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BY THE PEOPLE AND FOR THE PEOPLE: THE DOUBLE-EDGED EFFECTS OF PLATFORM USER MOBILIZATION ON PUBLIC POLICIES

Conditionally Accepted at *Academy of Management Discoveries*

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ABSTRACT

Constituency mobilization is a widely prevalent corporate political strategy, yet we lack systematic evidence on the scope of its effectiveness. One emerging form of constituency mobilization is user mobilization, wherein a company focuses on rallying political support among its users. This approach differs from traditional lobbying, which relies on tightly controlled insider strategies to exert influence over lawmakers. In our study of user mobilization by platform-based companies in the U.S. ridesharing industry between 2012 and 2019, we discovered that corporate user mobilization served as a double-edged sword in that it was associated not only with an increased likelihood of platform legalization but also with heightened levels of regulatory stringency governing these platforms. We propose that the effectiveness of user mobilization hinges on the alignment of interests between business sponsors and users. Additionally, our findings invite further attention into how user mobilization may lead to unintended regulatory stringency through four potential mechanisms: increasing politicians' attention, enhancing issue salience, political compromise, and/or triggering users to go rogue and deviate from the sponsor's intended message.

Keywords: user mobilization, corporate political activity, digital platforms

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INTRODUCTION

The building and mobilization of corporate constituencies—particularly among consumers or users of a company’s products, services, and/or platforms—which we refer to as *user mobilization*, is widely regarded as an important or even essential corporate strategy for gaining leverage in non-market domains such as policy processes (Hillman & Hitt, 1999; Hillman, Keim & Schuler 2004; Lord, 2000, 2003; Heath, Douglas & Russell, 1995; Rehbein & Schuler, 2015; Walker, 2014). While lobbying has informational value for policymakers, and campaign contributions naturally have economic value for those running in elections (Hillman & Hitt, 1999), user mobilization reminds policymakers of the support that a firm or industry enjoys among attentive and engaged members of the public at large who appreciate what the company offers to them (Lord, 2000, 2003). Particularly in policy battles that have high stakes and focus on issues that are highly salient (Goldstein, 1999; Kollman, 1998), user mobilization may offer a critical way to expand the scope of conflict beyond closely connected insiders to those secondary stakeholders inclined to take action on their behalf (Hojnacki & Kimball, 1999). The actions of these newly mobilized stakeholders are expected to serve as key signals to policymakers that these business policy preferences are shared by substantial segments of the mass public, thus making it harder for the policymakers to discount business preferences as simply narrow special interests (Kollman, 1998).

Remarkably, despite the general acceptance that constituency-building and mobilization are core non-market strategies (Hillman & Hitt, 1999; Hillman et al., 2004), and despite the various wide-ranging case studies of this strategy and its effects (Lord, 2000; Hertel-Fernandez, 2018; Fleisher & McGrath, 2020) as well as indication that as many as 40% of *Fortune* 500 firms retain consulting firms that provide constituency-building services to companies (Walker, 2014), coupled with the recent advancements in digital platforms that have significantly reduced the cost of

mobilization (Walker, 2015; Dougherty & Isaac, 2015), we continue to lack systematic evidence of its effects on policy outcomes of interest to business sponsors of such campaigns. Therefore, our research question is: How effective is corporate user mobilization as a strategy?

Specifically, we focus on the U.S. ridesharing industry and investigate how their mobilization of users affects two key policy outcomes: (1) the legalization of ridesharing services, and (2) the level of user-protection regulations implemented by U.S. states between 2012 and 2019. The ridesharing industry provides a good research context, as Uber and Lyft, the two foremost ridesharing companies, are archetypal platforms that have disrupted a conventional industry by using mobile technology, in this case to connect passengers and drivers. As the traditional taxi industry is highly regulated, their entry into the market has created challenges for the legality of their operations (Baron, 2018; Uzunca, Rigtering, & Ozcan, 2018; Paik et al., 2019; Aversa, Huyghe, & Bonadio, 2021). Uber and Lyft have thus mobilized users to press policymakers in various states to legalize their operations (Garud, Kumaraswamy, Roberts, & Xu, 2022). Meanwhile, reports of ridesharing riders being harassed, assaulted, and/or robbed triggered an outcry for more restrictive regulation of ridesharing companies in order to protect users. Using a control function method with an instrumental variable, we discovered that the user mobilization strategy is a double-edged sword that simultaneously increased the possibility of the ridesharing industry's legalization and the stringency of user-protection regulation. We also found that these results stand in contrast to those of the industry's conventional direct lobbying strategies, which do not involve the public.

Based on these findings, we propose that the impact of mobilizing support among users varies depending on the *alignment of corporate and broader public preferences*. When business and public preferences align on particular policies, the mobilization of supportive users clearly

offers firms a significant new source of leverage (Hiatt & Park, 2013). Nonetheless, there are many circumstances in which business and public preferences diverge, yet businesses end up mobilizing user support anyway because they feel pressured by major policy threats and/or opportunities (Curran & Eckhardt, 2020) and thus hope to expand their sources of support despite uncertainties over the nature of that support. In other words, user mobilization as a political strategy helps sponsors achieve their policy goals in areas where their interests are aligned with those of the mass public, but also impedes them from having their way in areas where such interests diverge. The strategy of leveraging the public for one domain can backfire and lead to unexpected policy outcomes in other domains.

We further explored four possible explanations for this double-edged effect that are related to the entire process of user mobilization. First, user mobilization is a direct reminder to legislators that the public is attentive to their legislative actions and urges them to act in the public's interests (Kollman, 1998; Goldstein, 1999). We found supportive evidence suggesting that the double-edged effect is strengthened when legislators face more fierce political competition. Second, user mobilization might have increased the media reports on the ridesharing industry, which in turn increases the number of reports on the safety issue and make it salient. We found confirming evidence that the media's discussion of user safety issues reduces the effectiveness of the user mobilization strategy to legalize the industry and increases its impact on the stringency of regulation. Third, companies only adopt the user mobilization strategy when they are in a marginal situation in their policy environment and are thus more likely to compromise by accepting more stringent regulations. We found dis-confirmative evidence on this count, in that user mobilization affects not only the stringency of regulations passed at the time when a state legalizes the ridesharing industry but also those enacted afterwards. Fourth, it is possible that users *may* take

actions in their own self-interest and “go rogue” from their business sponsors’ original intentions. We found evidence suggesting that users might have gone rogue in that the amplification effect of user mobilization on regulation stringency exists only when users can customize their messages to lawmakers. We encourage future research to further unpack and test these diverse mechanisms through which user mobilizations can lead to unexpected policy outcomes by their sponsors.

Our findings are critical for advancing research at the intersection of non-market strategy, social movements, and corporate political activity (CPA) (for a discussion of the integration of these areas, see Leitzinger, King & Briscoe, 2018; Grandy & Hiatt, 2020; Gupta & Briscoe, 2020; Heyes & King, 2020). Specifically, although constituency-building and mobilization have been recognized as a critical nonmarket strategy by which firms and industry groups can adopt social movement strategies to gain political leverage (Walker & Rea, 2014), previous research has underappreciated the fact that when business interests sponsor mass participation, they—despite their structural power—do not control the ultimate form, content, and outcome of that participation. This may ultimately lead to policy changes that are distinct from, or even antithetical to the sponsor’s intended goals. Our paper also contributes to the nonmarket strategy literature through examining the situations in which one industry seeking an advantage over other social groups (i.e., over another industry through legalization and over user groups through reducing regulation stringency). While the nonmarket strategy literature has emphasized the exchange between politicians and corporations (for review, see Hillman & Hitt 1999; Melahi, Frynas, Sun, & Siegel, 2016; Dorobantu, Kaul, & Zelner, 2017), our paper brings in the sociological perspective of regulation to highlight the competitive landscape of a non-market strategy and suggests that competition between different social groups can shape the scope condition of the effectiveness of companies’ non-market strategy, particularly when it take an indirect form.

PLATFORM USER MOBILIZATION

Digital platforms are increasingly recognizing the immense political power inherent in their large user bases and are starting to mobilize these users effectively for political advocacy purposes. For instance, when battling the Stop Online Privacy Act and the PROTECT IP Act (SOPA and PIPA) in 2012, companies such as Google, Tumblr, and Wikipedia directed users to email their legislative representatives (Pepitone, 2012). In the fight for net neutrality, Twitter, Netflix and Reddit stood out by urging their users to participate in public comment periods and contact lawmakers (Rawlinson, 2014). Similarly, Airbnb has gathered hosts and galvanized them to express their opinions to policymakers (Steinmetz, 2015), and Apple mobilized its users against the FBI's demand for iPhone encryption access by framing the issue as a critical stand for user privacy rights (Lee, 2016).

