

Regulation of multi-sided transportation platforms in Costa Rica

Oscar Ugalde Hernandez

Administrator/LIU Global Financial Officer
Costa Rica Center/LIU Global

Abstract: *The contending forces generated by friction between the collaborative platform firms in the paid transportation of people's market, and the regulation present in anti-trust policies in Costa Rica will be discussed in depth as a means of determining the economic impacts that new regulatory bills may cause. The recent entry of developing countries into the collaborative economy has caused social and economic tensions due to the lack of an updated and rejuvenated legal framework which could reconcile the economic and legal differences. The expected results of a new anti-trust policy to regulate collaborative transportation platform firms in Costa Rica are a higher regulated price, a lower quantity supplied of hailing rides, and a loss of efficiency in the sector consequence of the new technical requirements. The case of Uber Company's entry in Costa Rica is used to depict these economic effects.*

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JEL classification: *Technological change (O33), Government Policy (O38)*

I. Introduction

The idea of 'sharing' has been around since humankind made transactions of goods and services through barter, but recent advances in technology have propelled the appearance of collaborative and sharing platforms by which the traditional business models used in the transportation, food, and other services, need to be reinvented. It has also brought about the emergence of a new digital evolution that requires the more efficient utilization of 'sharable goods' such as automobiles, houses, or even time through cleaning or running errands. Access to certain assets has become more important than owning those assets since individuals obtain the benefits of these assets without having bought them. For the suppliers of those assets, the "sharing economy" is revolutionizing the work force and the idea of becoming an entrepreneur is becoming reachable for many more sectors of society. In what could be a futuristic scenario with more and more events taking the world closer to what he describes, Arun Sundararajan (2016) states that "the assortment of behaviors (and organizations) that many of us optimistically call the sharing economy" are early instances of a future in which peer-to-peer exchange becomes increasingly prevalent, and the crowd replaces the corporation at the center of capitalism (Location No. 165).

The "sharing economy," based on collaborative consumption, has proliferated exponentially in recent years thanks to the emergence of digital platforms and mobile applications. Although it is a new concept in the global economy, it has spread across the board in the form of "peer-to-peer ride sharing, accommodation sharing and renting household items" (Ernst & Young LLP, 2015, p. 6). In a Price Waterhouse Cooper report called *The Sharing Economy: the intelligence series*, it is projected that "five key sharing sectors—travel, car sharing, finance, staffing, and music and video streaming—have the potential to increase global revenues from roughly \$15 billion today to around \$335 billion by 2025" (2015, p. 14).

Prior to August 2015, the concept of the sharing economy was relatively new in Costa Rica as it had been in the United States. Uber Technologies Inc. was launched in New York in March 2009. Its first name was

UserCab which was then changed to Uber as it is known today. Its headquarters are located in San Francisco, California, and it is operating today in more than 80 countries (Mathawan, 2018). On August 21st, 2015, Uber Technologies Inc. decided to start offering its multi-sided platform in the Costa Rica with the local name Uber Company. Luis Guillermo Solis, president of Costa Rica from 2014-2018, stated in the local newspaper, *El Financiero* "Uber is illegal since paid transportation of people is a regulated service" (Avendaño, 2018). As a new economic phenomenon, the sharing economy business model needs to re-examine or even re-invent the regulations around them. While regulations are in place for traditional taxi operators in Costa Rica, neither its government nor the regulatory bodies have specific rules covering on-demand transportation platforms. This sets the stage for contending market forces of demand and supply, and regulatory interventions to collide. To reconcile these issues, two new bills are under analysis at Costa Rica's Congress: Bill 20113 of 2016 and Bill 21228 of 2019. The research query which drives this work asks the following:

Could the new regulatory policy (in Bills 20113 and 21228) in Costa Rica, deter the projected economic effects that the multi-sided platforms are expected to experience in the paid transportation services?

To answer this research question, a couple of objectives have been determined:

- To analyze the economics of collaborative or sharing platforms in the paid transportation of people market in Costa Rica.
- To study the possible economic effects of applying a new anti-trust regulatory policy in the paid transportation of people sector in Costa Rica.

In order to achieve these objectives, the following methods are applied:

1. A descriptive literature review is applied in order to determine whether a series of theories and concepts in a specific research topic unveil "any interpretable pattern or trend with respect to pre-existing propositions, theories, methodologies or findings" (Paré et al., 2015, p. 186). In this respect, the economic theory related to multi-sided markets as well as the economic theory of regulation are examined methodically to determine causal linkages with the case study of Uber Company in Costa Rica and the acting of Costa Rica's government in regulatory anti-trust policies.

2. A comparative case study analysis is developed by which similarities, differences and patterns, according to Delwyn Goodrick (2014), are analyzed and synthesized trying to determine "how and why particular programs or policies work or fail to work" (p. 2). This method is "particularly useful for understanding how the context influences the success of an intervention and how better to tailor the intervention to the specific context" (Goodrick, 2014, p. 2). The analysis is of the contending forces between the multi-sided market that Uber Company and other minor market participants in paid transportation in Costa Rica have generated, and the reactions that the local anti-trust policy administrators and regulatory commission may have.

This essay is organized into the following parts: 1. Introduction, 2. Theoretical framework, 3. An analytical approach of Uber Company's market impact and legality in Costa Rica, 4. Contending forces between the economics of multi-sided platforms and the new proposed regulation towards collaborative transportation firms in Costa Rica, and 5. final remarks.

II. Theoretical framework

2.1. Economic rationale of Multi-sided platforms

By the year 2000, the concept of a "multi-sided" (Rochet and Tirole, 2003 p. 990) market was discovered thanks to the seminal paper called "Platform Competition in Two-Sided Markets" by Jean-Charles Rochet from *Université de Toulouse* and Jean Tirole from *Institut D'Economie Industrielle*. In this case, the term "multi-sided" means a business is built upon "direct interactions between different types of customers who use nontraditional, counterintuitive strategies to make money and survive" (Evans and Schmalensee, 2016, p. 15). Rochet and Tirole's paper inspired many other writers to follow with important analytical contributions to this important body of knowledge, which is revolutionizing this new field of economic thought.

