hailing platforms are allowed to operate in the country, just like it is not allowed to operate in some other countries around the world:

> They are not licensed to work here. … You see, in London, they take away licenses. Germany, Brazil. Colombia, Singapore, they take their licenses all over the world.[222]

While the government allows the metered taxi industry to establish territories and spatial market institutions, and deploy violence to enforce them, the latter's calls to ban the platforms have fallen on deaf ears.

Economic Power, *Guerrilla Growth*, and Popular Reliance on Service

Even metered taxi drivers who believe that the government agrees that ride hailing platforms should be banned, lament that it is not doing enough to stop them from operating. Asked why the government is not enforcing its supposed ban on ride hailing operations, a driver explains that the government thinks that the public relies on the apps' services:

> The government … told us that these guys are illegal, but we cannot switch [off] their operation because the public … need them. So what is the alternative [to enforcing the ban ourselves]?[223]

Herein lies one of the main sources of power ride hailing firms deploy to avoid restrictive governmental regulation or powerful groups like metered taxi associations preventing them from operating completely: reliance on vast economic resources to achieve rapid growth and ensure that a large portion of the population

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[222] Driver Interview 16, Bosman Metered Taxi Association, 2020.
[223] Driver Interview 16, Bosman Metered Taxi Association, 2020.

relies on their services. A sizeable body of research on platform firms explains that they have become important shapers of urban political economic relations,[224] and have acted upon the belief that "changing the law is a material part of [their] business plan and vision for success".[225] Though "law" here refers mainly to a specific type of formal institutions, I extend the term to also include the informal institutions that constitute the market's norms and its enforcement mechanisms for violators of those norms, given the importance of informal institutions and the organization of informal power in clientelist political settlements like South Africa's.[226]

In such contexts, ride hailing firms seek to change the "law" as expressed through the informal institutions that govern the market. Researchers and commentators point out a variety of tactics that platform firm, including ride hailing companies, use to change laws and norms in their favour: chief among these strategies is "guerrilla growth",[227] also known as becoming "too big to ban".[228] We observe such tactics at play in South Africa, and note their effectiveness, given the metered taxi driver's account of governmental response to the question of why they do not enforce the ride hailing's purported ban and the provincial director of transport policy arguing that ride hailing should be allowed to operate because "it is working for people".[229] Economic strength and rapid growth to a large customer base constitutes a source of legitimacy for ride hailing firms, from which they draw the power to continue to contest markets.

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[224] van Doorn, "A New Institution on the Block."

[225] Pollman and Barry, "Regulatory Entrepreneurship," 383.

[226] Khan, "Political Settlements and the Governance of Growth-Enhancing Institutions," 8.

[227] Dougherty and Isaac, "Airbnb and Uber Mobilize Vast User Base to Sway Policy."

[228] Wohlsen, "Uber's Brilliant Strategy to Make Itself Too Big to Ban"; Pollman and Barry, "Regulatory Entrepreneurship," 400–401.

[229] GP Transport Policy Director Interview, 2020.

Perceptions of Technology, Modernity, and Development

Ride hailing firms also derive their power in the market from public perceptions of technology, modernity, and development. This takes a particular form in contexts like South Africa in which being perceived as adopting new technologies and welcoming foreign businesses is important for its status as an emerging economy. South African politicians and policy makers, especially in Gauteng, frequently counter calls for banning ride hailing by deploying a rhetoric of modernization and development. During the period of violent protests following the province's announcement of its intention to license ride hailing vehicles as metered taxis, Gauteng premier David Makhura vowed not to back down and reverse the process of legalizing ride hailing platforms, despite threats and protests by metered taxi associations. His statement directly connects Uber to a vision of a modern transportation system:

> We will not be deterred from building an integrated, affordable, and modernised transport system by any groups or individuals who want to use intimidation.[230]

The sort of rhetoric Makhura employs here is starkly similar to the one employed by Uber itself. Frans Hiemstra, General Manager for Uber in Sub-Saharan Africa, articulates a similar vision for Uber to expand and bring its modern and efficient technologies to shape the future of African cities that are "progressive" and "forward-thinking", attributes that South African cities certainly strive to be perceived as embodying:

> Uber's ambition is to be everywhere – any progressive, forward-thinking city that needs safe, reliable and efficient transportation, we want to be there.[231]

The rhetoric of technological modernity as not only a goal to strive for but an inevitability that cities need to accept and for which they should prepare is

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[230] "Metered Taxi Drivers: 'We Don't Want Uber in SA.'"
[231] Uber, "Sponsored Content: Uber Now Serves 80% of South Africa's Urban Population."

employed to justify not regulating Uber and encourage metered taxi associations to develop their own technological solutions. Joe Maswanganyi, then the national transport minister under Zuma's second government, responded to the taxi industry similarly to Makhura, by refusing to ban Uber and encouraging the taxi industry to build applications of their own. In doing this, he deployed language that constructs technological solutions such as Uber as modern, efficient, inevitable, and synonymous with the future, and the taxi industry's model as antiquated and doomed to failure:

> The taxi industry does not want Uber. I said to them, 'Why don't you digitalise your industry?' We can't resist change; we have to move with it. … The issue is technology. Young people like technology, and we need a South African solution. Assist us to bring the metered taxi business into a new era.[232]

Similar advice for taxi associations to adopt or develop their own digital solutions echo from transportation policy makers at the national, provincial, and municipal levels. The provincial director of transport policy conceives of the use of technology in the transportation industry as essential, and said that the provincial government's position has been to not impede technological solutions even if they mean a market disruption, conflict, and the metered taxi industry's decline:

> The provincial government has been really saying [to] metered taxis, "You are being disrupted! You need to change the way you do your business. It is not sustainable. You are not gonna last long. So if you are going to come to us and tell us that you've got your own app, we would've supported you and we could have … sort of regulated the other companies, but let you have a free rein. But no, you don't. And we want to see technology being introduced in transportation not only in metered taxis, but we want to see it everywhere else. So if [ride hailing

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[232] Mabena, "Uber Operators Must Apply for Operating Licences."

> platforms] are going to be the catalyst for the introduction of technology, then [so be it]."[233]

He elaborates:

> Look at this, [ride hailing] is introducing … a concept that can … revolutionize the way people move. [Provincial decisionmakers] said, … "Can we embrace it?" and "How can it work for us?". … The introduction of a certain technology and the introduction of a certain way of transporting people actually enhances the efficiencies in the system. So we decided, if it's gonna help, … let's watch it closely and let's monitor it and let's see where it goes.[234]

Here the idea technological progress, its transformative potential, and the promises of modernity and development it offers, are useful for ride hailing firms and constitute a source of power for them through which they are able to survive the market conflict, even over powerful groups like metered taxi associations who are able to deploy organizational, political power, and lethal power that ride hailing firms do not have access to.

Disruption and *Laissez-Faire* Ideology

Governmental emphasis on technology as a tool on the path to development and modernity also comes with a positive view of innovative disruption and its creative potential in the market. I find that policy makers often use a rhetoric of disruption similar to that used by technological firms themselves—one that encourages laissez-faire approach to market change. For example, the provincial director of transport policy explains that the province's attitude has been one welcoming of disruption, anticipating its benefits and being reluctant to interrupt its purportedly natural progress:

> The previous member of the Executive Council, the guy who actually manages transport in the province, he said, "Look, this is a disruption.

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[233] GP Transport Policy Director Interview, 2020.
[234] GP Transport Policy Director Interview, 2020.

> We are gonna take more of a *laissez-faire* kind of approach to it. This is a market, let it disrupt. … Let's see what happens. We are not going to stop it at this point in time." … Then, at a later stage we said "No, it's fine. Now that we've seen the benefits and the cost of it."[235]

Here transport policymakers in Gauteng reveal an ideological preference for non-intervention in the running of the market and ceding its control to private actors. They act on this ideology with respect to the disruption that ride hailing has caused in the market but also with respect to the violent institutions that metered and minibus taxis impose to govern the urban mobility market.

However, the idealized image of the free market is one that may be wielded for contradictory uses and even to justify intervention itself when a market force is perceived to disturb the market's freedom, in this case through violence. The logic of a *laissez-faire* approach to the market is one also held by ride hailing drivers, who use it not to oppose governmental intervention, but to call for it with respect to metered taxi violence, conjuring an idea of a market as a free, peaceful institution.[236] In their view, metered taxi violence is an aberration on what is otherwise a market in which customers are afforded the freedom to select the service they prefer between market competitors. For example, a ride hailing driver explains the motivation underlying ride hailing driver protests at the seat of the national government in Pretoria:

> We were protesting—we went to Union Buildings—about the taxi guys because they normally fight with us. It's like, we don't understand why! … They say we are taking their customers, [that] we are cheap … So it's like "how come?" Because there is a Rolls-Royce, there's Maserati—they sell cars—and there is Toyota. It's cheaper but you won't see the company that sells the Rolls-Royce to fight the Corolla company. Because in the end everyone goes to buy what they can afford.[237]

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[235] GP Transport Policy Director Interview, 2020.

[236] E.g., Driver Interview 10, Uber, 2020.

[237] Driver Interview 15, Bolt, 2020.

The driver's idealized image of the free market as one in which competing firms carve out different market segments, as in Rolls-Royce versus Toyota, disregards the fact that governments can, and do, regulate market segments and firms differently depending on the goods or services they produce and sell, or the manner in which they do so. For example, a government may elect to tax the luxury car market segment more heavily than the rest of the market, or tax foreign-manufactured vehicles more than domestically manufactured ones. However, in the political settlement of the South African urban mobility market, a non-interventionalist attitude to the market contributes to a dynamic in which ride hailing is allowed to operate unimpeded, deploying economic resources in a way that competitors argue is unfair and pushing drivers to fulfil potentially dangerous requests, and in which metered taxi associations continue to violently impose their territorial institutions to preserve their slice of the pie.