User mobilization is an *indirect* type of CPA, wherein platforms ask their users to serve as third-party emissaries to approach politicians for preferred business policies (Hillman & Hitt, 1999). While the existing literature has widely recognized constituency building and mobilization as critical types of CPAs (Hillman et al., 2004; Lord, 2000, 2003; Heath et al., 1995; Rehbein & Schuler, 2015; Walker, 2014; Ozcan & Gueses, 2018), the overwhelming focus of the corporate nonmarket strategy literature has been placed on the *direct* exchange between corporations and policymakers (for review, see Hillman & Hitt 1999; Mellahi et al., 2016; Dorobantu, Kaul, & Zelner, 2017). Under the dominant framework of political market exchange, businesses supply politicians with money, information, and resources, and politicians reciprocate businesses with political favors, government contracts, and favorable regulations (Kim, 2019; Gao & McDonald, 2023; Yue & Wang, 2023). As the interactions between politicians and businesses are direct, the nonmarket strategy literature has considered very little about the interests of the recruited constituency, except when such actions are publicly exposed (see Werner, 2017; Jia, Markus, &

Werner, 2023). As such, although businesses can also indirectly influence politicians through engaging into constituency-building and mobilizing a wide range of corporate stakeholders, empirical research on the consequences of corporations' constituency mobilization has been scarce (but see Walker & Le, 2023, on how this affects advocacy groups). This scarcity can also be attributed to the fact that corporations' constituencies, especially consumers of their products/services, tend to be anonymous and geographically dispersed. Further, laws in the U.S. and many other countries regarding lobbying disclosure tend to focus only on direct lobbying and have relatively weak or even absent provisions regarding indirect lobbying by which companies mobilize their constituents, which also makes this form more challenging for researchers to track (Walker, 2014). It is therefore hard to measure the scope and effectiveness of such business mobilizations (Walker, 2014; Yates, 2021; Magzamen, Charlesworth & Glantz, 2001; Yue, 2015).

Yet, advances in digital technology have enhanced the ability of platform companies to mobilize users (Walker, 2015; Dougherty & Isaac, 2015). Platforms enjoy the network effect, meaning that they can offer greater utility to users as more people participate in them. This effect initiates a positive feedback cycle whereby the value of the technology product increases exponentially and leads to winner-take-all phenomena. Popular platforms can thus assemble a massive number of users (Parker, Van Alstyne & Choudary, 2016). In addition, platform users are no longer anonymous or isolated, but can be strategically targeted (Matz, Kosinski, Nave, & Stillwell, 2017). Platform companies have detailed information about each user and can target those they deem would support their policy proposals. In addition, they often embed a participation program into their products so that users can send messages to legislators simply by clicking a button or making a few taps into a smartphone app (Collier, Dubal & Carter, 2018; Baron, 2018; Culpepper & Thelen, 2020). Therefore, digital technology has greatly reduced the costs of

mobilizing collective action for platforms as well as those of participating in collective actions for users.

As such, platforms' user mobilizations provide an opportunity to study the long-overdue question regarding the impact of corporation constituency mobilizations on key policy outcomes. It is especially important to assess the impact of corporation constituency mobilizations on policy outcomes because, although a handful of studies in political science illustrate the effects of grassroots lobbying as a political strategy among all kinds of interest groups, they typically assume that the use of constituency mobilization invariably aligns with the interests of its sponsors (Bergan, 2009; Bergan & Cole, 2015; Fowler & Shaiko, 1987; Reynolds & Hall, 2018). Yet, this prevailing assumption has not been systematically investigated. If user mobilization can help corporate sponsors achieve their intended policy goals but also sabotage them in other unintended areas, it is important to reveal the scope conditions regarding the effectiveness of this strategy.

To do this, it is useful to compare the effectiveness of the indirect user mobilization with that of lobbying. Lobbying is another common political strategy for firms responding to threats in regulatory environments (for overviews, see de Figueiredo & Richter, 2014 and Drutman, 2015). Unlike constituency mobilization, lobbying is a *direct* CPA, engaging policymakers directly through the delivery of information, without the intermediation of a third party. Policymakers, who are often constrained in their resources and time, need such information to understand a policy situation and consider the ramifications of particular actions. Hiring more lobbyists can, therefore, help platform companies make their perspectives heard. Companies also have an advantage when it comes to lobbying because they usually have the know-how to provide the detailed analyses that policymakers require (Smith & Stirling, 2018; Yue & Wen, 2023). Conventional lobbying therefore constitutes a more controlled form of CPA on which corporations have complete control

over the messages delivered to policymakers. To provide context and contrast to user mobilization, our study will also examine the effectiveness of traditional lobbying in advancing platform companies' interests. Below, we turn to the U.S. ridesharing industry to explore how their mobilization of users influences the legalization of the industry and the establishment of regulations to protect users.

THE RIDESHARING INDUSTRY: USER MOBILIZATION, LEGALIZATION AND USER PROTECTION

The U.S. taxi industry has traditionally consisted of hundreds of taxi companies that compete in local markets (IBIS, 2015). It is highly regulated by subnational governments, which determine everything from how many taxis can be licensed to operate and how much they can charge, to where they can pick up customers (Staley, Annis, & Kelly, 2018). The emergence of technology-based ridesharing services, however, has caused significant disruption in the industry. The ridesharing industry is highly concentrated; Uber holds around 70 percent of the market share, while Lyft holds 20 percent. These companies use digital platforms to attract a large group of riders on the demand side and connect them to the private drivers on the supply side, and using a dynamic algorithm, find the optimal match between the two. For customers, ridesharing services can be an efficient, convenient, and cheap transportation alternative to traditional taxi services. For drivers, ridesharing platforms offer job opportunities, employment flexibility, and extra income (Burtch, Carnahan & Greenwood, 2018; Chan & Shaleen, 2012).

Ridesharing companies quickly expanded in the U.S. by leveraging a regulatory grey area (Crespo, 2016); the existing regulations had been designed to govern taxis and could thus not be applied directly to their new business model (Ozcan & Gurses, 2018; Uzunca et al., 2018). Usually, these companies entered a city without seeking permission from regulators. When questioned, they

argued that they were technology, not taxi companies, and that existing taxi regulations thus did not apply to them (Collier et al., 2018; Garud et al., 2022). Relying on heavy subsidies and referral bonuses, ridesharing companies quickly generated a critical mass of drivers and riders (Baron, 2018). Although ridesharing could initially expand rapidly by navigating the regulatory grey area, the companies soon triggered a backlash from the taxi industry. Organizing protests against the new industry across the country (Kosoff, 2014), taxi drivers argued that ridesharing companies should be banned for violating local operational rules and engaging in unfair competition (Cramer & Krueger, 2016; Thornton, 2014). Responding to their pleas, many cities issued restrictive measures on the new industry (Paik, Kang, & Seamans, 2019). Indeed, from 2009 to 2019, 130 local bans on ridesharing were enacted in 64 cities.

Legalization: The Intended Policy Outcome

Struggling with the recurring taxi protests and local bans, ridesharing companies realized that permanent legal status was essential. As ridesharing companies scaled, they demanded a new regulatory framework that would normalize and incorporate their operation (Thelen, 2018). As Travis Kalanick, Uber's founder, pointed out, without legalization, Uber would be a constant crusader "battling the under-handed, street-fighting entrenched interests" (quoted in Issac, 2019: 121). Although early in the process, ridesharing companies fought battles on the city level in several of the country's largest urban markets, when seeking legalization, they nearly always circumvented local governments and targeted the state government to seek statewide laws that preempted local regulations (Borkholder et al., 2018; Collier et al., 2018). In doing so, they exerted a direct influence on policymakers at the state-level through both lobbying and user-mobilization. According to a report by the National Employment Law Project, in 2016, Uber hired 370 active lobbyists in 44 states; the total number of lobbyists hired by Uber and Lyft was greater than that

of all the lobbyists hired by Amazon, Microsoft, and Walmart combined (Smith & Stirling, 2018: 20).

More importantly, besides resorting to direct lobbying, ridesharing companies have also been known to mobilize users broadly. As shown in Figure 1, ridesharing companies sent in-app messages to their users. In these messages they highlighted their claim that the legalization request was in the interest of the users and urged them to demand that their legislators stand up for them. By clicking the link in the message, ridesharing users could reach online petition sites that relayed their demands and support to legislators (Helderman, 2014). By representing the interests of their mass users, ridesharing companies hoped to exert public pressure on policymakers to legalize their operation. Although not without heavy distortion due to the influences of monied interests and unequal representation, democratically elected policymakers must still appear to be accountable to the popular demands of those who put them in office if they wish to win their votes in the next election (Dahl, 1989; Erikson, Wright, & McIver, 1993).

Insert Figure 1 Around Here

User Protection Regulations: The Unintended Policy Outcome

User safety protection has been a key policy issue for the ridesharing industry. Between 2014 and 2015, there were 102 alleged assaults and 395 alleged sexual harassment incidents involving Uber and Lyft drivers in the U.S. alone (WDY, 2016). A 2016 survey shows that 76 percent of ridesharing users consider consumer insurance, driver registration, and vehicle identification plates as essential to ensuring public safety (WBJ, 2016). However, although protecting users may work in the industry's long-term interest, ridesharing companies were advocating against strict safety measures which slow down their short-term growth. Higher insurance and vehicle maintenance requirements add directly to their operational costs. Moreover, ridesharing companies are platforms that benefit from network effects. To generate

explosive growth and winner-take-all dominance, they have lowered entry barriers when recruiting drivers and even ignored certain safety standards to accelerate network effects (Tacker, 2021). In numerous states, ridesharing companies have openly called for limited insurance coverage as well as minimal driver-screening practices and vehicle inspection (Crespo, 2016), and criticized such user-protection measures as “onerous,” claiming that they “stifle innovation and protect the status quo” (Uber, 2014a). In New Jersey, for example, Uber is reported to have “aggressively lobbied against those (fingerprinting) requirements here and elsewhere” (Cornfield, 2016). Similarly, in a petition letter against an Illinois ridesharing bill in 2014, Uber claimed that the proposed insurance requirement would “drive costs up for consumers and protect the taxi monopoly” (Uber, 2014b).

