

**Using Platform Governance to Address Societal Challenges:
Safeboda's Impact on Traffic Safety in Kampala, Uganda**

ABSTRACT

We examine the comparative effectiveness of platform governance to orchestrate a solution to a societal challenge. Motorcycle taxis are a pervasive, convenient, yet extremely dangerous transportation mode throughout the developing world. We explore three attempts to reduce traffic casualties in Kampala, Uganda: public regulation; industry self-regulation; and platform governance by Safeboda, a ridehailing app platform. In this setting, Safeboda has outperformed government and industry associations in reducing traffic deaths and injuries. We link this case to theory on public vs. private governance, and identify circumstances in which private governance is likely to be comparatively effective at addressing grand challenges.

Keywords: Platform governance, regulation, transportation, ridehailing, traffic safety

INTRODUCTION

As platform-based businesses have become more prevalent across a range of economic activity, there has been a concomitant increase in research on platform owners' strategies (Jacobides, Cennamo, and Gawer, 2024). One crucial feature of such strategy is platform governance: whom to include, what prices to charge, and what behaviors to encourage or disallow. These decisions bear striking resemblance to the decisions made by public regulators in regulated industries (Boudreau and Hagiu 2009). We propose that a platform owner can be conceived as a regulatory body overseeing activity on its platform. This literature has focused primarily on how a platform owner can elicit behavior that enhances either the overall value created by the ecosystem or the value captured by the platform owner (Chu and Wu, 2021; Rietveld, Seamans and Meggiorin 2021). Yet in principle a platform owner can use this regulatory function to encourage socially beneficial behavior by complementors as well (Ritala 2024).

A related literature compares the effectiveness of self-regulation by a platform owner with government regulation of that platform (Cusumano, Gawer, and Yoffie 2021; Parker and Van Alstyne 2018). A key insight is that although the platform owner's incentives are likely to be more private-welfare centered than social-welfare centered, the platform is likely to have a wider range of tools at its disposal with which to influence complementor behavior, and to have a better understanding of how to elicit desired actions. In principle, this suggests that not only might a private platform be able to encourage socially beneficial behavior from complementors, but it may be better able to accomplish this than alternative arrangements such as public regulation.

In this paper, we engage in a qualitative study to explore one example where this appears to be borne out: the motorcycle taxi industry in Kampala, Uganda. Motorcycle taxis, known as boda bodas in Uganda (or bodas for short), are a common mode of transportation. There are an estimated 300,000 bodas operating in Kampala (Energypedia 2023). Bodas fill a crucial gap in Kampala's transportation system, and also provide work to large numbers of impoverished Ugandans with few other employment prospects. But bodas are staggeringly dangerous: they are involved in thousands of traffic accidents annually, and a disproportionate amount of Kampala's

hospital resources are consumed by boda-related injuries (Bagenda et al. 2015). The overwhelming evidence is that this is due to reckless driving, albeit occasionally egged on by impatient passengers. Although Uganda has regulations requiring all vehicles to be registered and all drivers to be licensed, these regulations are not enforced: boda drivers typically begin to drive as soon as they get access to a motorcycle, with no training, license, or vehicle inspection.¹

In 2002, 2008, and 2013, the Kampala municipal government tried to enforce existing regulations of boda drivers regarding vehicle registration and driver permits. These efforts were met with violent riots, strikes, and (in two cases) intervention by Ugandan President Yoweri Museveni. In each case the municipal government retreated. In 2014, Kampala tried an alternative approach, encouraging the city's largest voluntary association of boda drivers to self-regulate, whereby the association would enforce registration, permitting, and some traffic safety rules. The association's leaders allegedly used this power to extort money and equipment from drivers, especially those attached to other boda associations. When these leaders were arrested in 2018 for crimes unrelated to these activities, jubilant drivers celebrated by burning down the association's headquarters (Daily Monitor 2018). Hence, self-regulation by the association was not successful.

In 2015, the Kampala-based startup Safeboda launched operations. Safeboda was an app-based ridehailing firm, akin to Uber except for bodas rather than cars. Of particular note, Safeboda required all drivers on its platform to be registered and permitted, to undergo two days of road safety training, and to observe traffic laws while on the job. Further, through the power to exclude "defectors" from the platform, Safeboda was able to enforce these behaviors. By the onset of the COVID pandemic, the firm claimed to have signed up nearly 15,000 drivers and to have run more than 5 million trips, while experiencing only a single fatality (interview with Safeboda's Head of Operations). Arm's-length scholarly research has found that Safeboda drivers

¹ This problem pervades much of the developing world. Research on motorcycle taxi safety has documented similar issues throughout many Africa (e.g., Nguyen et al. 2018), Asia (e.g., Nguyen-Phuoc et al. 2019), and South America (e.g., Ospina-Mateus, Jimenez and Lopez-Valdes 2021). Relatedly, in 2020 the United Nations embarked on a campaign to halve traffic deaths by 2030 as part of UN Sustainable Development Goal 3.6 (Global Ministerial Conference on Road Safety, 2020).

are far less likely to engage in unsafe driving behavior than other boda drivers (Muni et al. 2019, 2020). Although the COVID pandemic badly disrupted the firm's fortunes – not least because it triggered government policies and messaging that damaged the firm's approach – there is modest evidence that Safeboda's efforts have reduced traffic deaths/injuries in Kampala and hold promise for improving traffic safety in Uganda and elsewhere.

This paper offers three contributions to the literature. First, given current debates about the appropriate roles of public and private actors in addressing grand challenges, we help to illuminate the relative ability of private firms to orchestrate technology-based solutions to widespread social problems. In particular, a platform's power of exclusion can buttress an effective private institution, which may be particularly valuable in the absence of strong public institutions (Ingram and Silverman 2002). Second, we contribute to fleshing out the role of a platform as regulator, connecting this more firmly to social issues rather than implicitly or explicitly assuming that the for-profit platform is focused solely on private gain. Third, we contribute to the recent literature studying interactions between platform governance and government legal/regulatory governance (e.g., Koo 2019; Liu and Weingast 2018). In particular, Liu (2024) demonstrates how the Chinese government has deliberately “outsourced” the creation of certain institutions to platform-based businesses such as Taobao; our analysis demonstrates a situation in which such outsourcing may be less favored by the government, thus hampering private management of institutions.

In the next section, we discuss prior research on platforms as regulators, including comparative analysis of the relative effectiveness of platform-based regulation vs. public regulation. After that, we turn to analysis of the boda industry in Kampala, starting with a brief history of the industry, then discussing the different attempts at regulation, and finally providing description of Safeboda's operations and impact. This analysis relies on published traffic statistics, archival data, and numerous interviews conducted in Kampala (eight boda passengers; 12 boda drivers, two of whom currently drive with Safeboda and two of whom formerly drove with Safeboda; and nine executives at Safeboda). We alternate between description of events and

our interpretation of these events, in order to keep facts and interpretation separate. The paper then concludes with a brief discussion.

THE COMPARATIVE EFFECTIVENESS OF PLATFORM GOVERNANCE

The rise of platform-based businesses over the last two decades has disrupted many sectors of the economy. Such businesses allow for a wide set of arrangements regarding asset ownership, interfirm collaboration, and incentives that fall outside the conventional set of market, alliance, and hierarchy modes. Not surprisingly, there has been an explosion of scholarly research to illuminate key features of platforms and to inform theory based on these features.

One prevailing view is that a platform-based business can be conceived as a meta-organization that orchestrates the actions of formally independent parties to overcome market failures and hence create value (Chen et al. 2022; Kretschmer et al. 2022). Although the platform owner cannot formally order complementors to undertake specific actions with the authority available within a hierarchy, the owner can encourage such orchestration through the governance power inherent in the platform – essentially, as the entity that typically has decision rights concerning participation on the platform as well as control over the communications that occur among platform participants, the platform owner can provide carrots and sticks to elicit desired action from the ecosystem’s parties.