Chapter 6.
Power at Play:
Minibus Taxi–Ride Hailing Conflict

In explaining the role that violence plays in the market and the sources of power market actors draw upon in contesting it, I have thus far focused on metered taxi associations' response to ride hailing market entry and their governance of the urban mobility market through violent means. However, I have also shown that governmental bodies and market actors consistently see minibus taxis as the most powerful force in the market and as a crucial element of South Africa's political ruling coalition, which perhaps explains the lower level of violent conflict between them and ride hailing. In this chapter, I illustrate how power is exercised in the presence and absence of violent conflict using the divergent fates of two ride hailing services, Uber Bus and Uber Go.

In the case of Uber Bus, I show how minibus taxis' immense political, organizational, and lethal power is deployed to pre-emptively govern the market and ensure that ride hailing platforms do not affect taxis' share of the distribution of benefits in the market's political settlement. In contrast, in the case of Uber Go, I show how ride hailing platforms' economic strength is deployed to further contest the market, which creates space for competition and violent conflict with minibus taxi associations. In both cases, we see how questions of service design, pricing, and regulation go well beyond traditional market considerations in the South African urban mobility market, given the taxi industry's lethal capacity and essential role in broader societal governance in South Africa.

6.1 Different Modes, Different Customers

In one of my earliest driver interviews in early 2020, my interviewee first recounted to me metered taxi territories and market institutions and the consequences of violating these institutions as a ride hailing driver. I asked if minibus taxis—by far

the largest transportation mode in the country and a notoriously violent industry—posed a similar challenge. He laughed it off and explained that minibus taxi associations have a different customer base compared to ride hailing:

> These guys have a lot of customers. We don't have trouble with these guys […] because [their clientele] is not all people with apps on their phones and requesting.[238]

Other drivers confirmed this belief, by clarifying that minibus taxis were not a cause for concern for ride hailing drivers—at least to a greater extent than they are a concern in general.[239] The assumption underlying the lack of competition between the two modes is that minibus taxi customers are poorer and less likely to use the more expensive ride hailing services offered by Uber and Bolt. As such, minibus taxi associations did not perceive the ride hailing entrants as a significant threat in the same way that metred taxis did and did not cause trouble for Uber and Bolt drivers.

That is not to say that minibus taxi associations were not paying attention; quite the contrary.

6.2 Power and Pre-emptive Governance: The Case of *Uber Bus*

South African minibus taxi associations followed closely as Uber debuted its first fixed-route transit service, known as Uber Bus, in Egypt in 2018, and its first intercity transportation service, also in Egypt, in 2020.[240] These services highly mirror the ones offered by Egypt and South Africa's established informal minibus transit service, known in Egypt as the "microbus".[241] Uber Bus even makes use of the most popular microbus/minibus vehicle in both Egypt and South Africa, the 14-seat Toyota HiAce, known in South Africa as the Toyota Quantum. The service is thus designed to be a direct competitor to Egypt's equivalent of the minibus taxi

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[238] Driver Interview 2, Uber, 2020.

[239] Driver Interview 4, Uber, 2020.

[240] "Uber Launches Its Intercity Bus Service - A Global-First from Egypt"; "Uber Launches a Minibus Service 'Uber Bus' in Cairo."

[241] "Discover Uber Bus."

industry which, though large and similarly essential to the functioning of Egypt's largest cities, does not enjoy the power that the South African minibus taxi industry enjoys.

In the immediate wake of the 2018 announcement in Egypt, there were widespread concerns on South African social media about minibus taxis' violent reaction and a potential eruption of the already bloody taxi wars should Uber Bus come to South Africa.[242] Since 2018, this panic periodically resurfaces as South Africans continue to share their jokes and fears about the violence Uber Bus would unleash in South Africa. One such widely shared post features a photograph of Uber chief executive officer Dara Khosrowshahi standing next to an Uber-branded minibus, against a backdrop of the Pyramids of Giza, typically captioned with a warning that "Uber is picking a fight" or "starting a war with the wrong people".[243] So widespread is this resurfacing that it has elicited AFP's Fact Check team to publish an article clarifying that the viral posts are misleading and that Uber has no plans to introduce this service to the South African market.[244]

Uber's entry into fixed-route transportation was indeed perceived as a threat to the South African minibus taxis' business model, and the associations sought to ensure that Uber Bus would not be allowed to operate in South Africa. Gauteng's director of transport policy recounts that when the industry heard news of Uber Bus debuting in Egypt, they used the threat of violence and their influence, that is their lethal power and their embeddedness in South Africa's political ruling coalition, to ensure the platforms do not introduce similar services in South Africa and encroach on their turf, thereby threatening their share of the benefits in the market:

> We're in constant communication with our local taxi industry but as I said, there's a lot of violence in the taxi industry—serious violence. We're in constant communication about that to say "Look. It's coming.