DATA AND METHOD

Dependent Variables

We explore how the user mobilization strategy deployed by ridesharing companies affected the legalization of the industry as well as the stringency of user protection regulations imposed on the industry in U.S. states between 2012 and 2019. We started with 2012, the year in which the disruptive peer-to-peer service UberX was launched and triggered regulatory backlash, and ended in 2019, when most state-level ridesharing laws had been passed. Our unit of analysis is a state-year. The first dependent variable is *legalization*, which is a dummy variable indicating that ridesharing companies are allowed to operate in a state after that state legislature enacts a law governing ridesharing companies. Some states have enacted a ridesharing law that encompasses multiple issues, while others have enacted one single-issue law after another. We treated the enactment of the first ridesharing-enabling law in a state as a signal that ridesharing services had become legal in that state, and obtained the timing of law enactments from LegiScan.

The second dependent variable is *stringency of regulation*. Aversa & Guillotin (2018) defined restrictive regulations as those that reduce and bind the agents' allowances and actions. They defined permissive regulations as those that increase the agents' freedom. We regard the regulations on ridesharing safety to be restrictive regulations. We collected and analyzed political announcements made by the taxi industry and the ridesharing industry. We identified four key policy issues advocated by the taxi industry but opposed by ridesharing companies: insurance, fingerprinting, commercial licenses, and regular vehicle inspections. As these safety measures are typically required of taxi drivers nationwide, and the taxi industry claims that exemption from these requirements gives ridesharing companies an unfair competitive advantage (Baron, 2018), we used them as the benchmark for measuring the level of stringency of ridesharing laws.

The first issue concerns *insurance requirements*. In March 2015, ridesharing companies struck a deal with auto insurance carriers on a compromise insurance model, which clarified the amount of insurance in different stages of the ridesharing service. Ridesharing companies oppose any insurance requirement higher than that of the compromise model because it would add to their financial burden. Higher insurance, however, provides more protection for users. The second issue is whether to include *fingerprinting* as part of the background check of drivers, which includes a basic criminal background check in the national database. This policy protects passenger safety but constrains the recruitment of ridesharing drivers. Ridesharing companies have argued that fingerprinting could substantially reduce their network by driving away part-time drivers. The third issue pertains to *commercial licenses*. Some states require ridesharing drivers to apply for an extra commercial license above their regular driving license. This procedure screens out even more drivers and raises the bar for providing service on the platform, but safety activists deem it necessary for protecting passengers. The fourth issue is the requirement of an *annual vehicle*

inspection by a third party. This procedure helps ensure the safety of vehicles but stops drivers of private automobiles that fail to pass inspection from providing services and thus slows down the expansion of ridesharing companies.

To account for the stringency of these regulations, we created a count variable of how many of the four laws were adopted in a state in a given year. As some states have passed consecutive single-issue laws, and others have revised previous laws, the policy stringency score of each state may change over time. Considering that regulatory stringency can be observed only in those states where ridesharing has been legalized, that is, a ridesharing law has at least been passed, we marked stringency of regulation as absent before legalization.

Independent Variables

The first independent variable is the *user mobilization strategy* deployed by ridesharing companies¹. We measured it with a dummy variable, coded as one for the years in which ridesharing companies called on their users to sign online petitions to support the legalization of their operation in a state. We obtained the year in which they used the strategy from ridesharing companies' petition sites as well as from petitions signed and shared by ridesharing users on social media. Given our focus on state-level policy outcomes, we included only petitions targeted at state governments and excluded those targeted at municipal governments. Figure 2, which shows the stringency of regulations and all the states in which ridesharing companies had mobilized users by 2019, reveals that these states tended to have more restrictive regulations.

In addition to researching the use of user mobilization strategies, we also collected data on the platforms' lobbying in a state, as this is the main alternative strategy that ridesharing companies

¹ In the battle over ridesharing laws, Uber is the main player while Lyft just follows along. Uber was behind all the user mobilization campaigns and hired most of the lobbyists – more than 90% of them worked for Uber. We also tested the hypotheses excluding Lyft lobbyists and the results remained.

have adopted to influence state-level governments. We measured lobbying activities by the percentage of lobbyists hired by ridesharing companies out of all lobbyists registered in a state in a year because ridesharing companies tend to hire more lobbyists in larger states. Our basic results remain robust if we use the raw number of lobbyists in a state as the independent variable. We obtained data on lobbying by ridesharing companies from the National Institute of Money in State Politics (NIMSP, 2019), which collects this data from state governments. Lobbying expenditures could be an alternative form of measurement, but records for this are incomplete because 33 states do not require lobbyists to report expenditure data (NCSL, 2018). While making campaign contributions is another major form of CPA, it usually opens the door for lobbying (Li, 2018); in the case of the ridesharing industry it has played a relatively minor role (Stuart- Sikowitz, 2014). In California, for example, Uber spent \$4,017,412 in lobbying the state government between 2009 and 2019, compared to \$610,593 in political donations in the same period (NIMSP, 2019). We thus focused on lobbying rather than campaign contributions when comparing the consequences of user mobilization to the less public form of CPA. As the consequences of lobbying have been well studied (see de Figueiredo & Richter (2014) for a review), we presented the results of lobbying as an additional independent variable in our specific research context and as a contrast to the results of user mobilization. Figure 3 presents the number of ridesharing user mobilizations and the number of lobbyists hired by ridesharing companies by year. The graph clearly shows that the number of user mobilizations that Uber organized peaked in 2015 and then sharply declined. At the same time, the number of lobbyists that Uber hired in each state continued to grow. The contrast indicates that Uber might have learned about the downside of mobilizing its users.

Insert Figure 2 and 3 around Here

Control Variables

We included a number of control variables. First, we controlled for the political activities of the incumbent taxi industry—mainly protests and lobbying efforts by those in the taxi industry. To identify *taxi industry protests*, we searched taxi- and protest-related key words in the Factiva database. Unlike the ridesharing industry, which is dominated by two major players, the taxi industry encompasses many taxi companies. We thus searched for companies whose names contained any of the following words: “taxi,” “limo,” and “cab.” Two coders identified 60 protests in 16 states, and we created a count variable to indicate the number of taxi protests in a state in a given year. We measured *taxi companies’ lobbying* by the percentage of lobbyists hired by taxi companies out of all registered lobbyists working on state governments in a state in a given year from the data of the National Institute of Money in State Politics.

Second, we considered the influence of municipal governments. We adopted Paik et al. (2019)’s data on *local ridesharing bans* enacted up to and including 2015 and used the same procedure to identify local bans from 2016 to 2019. We first searched ridesharing companies by name—Uber or Lyft—in *Factiva*. One author and research assistant read through all the filtered news reports separately and identified all events involving local bans, which included explicit announcements of bans, penalties imposed on those who ignored the bans, and the exit of ridesharing companies from a city after the announcement of a new local regulation. We also included the power structure of local and state governments as a control variable. In states with *Dillon’s Rule* (coded as one), local governments must obtain permission from the state legislature in order to pass laws or ordinances; in states with Home Rule (coded as zero), local governments are granted authority to pass laws on their own.

Third, we controlled for the characteristics of state legislatures. Republicans are known to support the ridesharing industry. In 2014, for example, the Republican National Committee’s

website put up a petition blocking “taxi unions and liberal government bureaucrats” from “setting up roadblocks, issuing strangling regulations and implementing unnecessary red tape to block Uber from doing business in their cities” (quoted in Buss, 2014). We adopted the dichotomized measure of *Republican-controlled state legislatures*, coded as one, to indicate the Republican Party’s hold on the governorship, its majority in the state senate, and its majority in the state house in the prior year (Chen, 2007)². Our data source on this was the annual *Book of the States* published by the Council of State Governments. We also controlled for the *professionalism* of state legislatures. Professional legislators have more time and resources to devote to policy development and therefore a stronger capacity for devising new laws. To measure the professionalism of legislature, we adopted the measurement developed by the National Conference of State Legislatures, a count variable that ranges from full-time professional legislatures (four), to part-time citizen legislatures (zero).

Fourth, we controlled for a set of variables related to the characteristics of each state. We included the *state fiscal capacity* by measuring the annual per capita revenue of state governments since greater financial resources increase a state government’s discretion in policy making (Jenkin, Leicht, & Wendt, 2006). We collected the data from the annual *Book of the States* published by the Council of State Governments. We controlled for the economic and sociodemographic characteristics of a state, including its annual estimated *population* and *per capita income* and collected the data from the U.S. Census and the Bureau of Economic Analysis.