Much research has focused on platform owners’ use of platform governance, primarily on decisions regarding access to the platform, pricing of access and of products/services offered through the platform, and quality standards (Teh 2022; Wareham, Fox and Cano Giner 2014). As Boudreau and Hagiu (2009) note, with these decisions, a platform owner essentially serves a regulatory function, making decisions that are analogous to those made by public regulators in other settings. The bulk of research in this area focuses on how a platform owner uses such regulatory power to enhance the total value created by the platform-based ecosystem, or to increase the value captured by the owner itself. Restricting access can increase overall quality of service provision, either by enhancing network effects for the available complements (Casadesus-

Masanell and Halaburda 2014) or by eliciting greater effort from those complementors who are admitted to the platform (Chu and Wu 2023). Pricing decisions, both for access to the platform and for the services/products offered, can significantly affect platform growth and success (Hagiu 2006; Parker and Van Alstyne 2005). Direct monitoring of quality can enhance customer satisfaction (Kretschmer et al. 2022). In addition, platform owners may selectively promote or certify a subset of complementors; this can be used to enhance the value created by the ecosystem (Rietveld, Schilling and Bellavitis 2019) or to signal to complementors what types of effort are desired by the platform owner (Rietveld, Seamans and Meggiorin 2022).

An explicit assumption of most of this research is that a platform owner will use its regulatory power to maximize its profits or the private welfare of actors participating in its ecosystem. However, in principle a platform owner can use platform governance to contribute to social welfare. In particular, if platform governance can enforce or encourage public-good-supporting actions by complementors that would be difficult to elicit otherwise, then platform orchestration can enhance social welfare (Ritala 2024).

How does platform governance compare with public regulation to achieve relevant aims? On one hand, a platform has the advantages of better information and a wider range of levers when trying to manage complementors' behavior. A public regulator is typically limited to fairly broad entry, pricing, and quality levers that apply to all actors, and frequently must exercise these based on a constrained set of information provided by the regulated entities (Bottega and de Freitas 2009). In contrast, the platform owner can tailor its actions in a more fine-grained manner, based on a more continuous flow of more detailed information (Parker and Van Alstyne 2018). On the other hand, if the platform owner seeks to maximize personal gain while the public regulator seeks to maximize social welfare, then government actors have greater incentive to address social concerns (Cusumano, Gawer and Yoffie 2021). As Coglianese and Mendelson (2010: 153) note, "even though businesses have better information to find solutions to public problems, they do not necessarily have better incentives to do so." Thus, many scholars conclude that public regulation is generally superior to private regulation, including platform governance.

Yet there are reasons to be skeptical of this. The public choice literature is replete with theoretical and empirical examples of “regulatory failure” – instances in which government actors fail to achieve the results predicted by models of idealized government action. These include regulatory capture, in which decisions end up favoring particular special interests (Laffont and Tirole 1991; Blind, Peterson and Riillo 2017); career concerns, in which bureaucrats pursue post-government career-enhancing actions rather than focusing on social welfare (Hong and Kim 2017; Spiller 1997); and pressure from elected officials to favor particular parties (Hegde 2009). In the latter case, regulated parties may lobby elected officials or other public actors who hold “pivotal” power in public decisionmaking, relying on these officials to influence regulatory decisions (Krehbiel 1999; Holburn and Vandenbergh 2004). In essence, the same divergence of interests that plagues private regulation can also manifest itself in the contested space around public regulation. Beyond this, external regulation is often perceived by regulated entities as an adversarial relationship, whereas private or self-regulation may be seen in more favorable terms (King and Lenox 2000).

The above concerns have been studied primarily in settings with strong government institutions. They are likely exacerbated in jurisdictions with weak institutions, where there is a greater likelihood of either actual or perceived regulatory failure (Donadelli and van der Heijden 2022), thus improving the relative effectiveness of private governance in such settings. Related to this, Liu (2024) explores how e-commerce platforms in China managed to develop and thrive in the absence of strong legal institutions that would enforce contractual exchange among disconnected transaction partners. Of particular relevance, she demonstrates how platforms such as Taobao create within-platform institutions – including reputation mechanisms, escrow accounts, and even a jury-based system to resolve disputes – to compensate for the lack of formal institutions in the country. More generally, platform governance may be better able to orchestrate

collective action to overcome both market failure and social-welfare challenges, particularly in jurisdictions with weak institutions.²

The next section of the paper explores this possibility through a case study of the motorcycle taxi industry in Kampala, Uganda. This research consisted of interviews, observation, and secondary research. We interviewed eight executives at Safeboda, including the CEO, CFO, Uganda Country Director, Head of Operations, and Head of Marketing. The resulting ten hours of interviews were recorded and subsequently transcribed. We interviewed 12 randomly selected boda drivers – two currently with Safeboda, two formerly with Safeboda, one with a rival ride-hailing app that entered Uganda in 2024, and seven drivers who have never worked with any ridehailing firm. These interviews occurred at roadside “stages” where drivers wait for prospective passengers to arrive. We also interviewed eight randomly selected boda passengers to gain insight into their perception of boda safety and the relative benefits/costs of Safeboda vs. other options. Our interviews with drivers and passengers typically lasted 10-15 minutes. These respondents were not comfortable with our audiorecording the interviews, so three members of our team took notes of their answers while two members asked questions.

We also observed drivers as they sought passengers on the street, evaluated prospective rides on their app, and drove. This informed our understanding of the economic and social mechanisms in the boda industry. Finally, we relied on conventional secondary research to obtain quantitative data on boda (and other vehicle) accidents in Kampala and in Uganda more broadly.

THE MOTORCYCLE TAXI INDUSTRY IN KAMPALA

Motorcycle taxis have become a crucial part of the informal transportation system in Kampala, Uganda, as they have in many sub-Saharan countries (e.g., Blimpo 2015; Bishop and Courtright 2022). Known as boda bodas in Uganda, they tend to offer three advantages over other

² Scholars have noted the relative effectiveness of private governance in weak-institution settings across many dimensions. Among them, Khanna and Palepu (1997) propose that business groups and conglomerates overcome capital- and labor-market failures in the presence of “institutional voids.” Fiorino and Bhan (2016) frame supply chain management as a form of private regulation that frequently outperforms public regulation in weak-institution countries. The relative effectiveness of platform governance in weak-institution settings is analogous to these.

modes of transit, two that accrue to customers and one that accrues to drivers. First, boda fares are lower than those of automobile taxis, in large part due to the much lower purchase price and maintenance costs of motorcycles.³ Consequently, they provide transportation service that the lower-middle and working classes can afford. (The poorest residents typically stick to bus service, which is cheaper than bodas but tends to offer lackluster service on fixed routes.) Second, bodas consistently provide timely transportation by weaving through the hours-long traffic jams that occur in Kampala with great frequency. Our interviews with residents of Kampala indicate that even wealthier Ugandans who own automobiles will use bodas when they are at risk of missing appointments due to traffic jams, parking their cars at the edge of the traffic jam and hailing a boda. Third, boda driving is one of the few occupations that offers the chance of a decent income to Ugandans without education or connections.

The Economics, Organization, and Safety Record of the Boda Boda Industry

Driver economics and status. Studies indicate that a Kampala boda driver who works 12 hours per day may typically earn between 15,000 and 25,000 shillings per day (Naddumba 2004; Constantine 2017). This translates into \$3,000-\$5,000 USD per year based on a six-day week, which is roughly equal to the median income for all residents of Kampala, and significantly higher than alternatives for those with limited education.⁴ By way of comparison, the average accountant salary is close to \$9,000/year and the average software engineer \$15,000/year (Glassdoor 2024; Salary Disclosure 2024). Of the 12 drivers whom we interviewed, none had attended post-secondary education and most had left school by the age of 14. Although they all had complaints about the industry, virtually all of the drivers stated that they could support their families with the earnings from their driving.