Despite the robustness of different microeconomic models which have been derived over the last century related to the economic behavior of traditional firms, its applicability in this new field of multi-sided platform economics is not possible. There are remarkable differences in what the traditional models predict, and how multi-sided platform economic models are characterized. The following features are distinguishing characteristics of multi-sided markets:

A. Interdependence: Multi-sided economics state that there is interdependence between the demand by the customers on the different sides of the platform; namely the interdependence between Uber drivers and its customers. Uber drivers have been captivated by the flexible work hours and the benefits that the multi-sided platform intermediary applies, and the consumers are enchanted by the sophisticated Uber application and lower prices in comparison to traditional taxi services. The multi-sided platform would not be able to survive if one of the sides (demands) is not present.

B. Critical mass: Maintaining such a balance requires that the platform intermediaries apply an ideal pricing structure. Most multi-sided markets in Costa Rica such as Uber has favored the use of price incentives on one of the sides of the platform in order to balance the demand on both sides. At the initial stages of the business, it is more necessary to give monetary incentives to customers rather than to setting a firm price. The dynamism generated by multi-sided platforms allows both sides of the market to have their own demand. If there is weakness in one of the sides of the market, it can affect the other side. As described by Evans (2011), "multi-sided platforms are required" to obtain a critical mass of users on one side of the market by giving them the service for free or even paying them to take it" (p. 106). The entry stage of a firm into a two-sided market is a key moment in which the survival of the firm is subject to effective forms of pricing structure to get both sides on board.

C. Chicken-and-egg dilemma-investing solution: To solve the chicken-and-egg dilemma, the multi-sided platform can attempt to create demand on one side so that it is also pushed on the other side. Neither drivers nor customers will be willing to join Uber if there is no previous demand. A mechanism to overcome such an initial barrier is "to invest in one side of the market to lower the cost to consumers on that side of participating in the market" (Evans, 2011, p. 107). Uber invested in two very distinguishing features which have benefitted drivers and customers all over the world: a. its smartphone app by which riders can order a taxi ride and pay effortlessly and can even detect the exact time and distance of the driver to the pick-up point; b. an easy-to-use rating system for drivers by which riders evaluate their experience through their app on their smartphones. Drivers with low scores are set apart from the platform.

One side of the market that applies low prices or other types of incentives allows the platform to solve the chicken-and-egg problem (Caillaud and Jullien, 2003) by facilitating the participation of the group which benefited. Eventually, this would permit the other side that had not benefitted from the low price to obtain a similar advantage as the benefitting one. On August 30, 2018, the local newspaper *Tico Times* stated that "Uber has become popular in Costa Rica for its lower prices and the convenience of ordering rides through mobile devices, which is safer for users" ("Uber drivers protest," 2018). Uber also offers rides for as cheap as 1,200 *colones* (approximately \$2USD at the current exchange rate) if a customer introduces the application to a new customer.

D. Network effects what happens when "consumers value a product more,[then] the more other consumers use the product" (Evans, 2011, p.100). These effects can be classified into two types:

D.1. Direct network effects: As described by Tirole and Rochet (2003), the interdependence feature of multi-sided platforms generates direct network effects. They are the result of having effective communication between users on one side and users on the other side of the platform. When users on one side of the platform have strong demand for the service, this causes there to be a strong demand on the other side as well.

D.2. Indirect network effects: These happen if the technological platform administrator facilitates users to communicate effectively. Once the users on one side of the platform have stronger

demand for the product or service, it can be considered that users on the other side have created a demand by themselves, and "the demand for complementary products is higher and the supply of those complementary products will benefit" (Evans, 2011, p. 100). Getting both sides on board of the platform generates synergies which allow one of the sides to demonstrate its demand, and that it benefits the more users on the other side. Paid transportation services that use technological platforms fall under this category because they are characterized by the interdependence between both sides.

Both sides of the technological platform develop an interrelationship which in turn generate a cross-side network effect, also known as an indirect network effect. The platform intermediaries may sacrifice sales on one side to reach the much-needed critical mass, so that the other side becomes more appealing. As a result of this strategy, the indirect network effects can help market participants to achieve a durable competitive advantage by anchoring their market sizes on one side and to reach a dominant position on the other side, building barriers of entry for the new arrivals (Song et al, 2015).

Differences between one-sided and multi-sided markets are remarkable. The basic rationale of a one-sided market is to run a profitable business based on the purchase of inputs from suppliers and transforming them into a value proposition which is generally a finished good or service. On the other hand, multi-sided platforms depend upon the attraction of at least two types of customers by facilitating their interactions on attractive conditions. The multi-sided platform's most important inputs are their customers (on one side drivers and on the other side their riders).

Due to the breakthroughs in the last two decades in internet and in mobile devices, the multi-sided platforms have flourished not only in the paid transport industry, but in many industries.

2.2. Anti-trust policy rationale and regulation

Why would a government, like Costa Rica's, be concerned with a firm like Uber growing rapidly in the paid transportation sector? Is the Uber Company in Costa Rica gaining monopoly powers to such a level that an anti-trust policy is justified? The application of anti-trust policies to "prohibit the acquisition or exercise of monopoly power by business firms" (Lipsey, Steiner, Purvis, 1987, p. 290) is one of the most common definitions to explain the influence of market power in economic decision-making.