Finally, we controlled for the *diffusion effect* among states since a state government can enact a ridesharing law that follows those of peer states. We measured the number of neighboring states of a focal state that legalized the ridesharing industry in the prior year. Table 1 presents the

² While governors have the ability to influence the process through their veto power, the primary responsibility for developing and passing laws rests with the legislatures.

descriptive statistics and a correlation matrix for all the variables. The mean VIF value is 2.73, indicating no significant collinearity among the variables.

Insert Table 1 around Here

Estimation Methods

We used the Cox proportional hazard model to estimate the legalization of the ridesharing industry. For stringency of regulation, we used the Poisson model as it is preferable to the Negative Binomial model when overdispersion is not a significant problem. Here we conducted the overdispersion test and found no evidence of such.

In addition, we took into consideration that user mobilization strategy is not randomly adopted in a state. To address this problem, we adopted a control function method with an instrumental variable. The control function method models endogeneity in the error term and is more appropriate than using the instrumented treatment variables in the second stage model when the dependent variable in the second-stage is nonlinear (Heckman & Robb, 1985; Wooldridge, 2015). To implement the control function method, we first used an instrumental variable to estimate the likelihood that ridesharing companies would adopt the user mobilization strategy in a state in a given year. A good instrumental variable should be strongly correlated with the endogenous independent variable, but not with the dependent variable in other ways. In our setting, protests by hosts enrolled in Airbnb —the dominant home-sharing platform company that mobilizes its hosts to publicly protest hostile regulations—provide the relevant proxy. The protests by Airbnb hosts can be closely correlated with ridesharing companies user mobilization because: (1) both industries have had similar timelines as both were launched in 2009 and have been subject to government bans since 2013, when they started rapidly expanding; (2) both have faced a similar set of regulatory challenges; and (3) both have targeted similar markets, namely, large cities. Airbnb, however, has promoted different bills and targeted different committees within state

legislatures, so its political strategy would not have influenced regulatory outcomes for the ridesharing industry³.

We collected the host protest data from Airbnb's official Twitter account on policy issues and found that protests by Airbnb hosts are a predictor of the ridesharing industry's user mobilization in a state (reported in Appendix). We then calculated the residuals of the first-stage models and inserted them into the second-stage models that predict the impact of ridesharing user mobilization strategy on the legalization of the industry and stringency of regulation. We also clustered standard errors by state and year to control for the impact of omitted variables that may have exerted a common effect on the industry in a state at the same point in time.

MAIN DISCOVERIES AND DISCUSSION

Main Results: The Double-Edged Effect of User Mobilization

Models 1 – 4 in Table 2 reports control function Cox hazard models for legalization, while Model 1 is the baseline model. Model 2 and Model 3 show that both user mobilization and lobbying significantly increase the likelihood that the ridesharing industry will be legalized in a state. Such impacts remain when both strategy variables are included in Model 4. Specifically, the adoption of user mobilization strategy increases the chance of the industry's legalization by more than four times ($\beta = 1.555$, $p=0.000$), while one standard deviation increase in lobbying leads to almost fifty percent increase in the chance of legalization ($\beta = 0.489$, $p=0.000$). Therefore, user mobilization and lobbying are both effective strategies to reach a policy goal that is intended by ridesharing companies.

Models 5 – 8 in Table 2 report control function Poisson models of the regulatory stringency,

³ Our results are not sensitive to the usage of the instrument variable. We acknowledge that ridesharing and Airbnb are the two biggest industries in the sharing economy, and that there is some possibility for their legislative results to be correlated. Therefore, we do not make causal claims for our findings.

while Model 5 reports the baseline model. Model 6 and Model 7 show that user mobilization significantly increases the stringency of user-protection regulations, while lobbying significantly reduces that stringency. According to Model 8 where both strategies are included, the stringency of user-protection is more than 75 percent higher for states in which ridesharing companies adopted user- mobilization than it is in similar states that were not affected through user mobilization ($\beta = 0.563$, $p=0.006$); meanwhile, one standard deviation increase in lobbying by ridesharing companies decreases the stringency by twenty percent ($\beta = - 0.294$, $p=0.007$).

The findings of our study indicate a double-edged effect of user mobilization on the ridesharing industry, with implications for both intended and unintended policy outcomes. On one hand, user mobilization increases the likelihood of legalization, aligning with the objectives of ridesharing companies. However, it also leads to a greater stringency of regulation, which may not be intended by these companies. In contrast, lobbying, a direct strategy that bypasses public involvement, has a single-edged effect. It helps the ridesharing industry in achieving its goals by increasing the probability of legalization and reducing the extent of regulatory constraints.

Insert Table 2 around Here

The (Mis)alignment of Corporate Sponsors and Their Users

From our findings, we propose that the effectiveness of the user mobilization strategy depends on the degree of alignment between the interests of businesses and the mass supporters they recruit to lobby on their behalf. This *alignment* stems from the “automatic punishing recoil” mechanism indicated by Charles Lindblom (1982) in *The Market as Prison*. This mechanism suggests that the market system can force policymakers to heed business preferences, as business elites offer inducements that yield superior market outcomes. This means that policies infringing on business interests will almost automatically lead to a market-based punishment of the people. Businesses, in turn, can leverage the alignment of their interests with the public in order to influence policies.

The *divergence* in the interests of businesses and users is grounded in the sociological theory of industry regulation, which contends that the mass public and industries are not natural allies, but instead are often enemies. For this reason, many regulations imposed on industries aim to prevent powerful industry players from exploiting vulnerable industry stakeholders, such as consumers, employees, and communities (Fligstein, 1996; Schneiberg & Bartley, 2001; Yue, Luo, & Ingram, 2013). Mobilization campaigns inform the public about a particular policy issue and the actions that a policymaker is taking on that issue. At the same time, they also make the policymaker more aware of the fact that constituent groups are informed and paying attention to their actions on a focal policy, thus urging them to act on their behalf. For these reasons, public mobilization can have diffuse effects on untargeted policies that protect the public, even at the expense of sponsors.

Various examples of this phenomenon can be found in the case literature and media reports. Yates (2021), for instance, discovered that while Airbnb's mass user mobilization was often effective on issues where the company's interests aligned with those of users—as in matters concerning the platform's overall ability to operate—the users that the company mobilized sometimes pushed for additional protections for both hosts and visitors, which went beyond the company's preferences. Similarly, students at for-profit colleges who were recruited to lobby against the Obama administration's proposed restrictions on the industry were generally willing to fight the overall regulations (Walker, 2014), but there is evidence that students at these institutions were often worried about the industry's contested or even predatory practices (Cottom, 2017). Tobacco firms were often common mobilizers of both smokers and others who depended upon smokers' patronage for their businesses (e.g., bar and restaurant owners), but the mobilization of the latter always ran the risk of inadvertently stoking the participation of those who worried about the risks of tobacco exposure to their health (e.g., Magzamen, Charlesworth & Glantz, 2001).

The double-edged effect of mass user mobilization sets it apart from lobbying (de Figueiredo & Richter, 2014; Drutman, 2015; Yue & Wang, 2023). Lobbyists provide information directly to policymakers. As lobbying does not involve the public, it is largely invisible (Yackee, 2015). It thus acts as a 'single-edged' tool, helping businesses achieve their policy goals in areas where their interests align with those of the public, while also *mitigating* restrictive effects in areas where their interests diverge from those of the public.

Robustness Checks

We performed several additional analyses to check the robustness of the main findings and presented the results in Table 3. First, we unpacked the count dependent variable of regulatory stringency into four individual policy issues, which are vehicle inspection, extra licensing, insurance and fingerprint background check, and used control function logit models to test if the impact of user mobilization still holds. Models 1 – 4 in Table 3 summarize the results. It reveals that the adoption of the user mobilization strategy can significantly increase the chance of all the four policy issues regarding user protection. Additionally, we applied taxi industry regulations as the baseline to contextualize the dependent variable of ridesharing regulatory stringency. We derived stringency scores for taxi regulations across states from the same four regulatory areas. Given the absence of state-wide taxi regulations in most U.S. states, we aggregated data from the two largest cities in each state and calculated their average to represent the state's taxi regulation stringency score. Subsequently, we formulated a dependent variable, '*relative stringency*,' representing the differential between the ridesharing laws' stringency scores and those of the state's taxi regulations. Model 5 in Table 3 demonstrates that with the newly established measure of regulatory stringency relative to the taxi industry, the positive influence of user mobilization strategy and the negative effect of lobbying strategy persist.

Second, we tested alternative estimation models. We tested the legalization with probit model and found similar results (see Model 6). Similarly, we used an OLS model for regulatory stringency and found consistent results (see Model 7). Together, these results show that the positive impacts of user mobilization on ridesharing legalization and regulatory stringency are not sensitive to the model specification. Third, we considered an alternative sample. We extended our sample to the years between 2009 and 2019, considering that Uber was launched in 2009. The result for legalization with the extended sample remains (see Model 8; the sample for stringency of regulations is not influenced).