³ In March 2024, the authors experienced common fares of 2000-4000 Ugandan Shillings for a daytime 4-kilometer trip within Kampala on boda boda, compared to 12000-15000 shillings for the same distance in an automobile taxi.

⁴ “Because the wages in the boda boda business greatly exceed those for other low-skilled jobs in sectors like construction, security, and retail, many young men flock to the boda industry from other professions” (Ogwang 2012, cited in Constantine 2017: 17). “Bufulwa used to work as a newspaper vendor, where he had to sell over 100 newspapers to make a third of his daily wage as a boda [driver]. Most days, he was only able to sell around 30 copies, which earned him Shs4,000, barely enough to buy a meal” (Gideon 2020).

It is difficult to know the precise number of boda drivers in Kampala due to lack of enforcement of registration and permitting, but estimates suggest upwards of 300,000. With the average driver having a spouse and, say, one child, this suggests that as much as 20% of the greater Kampala population may rely on boda earnings to some degree.

Although boda driving offers economic benefits, it comes with some social challenges. In numerous surveys of boda drivers, respondents have complained bitterly about the stigma associated with their work (Fasakin 2001; Raynor 2014; Doherty 2017). Raynor quoted one driver who spoke of being “treated as trash” by other people, and also noted widespread complaints of harassment by the police. In many cases, this harassment is basically extortion, as it consists of being pulled over on a trumped-up violation and threatened with arrest or vehicle impoundment if the driver does not pay a sufficient bribe to the police officer. In our interviews, we heard similar complaints. One example:

Police look to find fault with us. And when they do, we have to pay a bribe in order to be released. For example, a boda rider⁵ makes 15,000-20,000 shillings on average a day, when they get arrested, police may take all that money from them.

Stages. Boda drivers congregate at “stages,” which are specified locations on street corners (see Figure 1). Potential passengers will walk to the nearest stage in order to find an available boda. Virtually every driver is attached to a stage, which is the home location from which he operates.⁶ This creates a longstanding community of drivers at each stage. Drivers typically choose a stage leader to supervise the stage, and employ norms that are not surprising given the repeated-game nature of their interaction. For example, when a potential passenger arrives, only one driver negotiates with her; the other drivers will not compete for the fare. Also, drivers contribute small amounts to a communal fund held in reserve to help a member who faces a financial challenge – e.g., an inability to drive for a week due to an accident. Although Kampala

⁵ In Uganda, boda drivers are called “riders.” Many of the quotes in this paper will use the term rider to refer to drivers.

⁶ In principle, each driver is legally assigned to a stage. In practice, this is true only for the small subset of drivers who are licensed and registered. Nevertheless, most drivers choose to affiliate with a stage.

has many official stages, many others have been informally created. Stages range from five to perhaps twenty drivers, with informal stages tending to have fewer drivers than official stages.

[INSERT FIGURE 1 ABOUT HERE]

Associations. Kampala is home to several associations of boda drivers. Association membership is voluntary, although there are anecdotes of drivers feeling pressure to join, particularly those attached to official stages. Boda Boda 2010, founded in 2010, quickly became the largest association until its closure in 2018, claiming up to 100,000 members. Raynor (2014) describes the operations of Boda Boda 2010, which largely mirror those of other associations. Each member pays an annual fee (7000 shillings in the case of Boda Boda 2010), and receives an identification card in return. Associations offer a range of social and economic benefits to members. Similar to stages, associations hold a communal pool of funds, drawn from membership dues, to help members who are going through difficult times. The association also may purchase motorcycles and provide them on a rent-to-own basis, effectively financing motorcycle purchases for members. Associations hold occasional social events such as football games. Associations may help members who need to recover their impounded or stolen motorcycles, or who are otherwise harassed by police (Howe and Davis 2002), and can act to mobilize members to make their political demands known. Finally, association members are known to offer “assistance” to other members who are in traffic accidents and who are seeking on-the-spot compensation from the other driver. Put differently, when an auto and a boda collide, it is not uncommon for other boda drivers in the vicinity to join their compatriot and physically intimidate the auto driver. As this description suggests, boda associations are seen as a somewhat rough-and-tumble organization form that helps protect the interests of drivers. Associations compete for driver membership, and there are anecdotes about sometimes-physical disputes between associations. Association leaders have also regularly faced allegations of financial mismanagement and embezzlement (Howe and Davis 2002; Raynor 2014).

Traffic safety. As is true throughout much of the developing world, bodas are engaged in a disproportionately high number of traffic accidents, with substantial loss of life and limb: 60% of Kampala's vehicle-related deaths/injuries but less than 25% of vehicle-miles (Bagenda et al. 2015). As Table 1 indicates, in Kampala boda boda drivers and passengers account for roughly half of traffic fatalities. These data undercount the full impact of bodas because many, and possibly most, pedestrian fatalities (which account for roughly 35% of deaths) result from boda accidents. Bodas thus contribute heavily to Uganda's high traffic fatality rate, estimated by the World Health Organization to be nearly 54 deaths per 100,000 people in 2020, the sixth-highest per capita rate in the world.⁷

[INSERT TABLE 1 ABOUT HERE]

Beyond the human suffering, the economic cost of these accidents is high. Mulago Hospital, the largest hospital in Kampala, receives between 25 and 50 boda accident victims per day (Daily Monitor 2013), and dedicates more than 60% of its budget and beds to treating these patients (Bagenda et al., 2015). Based on Wanume et al. (2019)'s estimates of the monetary cost of a boda accident in Kampala – including hospital expenditures, forgone employment, equipment repairs, and the value of statistical lives – the total cost for all such accidents exceeds \$21 million USD per year, equivalent to 0.06% of Uganda's GDP.

As indicated above, the primary cause of these accidents appears to be reckless driving. Drivers typically begin driving immediately upon gaining access to a motorcycle, with no training and no licensing exam. Drivers are motivated to drive quickly, in order to complete one fare and seek another. And, according to both our driver interviews and prior research, impatient passengers will sometimes pressure drivers to speed or otherwise skirt traffic laws. Further, since drivers generally believe that police issue tickets haphazardly with an eye toward extracting bribes, they perceive little relationship between adhering to traffic laws and avoiding tickets.

⁷ By way of comparison, the traffic fatality rate was roughly 3 per 100,000 for the U.K., Germany, and France. The World Health Organization compiles its own estimates of traffic fatalities in each country, which may be different from the country's internally generated statistics.

A secondary factor is the low rate of helmet usage by drivers and passengers. Surveys of drivers repeatedly show that although they recognize the safety value of wearing a helmet, fewer than half of all drivers choose to wear one (Muni et al., 2019). And almost no passengers wear a helmet, for at least two reasons. First, drivers rarely carry a second helmet for passengers, meaning that a potential passenger must carry a helmet in case she decides to hail a boda. Second, even when drivers carry a second helmet, passengers often are leery to wear it due to hygiene concerns (some passengers carry a personal hairnet, and will use this under the helmet).