The main objective of anti-trust policies is to encourage competition against those who attempt to obtain monopoly power, or to control trade in other non-economic motifs such as political influence. Monopoly profits could persist if there are barriers that restrain new competition from entering. In the case of Uber's entry in Costa Rica since August 2015, it has been questioned by the local taxi drivers' guilds for changing market structures by making the paid transportation sector more monopolistic as a result of Uber's 'natural' efficiency and innovation reflected in its multi-sided platform. Moreover, due to its rapid capacity to achieve a critical mass of drivers and users, it has been capable of achieving economies of scale. Uber Company in Costa Rica has also been questioned for its predatory behavior because of its rapid growth and substantial market power against rival sellers, which has forced many of them into cooperative behavior or bankruptcy. Another complaint by pressure groups is the utilization of price discrimination to certain market segments. This has been the result of finding a balance between the two sides of the market and reaching an important critical mass of users and drivers in Costa Rica. Such success has been achieved in only three and a half years of operation in Costa Rica and has raised some red flags in pressure and rent-seeking groups to determine the Uber Company's legal status in Costa Rica. Is the Uber Company a public utility, and therefore obliged to fulfill all legal requirements as a traditional local taxi company?

Paid transportation in Costa Rica is a public utility, thus it is maintained by a regulatory commission. The local taxi providers are managed by the Public Transport Council (PTC), which is the local public regulatory commission for transportation services for this country. In return for giving a company the right to be the sole producer, the PTC reserves the right to regulate its behavior of entry. Any other form of paid transportation that tries to compete with local taxis would be considered illegal. The licenses facilitated to local taxi providers provides them with a "natural" barrier of entry. When the Uber Company arrived in Costa Rica, it

started operating as a private facilitator of people's transport services with no regulation from any regulatory commission or any government agency. Interestingly, the local taxi drivers have generally organized themselves in the form of territory-affiliated (T.A.) cooperatives. Other taxis function independently as regulated local taxis attached to a certain territory. Thus, they function as a regulated T.A. natural monopoly.

What restrains regulated natural monopolies of T.A. taxi drivers' cooperatives from acting as a profit-maximizing monopoly which restricts output, raises price, and fails to provide the large volume of output at a low price that the technology makes possible? The price set by the regulatory commission has often aimed at setting prices high enough to permit firms to cover all their costs, yet low enough to achieve the large sales required to reap the scale economies that characterize natural monopoly situations. If a regulatory commission knew the demand curve and the cost curve exactly, it could simply pick the price indicated by the intersection of the demand curve and the average total cost curve, as depicted in Figure N. 1, which is important because it is a balanced option between the efficient price and the monopoly price. This is called average cost pricing. It will not, in general, lead to allocative efficiency because price is not equal to marginal cost, as depicted in the following graph. But average cost pricing would give much lower prices and a larger output than a monopolist's.

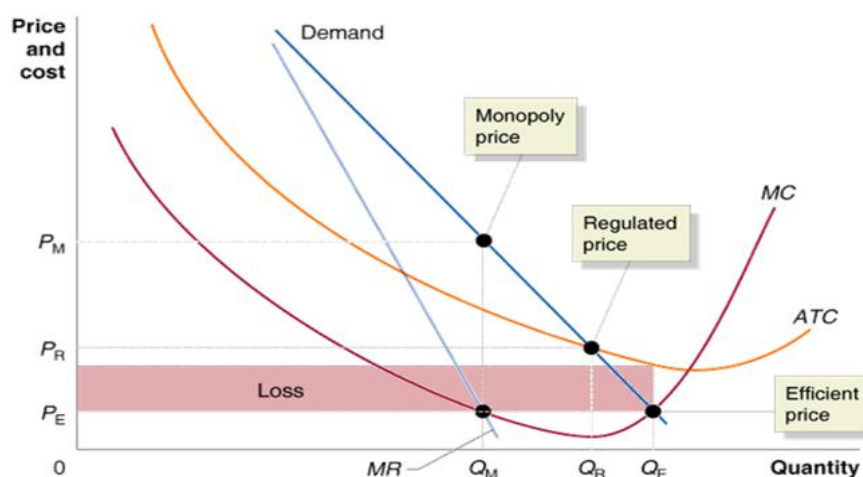


Figure N. 1: Average cost pricing in natural monopolies

Source: Adopted from Rice University (n.d.).

The reality shows that regulatory commissions generally do not have accurate demand and cost information, so they have tended to judge prices according to the level of profit they produce. Generally having set prices, regulatory agencies permit price increases when profits fall below "fair" levels and require price reductions if profits exceed such levels. Thus, what starts as price regulation becomes instead profit regulation. Having done a revision of how collaborative transport platforms behave and how the government could react to them via anti-trust policy, an analysis is elucidated regarding Uber Company's market impact and legality in Costa Rica.

III. An analytical approach of Uber Company's market impact and legality in Costa Rica

3.1. Market entry, economic impact and contending interests

In 2015, the Uber Company started operations in Costa Rica (Soto, and Avendaño, 2018) without having requested any authorization to operate to any government agency or regulatory commission. The Uber Company entered boldly into the Costa Rican transport scene. The Uber Company's manager in Costa Rica at that time, Humberto Pacheco, argued that it was functioning legally in Costa Rica based on the legal figure of 'self-managed' or 'self-sufficient' transportation communities (Rodriguez, 2016). Additionally, Uber Company's spokesperson in Costa Rica, Rocio Paniagua, explained that these 'self-managed' or 'self-sufficient' transportation communities are a "community of members (users and drivers) created to self-manage or self-

supply their mobility-specific needs" (Rodriguez, 2016). The Public Attorney's office of Costa Rica had issued several legal opinions that establishes the possibility that the traditional public utilities, for instance, drinkable water or electric energy, could be generated or supplied through the communities of self-management or self-sufficient communities. (Rodriguez, 2016).

Ever since, Uber Company in Costa Rica has confronted several setbacks. The initial impression by the Ministry of Transport and Public Works is one of illegality in relation to Uber Company's operations in Costa Rica, the local Transit Police began issuing fines of approximately \$200 and confiscating Uber drivers' cars. On August 21st, 2015, the first two Uber cars were confiscated in a special operation undertaken by the Transport police to identify illegal drivers (Rodriguez, 2016). On February 19th, 2016, the Constitutional courts adopted a claim presented by two Congress members, Otto Guevara and Natalia Diaz, by which they requested to call the actions of the Transport Police 'unconstitutional'. The final ruling favored the request made by the two Congress persons and all negative actions against Uber drivers in Costa Rica had to stop. However, the issue of its legality in Costa Rica was not even mentioned by the Constitutional courts.