Fourth, we used an alternative measurement for user mobilization by collecting the number of users signing a ridesharing petition in a state. As the ridesharing petition sites had all been closed, we collected the number of signatures from two other sources. First, we searched for the closed ridesharing petition sites on the Internet Archive, a non-profit library that randomly captures and stores millions of websites. In so doing, we obtained the number of signatures recorded on the archived petition website for each state. Second, we searched Google News and Factiva for media reports on the number of signatures being collected by ridesharing companies. Unfortunately, neither data source is entirely reliable since the numbers recorded on the archived websites may not be the final ones, and newspapers usually report only a general number of signatures, e.g., “more than 10,000.” We then tested the impact of the number of signatures on legalization and regulatory stringency. Model 9 and Model 10 showed that neither legalization nor regulatory stringency were affected by the number of petition signatures. In addition, when we were controlling for the dummy variable of user mobilization in Models 11-12, the user mobilization indicator remained highly significant when it came to predicting both legalization and regulatory stringency. Hence, the incidence of a user mobilization event may be a stronger indicator than the

mere number of users being mobilized. Together, these additional analyses suggest that the double-edged effects that we find are robust.

Insert Table 3 around Here

EXPLORATION OF MECHANISMS

While our main objective in this paper is to analyze the effectiveness of user mobilization, we additionally explore four mechanisms that could have contributed to the double-edged effects -- politicians' incentives (target), user going rogue (source), media (third party), and compromise (process). We propose these mechanisms because they capture all relevant elements in the process that platforms mobilize their users to influence lawmakers.

The first possible mechanism is '*attention*,' wherein user mobilization makes legislators more aware that the public is watching their legislative behaviors concerning the ridesharing industry. As a result, the occurrence of user mobilization increases legislators' desire to heed the public's interests. Political competition theory predicts that, although legislators are always motivated to make public policies that reflect people's will in order to secure upcoming votes, such motivation varies according to the level of political competition (Bonardi Holburn, & Vanden Bergh, 2006). When ridesharing users and companies share a demand, such as legalizing the operation of ridesharing services, legislators facing greater political competition are more inclined to respond to their common demand. However, regarding user protection clauses, where users and ridesharing companies have divergent interests, legislators facing greater political competition are more likely to prioritize the public's demands and create policies that protect users.

To provide an initial test of this mechanism, we measure political competition facing legislators by the margin of winning votes in the most recent legislative elections because when

seats held by both parties are close in number, the next electoral cycle will be highly competitive⁴ (Bonardi et al., 2006). We collected the data from the *Book of the States* published by the Council of State Governments. The variable was reverse-coded so that a higher value of the variable implies greater election pressure (Fremeth & Holburn, 2012). Models 1-2 in Table 4 present that user mobilization is more likely to increase the chance of legalization in states with higher political competition; as shown in Models 4-5, user mobilization is also associated with more restrictive regulations in states with higher political competition. This is in contrast with the result that political competition demonstrates no significant moderation impact on the lobbying strategy (Model 3 in Table 4 for legalization and Model 6 in Table 4 for stringency). Hence, the mechanism of intensified attention from politicians due to political competition receives empirical support.

The second possible mechanism is “*salience*.” It means that user mobilization increases the media’s coverage of the ridesharing industry and consequently the discussion of the safety issue in this industry. These media reports make the ridesharing industry’s safety issue more salient. Pluralistic democratic theory suggests that when an issue is salient to the public, the government will take appropriate action in order to show its responsiveness to citizens (Page & Shapiro, 1983). Salience provides a comparison point between lobbying and user mobilization. Compared to lobbying, which is usually conducted out of public view, user mobilization is more likely to draw media attention. The massive number of users that platforms mobilize draws wider public attention to the separate and distinct interests of these users, as a large-scale mobilization event often gets covered by media reports. Media reports may expose both the benefits that users obtain from platforms and the costs they bear. Media reports that discuss the drawbacks of platforms are likely

⁴ Political Competition is measured as $1 - (\text{Majority party seats in Legislature} - \text{Minority party seats in Legislature}) / (\text{Total seats in Legislature})$

to reduce legislators' support for legalizing the ride hailing industry and increase their support of more stringent regulations over the industry.

As one test of this mechanism, we measure *salience of user protection* by the count of media reports discussing ridesharing user safety issues in a state in the prior year. In 2019, Uber published a safety report suggesting that ridesharing companies had been involved in three major types of incidents: sexual harassment, car accidents, and physical assaults. We based our media search strategy on these three types of incidents. We confined our search to both companies—Uber and Lyft—in the media database *Factiva* and obtained news reports that contained the following keywords and their variants: “safe”, “sexual,” “harassment,” “assault,” “rape,” “violence,” “crash,” “fatal,” “death,” “collision,” “crime,” and “injury.” As Factiva enables confining news search to each state, we obtained the number of news reports on ridesharing incidents in a state in a year.

Models 7-8 in Table 4 suggest that user mobilization is less effective in achieving legalization when the issue salience of the ridesharing safety is high, whereas Models 10-11 show that user mobilization is associated with more restrictive regulations when the issue salience of ridesharing safety is high. By contrast, the issue salience variable has no moderating impact on the influence of lobbying (Model 9 for legalization and Model 12 for stringency). Therefore, the mechanism of issue salience is supported.

The third possible mechanism is “*compromise*.” Political compromise theory predicts that disagreeing parties in politics agree to partially concede their claims to the demands of the other party in order to resolve disagreement in a practical sense and prevent negative consequences of continued disagreement (for a recent review, see Spang, 2023). Therefore, when the ridesharing industry was in a marginal situation in a state, it should be more likely to compromise by accepting

more stringent regulations. To assess this mechanism, we restricted the measurement of regulatory stringency to regulations enacted after the ridesharing industry had obtained legal status in a state. If the stringent user protection regulations are passed as a compromise to legalize the industry, then the safety regulations passed after legalization should be less subject to the concern. Model 13 in Table 4 reveals that the positive impact of user mobilization on regulatory stringency remains positively significant after we restrict to the regulations enacted after legalization. Thus, it is unlikely that a more restrictive regulation was enacted as a “condition” for legalizing the industry.

The fourth potential mechanism is referred to as “going rogue,” which describes a situation where a political actor breaks with established norms and party lines (Palin, 2009). Going rogue can involve expressing views that diverge from the official stance or pursuing personal interests over those of a party or organization. In our setting, users mobilized by ridesharing companies to advocate for the legalization of the industry can also send messages demanding stricter safety regulations, which are not desired by the ridesharing companies. The petition message provided by the companies explicitly advocated for legalization, and in some cases, less stringent measures. For example, 'As one of your constituents, I urge you to pass legislation that supports Uber ridesharing in the state... old insurance models should be adapted to ridesharing and require over 20 times the amount of insurance required of taxis by the State.' It is possible that the messages customized by users included demands that led to stricter regulations. However, due to the unavailability of the messages that users transmit to legislators, we face limitations in directly analyzing the content of these messages. Instead, we leveraged the design of the user mobilization interface and analyzed cases where users were given the option to customize their messages (54% of the cases). We anticipate that instances of users 'going rogue' are more likely to occur when users have the option to personalize their messages, compared to cases where they are limited to

sending standardized messages provided by the companies. We test this mechanism in Model 14 to 17 in Table 4. Models 14 and 15 in Table 4 show that user mobilization, both customized and non-customized, increased the likelihood of legalization. In contrast, Model 16 suggests that customized user mobilization retains its positive influence on regulatory stringency, but this effect disappears without message customization in Model 17. This lends support to the 'going rogue' mechanism, possibly because personalized messages might highlight a variety of concerns and individual stories that draw attention to the need for more robust regulations. Moreover, the consistent effects of user mobilizations, with or without customization, on legalization suggest that the amplification effect of user mobilization on regulation stringency is not caused by a common confounding factor such as the effectiveness of personalized messages. Yet, without further evidence about the content of the messages users send to lawmakers, we caution that our evidence is suggestive in nature.

Together, our results suggest that user mobilization may have contributed to higher regulatory stringency in user protection through the mechanisms of increasing politicians' attention to the public interest, the salience of the focal issue, and the probability of user going rogue.

Insert Table 4 Around Here

GENERAL DISCUSSION AND CONCLUSION

In this paper, we have provided the first systematic evidence of the effectiveness of user mobilization for shaping public policies. While a wide range of studies have spelled out the expectation that constituency-based political strategies offer businesses a significant additional source of leverage (Curran & Eckhardt, 2020; Tyllström & Murray, 2021; Hertel-Fernandez, 2018; Henderson et al., 2021; Walker, 2012; Lord, 2000, 2003), clear and robust evidence of the scope of the strategy's effectiveness has been lacking to date. Our study of the U.S. ridesharing industry

from 2012 to 2019 found that corporate user mobilization is a double-edged sword that helps these companies achieve legalization in a given state, but also increases the stringency of regulations meant to protect everyday users. By contrast, lobbying by companies does not involve the public and helps the companies attain their goal to achieve legalization and reduce regulatory stringency. Based on these findings, we propose that the effectiveness of user mobilization depends on the alignment of interests between companies and users. It helps corporate sponsors achieve their policy goals in areas where their interests align with those of mass participants, but it hurts sponsors in areas where such interests diverge.