Although traffic safety is the primary focus of this study, it is important to note another safety-related issue involving bodas: crime, notably theft. This is a concern voiced by both passengers and drivers. Numerous news articles discuss criminals who pretend to be boda drivers in order to steal from passengers. In our interviews with six boda passengers, two offered recent accounts of personally being robbed by their drivers:

“It was nighttime. I tried the Safeboda app, but it would take more than ten minutes to get a boda. So I hailed a boda from the side of the road and told him where I wanted to go. He went on road that didn’t make sense to me. He said it was a shortcut. I didn’t believe him, but he was moving fast so I couldn’t get off. We got to a dark part of the road and he stopped, and two of his friends came out and took my bag and phone. I had to walk an hour and a half to get home. All because I was impatient about ten minutes.” [Passenger 1]

“We were riding along, and then the rider stopped. He said there was a problem with his boda. We got off, and he started trying to fix it. I started texting on my phone, to tell my friends I would be late. He asked me to help hold something on the boda, and when I got close he grabbed my phone, pushed me down, and jumped on his boda and drove off.” [Passenger 3]

At the same time, several drivers told us of their experiences with passengers who ran off without paying, or who tried to rob the driver during or after the trip. This is consistent with prior surveys of drivers that have documented stories of money and motorcycles being stolen by passengers, and sometimes by accomplices of the passenger who are waiting at the trip’s destination point (Adefunke, 2012; Irandu, 1997). According to a police officer interviewed by Constantine (2017: 45):

“boda boda riders also risk being assaulted by criminals, especially at night. Thugs usually pose as passengers, and when the motorcycle reaches a dark corner, riders are hit with hammers and iron bars, cracking their skulls. Thugs then take off with the motorbike and the day’s earnings.”

EFFORTS TO REDUCE BODA BODA TRAFFIC ACCIDENTS

Over the last two decades, various political and economic actors in Kampala have tried to stem the scourge of boda boda traffic accidents. The municipal government, the Kampala Capital City Authority (KCCA), initiated several attempts to enforce licensing and registration regulations between 2000 and 2013, with little success. Subsequently, between 2014 and 2017 the KCCA encouraged the Boda Boda 2010 association to self-regulate the industry by enforcing these regulations for its members and those of other associations. This also proved problematic. In 2015, the ride-hailing app company Safeboda launched, with the goal of using platform governance to enforce safe driving behaviors among the drivers that joined the platform. Although the jury is still out on the ultimate success of this effort, it appears thus far to be modestly successful, and certainly more successful than the prior efforts. We now provide details on these three regulatory efforts, along with our interpretation of the facts.

Government regulation, 2002-2013

Events. Motorcycle taxis first arrived in Kampala in the 1990s, and their prevalence increased at a dramatic rate (Ehebrecht, Heinrichs and Lenz 2018). By 2002, there were an estimated 40,000 bodas on the road. In addition to the attendant safety concerns, the industry’s growth made it an increasingly attractive source of potential tax revenue, perhaps as much as 700 million shillings per year (Makara 2009: 313). The KCCA introduced a tax on boda drivers, in the form of an annual licensing fee, in 2003 (Goodfellow and Titeca 2012). This legislation required that all boda drivers register their vehicles and obtain driver permits. Drivers responded with street protests and other modes of complaint, with leaders of boda associations guiding much of the protest effort. The issue became increasingly politicized, with members of Uganda President

Museveni's party championing the boda drivers against the elected officials of KCCA, who were from the opposition party. After a year of Kampala's sporadic attempts to enforce driver registration and the concomitant tax collection, in 2004 President Museveni issued a Presidential directive to KCCA "directing them to stop collecting the tax, claiming that it had been introduced without sufficient consultation and was illegal" (Goodfellow and Titeca 2012: 13).

Five years later, KCCA introduced a set of regulations to improve boda safety. These included enforcement of the extant vehicle registration policy, mandatory use of helmets and reflective jackets, requirement of a driving permit, and loose restrictions on operating in certain parts of the city. Drivers were again hostile to the regulations; many were suspicious that the driving permit and vehicle registration requirements, although presented as safety measures, were the first step toward KCCA's ultimate goal of taxing the drivers and would lead to more severe operating restrictions in the future (Raynor 2014). The drivers' protests again found favor with the national government, and President Museveni once again pressured KCCA to stop enforcement of the regulations (Goodfellow and Titeca 2012).

In 2013, KCCA launched its most ambitious effort at regulation. Once again, the goal was presented as a safety measure. This would entail enforcement of rules regarding registration of motorcycles and permitting of drivers. A formal registration form was made widely available, and the municipality engaged in an energetic campaign to encourage drivers to sign up or face fines and impoundment of their motorcycles (Raynor 2014).

Once again, drivers feared that registration would inevitably lead to taxation, which would drastically cut their incomes, while offering no tangible offsetting benefits. As one driver explained to Doherty, a scholar engaged in ethnographic research on boda stages at the time, "KCCA cannot do anything if it does not gain anything. [...] government thinks about how it can extract money out of us, instead of developing us" (Doherty 2017: 198).⁸ In response, the KCCA agreed to postpone enforcement in order to receive more feedback from boda associations, but then changed tack and went ahead with the initial enforcement date.

⁸ We interpret "KCCA cannot do anything..." to mean "KCCA will not do anything..."

The result was a series of violent protests and riots throughout Kampala, organized by Boda Boda 2010. Drivers turned out en masse to block roads. In addition to vowing not to register their vehicles, some burned motorcycles that had been registered and beat up the vehicles' owners (NTV Uganda 2013). Others disrupted the registration process, dispersing registrants with clubs and machetes (Daily Monitor 2013). In at least one case, drivers stormed a police station (Red Pepper 2013). The situation was sufficiently chaotic that the U.S. Embassy in Kampala issued a warning of danger from "roving demonstrations" (U.S. Embassy 2013). The protests continued until Kampala's Police Chief met with Boda Boda 2010 leader Abdullah Kitatta to defuse the situation, and KCCA again retreated from enforcement of its regulations.

In our interviews with drivers, we asked their opinion of the KCCA regulation. The drivers were clearly uncomfortable discussing this topic, so we kept the questions brief. In all cases, the drivers said that they personally favored the government regulation. When we noted that some other drivers had protested and asked why those other drivers might have done so, all of our respondents expressed concern that the rules would be ultimately used to reduce the number of boda drivers allowed to operate and to increase the frequency of police harassment and extortion. One example:

Majority of riders were unhappy [with the proposed regulations], because many riders could not access some roads that had tight traffic officers, and some officers were in normal clothes and even board the motorcycles, then they grab you. Some of my friends [protested] but I was not among. But the main point is the Boda-Boda riders should be given a chance to ride and work freely. Whether they have permits or not as long as they are careful. [Driver 11]

Interpretation. In each of the above cases, KCCA's efforts to regulate were met by forceful and disruptive protests by boda drivers, often guided by the boda associations. In two of these cases, the Ugandan president stepped in on behalf of the boda drivers.

Our interpretation of the explosive response by boda drivers relates to the longstanding antagonistic relationship between government and the drivers. As noted above, external regulation is often perceived by regulated actors to be an adversarial relationship (King and

Lenox 2000). In Kampala, this perception was exacerbated by drivers' prior experience with harassment and extortion by the police. The result was a belief that enforcement of these regulations would lead to greater harassment and extortion, without actually improving the operations of the industry or the lives of the drivers. Although our interviewees claimed to support government regulation, our sense is that this reflects their wariness about voicing anti-government sentiments to an unknown person, and that their assessment of "other drivers'" attitudes more accurately conveys their own views.

President Museveni's involvement in this dispute appears consistent with prior work demonstrating that elected officials may pressure regulators to take certain decisions (Hegde 2009). Why would Museveni support the boda drivers over the Kampala municipal government? As noted above, there are an estimated 300,000 boda drivers in Kampala, and they have family members of voting age as well. Election officials worldwide tend to be receptive to the plight of large voting blocs, and in weak-institution countries these blocs often receive special treatment, such as exemption from certain regulations or taxes, in exchange for their electoral support (Tendler 2002). Specifically for Uganda, Goodfellow and Titaca (2012: 14) describe Museveni's courtship of the boda boda "vote bank," quoting one boda stage leader's insight into the system:

Politicians, they use us! We are a very big vote! I have many customers, I have a wife, I pay for my brother's school fees, all these people listen to me!

This is exacerbated in the case of Kampala, because Kampala's elected officials have consistently been from Uganda's main opposition party. Thus national leaders have little incentive to support Kampala's decisions that displease large numbers of voters.