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[242] Mavundza, "Uber Is Launching a Minibus Service in Egypt - and South Africans Are Worried."

[243] Chanté [@_Chanteh], "Uber Is Picking a Fight with the Wrong People Now"; Zarbs Teflon Don, "Uber Is Starting a War with the Wrong People."

[244] Dube, "Uber Has Not Announced Any Plans to Bring Its Bus Service to South Africa."

> Algorithms are gonna run our lives like no man's business here. So you have to be prepared for that kind of disruption."

> There was talk of Uber [competing with them]. I think Uber did something like that in Egypt particularly. … They'd done this ridesharing in Uber, more like the [minibus] taxis here, this 14 [or] 22 [seaters]. … So when there was that, the taxi industry came out and said, "No, we're not gonna allow that to happen [in South Africa]". [245]

Asked what tools they can wield to "not allow that to happen", he confirmed that it is their capacity for violence, their political influence and embeddedness in South Africa's political ruling coalition, as well as their large market share and the reliance of many South Africans on their services. "So, they can influence policy direction to say, 'No, we don't want this. Say no [to it]'," he continued. Through this statement he identifies that this combination of power sources enables minibus taxi associations to shape the urban mobility market, even pre-emptively so in the case of Uber Bus. Minibus taxis are in fact better suited to carry this out compared to the "smaller" metered taxi industry, which lacks the same power in the market and was "slow to respond",[246] even though they still exercise control over their territories.

For their part, Uber South Africa were quick to deny that they intend to introduce this service in South Africa specifically, responding to queries from concerned South Africans on Twitter:

> For those asking about Uber Bus - this was launched in Cairo, Egypt. We have no plans to launch this product in South Africa and we would never contemplate launching it without full industry engagement and support.[247]

In Uber's swift denial that they would not even "contemplate" launching such a service in South Africa, and in citing the necessity of "full industry engagement and

[245] GP Transport Policy Director Interview, 2020.
[246] GP Transport Policy Director Interview, 2020.
[247] Uber South Africa [@Uber_RSA], "For Those Asking about UberBus…"

support" prior to launching such service, we can see Uber's recognition of minibus taxi associations' relative power in the market and for what that power entails for the distribution of benefits in the market's political settlement. We also see the minibus taxi industry benefitting from the exercise of a pre-emptive market governance regime in a way that the "smaller" and "slower" metered taxis could not benefit from exercising. Indeed, Uber did not conduct a process of "full industry engagement" and secure metered taxi associations' support before rolling out their standard service in South Africa in 2013.

6.3 Guerrilla Growth, Pricing, and Conflict: The Case of *Uber Go*

Although Uber Bus has not come to South Africa, the COVID-19 pandemic and ensuing changes to Bolt and Uber's service offerings in South Africa have created an overlap and space for competition between ride hailing and minibus taxis. These service offerings have thus engendered the addition of an industry with a longer history of intense violence into the existing violence in the ride hailing market.

In late 2020, during the COVID-19 lockdown, Bolt and Uber introduced cheaper service offerings in select South African cities including Johannesburg,[248] in order to attract ridership during the pandemic and continue their growth. These services, named Bolt Go and Uber Go respectively, predominantly make use of smaller, hatchback vehicles,[249] as well as older vehicles that would otherwise not be accepted on the standard UberX and Bolt services.[250] Drivers praise these offerings for bringing back some demand for ride hailing during the pandemic,[251] and for enabling them to use cheaper, hatchback vehicles, which are more fuel-efficient and for some drivers cheap enough to buy as opposed to rent.[252] However, drivers also complain about reduced earnings due to the substantially lower fares charged on these services.[253] As one driver put it, "Bolt Go is many people, more rides, and less money".[254] Most of all, drivers worry about Uber and Bolt Go's potential for causing violent conflict with minibus taxis.

The COVID-19 pandemic presents a major challenge for the transportation industry, as its firms and workers contend with lower demand for its services. The "pie", or the benefits whose distribution market institutions and the political

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[248] "Ride with UberGo - a More Affordable Option at Your Fingertips!"

[249] Brown, "Bolt Go Can Be Cheaper than Driving Your Own Car - but Waiting Times Are Long, and Drivers Few"; "Uber Tests Cheaper New Option, with Trips Starting from R19"; "Here's Why Bolt Says It Has Launched a Cheaper Ride-Hailing Service in South Africa."

[250] Ride Hailing Activist/Driver Interview 2, 2021.

[251] E.g., Driver Interview 27, Uber, follow-up, 2021.

[252] E.g., Driver Interview 29, Uber, 2021.

[253] E.g., Driver Interview 24, Bolt, 2021.