The double-edged effect of user mobilization that we found in this paper sheds new light on the so-called “platform power” to disrupt political pluralism (Culpepper & Thelen, 2020: 290). As platform companies increasingly enlist users as grassroots allies in policy battles (Pepitone, 2012), many observers have grown concerned about their potential to disrupt democracy (Public Citizen, 2016; Smith & Sterling, 2018). In particular, technology platforms have advantages when it comes to mobilizing users: not only do they have a huge number of them, but they also know who and where they are, and many of their revealed personal preferences. Hence, they can easily mobilize thousands of people via a simple email or app notification that asks them to blast targeted messages to their elected officials with a few clicks or taps. User mobilization by platform companies has thus been viewed as a potential threat to democracy. Yet, our paper shows that user mobilization helps platforms achieve their policy goals in some respects, but also constrains them in others. When users are given the option to customize their messages to lawmakers, the same conditions that amplify the influence of user mobilization in aiding platform companies also amplify its influence in constraining them. Lobbying, a more conventional form of political strategy, can be more influential in helping platform companies both legalize their operation and

reduce regulatory stringency. Therefore, what has contributed to the so-called ‘platform power’ may lie not so much in mobilizing the public, but in these companies’ resource-consuming operations from behind the scenes.

In light of all this, our overall findings raise the critical question of whether user-friendly policies that hinder platform companies’ short-term goals may actually work in their long-term interests. As user-protection policies arguably make the operations of platforms more stable and secure, compliance with these regulations increases platform companies’ legitimacy and helps them gain users’ trust (Garud et al., 2022). However, this perspective on the industry’s long-term interest cannot by itself explain why there are still substantial variations in safety regulation across states. For example, by 2019, ridesharing had been legalized in 49 states, but only ten states had set up a ridesharing insurance standard that exceeded that of the industry’s compromised model, five had mandated fingerprint background checks, ten had required an extra licensing procedure, and fourteen had obligated additional third-party vehicle inspection. If these more stringent regulations work merely to strengthen the long-term interests of ridesharing companies, then they should have been more widely adopted. As such, it is likely that either ridesharing companies did not fully realize their “long-term interest” or genuinely believe these regulations are too stringent and hence detrimental to their operations. As we have shown in this paper, there is substantial evidence that when ridesharing companies initiated their campaigns to influence state regulations, they aimed at laxer regulations. Therefore, despite the fact that ridesharing companies somewhat adjusted their rhetoric regarding user protection after facing more restrictive regulations, stricter regulations on user protection did indeed constrain their operations and were initially perceived by them as unwelcome.

Our paper also contributes to reconciling economic and the sociological theories of industry regulation. While the economic theory of regulation has emphasized “regulatory capture” (Stigler, 1971; Dorobantu, Kaul, & Zelner, 2017) of how industry groups influence policy makers to obtain favourable policy outcomes, the sociological theory has depicted industry regulation as a contested territory in which interest groups leverage the government to enact regulations that constrain industry players (Fligstein, 1996; Yue, Luo, & Ingram, 2013; Yue & Wang, 2023). Our paper shows that the same course of political activity by industry players can have both intended and unintended consequences. While investigating either consequence can lead one to find support for either the economic or the sociological theory of regulation, a multi-perspective approach is warranted for a more comprehensive understanding of the consequences of CPA, especially when it involves both firms and their stakeholders. As such, our paper expands the nonmarket strategy literature through introducing the sociological perspective of competition and regulation in the market. Through examining situations in which one industry group seeks an advantage over other social groups, we urge nonmarket strategy scholars to expand the scope of investigation beyond the direct exchange between politicians and corporations to include their indirect interactions through other social actors.

It is important to point out the limitations of our study. Primarily due to the limitation of archival data, we are unable to precisely observe the mechanisms through which user mobilization has the unintended consequence of increasing regulation stringency. Although our mechanism testing provides evidence consistent with three potential mechanisms, future research that can access the detailed petition messages users send to politicians or directly interview legislators can provide more direct evidence in support of the mechanisms of attention, salience, or going rogue. In addition, our paper studies the user mobilizations in one industry, and future research should

test the generalizability of our findings and investigate whether the double-edged effects exist in other industries.

Overall, our paper shows that business-recruited participants can, in effect, lead to certain outcomes that enjoy popular support, yet are undesired by the sponsor. There is anecdotal evidence suggesting that technology firms seem to have become increasingly aware of this drawback of user mobilization. Airbnb, for example, has “regularly ask[ed] its users to advocate for the site to remain legal in their cities, but [it] did not invite them into deeper discussions about how the company operates in those cities, such as [about] who’s responsible for the taxes” (Stempeck, 2015). In addition, a growing number of studies of platforms indicates that the mere existence of a huge number of users does not necessarily indicate business power (Rietveld & Eggers, 2018). Thus, when examining whether a huge user base can turn into political clout, both business managers and policymakers should be clear about where companies’ and users’ interests converge, and where they do not.

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TABLE 1 Descriptive Statistics for Variables

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Ride-hailing-user mobilization	0.10	0.30	0	1													
2. Legalization	0.55	0.50	0	1	0.10												
3. Regulatory stringency	0.83	0.84	0	3	0.14	0.59											
4. Ride-hailing-lobbyist ratio(/100)	0.72	0.76	0	3.28	0.24	0.60	0.27										
5. Taxi protest	0.15	0.63	0	7	0.41	0.02	0.03	0.20									
6. Taxi-lobbyist ratio(/100)	0.22	0.52	0	6.51	0.22	0.07	0.04	0.25	0.32								
7. Local ban number	0.15	0.49	0	5	0.23	0.42	0.28	0.45	0.30	0.19							
8. Dillon's rule	0.74	0.44	0	1	-0.02	0.06	0.01	0.10	0.01	0.01	-0.13						
9. Legislature professionalism	1.90	0.99	0	4	0.11	0.00	0.02	0.18	0.21	0.31	0.25	0.03					
10. Republican-controlled legis.	0.49	0.50	0	1	-0.03	0.14	0.11	-0.07	-0.05	-0.15	0.12	0.08	-0.15				
11. State fiscal capacity (dollars per capita income)	6.38	2.16	3.66	22.85	-0.02	0.08	-0.01	0.08	-0.01	-0.02	-0.04	-0.14	0.03	-0.19			
12. Population (×1 million)	6.42	7.15	0.58	39.51	0.16	0.05	0.06	0.19	0.35	0.21	0.39	0.09	0.58	0.03	-0.21		
13. Per capita income(×1k)	48.32	8.40	33.31	79.08	0.07	0.40	0.23	0.46	0.15	0.22	0.27	0.07	0.17	-0.23	0.42	0.14	
14. Diffusion	2.30	2.34	0	8	0.15	0.09	0.14	-0.25	0.21	0.01	-0.21	0.10	0.16	0.40	0.31	0.15	-0.25

N=400

TABLE 2 Control Function with Instrumental Variable for Legalization of Ride-hailing Companies (Cox) and Stringency of Ride-hailing Regulations (Poisson)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Legalization				Stringency			
Taxi protest	0.216 (0.111)	0.029 (0.128)	0.172 (0.110)	-0.028 (0.127)	-0.022 (0.152)	-0.079 (0.157)	0.029 (0.140)	-0.024 (0.148)
Taxi lobbyist%	0.065 (0.097)	-0.028 (0.111)	-0.025 (0.091)	-0.128 (0.106)	-0.192 (0.148)	-0.217 (0.141)	-0.100 (0.131)	-0.127 (0.125)
No.local bans	0.325 (0.295)	0.237 (0.260)	0.390 (0.252)	0.309 (0.245)	0.234 (0.209)	0.110 (0.190)	0.207 (0.206)	0.059 (0.205)
Dillons' Rule	0.280* (0.128)	0.341** (0.130)	0.155 (0.125)	0.201 (0.127)	-0.350* (0.169)	-0.369* (0.168)	-0.265 (0.169)	-0.279 (0.169)
Legis. Professionalism	0.005 (0.074)	0.003 (0.073)	0.009 (0.075)	0.005 (0.075)	0.063 (0.078)	0.052 (0.078)	0.086 (0.078)	0.076 (0.078)
Republican-controlled Legis.	-0.033 (0.132)	0.003 (0.132)	0.043 (0.124)	0.084 (0.126)	-0.108 (0.157)	-0.084 (0.157)	-0.158 (0.154)	-0.134 (0.155)
State fiscal capacity	-0.096* (0.047)	-0.084 (0.046)	-0.093* (0.045)	-0.079 (0.045)	-0.094 (0.055)	-0.082 (0.054)	-0.120* (0.057)	-0.108 (0.056)
State population	-0.001 (0.010)	0.002 (0.010)	-0.008 (0.011)	-0.005 (0.011)	0.012 (0.011)	0.014 (0.010)	0.013 (0.010)	0.015 (0.010)
State per capita income	-0.034*** (0.008)	-0.028*** (0.008)	-0.032*** (0.007)	-0.027*** (0.007)	0.024** (0.009)	0.030*** (0.009)	0.023* (0.009)	0.027** (0.009)
Diffusion	-0.117*** (0.033)	-0.098** (0.032)	-0.082** (0.031)	-0.060 (0.031)	0.111** (0.036)	0.138*** (0.036)	0.086* (0.039)	0.111** (0.039)
Ridesharing user mobilization		1.482*** (0.290)		1.555*** (0.284)		0.580** (0.202)		0.563** (0.203)
Ridesharing lobbyist%			0.467*** (0.083)	0.489*** (0.083)			-0.300** (0.109)	-0.294** (0.110)
Residual	0.226*** (0.035)	0.210*** (0.038)	0.207*** (0.035)	0.192*** (0.038)	0.119** (0.040)	0.119** (0.039)	0.140*** (0.040)	0.138*** (0.039)
Constant					-1.181* (0.587)	-1.661** (0.609)	-0.729 (0.602)	-1.196 (0.624)
Observations	400	400	400	400	220	220	220	220
Log likelihood	-1021.6	-1012.0	-1011.3	-1000.9	-244.7	-242.5	-241.7	-239.6