Another relevant setback originated because of a pricing strategy that Uber Co. adopted on April 26th, 2016. It applied a 20% reduction to its rates in Costa Rica. Such a decision was very welcome among Uber customers, but had a very negative opinion from the rent-seeking traditional T.A. taxi drivers and their organizations such as taxi cooperatives. (Rodriguez, 2016) The 'red taxis' as they are traditionally called in Costa Rica, organized themselves into strikes, where they were slow driving on highways, and even created road blockades. The objective of these actions was to put pressure on the government to make Uber Company and its efficient platform illegal.

Despite these setbacks, Uber Company in Costa Rica has experienced a very impressive market entry and consolidation in these first three and half years of operations. In the following chart, the affiliations of drivers during its first three and a half years of operations can be depicted in Figure N. 2:

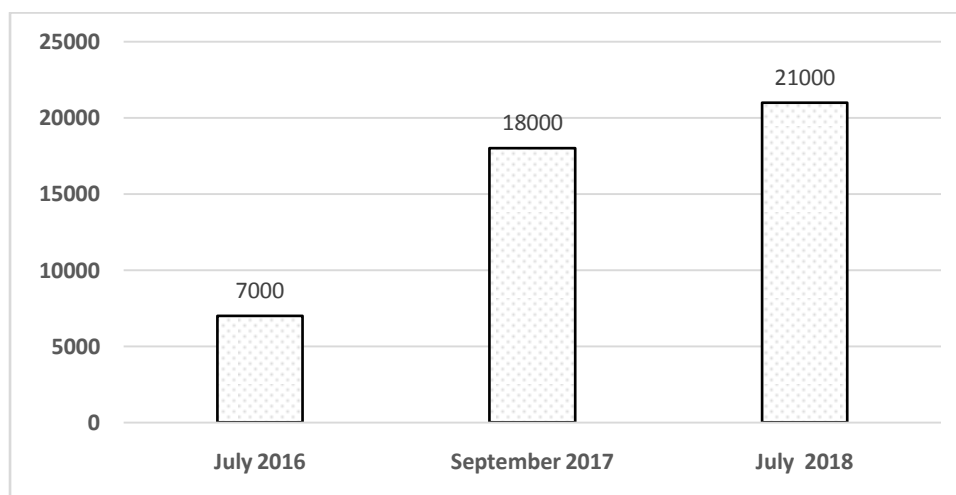


Figure N. 2: Uber drivers in Costa Rica (period August 2015-July 2018)

Source: *El Financiero* (Avendaño, 2019), (Chacón, 2017)

As depicted in Figure N. 2, Uber drivers have grown from 7000 drivers during the first year to 21000 drivers at the end of the third year of operations. In a similar trend, Uber Company's platform customers have had a very robust growth in the last three and half years of operations in Costa Rica. Figure N. 3 depicts this trend.

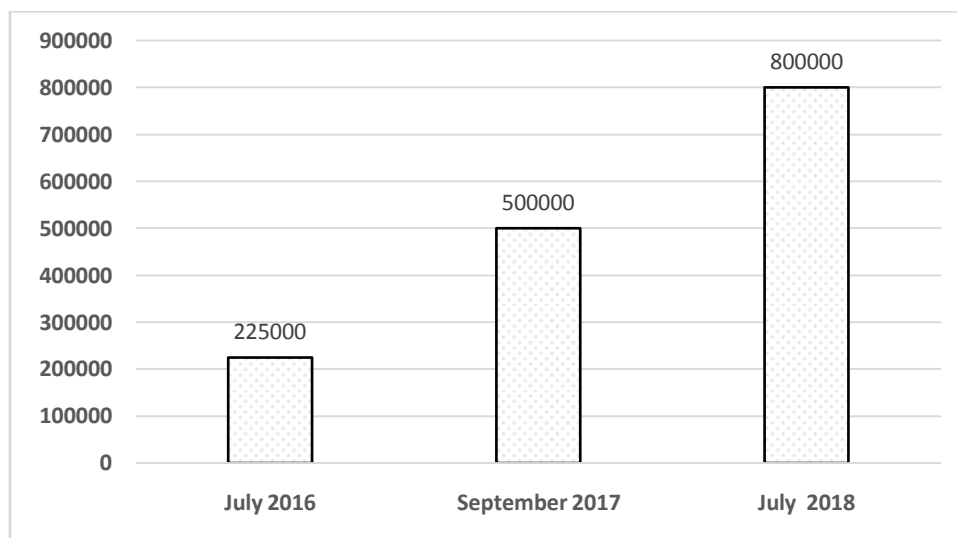


Figure 3: Uber customers in Costa Rica (period August 2015-July 2018)

Source: *El Financiero* (Avendaño, 2019), (Chacón, 2017)

Uber Company customers' affiliations to its platform has moved from 225,000 users in July 2016 to 800,000 in July 2018. This represents an increase of 255% in two years.

On the customer side, the Uber Company has applied aggressive pricing strategies which caused an impressive growth in only three and a half years of operations in Costa Rica. It entered Costa Rica with a rate "51% lower than the taxi fare" (Rodríguez, 2016). The official rate per kilometre of taxi rides in August 2018 was at 630 *colones*, which was approximately \$1.10 USD, but Uber drivers were charging 300 *colones*, which was approximately \$0.54 cents of a dollar.

On the drivers' side, a survey was given in December 2016 by *El Financiero* newspaper to Uber drivers. At that time, there were 13,000 Uber drivers, and there were 6138 responses via email. It was discovered that 58.5% of the respondents said Uber Company represented their main source of income. Moreover, 50% of the respondents were on average between 21 and 35 years of age. People above the age of 55 years represented 5.7% of the total Uber drivers that responded to the survey (Chacón, 2017).