[254] Driver Interview 31, Bolt, 2021.

settlement decides, became smaller. In the South African context, platforms chose to address this challenge with even more investment and cheaper services that would ensure continued growth. Despite the importance of the COVID-19 pandemic to these service changes, they are best seen in the broader context of decreasing prices in ride hailing in South Africa and in developing contexts more generally; for example the "smaller, smarter, [and] cheaper" Uber Go service was first introduced in South Asian markets long before it was introduced in South Africa.[255] When it started in South Africa in 2013, Uber's minimum fare was ZAR 85[256] or USD 8.37 (equivalent to ZAR 119 or USD 7.65 in November 2020, adjusted for South African inflation). When Uber Go was launched, the minimum fare on the platform dropped to ZAR 19 or USD 1.22 at the time.[257] This represents a significant decrease of decrease of 78 per cent or 84 per cent when adjusted for inflation. This means that short trips in particular have dramatically decreased in cost to riders since ride hailing's introduction, progressively increasing the potential for competition with minibus taxis.

In the pandemic period subsequent to the introduction of Uber Go and Bolt Go, drivers started reporting more regular clashes with minibus taxi drivers. Minibus taxi violence against ride hailing drivers also made the news for the first time: a case of an Uber driver who was "flogged" and had his money taken by minibus taxi drivers when attempting to transport a passenger in Katlehong, one of the largest townships in Gauteng.[258] Driver interviews during the pandemic also contrasted significantly with those before it, which dismissed minibus taxis as not posing trouble for ride hailing drivers. The rise in violence by minibus taxis against ride hailing appears in my 2021 fieldwork. One driver said that unlike before the pandemic, the "minibus taxis sometimes give you trouble if you go near their rank"

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[255] Team Uber Hyderabad, "UberGO Is Officially the Cheapest Ride in Town."
[256] Wilson, "Taxi! Uber Lands in SA."
[257] "Uber Tests Cheaper New Option, with Trips Starting from R19."
[258] Fokazi, "Uber Driver Attacked in Katlehong by Taxi Association Members."

and that they now "get violent [with Ubers] too".[259] Another reported that metered taxis are now enforcing new market institutions which bar ride hailing drivers from picking up in much of the central business district in Pretoria, and that it has had the effect of leading him to avoid the entire central business district in the city out of fear of clashes with the incredibly violent industry:

> They don't want the pick-ups in town [Pretoria CBD]—there are certain places where you shouldn't pick up but I prefer to … avoid town [entirely] … to [avoid] fight with them. It's like that industry they got a lot of violence. So I'm trying to avoid violence at all costs. A taxi driver can just take a gun and shoot you just like that. Just like that. So I'm trying to avoid such things. … When you go there they fight because it seems like it's their territory. [260]

He further clarifies that similarly to the territorial institutions imposed and violently enforced by metered taxi associations, minibus taxi associations have started to defend areas of the city where they have informal taxi ranks as their own territory:

> It's as if [the entire CBD] is a taxi rank because that's where they park, people come, and get inside the car. So that's why they fight.[261]

Another driver described a confrontation with minibus taxi drivers at the main commercial area in Silver Lakes, a predominantly white residential suburb east of Pretoria. He recounted how he was stopped while trying to pick up "three women working for Checkers [supermarket]" by minibus taxi drivers who threatened him to not pick up passengers there, since he would be competing with their services that transport workers to Mamelodi, one of the largest townships in Gauteng.[262]

The data suggests that the number of passengers in this Silver Lakes incident constitutes a key part of the market institution at play and a key part of the

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[259] Driver Interview 19, Uber, 2021.
[260] Driver Interview 26, Bolt, 2021.
[261] Driver Interview 26, Bolt, 2021.
[262] Driver Interview 31, Bolt, 2021.

potentially violent conflict the institution's violation provokes. Another driver argues that new market institutions imposed by minibus taxi drivers deal not only with proximity to taxi ranks—as with metered taxi associations—but also, importantly, with the number of passengers being picked up near their ranks. Ride hailing drivers may be free to pick up a single passenger, but are seen as competing with minibus taxis if they attempt to pick up more than one:

> The problem is if you... go close to a [minibus taxi] rank, you pick maybe three people or four people, it's when they're gonna give you a problem. But if I go close to the rank and I pick two people or one [person], I don't have a problem.[263]

The interaction of service options, pricing, number of passengers, and minibus taxi violence is one that drivers are acutely aware of and readily refer to in pandemic interviews. A driver claimed that Bolt and Uber will cause widespread market conflict because of their introduction of Uber and Bolt Go, and that the situation would further escalate with DiDi's then-imminent market entry and expected lowering of prices through market competition between ride hailing firms. (DiDi has since entered and exited the South African market.)

> They want to cause a big fight here now. It's going to be a big fight, a competition. And I know DiDi when they arrive here … the price is gonna be [even] cheaper. So it means that I [as a customer] can't take the [minibus] taxi while there's an app. There's a platform with cheaper [service] than the taxi.[264]

Another driver reminded me that in addition to territory, metered and minibus taxi associations are deeply concerned with pricing, since they view ride hailing as competing unfairly through artificially lowering prices and subsidizing rides to grow their market. He claims that the introduction of Uber Go and Bolt Go certainly angers the taxis, since it is a cheaper service option for customers:

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[263] Driver Interview 30, Uber, 2021.
[264] Driver Interview 30, Uber, 2021.