Note: Standard errors of state and year are clustered; s.e in parentheses

+<0.10,
 *< .05,
 **< .01,
 ***< .001

TABLE3 Robustness Checks

	(1) Vehicle	(2) License Individual policy issue	(3) Insurance	(4) Fingerprint	(5) Relative strength	(6) Legal Probit	(7) Stringency OLS	(8) Legal 2009-2019	(9) Legal	(10) Stringency	(11) Legal	(12) Stringency
									Alternative measure:No. petition signatures			
Taxi protest	-0.046 (0.128)	-0.186 (0.269)	-0.122 (0.127)	-0.008 (0.255)	0.023 (0.145)	-0.248 (0.171)	-0.046 (0.130)	-0.028 (0.127)	0.165 (0.109)	0.025 (0.141)	-0.037 (0.128)	-0.025 (0.148)
Taxi lobbyist%	-0.049 (0.161)	-0.865** (0.333)	-0.368 (0.272)	-0.045 (0.160)	-0.229 (0.122)	-0.196 (0.181)	-0.119 (0.104)	-0.128 (0.106)	-0.031 (0.091)	-0.098 (0.129)	-0.126 (0.107)	-0.127 (0.124)
No.local bans	-0.270 (0.320)	-0.543 (0.361)	-0.271 (0.281)	0.110 (0.267)	0.131 (0.250)	-0.255 (0.299)	0.086 (0.172)	0.309 (0.244)	0.398 (0.249)	0.209 (0.206)	0.295 (0.246)	0.065 (0.205)
Dillons' Rule	-0.139 (0.192)	-0.828** (0.229)	0.166 (0.230)	-0.576* (0.274)	-0.398 (0.243)	0.772** (0.268)	-0.236 (0.162)	0.201 (0.127)	0.153 (0.124)	-0.252 (0.171)	0.215 (0.130)	-0.271 (0.170)
Legis. professionalism	0.231* (0.095)	-0.125 (0.147)	-0.085 (0.104)	0.142 (0.151)	0.155 (0.093)	-0.014 (0.147)	0.072 (0.070)	0.005 (0.075)	-0.002 (0.075)	0.076 (0.079)	0.016 (0.075)	0.068 (0.079)
Republican legis.	0.285 (0.179)	-0.385 (0.228)	-0.430 (0.224)	0.091 (0.287)	-0.280 (0.195)	0.262 (0.280)	-0.132 (0.131)	0.084 (0.126)	0.038 (0.125)	-0.162 (0.155)	0.095 (0.126)	-0.138 (0.156)
State fiscal capacity	-0.018 (0.037)	-0.389** (0.093)	0.037 (0.048)	-0.231** (0.076)	-0.134* (0.054)	-0.165* (0.077)	-0.067 (0.038)	-0.079 (0.045)	-0.095* (0.046)	-0.122* (0.057)	-0.076 (0.044)	-0.110* (0.056)
State populatio	0.011 (0.015)	0.025 (0.020)	0.057*** (0.014)	-0.114** (0.041)	0.012 (0.013)	0.030 (0.026)	0.011 (0.010)	-0.005 (0.011)	-0.007 (0.011)	0.014 (0.010)	-0.006 (0.011)	0.016 (0.010)
State per capita income	0.022* (0.011)	0.049** (0.015)	0.034** (0.011)	0.070*** (0.018)	0.028* (0.011)	-0.008 (0.016)	0.021** (0.008)	-0.027*** (0.007)	-0.033*** (0.007)	0.022* (0.009)	-0.026*** (0.007)	0.027** (0.009)
Diffusion	0.223*** (0.036)	0.326*** (0.046)	0.244*** (0.035)	0.175*** (0.046)	0.128** (0.046)	0.135*** (0.011)	0.086* (0.034)	-0.060 (0.031)	-0.077* (0.031)	0.090* (0.039)	-0.064* (0.031)	0.113** (0.039)
User mobilization	0.700* (0.280)	0.755* (0.363)	0.579* (0.314)	0.648+ (0.367)	0.652* (0.282)	0.868** (0.337)	0.468* (0.196)	1.555*** (0.284)			1.644*** (0.315)	0.547** (0.206)
Lobbyist%	-0.268* (0.135)	0.078 (0.176)	-0.212 (0.141)	-0.128 (0.180)	-0.225* (0.112)	0.193+ (0.164)	-0.216** (0.077)	0.489*** (0.083)	0.468*** (0.083)	-0.299** (0.110)	0.490*** (0.084)	-0.294** (0.110)
No. petition signatures									0.769 (0.470)	0.515 (0.362)	-0.563 (0.745)	0.373 (0.471)
Residual	0.179** (0.063)	0.218** (0.070)	0.071 (0.072)	0.108 (0.096)	0.159* (0.066)	0.163 (0.130)	0.121** (0.042)	0.192*** (0.038)	0.202*** (0.035)	0.134** (0.041)	0.197*** (0.038)	0.134*** (0.040)
Constant	-3.043*** (0.536)	-1.648* (0.820)	-3.811*** (0.624)	-3.581*** (0.762)	-3.811*** (0.679)	-1.783* (0.891)	0.011 (0.480)			-0.693 (0.611)		-1.157 (0.630)
Observations	400	400	400	400	220	400	220	550	400	220	400	220
Log likelihood	-147.3	-90.85	-114.9	-64.06	-331.9	-72.98	-254.2	-1000.9	-1010.9	-241.3	-1000.7	-239.4

Note: Standard errors of state and year are clustered; s.e in parentheses;

+<0.10,

*< .05,

**< .01,

***< .001

TABLE 4 Exploration of Mechanisms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Attention						Salience					
	legalization			Stringency			Legalization			Stringency		
Taxi protest	-0.026 (0.127)	-0.060 (0.130)	-0.038 (0.128)	-0.015 (0.151)	-0.024 (0.150)	-0.015 (0.151)	-0.034 (0.128)	0.227 (0.157)	-0.034 (0.128)	-0.005 (0.146)	-0.005 (0.146)	0.001 (0.148)
Taxi lobbyist%	-0.117 (0.106)	-0.132 (0.111)	-0.138 (0.106)	-0.136 (0.126)	-0.139 (0.127)	-0.134 (0.125)	-0.127 (0.107)	-0.215 (0.123)	-0.128 (0.108)	-0.141 (0.126)	-0.139 (0.121)	-0.147 (0.130)
No.local bans	0.299 (0.258)	0.292 (0.282)	0.262 (0.269)	0.072 (0.207)	0.155 (0.207)	0.074 (0.208)	0.304 (0.245)	0.314 (0.233)	0.304 (0.245)	0.081 (0.200)	0.079 (0.201)	0.082 (0.199)
Dillons' Rule	0.170 (0.131)	0.180 (0.129)	0.164 (0.130)	-0.269 (0.171)	-0.264 (0.166)	-0.268 (0.173)	0.205 (0.127)	0.169 (0.125)	0.206 (0.128)	-0.292 (0.167)	-0.304 (0.167)	-0.289 (0.167)
Legis. professionalism	-0.003 (0.076)	0.019 (0.077)	0.023 (0.078)	0.077 (0.082)	0.077 (0.080)	0.075 (0.084)	0.017 (0.076)	0.034 (0.077)	0.017 (0.076)	0.050 (0.079)	0.049 (0.079)	0.050 (0.079)
Republican-controlled Legis.	0.043 (0.129)	0.056 (0.130)	0.033 (0.130)	-0.100 (0.180)	-0.101 (0.177)	-0.098 (0.182)	0.091 (0.126)	0.100 (0.125)	0.090 (0.126)	-0.146 (0.156)	-0.156 (0.155)	-0.149 (0.157)
State fiscal capacity	-0.080 (0.046)	-0.080 (0.045)	-0.077 (0.045)	-0.103 (0.058)	-0.102 (0.057)	-0.104 (0.058)	-0.079 (0.044)	-0.085 (0.044)	-0.079 (0.044)	-0.108 (0.056)	-0.106 (0.056)	-0.110 (0.056)
Population	-0.002 (0.011)	-0.003 (0.010)	-0.003 (0.011)	0.014 (0.011)	0.016 (0.010)	0.014 (0.011)	-0.002 (0.011)	-0.005 (0.010)	-0.003 (0.010)	0.012 (0.010)	0.010 (0.010)	0.011 (0.011)
Per capita income	-0.028*** (0.007)	-0.028*** (0.007)	-0.029*** (0.007)	0.029** (0.009)	0.028** (0.009)	0.029** (0.009)	-0.027*** (0.007)	-0.024*** (0.007)	-0.027*** (0.007)	0.027** (0.009)	0.027** (0.009)	0.027** (0.009)
Diffusion	-0.056 (0.031)	-0.066* (0.030)	-0.057 (0.031)	0.112** (0.040)	0.110** (0.040)	0.112** (0.040)	-0.058 (0.031)	-0.058 (0.031)	-0.059 (0.031)	0.109** (0.039)	0.109** (0.039)	0.108** (0.039)
User mobilization	1.493*** (0.291)	0.050 (0.640)	1.570*** (0.298)	0.561** (0.210)	-0.688 (0.741)	0.561** (0.210)	1.554*** (0.283)	1.876*** (0.281)	1.555*** (0.283)	0.585** (0.202)	0.465* (0.232)	0.589** (0.201)
Lobbyist%	0.505*** (0.085)	0.524*** (0.087)	0.068 (0.333)	-0.301** (0.112)	-0.290* (0.114)	-0.253 (0.430)	0.485*** (0.083)	0.474*** (0.082)	0.483*** (0.086)	-0.272* (0.109)	-0.262* (0.110)	-0.282* (0.118)
Political competition	-0.179 (0.290)	-0.415 (0.301)	-0.531 (0.382)	0.160 (0.375)	-0.018 (0.394)	0.195 (0.513)						
Issue salience							-0.001*** (0.000)	-0.001** (0.000)	-0.001*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Mobilization × Political competition		2.188** (0.830)			1.634* (0.869)							
Lobbyist % × Political competition			0.616 (0.457)			-0.066 (0.618)						
Mobilization × Issue salience								-0.056* (0.027)			0.019* (0.009)	
Lobbyist % × Issue salience									0.000 (0.001)			0.000 (0.001)
Residuals	0.184*** (0.039)	0.186*** (0.039)	0.189*** (0.041)	0.143*** (0.041)	0.142*** (0.039)	0.143*** (0.041)	0.192*** (0.038)	0.199*** (0.040)	0.192*** (0.038)	0.138*** (0.040)	0.125** (0.041)	0.137*** (0.040)
Constant				-1.420 (0.771)	-1.286 (0.768)	-1.447 (0.812)				-1.143 (0.617)	-1.109 (0.609)	-1.108 (0.634)
Observations	392	392	392	215	215	215	400	400	400	220	220	220
Log likelihood	-973.6	-972.0	-973.0	-234.4	-233.7	-234.4	-1000.4	-996.7	-1000.4	-237.9	-237.4	-237.8