In sum, it is not inevitable that public regulation of boda drivers would fail in every state or municipality with weak institutions – factors such as the size of the boda population, the political alignment of the municipal government with other levels of government in the country; and the overall level of perceived corruption among police enforcement may affect this – but

many features of public regulation make it particularly challenging to effectively manage traffic safety of motorcycle taxis.

Government-encouraged self-regulation by Boda Boda 2010 association, 2014-2017

Events. After the 2013 regulatory failure, the KCCA decided to invite Boda Boda 2010 to take a lead role in self-governance of the boda industry. Raynor (2014: 49) captured some of the guarded optimism at that time:

“The Kampala Capital City Authority has struggled to regulate the city’s Boda riders in large part due to the politicization of the informal transportation market. However, recent collaborations with the Boda Boda Association 2010 and other stakeholders in a registration exercise bring hope that KCCA will be able to work with the Bodas as they move toward future plans for public transportation in the city.”

The premise of this self-regulation was that Boda Boda 2010 would use its enforcement power to encourage its 100,000 members to register and obtain permits. In addition, the association would attempt to persuade other associations to encourage their members to register. Over the next three years, roughly 30,000 motorcycles were registered (Courtwright 2022). However, by 2015 allegations began to surface that Boda Boda 2010 was using its authority to extort money and equipment from non-members (Sunrise 2015). This included erecting blockades on streets to stop boda riders and impounding their motorcycles if they were not members of Boda Boda 2010. Ostensibly the motorcycles would be returned if the rider appeared at the association’s headquarters and paid the standard membership fee, but there were numerous reports of riders being extorted for huge sums of money in order to retrieve their motorcycle.

By 2016, these activities allegedly expanded to attempts to strong-arm rival associations into merging with Boda Boda 2010, and to the regular beating of non-members (Kuganza 2016; NTV Uganda 2017). Despite hundreds of complaints lodged with the Kampala police force, the force made no efforts to respond. This was attributed by many Kampalans to alleged close connections between the leader of Boda Boda 2010, Abdullah Kitatta, and Chief of Police

General Kale Kayihura, and possibly President Musuveni himself (NTV Uganda 2016; Phillips and Kagoro 2016).

Finally, in January 2018 the leadership of Boda Boda 2010 was arrested for criminal activities unrelated to the self-regulation of the boda industry, including murder of an accountant, beating up a school bus full of children, and possession of military-grade weaponry (The Independent 2018), and the association disbanded. On the day after Kitatta and his colleagues were arrested, jubilant boda drivers celebrated by burning and looting the headquarters of Boda Boda 2010 (Daily Monitor 2018; NBS TV 2018).

As with questions about government regulation, our interviewees were clearly uncomfortable discussing Boda Boda 2010, so we kept the questions brief. In all cases, the drivers said that they were aware of Boda Boda's reign and had not been affected by it. When we asked if they knew drivers who had been affected, all had stories of people whose work had been negatively (and, usually, unfairly) impacted. One example:

I heard about [Boda Boda 2010's efforts] and some of my fellow riders were always talking about it. There were a few riders on the stages nearby here, some did not have helmets and were fined. The leadership in Boda-Boda 2010 was really bad and leaders tormented members.

Interpretation. Numerous scholars, when describing the failure of government regulation of bodas, have noted the prospect of associations as self-governance devices (e.g., Howe and Davis 2002). As noted above, there are some theoretical reasons to expect why this might be so: such associations might have better information, more levers to operate, and possibly a less adversarial and more collaborative relationship among drivers. At the same time, misaligned incentives can render self-regulation ineffective or deleterious.

The Boda Boda 2010 events highlight that, given the potential for misaligned incentives between regulator and regulated, self-governance can sometimes have too many levers: unconstrained by even the loose restraints placed upon the Kampala police force, Boda Boda

2010 acted on the temptation to use violent measures to extort from boda drivers. This problem may again be exacerbated in weak-institution settings, because such settings facilitate relationships between private extorters and public officials who are expected to monitor and deter such extorters (e.g., the relationship between Abdullah Kitatta and Kampala's Chief of Police).

As an aside, we note that much of the management literature on collective self-regulation focuses on the problem of defection by individual "regulated" actors (Ostrom 1990; King and Lenox 2000). An implicit message in much of that work is that the collective self-regulating institution should have sufficient disciplinary power to make defection unappealing. This vignette reminds us of the challenging balance between having enough teeth to discourage defection and avoiding creation of an enforcer with sufficient power to act opportunistically (Williamson 1985).

Safeboda ride-hailing, from launch until COVID, 2015-2019

Safeboda was launched in Kampala in 2015 as a ride-hailing app for bodas, with a business model built around the aim of improving traffic safety. Ridehailing for cars already existed in the city, with global players Uber and Taxify plus a handful of local startups. However, these firms had ignored the boda industry, perhaps because the sharply lower fares for boda rides would yield smaller commissions or because smartphone use was less prevalent among poorer Ugandans – boda drivers and their likely customers – than among automobile drivers/clientele.

The origin story for Safeboda has been chronicled in many articles and company materials (e.g., Rasmussen 2019; Schipani 2021). The startup was founded in early 2015 by a Ugandan boda driver and two European entrepreneurs. Ricky Rapa Thomson left school at age 16 and moved to Kampala to work at odd jobs. In 2011 he started driving a boda, and by 2013 he had become the leader of his stage. After witnessing several accidents, and in particular after a close friend died in a boda crash, Thompson decided that it was important to find a way to improve driver safety in the industry. He began to carry a second helmet for passengers and to devise ways to establish a team of boda drivers who were similarly committed to safe driving.

Through a happenstance meeting, Thompson met Maxime Dieudonné, a Frenchman who had been working in East Africa. Dieudonné proposed using Uber-style technology to achieve Thompson's goal. Thompson and Dieudonné then brought in Alastair Sussock, a British friend of Dieudonné's who had also been working in East Africa, to round out the founding team. The team spent the next two years conducting market research, developing an app, and trying several experiments before launching in earnest in early 2017.

Safeboda's early market research indicated that although many Kampala boda passengers would value a service that ensured a safe trip with a trained and careful driver, few would be willing to pay a substantial price premium for this, and few would be willing to delay a trip for long in order to get such a driver. The company's business model thus focused on matching the standard rates for particular distances at particular times of day, and then keeping drivers more fully utilized than they would be if not on the Safeboda app, thus enabling a driver to earn more income even after paying commissions to the firm. In the non-app business, a driver who completed a fare typically needed to return to his stage to get his next customer unless he was lucky enough to be flagged down by a pedestrian on the road; this created substantial "dead-heading" (travel without a paying fare). Given this, Safeboda could provide superior utilization if it could direct the driver to a new passenger close to the destination point of the driver's current customer. This would require that Safeboda receive a sufficient number of customer requests, which in turn depended on having a sufficient fleet of drivers to attract customer interest. In order to build up a driver network of sufficient size and geographic distribution to meet customers' demands for speedy pickups, Safeboda would initially charge unsustainably low commissions, and offer bonuses to drivers who completed a certain number of trips.

To ensure that it could deliver on its safety promise, Safeboda would require that all of its drivers be registered and licensed, and also undergo a traffic safety training program delivered by Safeboda. Drivers would also need to possess and use specific equipment, notably two helmets (one for driver and one for passenger) and a reflective jacket. The helmets and jacket were bright orange, which Safeboda had adopted as its trademark color, and each driver had a specific

number printed in large font on both helmet and jacket. The goal of the uniform color system was to make Safeboda drivers visible to the public and to each other. This would advertise to potential passengers the prevalence of Safeboda drivers on the roads, and ideally allow people to compare the safety behaviors of Safeboda drivers to those of unaffiliated drivers. Finally, Safeboda would discipline or deplatform drivers who were caught, or credibly reported as, driving unsafely. (Figure 2 shows Safeboda regalia and the Safeboda app.)