> Remember the nature of the fight for taxis? Remember they say Uber is too cheap. That's the nature of the fight. At some point they wanted to… say Uber must have the same price as metered taxis. So now, [ride hailing platforms] introduce another less [expensive service]. So obviously it frustrates them. So obviously it affects the Quantums. It makes them angry.[265]

To illustrate how pricing can create space for violence, he gave an example of a short trip which in a minibus taxi charges a flat, per-person fare, highlighting the importance of the number of passengers being picked up to market competition and associated institutions. A minibus taxi ride can be more expensive than one using Uber Go or Bolt Go, whose fares are distance-based but do not increase when the requester has more than one passenger in their party:

> Remember also [for] the Quantum guys, with Uber Go, even a taxi is more expensive than Uber Go. It's 15 rand, ne? The [shortest] trip for Uber Go.[266] So if three people or four people come in the car, and they're going a kilometre away, they'll pay how much? 3.50 rand [sic[267]]. And that's far cheaper [because] with Quantum you can still pay 20 rand [for a short trip].[268]

In this scenario, sharing an Uber or Bolt ride for a short trip can be substantially cheaper than taking a minibus taxi, traditionally the most affordable transportation mode in South Africa. In 2018, the average minibus taxi fare was ZAR 16, and they have since risen.[269]

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[265] Driver Interview 27, Uber, follow-up, 2021.

[266] Uber Go's minimum fare at the time was ZAR 19 but could be as low as ZAR 15 with discounts. Bolt Go fares went as low as ZAR 15 (slightly under USD 1 at the time of the interview). "Uber Tests Cheaper New Option, with Trips Starting from R19."

[267] Actually ZAR 3.75 assuming four passengers sharing the Uber Go.

[268] Driver Interview 27, Uber, follow-up, 2021.

[269] Wasserman, "The State of SA's Minibus Taxi Industry."

6.4 Violence, Power, and Service Decisions

One would expect ride hailing drivers to think through the potential impacts of the introduction of new services like Uber Go and Bolt Go using traditional market considerations—for example thinking about the impact on their income and worrying about the impact of lower fares or seeing promise in the potential for higher trip volumes and fuel economy. Here, however, we see that avoidance of competition is a salient consideration drivers have when confronted with service and price changes, given the taxi industry's power. Fears about the potential for increased conflict with an especially violent industry take priority over traditional market considerations, another example of violence's important role in structuring and governing the South African urban mobility market.

While I have shown that this is certainly case with drivers, platform executives vary in the extent to which they take violence into account when planning and rolling out these service offerings. They certainly did not in rolling out Uber and Bolt Go, similarly to how, as I have shown in Chapter 4, they do not think that driver safety is their responsibility and do not take violence into consideration when making decisions about the platform interface and algorithm that affect driver safety. However, the platforms' response to the controversy created in South Africa by Uber Bus's introduction in Egypt shows that they do take market conflict and violence into consideration when deciding on service, perhaps when they know that the introduction of a specific service could threaten their continued operations in the country.

Market competition here creates new forms of violence because it is seen to violate informal market institutions or to elicit the creation of new institutions. The institutions in question here may have pre-existed the Uber Go and Bolt Go service offerings in that drivers knew not to compete with minibus taxi drivers, but the creation of the new, cheaper service options rendered the norms more easily challengeable and created a need for them to be violently enforced. Hence, we see the establishment of new, more specific institutions about ride hailing drivers not

being allowed to pick up passengers near minibus taxi ranks, especially if picking up more than one passenger at a time.

The examples of Uber Bus and Uber Go/Bolt Go illustrate how platform firms and the taxi industry deploy their power to contest and govern the urban mobility market. The minibus taxi industry's organizational, political, and lethal power and widespread societal recognition of their power and legitimacy lead to a market context in which they can govern the market and pre-empt the introduction of services that directly compete with them. It is also a market context in which Uber claim they would "never contemplate launching" a service that directly competes with them, like Uber Bus, "without full industry engagement and support".[270] However, as we see in the case of Uber and Bolt Go, ride hailing firms enjoy substantial economic resources, and the ability to make dynamic changes to service offerings and use low prices to continue their growth and to impose costs on their competitors, creating space for violent conflict between their drivers and minibus taxi associations.

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[270] Uber South Africa [@Uber_RSA], "For Those Asking about UberBus…"

Chapter 7.
Conclusion: The *Invisible Hand* or the *Handgun*

Market violence is not new. It is pervasive across many contexts and over time, but a few centuries of theoretical frameworks in economics and political economy have obscured the role it plays. This work contributes to political economic literatures by inserting violence into the academic study of how markets are structured and governed.