Through incentives, innovation, and decent economic conditions, Uber Company has positioned itself as an attractive option for both users and drivers. The result is a successful market penetration, which has reached to 16% of the total population of the country and has been able to surpass 22,000 Uber drivers. The amount of traditional T.A. taxis in the country was at 16,500 units by 2018.

Despite such positive results in its operations, the legal scenario is still not clear for Uber Company in Costa Rica. Would it be able to maintain its operations in Costa Rica legally, under the shadow of an anti-trust policy, and still make a profit? The next sections sketches the several legal scenarios that the Uber Company in Costa Rica is confronting and will confront in the near future.

3.2. Legal status of Uber Company in Costa Rica and relevant anti-trust policy: Is it justifiable to regulate it?

Neither the judicial nor the legislative authorities have taken a position regarding the Uber Company's legality in this country. As a result of the Uber Company's controversy in entering Costa Rica without a well-defined legal status, several relevant individuals and institutions have issued statements trying to interpret Uber Company's and other similar firms' legal status.

The traditional Taxi Drivers' Guild has expressed its disagreement in allowing the collaborative platform firms such as Uber Company, to operate in the country. According to Law N. ° 8955, any paid

transportation service of people is required to pay some levies and to fulfill certain technical requirements. However, the Uber Company has been using the legal figure of 'self-managed' or 'self-sufficient' transportation communities. This figure does not exert any kind of financial or technical requirement on Uber drivers. The traditional Taxi Drivers' Guild interposed an open process in the Administrative Courts (Case number 16-004576-1027-CA), which is expected to determine the Uber Company's legal status.

The former president, Luis Guillermo Solis, declared the illegality of Uber Company indicating that "In regard to Uber, it is a public service. Laws in Costa Rica include paid transportation services of people as a public service. The local law regulates public services and establishes very concrete conditions for them regarding controls, quality and insurances. So therefore, an activity that is not regulated is an illegal activity. There is no other option" (Presidencia de la Republica, 2015).

In addition to this, the Attorney General's Office of the Republic stated their legal opinion about Uber Company's legality in Costa Rica with the following:

A. From the moment Law n. ° 8955, named *Public Paid Transport with Vehicles of People Regulatory Law*, was in place on June 16th 2011, paid transportation of people in Costa Rica (independent of the type of motor vehicle that is used or the people for which it is destined to) is a public service. According to Law n. ° 8955, traditional T.A. taxi drivers must pay taxes over their revenue, must take their cars to technical revision twice a year, and pay an obligatory fee to the PTC to keep their license plates renewed, and other legal requirements established.

B. Once Law n. ° 8955 was implemented, no person –physical or legal– was able to offer the service of paid transportation of people if the person had not been given the respective authorization – concession or permit, by the PTC.

C. Article 145, Subsection Y, of Law n. ° 8955, states that all owners and drivers of motor vehicles who are dedicated to offer paid transport services of people must be sanctioned and fined, if they do not have the proper authorization from the PTC.

Thus, the Attorney General's Office concludes that any firm offering paid transportation to people should be categorized as a public service. Even though this legal opinion does not determine the legal status of Uber Co. in Costa Rica, it can be deduced that Uber Co. must comply with the existing dispositions of this Law. By not doing so, it can be interpreted as acting in an illegal manner. Yet, the presence of Uber Company in Costa Rica is bolstering the Costa Rican economy since it provides constant employment in an area that needs to be tackled - transport in Costa Rica.

Even though these legal opinions shed light on how Uber Company's operations in Costa Rica could fall under the status of illegality, the enforcement of Law n. ° 8955 has been weak, and the local transportation authorities have not taken any definite decision in relation to charging the same fines to Uber drivers that the taxis do. Only sporadic actions were taken by the Transit Police by which some Uber drivers and their cars were fined, and some cars were even confiscated. However, Uber Company continued functioning through its multi-sided platform and its app, with a degree of fear and worry that the police may stop them.

To have a definite solution to the collaborative transportation dilemma in Costa Rica, congressman Franklin Corella proposed, in September 2018, a new bill to Congress called the *Collaborative Mobility Law in Costa Rica*, which was assigned file number 20113. As its name indicates, this bill is expected to regulate collaborative transportation. In the bill's document, there is a very important clarification in article 4 as to the definition of collaborative transportation, namely "the modality of land transport that is not subjected to established prices, itineraries, routes, schedules, nor passing through frequencies, facilitated by a physical person who offers at their convenience through technological platforms a vehicle, their asset, in order to satisfy the needs of mobilization of other people through a previous mutual agreement" (Corella, 2018, p. 4). Based on this definition, Uber Company can be classified as a firm that can be regulated under this new bill and, therefore, be subject to its dispositions if it gets approved.

In article N. 6 of Bill N. 20113 (Corella, 2018, p. 11), the Collaborative Mobility office would be created if the bill is enacted. It is expected to administer and supervise the registration of collaborative transportation firms and their drivers. It is also responsible to create and manage public policy regarding this subject, and to make sure that the collaborative firms and drivers fulfill all the regulatory requirements that the Ministry of Economy, Industry and Trade determines.

In article 40 of Bill N. 20113 (Corella, 2018, p. 20), other set of requirements are established so that multi-sided transport firms can operate in the country:

- To create and maintain an updated internal registry of collaborative drivers, their vehicles, as well as their platform company operators before the Transport Company Network. This is a network regulated by the PTC as part of the Minister of Public Works and Transportation.
- To give every customer of a ride a receipt that contains, as minimum, the following information from each collaborative mobility service provider: price, traveled route, license plate, and type of collaborative vehicle, full name, and photo of the collaborative driver.
- To charge a 3% tax to collaborative drivers for any sale of transportation of people service. This amount will be used to finance the creation of the National Mobility Fund which would be part of the PTC, and its goal is to modernize public transportation in Costa Rica. (Fernandez, 2019).