[INSERT FIGURE 2 ABOUT HERE]

The triumvirate worked on the app for almost two years, discarding several versions based on beta testing before converging on the app that they commercialized. Similar to Uber, drivers and passengers would download the app onto their phones; a passenger who sought a ride would enter her destination point while the app would pinpoint her current location. The system would then identify the closest available Safeboda driver, and present the passenger with a non-negotiable fare for the trip along with the expected time at which the driver would arrive for the pickup. In its earliest version, all fares were paid in cash (although the firm would later add a cashless-payment option). Since a driver owed a percentage commission to Safeboda from the cash paid for each ride, after the cumulative commissions reached a threshold amount the app would stop working until the driver arrived at a Safeboda office to pay the commission.

The initial seed funding for Safeboda came from social venture funds: the Global Innovations Fund and the Shell Foundation jointly provided \$230,000 USD in 2015 to support what they perceived as a potential solution to the social problem of traffic safety. However, Safeboda's Series A and B investors were for-profit venture capital or corporate venture capital entities, including Allianz X and Go-Ventures. The firm's most recent funding round, Series C, included Google Ventures Africa.

Safeboda piloted its initial service in 2015, and by late that year had signed up 30 drivers who focused on a few particular areas of Kampala.⁹ The firm attracted an increasing number of drivers, so that by late 2019 the firm had onboarded more than 15,000 drivers, although due to churn there were rarely more than 10,000 drivers working with Safeboda at any one time. Each onboarded driver needed to pay for two helmets and a reflective jacket, and for registration and permitting if he had not already done so.¹⁰ Drivers also needed to have a smartphone, which many drivers did not possess before joining Safeboda. As Safeboda worked to expand its driver network, it began to finance many of these expenditures, and by 2019 the firm was also financing motorcycle purchases for drivers. Drivers would pay back these costs out of their earnings over the next year.

Safeboda used three avenues to collect information about driving behavior. First, the firm regularly deployed its own employees to randomly selected traffic intersections around Kampala to observe its drivers in action. Second, Safeboda tried to leverage peer pressure among its drivers, encourage them to scold any Safeboda driver whom they observed driving recklessly, or to report that driver to Safeboda headquarters. Third, the firm relied on passenger complaints of unsafe driving and, to a lesser extent, on complaints lodged by third-parties (the identification numbers prominently displayed on the drivers' helmets and jackets could help third-parties attribute reckless behavior to specific drivers). One of our interviewees commented:

The company is very strict on driving behaviour. For example, they did not permit driving on pavements or not following the traffic lights. If drivers did not follow these regulations, they could be reported to their bosses as Safeboda had monitoring teams on the ground. [Driver 2]

In 2018, Uber and Taxify each launched a ridehailing boda service to compete with Safeboda. Both apps were similar to Safeboda's, linking passenger with driver and proffering a non-negotiable fare. Taxify required drivers to wear a distinctive green helmet and reflective

⁹ Several of these early recruits have since moved into managerial positions. For example, Moses Musinguzi, current Head of Operations for Safeboda, was the first boda driver recruited by Thompson.

¹⁰ At times, Safeboda also encouraged drivers to carry a supply of hairnets in the hopes that this would increase passengers' willingness to wear a helmet, but this policy was not sustained.

jacket, while Uber did not seem to mandate a standard color coding. Although both companies required their drivers to be registered and permitted, neither firm offered safety training to drivers, neither required drivers to carry a second helmet for passengers, and neither was perceived as keen to encourage safe driving (e.g., neither devoted resources to observing actual driver behavior, and neither encouraged passengers to register complaints about poor driving). Each firm charged very low commissions and offered extra bonuses upon entry, in an attempt to quickly build up a network of drivers. In response, Safeboda also intermittently offered bonuses to drivers to reduce erosion of its driver force. Many drivers moved to whichever firm happened to offer the best rates at a given time.

By late 2019, Safeboda held an estimated 45% share of the ridehailing market in Kampala, with Taxify at 30% and Uber at 20%. The total ride-hailing market was estimated to be only 15% of the boda market in Kampala, so non-app-affiliated drivers still accounted for the vast majority of all trips, although this share was shrinking. In terms of traffic accidents, Safeboda claimed to have experienced only a single fatality in the 5 million trips that the firm had delivered over the five years of its existence (personal communication, Head of Operations, Safeboda). Although it is impossible to corroborate these claims, arm's-length research found that Safeboda drivers were far less likely to engage in unsafe driving behavior than other boda drivers. Notably, Muni et al. (2019) used both self-reported behavior by drivers and observation at key intersections by the researchers to document that Safeboda drivers exhibited substantially higher safety behaviors (more than double the use of helmets; and 1/10th the rate of driving into oncoming traffic). In a follow-up study, Muni et al. (2020) tracked the drivers surveyed in Muni et al. (2019) for six months, and reported that Safeboda drivers had a 39% lower rate of traffic accident than non-Safeboda drivers.¹¹

¹¹ The organizations that provided seed funding to Safeboda have also produced analyses of Safeboda's safety benefits. In a report commissioned by the Shell Foundation, Nesbitt-Ahmed and Fraser (2017) assess the impact of Safeboda on women's mobility in Kampala, and conclude that women particularly value the service's ability to reduce the risk of theft or violence by a boda driver and to obviate the need for negotiating over price. The Global Innovation Fund's (2022) *Safeboda Completion Report* estimates that Safeboda's service prevented 160 deaths and 190 serious injuries through 2020, generating an estimated \$13 million USD in discounted net social benefits. (The Global Innovation Fund uses a higher number for the value of a statistical life than does Wanume et al. 2019.)

Tables 1 and 2 show statistics on traffic fatalities in Kampala and throughout Uganda. Such data are produced only sporadically in Uganda. Although these data do not directly shed light on the items that we would ideally like – the precise number of accidents/deaths/injuries by transportation mode within Kampala, with which we could compare changes in the relative rates for motorcycles within Kampala to those in Uganda overall – there is modest evidence that suggests an overall reduction in boda accidents and casualties. Specifically, as Table 1 shows, whereas bodas' share of traffic fatalities averaged 51% during the five-year period 2012-2016, it fell to the 46-48% range in the prime years of Safeboda's pre-COVID operations. Similarly, Table 2 indicates that Kampala's share of Uganda's traffic fatalities fell from roughly 22% for most of the pre 2017 period to 20% during 2018 and 2019.

[INSERT TABLE 2 ABOUT HERE]

Our interviews indicated a consistent preference for Safeboda among passengers, although most would forgo it for relatively modest differences in price or convenience:

I will check Safeboda first to see the price and how long. If the price or the wait seem high, I will check another app like Faras. I will go with the cheapest but I would prefer Safeboda. Sometimes I will wait a few more minutes for a Safeboda. [Passenger 3]

If Safeboda can match price then I will take Safeboda. I think their drivers are the most serious. [Passenger 5]

Sometimes the Safeboda price looks high to me, and on other apps also high. Then, I will go to a stage or try to hail a boda and try my luck at negotiating. [Passenger 4]

I usually drive my own car to get places. But if I end up stuck in a traffic jam, I will park on the side of the road and hail a boda to get to my appointment. I will prefer to get a Safeboda if possible. But when this happens I am already late, so I will use whichever app can get me a driver fastest. [Passenger 6]

Among drivers, our interviews indicate some ambivalence. Not surprisingly, those who currently drive for Safeboda tend to be favorable:¹²

The app is good and intuitive, it always gets us customers. Safeboda is more respected than other companies, and gives us branded uniforms. Safeboda has more customers than other platforms, so we get a good number of customers. [Driver 6]

Our safety is also ensured as [the app] connects us to legitimate customers. Safebodas are respected on the roads more than independent bodas. Police still harass us and arrest us for no reason, but less than before we were Safeboda. [Driver 7]

However, non-Safeboda drivers view the firm with suspicion. When asked whether they have considered joining Safeboda or another app company, unaffiliated drivers typically respond by saying that the app firms take money from the drivers without providing value in return. Others joined Safeboda or another app service, but ultimately left:

We do not want to join Safeboda because the company charges low fares for trips, and yet we have to buy fuel and maintain their bodas. [Driver 4]

Those apps extort money from us. [Driver 5]

Safeboda charges standard rates for trips which hinders the riders from negotiating for higher wages with passengers. [Driver 1]

At first, to join Safeboda, a rider needed 9 referees. Later they abandoned this policy which has reduced exclusivity. So people's good view of Safeboda reduced. [Driver 3]

With exponential growth in Kampala seemingly underway, Safeboda expanded into Nairobi, Kenya in March 2019 and Ibadan, Nigeria in December 2019.