Contrary to traditional conception of markets as creating peace, this thesis shows that the introduction of markets can engender old and new forms of violence. Further, violence cannot be dismissed as an aberration on the functioning of an otherwise peaceable market or a temporary adjustment cost during the technological disruption brought about by ride hailing forms. Rather it is understood by participants as forming part of the set of rules and norms which structure the market and govern it. Though Adam Smith's popular metaphor would have it that a market economy achieves a societally optimal equilibrium through the actions of self-interested individuals, here we see that markets can be maintained not by an *invisible hand* but often through market actors' exercise of intimidation and lethal power. Specifically, in the ride hailing market in South Africa and the urban mobility market more generally, violence plays a central role in the enforcement of the territorial institutions that govern it.

Through applying the political settlements framework to the context of a specific market, this thesis explains how a violent market conflict emerges and expands the uses of the framework beyond the macro level of analysis for which it was conceived. Further my use of the framework clarifies the sources of power belligerents rely upon in contesting the market's political settlement and proposes a typology of power that explain how ride hailing platform firms and taxi associations impose costs on each other.

Considering violence and lethal power is not just a matter of the theories and conceptions of markets; it has broad implications for how markets function: for the service experienced by consumers, for the type of governmental regulation that is possible, and certainly for the working conditions and livelihood of workers. As I have shown, taking violence into account is what market actors do, when presented with service changes or when thinking about their relationship to the technological interface that enables their work.

Ride hailing is certainly not the first innovation in the urban mobility market, and it will not be the last. With the creation and spread of new technologies and markets, in urban mobility and beyond, we contend with their effects and how to regulate them best to achieve economic and equitable outcomes. In debates and in planning, we would do well to adopt a broad and empirically based view of the forces governing these markets and how they function in different contexts; in short, an understanding of how they actually work.

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Appendices

Interview Instrument for Ride Hailing Drivers (2019-2020)

[Read introductory text to driver]: *I am a researcher the Massachusetts Institute of Technology in Boston, MA, in the United States. We are conducting research on ride hailing drivers, and I was wondering if we could ask you some questions about your job during our ride together. Whether you say yes or no, I will give you a five-star rating. No matter how you answer the questions, I will give you a five-star rating. We are looking for honest, accurate answers. Your answers will be completely anonymous and your identity unknown. Is this OK with you?*

Do you mind if I record this conversation for the purposes of transcribing it later? This is optional, and the recording will not be shared beyond the group of researchers conducting this study.

Introductory/demographic questions

1. Tell me a little about yourself. Where are you from?
    a. Probe for: whether driver grew up in the city, and if not where they are from? (rural migrant or migrant from another country?)
2. Are you married? Do you have any kids?

Questions about [Uber, Taxify/Bolt]

Work and previous work experience

3. How long have you been driving with [Uber, Taxify/Bolt]?
4. Do you have other jobs at the moment, or is [Uber, Taxify/Bolt] your only job?
    a. If driver has other jobs at the moment probe for what other jobs the driver has.
        i. Is [Uber, Taxify/Bolt] your primary job/income source?
5. What were you doing before driving with [Uber, Taxify/Bolt]?
    a. Probe for whether they were a driver prior to working with [Uber, Taxify/Bolt]. If so, how long have they been working as a driver?
    b. Probe for the number of jobs that driver has held in the past 5 years.
    c. How long were you in your most recent job before working with [Uber, Taxify/Bolt]?
6. How many hours do you work each week with [Uber, Taxify/Bolt]?
    a. Is this the same, more or less than your previous job?

7. When do you usually work with [Uber, Taxify/Bolt]?
   a. Probe for days and times of day.
8. Why did you start working with [Uber, Taxify/Bolt]?
   a. Probe for motivations and goals.

Precarity

9. How do you feel about the income from driving?
   a. How much money did you make last week working with [Ube, Taxify/Bolt]?
   b. Was that a typical weekly amount?
10. Do you make more working with [Uber, Taxify/Bolt] than you did in your previous job?
    a. [If driver works multiple jobs] What about compared to the other jobs you have right now?
11. Is this enough to meet you and your family needs?
12. Do you have any benefits with [Uber, Taxify/Bolt], such as auto insurance or health insurance?
13. Have fares ever increased or decreased while you've been working with [Uber, Taxify/Bolt]?

Control

14. Are you driving for yourself or do you work for someone else?
    a. [If driver works for someone else] Do you receive a wage?
15. Do you own this vehicle? [If not] How did you get this car/motorcycle?
    a. Probe for whether they lease the vehicle and if so, who is the owner.
    b. Did [Uber, Taxify/Bolt] give you the lease for this vehicle?
16. Is this your personal phone or was it leased from [Uber, Taxify/Bolt]?
17. Do you see yourself as an independent businessperson?
18. Do you have more or less freedom/autonomy working with Uber than you did in your previous job?
19. What guidelines has [Uber, Taxify/Bolt] given you about what you can or cannot do as an [Uber, Taxify/Bolt] driver?
20. Can you drive anywhere in the city? Do you set your own driving routes? Has [Uber, Taxify/Bolt] given you any restrictions on your mobility?
21. Have you had any other communication with [Uber, Taxify/Bolt]?
22. Do you see [Uber, Taxify/Bolt] as a means to building a business (i.e. leasing a vehicle and employing other drivers)?