As a response to this Bill proposal, which was considered favorable towards the multi-sided platform operator firms in Costa Rica, there is an evident lack of support from members of Congress and a strong opposition from the traditional taxi guilds. There are threats from such groups to promote a nation-wide strike which includes blocking roads. A new government assumed office in May 2018, and the country's new president Carlos Alvarado along with the new Minister of Public Works Rodolfo Mendez, have pushed forward a new bill proposal by which a new equilibrium is expected to be reached in the paid transportation sector in Costa Rica (Avendaño, 2019).

On January 21, 2019, the recently elected government presented to Congress a new bill with file number 21228, which is called the *Reform to the People's Paid Transportation System and Transport Platforms Companies' regulation*. Its main objective is, according to the new Transportation Minister Rodolfo Mendez, to "generate the optimal conditions so that the taxi companies and companies like Uber, can coexist" (Avendaño, 2019).

The most important characteristics of Bill N. 21228 are stated as follows:

- To collect a fine of 8300 million *colones* (at the current exchange rate it is \$13,737,000USD) from Uber Company prior to getting registered as a private transportation operator in the country. This amount is equivalent to 18,600 base salaries based on the Judicial Power's scale. This fine would be applied to any collaborative transportation company which operated in the country prior to the approval of this Bill.
- To charge all firms offering transportation service in the collaborative vehicles' market, such as Uber Company, a 13% corporate tax.
- To collect an 8.5% remittances tax from collaborative transportation firms in any money transfers sent overseas.
- To create a new legal figure called Transport Platforms Companies (TPC), which would allow PTC to classify and register any collaborative transportation firm operating apps to match drivers and customers which require collaboration.
- To declare all TPCs a public utility company, however they will not be subject to the direct regulation of public prices such as taxi, water and electricity firms.

- To collect from all TPCs which begin to operate after the law is approved, a fee of 100 base salaries in order to be registered legally in the PTC. In order to renew their registration yearly, they must pay 50 base salaries.
- To collect a 13% value-added tax to any collaborative driver providing rides to customers.
- To collect a yearly levy of \$200 to any driver registered in any collaborative transportation firm that uses a multi-sided platform. This fee is to be used in the administration and supervision of the future Registry of Technological Platforms which is to be created as part of the PTC. An additional levy of \$35 would be charged to any driver in the collaborative industry in order to get a "driver's code" which would be used to finance the current and operational costs of the PTC.
- To charge a 3% of the amount charged to any collaborative transportation customer who requested a transportation service through the multi-sided platform of any collaborative operator company. This amount will be used to finance the creation of the Mobility National Fund which would be part of the PTC. The Fund's goal is to modernize public transportation in Costa Rica (Avendaño, 2019).

A comparison between Bill N. 20133 and Bill N. 21228 leaves a sense of bias towards Bill n. 21288, when considering the government's intentions to regulate the collaborative transportation firms and their drivers in Costa Rica. The package of new regulations and conditions for the ascending collaborative transportation sector in Costa Rica seems to act as an anchor that prevents it to get out of sight. A few questions arise in terms of the possible consequences that the enactment of Bill N. 21288 may cause: Could the new anti-trust policy embedded in Bill N. 21288 deter the collaborative transportation firms and their drivers from operating in Costa Rica? Would the new set of regulations directed towards the collaborative transportation firms, such as Uber Company and their drivers, in Costa Rica hinder its recent growth in numbers of drivers and customers? The next section discusses the possible economic consequences of enacting Bill N. 21288 and its set of anti-trust regulations and requirements.

IV. Contending forces between the economics of multi-sided platforms and the new proposed regulation towards collaborative transportation firms in Costa Rica.

4.1. Possible economic consequences of Bill N. 21288 on collaborative transportation firms

In this case, the new bill could impose a penalty of approximately \$14 million U.S. dollars with the intention to decrease an undesired market behavior. According to the opinions abovementioned related to the legal status of Uber Company in Costa Rica since its entry, they have been operating without the appropriate permits or concessions generally issued by the PTC. Such a compensatory penalty may seem like a very large sum of money for Uber Company to pay if the bill is enacted. However, in a recent valuation made by United States banks to Uber Technologies Inc. in October 2018, it is estimated that it will be worth \$120 billion dollars once it becomes a public company during 2019 (Reuters, October 2018). Would the imposed \$14 million U.S. dollars penalty be enough to discourage Uber Company from growing as it did in the last three and half years? Would be it an effective regulation to prevent other collaborative transportation firms to enter the Costa Rican paid transportation of people's market?

This penalty may impact the short-run operations and finances of Uber Company in Costa Rica. Because multi-sided platforms in their entry stages in a new market rely heavily on achieving a critical mass, it is necessary to apply certain benefits such as price strategies on one of the sides of the platforms and the demand

on the other side of the platform will be influenced positively. With the severity of this penalty, it becomes very difficult for Uber Company to apply such price strategies. It is not uncommon for these collaborative transportation firms to operate with financial and economic losses in the short run. However, its capacity to balance these short-run losses with increases in critical mass and thus in its sales via collaborative platform would be minimized.

This penalty imposition would also directly hurt the capacity of Uber Company in Costa Rica to achieve indirect network effects. It would reduce its capacity to maintain the high levels of critical mass achieved up to today (800,000 customers subscribed on one side of the platform, and 22,000 drivers on the other side of the platform) (Avendaño, 2019). Therefore, its capacity to offer below average market prices would also be diminished. Its average total costs are going to increase as a result of the penalty imposition in the short-run. Therefore, its marginal cost would increase. The new short-run price that would prevail after paying the penalty is equivalent to the regulated price applied in natural monopolies.

Another important economic effect taking place as a result of enacting Bill N. 21288 is the increase of a 13% in the corporate income tax on the Uber Company's yearly profits (Avendaño, 2019) The short-run to long-run effects of a 13% income tax are diverse. On one side, it could decide to charge this tax directly to the customer by increasing the prices of ride services. On the other side, the Uber Company may not be concerned with making profits in the short-run, and instead apply pricing strategies that would enhance its market penetration. Its capacity of achieving a critical mass on both sides of the platform and obtaining indirect effects could be slightly deterred if the tax payment is directly charged to the customer at a higher price with the consequent reduction in the service quantity demanded. It is important to point out that this is a tax that is charged to all firms in Costa Rica, unless the firm is categorized as an exemption. The Uber Company in Costa Rica has stated in many occasions that it is willing to fulfill all local legal and tax regulations.