¹² Our interviews with drivers who worked with another app company is that the primary – usually sole – reason that they preferred the other company was economic: lower commissions, higher bonuses, and lower upfront costs due to the need to acquire less equipment. We observed that the drivers for these other app firms appeared less professional, which leads us to speculate that some of these drivers would not be accepted at Safeboda.

Interpretation. Platform governance by Safeboda appears to have outperformed public regulation and association-led self-regulation along at least two dimensions. First, the launch and expansion of the Safeboda network has not been met with violence by either boda drivers or by those doing the regulating. Similarly, there has been no forcible extortion involved; drivers individually decide whether to join the platform. Second, although the traffic data from Uganda and Kampala are coarsely measured and difficult to interpret, there is clear evidence that Safeboda yielded safer boda boda transit within its ecosystem and suggestive evidence that this makes a difference that shows up in Kampala's overall traffic accident rate.

Our interpretation is that, in this case, Safeboda's platform governance orchestrates safer driving. This is due to Safeboda's ability to mandate vehicle registration and driver permitting more effectively than other regulators can, and in particular to the ability to monitor driving behavior more closely than other regulators can. Coupled with the ability to deplatform drivers who violate rules, Safeboda is able to elicit better behavior from drivers.

An alternative interpretation is that the drivers who sign up for Safeboda are those who already are safe drivers or predisposed to safe driving. In that scenario, Safeboda might not actually improve driver behavior, but instead simply cherry-picks the safe drivers from among the overall population. Although we cannot dismiss this possibility, three pieces of evidence suggest that Safeboda has had an impact beyond cherry-picking. First, there is evidence of behavioral change among the Safeboda drivers: virtually no drivers in Kampala carried a second helmet before joining Safeboda, so even if these tend to be safety-minded drivers, they behave even more safely within the platform. Second, as noted above, many drivers assert that they are pressured into unsafe driving by impatient passengers. In a world where both drivers and passengers are distributed across a spectrum of risk-taking preference – i.e., some passengers want safety while others want speed, and the same for drivers – the Safeboda platform would serve as a mechanism to match safety-minded drivers with safety-minded passengers, thus reducing the likelihood that a safety-minded driver will be pressured to drive unsafely. Third, if

one accepts the above assessment of Safeboda's effect on Kampala's overall traffic accident rate, then this would suggest that Safeboda has had an influence beyond cherry-picking safe drivers.

One downside of platform-based governance is that it cannot immediately regulate the entire industry, but primarily those who opt into the platform. That said, in a setting such as the Kampala boda industry, this may be an advantage: Given the longstanding hostility toward the imposition of regulatory oversight by entities perceived to be unsympathetic to drivers, the fact that Safeboda starts as a small entity, and must gain voluntary acceptance by drivers, may make drivers less hostile to this form of regulation.

Safeboda ride-hailing, from COVID to present, 2020-2024

With the advent of COVID, Uganda imposed one of the harshest lockdowns in the world. The country entered a full lockdown in May 2020, during which the only activity permitted to bodas was food delivery between the hours of 7am and 2pm (Peters et al. 2023). Bodas were prohibited from carrying passengers until September, and the government imposed a 6pm curfew on all boda passenger transportation after that. The country reimposed full lockdowns intermittently during spikes in COVID cases over the next 1½ years. The curfew was not ended until early 2022. Separately, public health officials in Uganda also made statements suggesting that the use of helmets, notably passenger helmets that would be shared across people, could spread COVID infection (personal communication, executive, Safeboda).

The lockdown created steep challenges for the industry. Many drivers were unable to earn sufficient income to feed their families, and thus chose or were forced to leave the industry (Mallett et al. 2023). Safeboda faced an existential challenge: not only was the firm unable to generate income from boda commissions, but the drivers whose equipment Safeboda had financed were not in a position to pay back the funds, leaving Safeboda in a financially precarious position. (Since the other app firms required less equipment and rarely financed motorcycles, they were in a less precarious position.)

And then COVID happened. We went to zero.... We had venture money in the bank to last a while. We made a load of cuts. We stopped all growth. But let's keep everyone on so that when COVID lifts, we're ready to go.... And then the curfew didn't lift and didn't lift, and we had to make deeper cuts that, had we known, we would have made earlier. It was all outflow and almost no inflow. [Rob Sanford, current CEO of Safeboda; CFO of Safeboda during COVID]

The firm immediately shut down its nascent operations in Nairobi and Ibadan to conserve cash. With drivers leaving the industry, Safeboda looked for ways to keep its core boda drivers utilized. The firm moved into food delivery, similar to Doordash or Uber Eats, enabling customers to simultaneously order food and arrange delivery from the Safeboda app. This proved to be difficult, as it required matching restaurants, drivers and patrons as well as relying on the restaurants to prepare food in a timely manner.

Food delivery or e-commerce needs quite a big investment to put the operations into, from our processes and SLS that work for both customers, vendors, and the drivers. Because unlike now where we only have rides and cars, where it's only two parties we need to deal with, at that point you have three parties to deal with. [Manager, B2B, Safeboda]

At the same time, the firm foreclosed on some boda drivers who were unable or unwilling to repay loans, taking back equipment including motorcycles.

In the aftermath of COVID, each app-based ridehailing company reoriented its strategy. Uber essentially de-emphasized its boda business; it did not close this down completely, but no longer sought to grow share and instead returned its focus to automobile ridesharing. Taxify rebranded as Bolt, with a retained commitment to the business. Safeboda began rebuilding its driver network, claiming roughly 4,000 active drivers as of March 2024. Post-COVID, the firm appeared to face two challenges to rapid expansion of its driver network. First, drivers' COVID experience of faring as poorly with Safeboda (or worse, given their debt for equipment) introduced skepticism about the firm's overall benefit to drivers. Second, in 2023 a Kenyan ridehailing startup with continent-wide ambitions, Faras, entered with a strong effort to grow the largest network in Kampala. Faras has attempted this through the usual pattern of aggressive

price discounts, low initial commissions, and driver bonuses. This has reshuffled drivers across firms once again. Additionally, after COVID app-based drivers increasingly began to work for multiple ridehailing firms simultaneously, taking whichever job showed up that paid the most at a given time. This has created the odd situation that a passenger might book a job on Faras and find that the arriving driver was wearing Safeboda regalia.

Although Safeboda (as well as Bolt) responded to Faras with similar moves to some extent, Safeboda has chosen to focus on building a core set of dedicated (tier one) drivers and on finding ways to motivate them to stay with the firm. Among other things, Safeboda has introduced e-banking technology, akin to mobile money, that makes it easier for drivers to convert cashless payment to cash and to pay fuel bills directly from the Safeboda e-bank account. The firm has begun to offer other benefits, such as fintech solutions useful to the unbanked, to drivers who exceed a threshold level of trips per day or per week. The firm also privileges its more consistent drivers: instead of routing a job to the closest driver, the app will first offer it to a tier-one driver who is not much further away.¹³ Thus, although the driver network is smaller than its pre-COVID numbers, a higher proportion are consistent Safeboda drivers, and those who are less likely to jump from one app company to another based on current commission rates.