Market Entry/Exit

23. How did you learn about [Uber, Taxify/Bolt]?

24. Was it easy to sign up/register for [Uber, Taxify/Bolt]?
25. Is there anything that makes it difficult to sign up for [Uber, Taxify/Bolt]?
    a. Probe for whether you need a smartphone and whether you need to know somebody.
26. [If had a previous job as a driver] Was it easier or harder to sign up for [Uber, Taxify/Bolt] than it was to sign up for your previous job?

Market organization

27. How did you pick up your last customer? Was this similar to how you normally pick up customers?
    a. [If had a previous job as a driver] Is this different from how it worked in your previous job?
28. Do you have the ability to choose your own routes?
    a. [If had a previous job as a driver] Is this different from how it worked in your previous job?
29. Do you normally wait for customers in a single place? Are there any restrictions to where you wait for passengers or can you wait anywhere?
    a. Do you wait in a group of people or on your own?
    b. [If had a previous job as a driver] Is this different from how it worked in your previous job?

Labor Organization

30. Do you know a lot of other [Uber, Taxify/Bolt] drivers?
31. How do you communicate with other [Uber, Taxify/Bolt] drivers?
    a. Probe for type of communication such as in-person, via text, etc.…
32. Do you discuss challenges and opportunities of working with [Uber, Taxify/Bolt] with other drivers?
33. Do you ever organize to make requests or demands of [Uber, Taxify/Bolt]?
    a. [If had a previous job as a driver] Did you do this in your previous job?
34. [If yes to previous question] How do you organize with other [Uber, Taxify/Bolt] drivers?
    a. Probe for whether drivers organize
        i. Electronically (e.g. WhatsApp),
        ii. In person (e.g. where you wait for customers?)
        iii. Other…? [other spaces where you meet with others from your region/etc..]
35. Have you ever engaged in a protest against [Uber, Taxify/Bolt]?
36. What is your relationship to normal taxi drivers like?

Satisfaction with ride hailing platform [Only ask if these have not been covered in the previous questions]

37. How satisfied are you with working with [Uber, Taxify/Bolt]?
    a. Probe for why?
    b. Is this better or worse than your previous job?
38. What do you like the most about working with [Uber, Taxify/Bolt]?
39. What do you dislike the most about working with [Uber, Taxify/Bolt]?
40. Do you plan to continue in this job for the foreseeable future?

Other

41. Is there anything else you'd like to say that we haven't talked about?

COVID-19 Follow-up Interview Instrument (2021)

This instrument is intended to be used with South African drivers who have previously volunteered their contact information after an initial semi-structured interview carried out in early 2020 before the pandemic. It is to be additionally used as an addendum to the semi-structured interview instrument previously used (while tailoring the questions to the South African context). Before each follow-up interview be sure to read previous interview transcript.

1. Work and Income
   a. [when unclear] Are you still working as a driver?
   b. Have you considered leaving the industry, or are you planning on it? Why/why not?
   c. How is work? How has your income changed?
   d. Have you taken up any other jobs in the meanwhile?
   e. How many hours do you work? How has that changed?
   f. What do you do in the off-time? How has that changed from before COVID?
   g. Have you changed your routine regarding where to go, what requests to accept, what periods to work?

2. Territories and Violence
   a. How safe do you feel in your work? Has that changed with the pandemic? In what way?
   b. Have you had any issues with taxis? Has that changed with the pandemic? In what way?
   c. Where are you allowed to work and where are you not? Any changes with the pandemic?

3. Supply and Demand
   a. How many requests do you get? Fewer than before? Why do you think there has been a change in the number of requests? [Probe for role of driver supply]
   b. How do you feel about the number of drivers on the platform? Has the platform stopped on-boarding drivers?
   c. What do you think the government or the platform needs to do?

4. Platform and Labour Activism
   a. Has the platform (Uber, Bolt/Taxify) been in contact with you with respect to the pandemic?
   b. Do you know of any demands made on behalf of affected drivers? The platforms' response?
   c. Are you involved in any activism or union activity with other drivers?
   d. WhatsApp and Facebook groups? What is happening on them?
   e. Anything else they're doing to address these issues?

5. Vehicle Ownership
   a. Do you own your own vehicle? Are you making payments/renting the vehicle?
   b. [Probe for financial arrangement and vehicle financing companies enabling vehicle access]
   c. [If relevant] Have you been able to make your payments/Has you ability to pay to drive your vehicle changed?
   d. [If relevant] Have you tried to renegotiate the vehicle rent with your partner? What is the partner's relationship to you? How has it changed with the COVID crisis?

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