In addition to these new impositions that could be created once Bill N. 21288 is approved, there could be a new tax of 8.5% on all money transfers that collaborative transportation firms make overseas. It could have a couple of economic and financial effects. Collaborative firms are going to think twice before sending their corporate profits outside of Costa Rica. Even though this decision affects mainly the collaborative firms' operational costs, it would not have a direct effect on the price charged to customers. If this bill is approved, it can affect the overall collaborative firm's capacity to generate indirect effects, and to apply effective pricing strategies through the collaborative platform as well.

The above-mentioned economic effects of enacting Bill N. 21228 on the collaborative firm (the penalty of \$14 million USD, a 13% income tax on corporate profits and an 8.5% tax on remittances sent overseas), has a common impact on how the market sets its price. The price is going to move from an efficient price currently being offered to customers to a regulated price where the average total cost meets the demand curve. This bill enactment would lead to a higher 'regulated' price (as depicted in Figure N. 1), and a lower quantity supplied, or quantity demanded (depending on whether we are talking about the driver or the customers). Any combination of these economic effects would lead to a higher price which would take collaborative transportation firms a step closer to the price that traditional T.A. taxi drivers have as a traditionally regulated sector.

4.2. Possible economic consequences of Bill N. 21288 on collaborative transportation drivers

The enactment of Bill N. 21228 on collaborative transportation firms can cause several economic effects on the collaborative drivers, which revolve around the concept of setting a 'regulated' price. The first expected economic imposition to be applied to the collaborative drivers is a 13% value-added tax effective July 2019. This tax will be charged regardless of Bill N. 21228 being approved or not. It will increase the price for the customer directly, and indirectly increase the financial and economic opportunity cost for every collaborative driver since he/she will have to keep very good accounting records along with the submission of the tax forms linked to it. It will be required for a collaborative driver to hire an accountant to do the accounting in an effective manner. It is hard to estimate how many of the 22,000 Uber drivers in Costa Rica today will be willing to adopt these measures. It is expected that it is going to decrease the quantity supplied of services, along with an increase in the price to the customer because of the value-added tax.

The other financial impositions that are expected to take place with Bill N. 21228 are the following levies (the use of these levies is explained above):

- \$200 for obtaining the 'right' to be registered with PTC as a multi-sided platform.
- \$35 to obtain the driver's code.

The total yearly sum that collaborative drivers would need to pay to operate legally is \$235. The economic effects of these two levies are going to be applied noticeably mainly in the price charged by collaborative drivers, or in the collaborative firm's costs, or in a combination of the customer price and the firm's costs. If the collaborative driver and the Uber Company decide to pass these levies on to the customers, it would increase the collaborative hailing rides' price. If the Uber Company decides to assume the two levies as their responsibility, then its operational average total costs would increase which would eventually also be reflected in the collaborative hailing ride's price. The hailing ride price would get closer and closer to what the traditional 'regulated' T.A. taxi drivers have conventionally charged their customers.

Lastly, a 3% surcharge is to be included in every collaborative hailing ride service. So, every customer who requests a ride service from the collaborative platform would be charged in the invoice an additional 3%. Similarly, as with the 13% value-added tax or the two levies, the price charged by collaborative drivers to its customers would increase because of higher average total costs, leading to a regulated price that is closer to what traditional 'regulated' T.A. taxi drivers have commonly charged their customers.

The impositions by themselves or a combination of the 13% value-added tax, the \$235 levies, or the 3% surcharge, share a common economic effect that could impact the individual driver and customer. In all cases, the price for the hailing ride service would increase to a level similarly to the one currently charged by the traditional 'regulated' T.A. taxi drivers. However, the collaborative platform firms have on their behalf the innate characteristics that have made the Uber Company in Costa Rica successful: interdependence, indirect network effects, and achievement of critical mass via pricing strategies. Could these innate characteristics of the collaborative transportation market outweigh the expected regulations that are about to be discussed and eventually approved in the Costa Rican Congress in the long-run?

F. Final remarks

The experience of collaborative or sharing transportation platform firms in developing countries, specifically in Costa Rica, has demonstrated that no country was ready to embrace and regulate such an innovative economic sector. The lack of a well-defined, politically accepted, and updated regulatory policy has led to market frictions with an uncertain future.

The successful entry of the Uber Company in Costa Rica has created the necessary conditions for it to obtain and maintain the required critical mass, indirect network effects and interdependence that platform economics states are needed for its sustainability and growth. However, it has also created some 'antibodies' among the rent-seeking groups conformed by the traditional taxi guilds and the Ministry of Public Works and Transportation. These two contending forces, the economic one represented by the Uber Company and the regulatory one represented by the political proponents (guilds and Ministry of Public Works and Transportation) of Bill N. 21288, are expected to find either a midpoint in which the two forces will be able to coexist, or in the worst case scenario, one of the sides decides to take stronger legal or economic action against the other.

The overall expectation is that the Uber Company will gain access to the needed legality in conformity with the Costa Rican Law if it adopts the requirement of Bill N. 21288, but at a very high cost to its customers. The expected economic impacts of the new bill are higher regulated prices, a lower quantity supplied of the collaborative drivers, and a collaborative sector so restrained of its innate economic characteristic that it may be pushed away from its *raison d'être*.