Safeboda has also begun efforts to promote or certify particularly good drivers and charge a modest price premium for them. Per Safeboda's Head of Operations:

Our market research shows that 60% of our customers really care about safety. And one-third of them are willing to pay a premium for a driver who is guaranteed to be safe. Now, when you use our app, we show you the basic price, and we also show you a "safety premium" price. If the basic price is 2000 shillings, the premium price will be 2500 shillings. Among other things, we provide trip insurance for the premium ride, so if you have an accident then you get some coverage. We will only do this with a top-tier driver. And since the driver gets more money for this job, he is happy to drive safely to stay in the top tier.

¹³ We interviewed two Safeboda drivers at the same location. One had been driving regularly for Safeboda for five years, while the other had done so for one month. The veteran driver's phone beeped roughly once per minute during our conversation, while the novice driver's phone rarely beeped. We believe that this was due to the firm's prioritization of core drivers.

In terms of overall safety, the government's discouragement of passenger helmets during COVID has had an enduring effect: Global Innovations Fund (2022) finds that whereas up to 23% of boda passengers in Kampala were wearing helmets in 2019, that number had fallen to 1% in 2022. Table 1 suggests that some of the gains in reduced boda boda fatalities receded during and immediately following the COVID lockdowns.

Beginning in 2022, Safeboda established a senior-executive position for a person to directly communicate with municipal and national governments in Uganda. This person has been involved in industry-wide discussions regarding ways to improve operations and safety in the industry. This includes discussion about ways in which platforms might be able to encourage or enforce adherence to safety practices desired by government.

In February 2024, Safeboda re-entered Nairobi.

Interpretation. The COVID pandemic, and governments' responses to it, caused massive disruption for most businesses. We see three distinctive impacts on Safeboda and on the prospect of platform governance to address social challenges. First, compared to its rivals, Safeboda's greater requirement for investment by its complementors (in equipment, etc.) and its consequent greater role in financing these investments created greater vulnerability for the platform in the face of the COVID lockdown; in turn, Safeboda's repossession of equipment likely damaged the platform in the eyes of many boda drivers. Second, the government's messaging concerning helmets and COVID infection not only undid Safeboda's advances in fostering helmet adoption by passengers, but may also have reduced confidence in the firm's other admonitions about safe practices. Third, events or government actions that lead to platforms' needing to re-overcome the chicken-and-egg problem of network development will undoubtedly hinder the power of platform governance, whether aimed at private or social welfare.

Regarding competition from rivals, our interpretation is that this is a normal form of competition that affects most or all platforms. One distinction that might arise for Safeboda, as a firm with a more explicit focus on addressing grand challenges, would depend on whether this

focus requires Safeboda to incur higher costs than Uber, Bolt, or Faras. Our sense is that if such costs are offset by a commensurate willingness-to-pay by passengers – either through an actual price premium or through increased patronage of Safeboda drivers at the industry-standard price – then this is not a problem for the platform, and indeed can be theoretically conceived as a form of differentiation. Separately, although at first glance the increase in multihoming by drivers would seem to be a negative development for each app, recent research on “within-complementor spillovers” indicates that the ability to multihome might actually increase the driver participation on each app – essentially, if the alternative to a driver multihoming is not single-homing but rather leaving the industry entirely, then multihoming can be beneficial to the platforms (Chung, Zhao & Ehtiraj 2024). If it is true that Safeboda is the preferred platform for most passengers, then Safeboda might benefit disproportionately from this multihoming.

Finally, Safeboda’s decision to offer a premium option relying on its tier-one drivers appears consistent with theoretical insights about promotion or certification of specific complementors. This approach enables Safeboda to price discriminate vis-a-vis the segment of its customers who are most concerned about safety, and to provide an economic benefit for the drivers whose behavior it most wishes to reward. This system also makes its most valuable drivers less likely to leave the Safeboda ecosystem for another ridehailing platform.

DISCUSSION AND CONCLUSION

In this paper, we considered the feasibility of one form of private-sector effort to orchestrate solutions to societal challenges: platform governance as a way of encouraging or enforcing socially beneficial behavior. We explored an example where platform governance appears to have outperformed both public regulation and publicly-blessed collective self-regulation at improving traffic safety of the motorcycle taxi industry in Kampala, Uganda. Whereas regulatory efforts by the Kampala government were defeated by violent protests and Presidential intervention, and self-regulation through the dominant motorcycle association (with the blessing of the municipal government) led to extortion and violence by the association’s leaders, Safeboda was able to

enforce safe driving behavior among drivers on its app-based ridehailing platform. This manifested itself in only one traffic fatality during more than 5 million rides, a 39% lower rate of accidents among surveyed drivers, and a reduction in costs of accidents (including value of lives saved) exceeding \$13 million over its first four years of operation.

This study offers three contributions to the literature. First, it helps to illuminate how a platform's powers of exclusion and information collection can make it an effective orchestrator of solutions to a social problem, relative to public regulators or other forms of self-regulation. Second, it fleshes out the role of a platform as regulator, connecting this more firmly to social issues rather than implicitly or explicitly assuming that the for-profit platform is focused solely on private gain. Third, it contributes to the recent literature studying interactions between platform governance and public legal/regulatory governance.

Our findings regarding the relative effectiveness of platform governance also connect to the broader conversation on the comparative efficiency of for-profit, non-profit, and public actors for addressing social problems (Kaul and Luo 2018; Luo and Kaul 2019). They also speak to governance solutions to address general challenges of industry self-regulation (King and Lenox 2000; Ostrom 1990).

Finally, we note that this study should not be interpreted to mean that platform-as-regulator is a panacea. Although Safeboda's power to exclude and promote drivers appears to have generated an unalloyed social benefit in terms of safer transit, and although Liu (2024) and this study both suggest cases where a for-profit platform might work in concert with government to achieve certain goals ("institutional outsourcing" in Liu 2024 and the prospect of ridehailing platforms enforcing desired safety policies in this paper), such goals may not always be beneficial. An obvious example relates to the controversial exclusion from social media platforms of "misinformation" in recent years. There is ample evidence that platforms may use their regulatory power to exclude those with opinions or information that is inconvenient for the platform owners or for powerful public actors. Thus, we caution that general exercises of such power in the name of the public good should be evaluated closely.

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Figure 1: Boda boda stage in Kampala



Source: <https://www.pulse.ug/news/kcca-bans-boda-bodas-in-kampala-city-centre/q90x47y>, retrieved on June 29, 2024

Figure 2: Safeboda Drivers and App



Source: www.safeboda.com, retrieved on June 29, 2024

Table 1: Boda bodas' share of Kampala traffic fatalities, 2012-2021
(drivers and passengers; excludes pedestrians killed by boda bodas)

	Boda boda share of Kampala traffic fatalities
2012-2016	51%
2017	
2018	46%
2019	48%
2020	46%
2021	51%
2022	49%

Table 2: Kampala's share of all traffic fatalities in Uganda, 2009-2023
(all transportation modes, i.e., boda boda, automobile, bus)

	Fatal accidents in Kampala (all transportation modes)	Fatal accidents in Uganda (all transportation modes)	Kampala's share of fatal accidents (all transportation modes)
2009	531	2388	22.2%
2010	697	2620	26.6%
2011	682	2843	24.0%
2012		2611	
2013	584	2616	22.3%
2014	581	2518	23.1%
2015	616	2749	22.4%
2016		2999	
2017	626	3051	20.5%
2018	665	3194	20.8%
2019	736	3407	21.6%
2020	685	3269	21.0%
2021	836	3757	22.3%
2022		3901	
2023	953	4179	22.8%

Sources: Uganda Police Force, *Annual Crime Report*, various years; Kampala Capital City Authority, *Annual Road Safety Report*, various years; Biribawa et al. 2018.

Note: The above-cited annual reports are not produced every year, hence the gaps in the data.