Note Standard errors of state and year are clustered; s.e. in parentheses; Nebraska has a nonpartisan state legislature and was therefore removed from the sample when measuring partisan election pressure for state legislators in Models 1-6. +<0.10, *<.05, **<.01, ***<.001

TABLE 4 Exploration of Mechanisms (continued)

	(13) Compromise	(14)	(15)	(16)	(17)
		Go rogue			
	Stringency after legalization	Legalization		Stringency	
Taxi protest	-0.329 (0.297)	-0.042 (0.130)	0.151 (0.118)	0.001 (0.144)	0.014 (0.144)
Taxi lobbyist%	-0.125 (0.241)	0.066 (0.090)	-0.179 (0.121)	-0.101 (0.139)	-0.108 (0.128)
No.local bans	-0.068 (0.606)	0.202 (0.272)	0.433 (0.256)	0.049 (0.204)	0.192 (0.213)
Dillons' Rule	15.154** (0.249)	0.196 (0.128)	0.189 (0.125)	-0.300 (0.165)	-0.261 (0.170)
Legis. professionalism	-0.242 (0.169)	0.001 (0.075)	0.026 (0.076)	0.079 (0.078)	0.085 (0.078)
Republican-controlled Legis.	0.100 (0.314)	0.040 (0.124)	0.088 (0.126)	-0.154 (0.150)	-0.151 (0.155)
State fiscal capacity	0.118 (0.113)	-0.073 (0.044)	-0.090* (0.045)	-0.093 (0.055)	-0.121* (0.057)
Population	0.092*** (0.013)	-0.008 (0.011)	-0.007 (0.011)	0.017 (0.010)	0.013 (0.010)
Per capita income	0.043* (0.021)	-0.032*** (0.007)	-0.029*** (0.007)	0.024** (0.008)	0.024** (0.009)
Diffusion	0.387*** (0.096)	-0.078** (0.030)	-0.077* (0.031)	0.106** (0.039)	0.089* (0.039)
User mobilization	1.118* (0.564)				
Lobbyist%	0.387* (0.197)	0.466*** (0.083)	0.483*** (0.083)	-0.308** (0.112)	-0.295** (0.109)
User mobilization (with personal message)		1.549*** (0.424)		0.758*** (0.225)	
User mobilization (no personal message)			1.321*** (0.368)		0.200 (0.260)
Political competition					
Issue salience					
Mobilization × Political competition					
Lobbyist % × Political competition					
Mobilization × Issue salience					
Lobbyist % × Issue salience					
Residuals	0.102 (0.092)	0.214*** (0.035)	0.199*** (0.037)	0.140*** (0.037)	0.139*** (0.041)
Constant	-21.860*** (1.210)			-1.062 (0.590)	-0.805 (0.626)
Observations	220	400	400	220	220
Log likelihood	-96.99	-1005.4	-1007.5	-239.2	-241.5

Note Standard errors of state and year are clustered; s.e. in parentheses;

+<0.10,

*< .05,

**< .01,

***< .001

FIGURE 1 User Mobilization through In-App Messages



FIGURE 2 Ridesharing User Mobilization and Ridesharing Policy Stringency in the U.S. (by 2019)

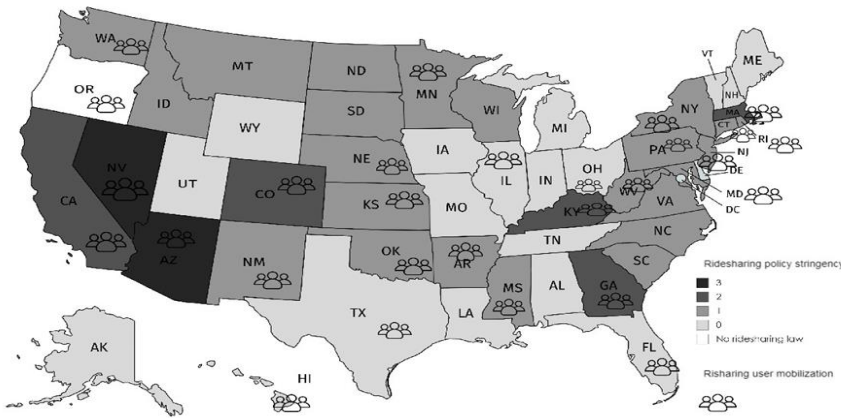
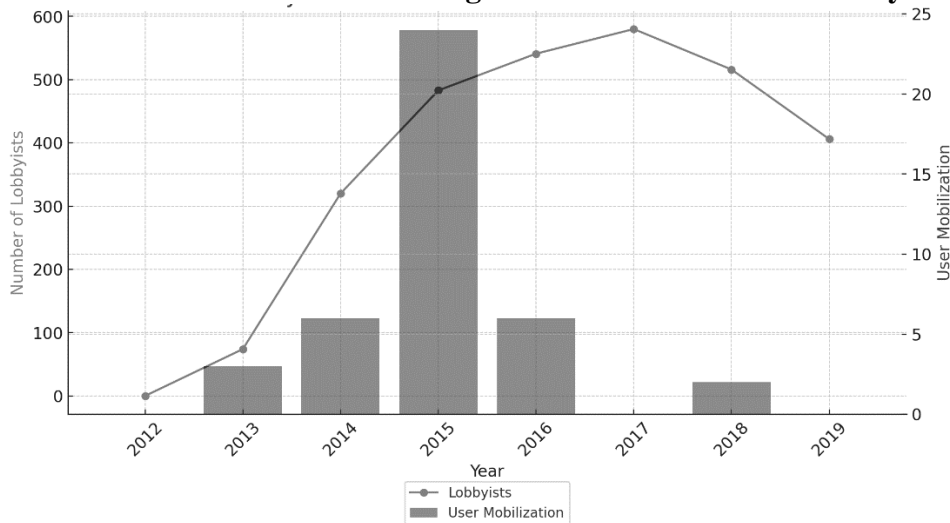


FIGURE 3 Number of Ridesharing User Mobilizations and Lobbyists by Year



APPENDIX The First-Stage Control Function Logit Model with Instrumental Variable to Estimate the Probability of Using User mobilization Strategy by Ride-hailing Companies

	user mobilization
Airbnb protest	1.069** (0.376)
Dillons Rule	-0.331 (0.383)
Legis. professionalism	0.197 (0.229)
Republican controlled legis.	-0.121 (0.122)
State fiscal capacity	-0.183 (0.380)
Population	0.008 (0.027)
Income	0.008 (0.023)
Constant	-2.472* (1.104)
Observations	400
Log likelihood	-132.0

+<0.10,
 *< .05,
 **< .01,
 ***< .001