References

that drivers were attracted towards the flexible work hours and the incentives provided by Uber. The presence of sophisticated Uber application and lower price

Bibliography

- [1.] Avendaño, M. (2018, July 10th), Uber tiene 21.000 conductores y 800.000 usuarios tras casi tres años de operar en Costa Rica, *El Financiero*, Retrieved from: <https://www.elfinancierocr.com/economia-y-politica/uber-tiene-21000-conductores-y-800000-usuarios/JL7BPYK4BZE3NGBYZNLX6JSLBI/story/>.
- [2.] Avendaño, M. (2019, January 22nd), ¿PorquéUber tendría que pagar 13% de IVA y 8300 millones para operar en Costa Rica?, *El Financiero*. Retrieved from: <https://www.elfinancierocr.com/economia-y-politica/ef-explica-por-que-el-gobierno-pretende-cobrar/D24Q4DEQ7JCK5LR6M7WKGYESA4/story/>.
- [3.] Baumol, William J. and Ordover, Janusz A. (1985), 'Use of Antitrust to Subvert Competition', 28 *Journal of Law and Economics*, 247-265.
- [4.] Caillaud, B. and Jullien, B. (2003). Chicken and Egg; Competing Matchmakers. *Rand Journal of Economics*, 34(2), pp.309 –328.
- [5.] Chacón, K. (2017, January 12th), Uber pasa de 7000 a 130000 conductores en seis meses, *El Financiero*. Retrieved from: <https://www.elfinancierocr.com/tecnologia/uber-pasa-de-7-000-a-13-000-conductores-en-seis-meses/GCHGXWVCJEPNLBO7PIPEN5THA/story/>
- [6.] Corella, F. (2016), *Ley de Movilidad Colaborativa en Costa Rica*, Asamblea Legislativa: San José, Costa Rica.
- [7.] Ernst & Young LLP (2015), *The rise of the sharing economy: the Indian landscape*, Nasscom Product Conclave: India. Downloaded from: [https://www.ey.com/Publication/vwLUAssets/ey-the-rise-of-the-sharing-economy/\\$FILE/ey-the-rise-of-the-sharing-economy.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-rise-of-the-sharing-economy/$FILE/ey-the-rise-of-the-sharing-economy.pdf).
- [8.] Evans, D. and Schmalensee, R. (2016), *Matchmakers: the new Economics of Multisided Platforms*, Harvard University Press: Massachusetts.
- [9.] Evans, D. (2011), *Platform Economics: essays on Multi-Sided Businesses*, Competition Policy International: California.
- [10.] Fernandez, J. (2019, January 24th), Las tarifas de Uber se dispararían en caso de aprobarse el proyecto de ley que pretende subyugarlo, *El Financiero*. Retrieved from: <https://www.elfinancierocr.com/blogs/la-riqueza-de-las-naciones/las-tarifas-de-uber-se-dispararian-en-caso-de/CDR2G722WJFXNKCL4KJ3N6GNNA/story/>.
- [11.] Goodrick, D. (2014), *Comparative Case Studies*, Unicef, Methodological Briefs Impact Evaluation N. 9.
- [12.] Lipsey, R.; Steiner, P.; Purvis, D. (1987), *Economics*, Harper International Ed.: New York.
- [13.] Mathawan, R. (July 19, 2018), *The Uber Story*, Retrieved from: <https://techstory.in/the-uber-story/>
- [14.] Paré G., Trudel M.-C., Jaana M., Kitsiou S. (2015), Synthesizing Information Systems Knowledge: A Typology of Literature Reviews. *Information & Management*. 52 (2): 183–199. Retrieved from: https://edisciplinas.usp.br/pluginfile.php/4126344/mod_resource/content/2/2.4.Pare%20et%20al.%202015%20-%20literature%20review.pdf.
- [15.] Presidencia de la República de Costa Rica. (August 22nd, 2015), —Gobierno desmiente titulares acerca de Uber y reafirma respeto a la Legalidad [Blog post], Retrieved from: <http://presidencia.go.cr/comunicados/2015/08/gobierno-desmiente-titulares-acerca-de-uber-y-reafirma-respeto-a-legalidad/>.

- [16.] Price Waterhouse Cooper report called *The Sharing Economy:the intelligence series* (2015), downloaded from: <https://www.pwc.com/us/en/industry/entertainment-media/publications/consumer-intelligence-series/assets/pwc-cis-sharing-economy.pdf>.
- [17.] Reuters, (October 16, 2018), Uber IPO proposals value company at \$120 billion: WSJ, *Financial Times*, Retrieved from :<https://www.reuters.com/article/us-uber-ipo/uber-ipo-proposals-value-company-at-120-billion-wsj-idUSKCN1MQ1N8>.
- [18.] Rice University (n.d.), Ch. 11, Monopoly and antitrust policy, Retrieved from: <https://opentextbc.ca/principlesofeconomics/chapter/11-3-regulating-natural-monopolies/>.
- [19.] Rochet, J. and Tirole, J. (2003), Platform Competition in Two-sided markets, *Journal of the European Economic Association* 1, n. 4.
- [20.] Rodriguez, A. (2016, August 9th), Siete diferencias en las normas entre Uber y los taxis, *El Financiero*. Retrieved from: <https://www.elfinancierocr.com/economia-y-politica/siete-diferencias-en-las-normas-entre-uber-y-los-taxis/MBHHWKE5BFDXLOV5TXULFGYHLY/story/>.
- [21.] Soto, E. and Avendaño, M (2018, September 4th), 22.000 socios conductores no pueden dejar de generar ingresos en espera de una regulación', responde Uber al Gobierno, *El Financiero*, Retrievedfrom: <https://www.elfinancierocr.com/economia-y-politica/22000-socios-conductores-no-pueden-dejar-de/MTM2NEZOG5B4LBM7DCWNLDXIUA/story/>.
- [22.] Srmicek, N.(2017), Platform Capitalism, Polity Press: Cambridge.
- [23.] Sundararajan, A (2016). *The Sharing Economy* (The MIT Press) (Kindle Locations 165-168). The MIT Press. Kindle Edition.
- [24.] Tirole, J. (2016), *La economía del bien común*, DeBolsillo: Barcelona.
- [25.] Uber drivers protest in San Jose, (August 30th, 2018), *The Tico Times*, Retrieved from:<http://www.ticotimes.net/2018/08/30/uber-drivers-protest-in-san-jose>.