From the Rule of Thumb to the Rule of the Algorithms: command and control in ride-hailing platforms

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Abstract: By using a Commonsian approach to the mechanisms of control present in the wealth-creating managerial transactions, we aim at investigating the command-and-control relationship between digital platforms of ride-hailing services and their drivers. Despite being commonly defined as technology companies acting as multisided markets, thus, intermediaries between its end-users, the on-demand ridesharing platforms also share the feature of controlling their labor force – usually working under self-employed statuses – through opaque and unilaterally defined working rules by its algorithms. We argue that, by recovering Commons' idea of going concerns and their constitutive elements of going plants and going business, platforms can be seen as governance structures whose algorithmic mechanisms have systematized with high detailed capacity the working rules of their services (car rides), substituting the role played by workers' experience and customs in establishing the methods of work. This transaction between workers and platform results in a state of insecurity on the side of the workers, marked by a lack of democratic participation and asymmetric bargaining power.

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Even though the very concept of digital platforms can present countless definitions and their constitutive technological characteristics may be unknown to most people, certainly such platforms have become increasingly present in popular daily life around the world. Whether in food delivery by cyclists or the requesting of private drivers for individual transportation services in urban centers, many are now familiar with the ease provided by these services, usually supported by arguments of superiority over predecessor means of service provision and the irreversibility of the effects of technical progress and technological advances brought by the digital age. The ubiquity and spread of these platforms are being thoroughly investigated throughout academe as it becomes one of the "trending topics" in the study of how labor markets and labor conditions are affected by digital transformations.

Algorithmic Management and the Gig Workers

Among the different ways that digital labor platforms can be described, the most common, and also the one adopted by these platforms, is the concept of two/multi-sided markets, a concept that deals with the role of the platforms in the relation between its end users. Defined as multi-sided markets, platforms act as intermediaries between "two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet" (OECD 2019, 21). Being the meeting place for supply and demand, multi-sided markets would work on the beneficial network externalities that the entrance of economics agents – both service-providers and clients – generate for all users (Rochet and Tirole 2003).

However, the use of the term `intermediary` in the case of digital platforms can lead to erroneous conclusions of supposed neutrality in the operation of the platforms as markets. This idea can be further discussed making use of the definition provided by Schmidt (2017, 5), for whom the structure of labor digital platforms "consists of an online marketplace that involves at least three parties", where the intermediary, being an active party, is the one with "full access to and control over the data, processes, and rules of the platform". Thus, we turn from a misconception of nonintervention to the possession of a great power in the age of digital platforms that is shared by these companies: the collection and use of personal data (OECD 2019).

Data concerning geographical coordinates, tracking of individual performance, and user behavior are among the many forms digital platforms intervene in the interaction between its end users to achieve the going concerns' objective of profit from the actions of economics actors supposedly autonomous. However, a multimarket or not, labor platforms operate by sophisticated mechanisms of control of the workforce through its algorithms (Woodcock and Graham 2020), which are not only collecting and processing data but also are substituting the traditional place of the industrial foreman in organizing and managing the workforce (Möhlmann and Zalmanson 2017). Consequently, the "algorithmic management" of the workforce has become a common concept to describe this relationship between platforms and workers, that is marked by data collection and surveillance with decision-making powers, such as account deactivation of its users (ILO 2018; Maatescu and Nguyen 2019).

One of the central tools for algorithmic management is the use of clients' ratings as valid metrics to access the performance of workers who use these platforms. However, as discussed by Maffie (2020b), these algorithmic instruments of control have different meanings depending on the platform we are investigating. Accordingly, users' ratings in Airbnb may be empowering signals of quality, while, in the case of Uber, might be a thermometer for how close/far the driver is from deactivation. Thus, this brief discussion is focused on the activities of platform labor of which ride-hailing drivers are usually treated as the main representants of the trend

towards the “plataformization” of work (Slee 2017) and are part of a platform that operates with the adoption of the most common mechanisms of control of the gig economy (Maffie, 2020b).

Command and Control in Managerial Transactions

Comprehending how institutions work and create order out of conflict of interest was part of John R. Commons' investigation on the place of institutions in political economy, and, to this end, he chose the transactions as the central unit of analysis of the economic phenomena. By transactions, Commons did not mean the exchange of physical goods between different economic agents, but every interaction in which conflict of interest, interdependence, and order could be found (Commons 1934). Conflict of interest would result from the claim that it is scarcity, rather than abundance, that constitutes the relations between man to nature and man to man. Consequently, legal ownership and property rights enforcing individual behavior towards what is scarce would be the place for the study of the legal foundations of capitalism (Commons 1934, 75).

It is through transactions that individuals deal with and change the very nature of scarcity (Guedes 2019). Through bargaining transactions, agents would transfer property rights between each other, directed by working rules establishing expected behavior from them at the same time that both could exert economic power through coercion and persuasion over one another. Rationing transactions, in their turn, would be those between a collective legal superior with powers to distribute wealth and its burdens between individual agents. Finally, the managerial transactions would be those between a legal superior and a legal inferior in which it is the creation of wealth that takes place through command and obedience guided by the working rules of the going concern.

The going concerns, defined by Atkinson (2009, 434) as “a social unit that organizes and controls individuals and directs them toward a common purpose” could be used to describe a wide range of social groups, the firm included. The firm as a going concern is a grouping of both the physical process of “production and consumption of physical things” and the business process of “buying and selling, borrowing and lending, commanding and obeying, according to shop rules of working rules or laws of the land” (Commons, 1924, 8). The first process Commons (1924, 22) would name “going plant”, and the latter “going business”, realms, respectively, of the internal technical production process based on efficiency and the external relations with markets, finances, and judicial actors. Thus, the modern capitalist firm would have as its main objective, or common purpose of its members, the “valuation of wealth, whether material [use-values] or immaterial [assets]” (Guedes 2019, 164).

While the going business of a going plant is the relation of man to man establishing prices over what is scarce by bargaining transactions, the going plant is “the forces and materials of nature in process of satisfying human needs, under the control of human labor” (Commons 1924, 205). It takes a producing organization to manage the going plant, that is “human forces proportioned according to the supply and prices of their physical, mental and managerial faculties” (Ibid. 206). Since it has been stated that the managerial transaction deals with the creation of new wealth by command and obedience between a legal superior and a legal inferior, the same managerial transactions are part of the going plant of a going concern operating as its producing organization (Commons 1934, 268). Consequently, the going plant does not only deal with the firm`s physical property in the form of machines and buildings, but it is the right proportioning of the technological factors through managerial transactions oriented by criteria of efficiency, that is, the relation between input and output (Ibid. 633-634).

The study of the producing organization as the capacity of creation of use-values was part of Frederick Taylor’s Scientific Management investigations (Commons 1934, 174). As Commons (1919) perceived, the rule of thumb enforcing habits and methods of work inside of

the firm gave way to the rule-of-science, in which labor was taken as a "machine […] an operating organism to be economized (Ibid., 14). Scientific management was indeed an effort to "show that every action of a worker could be reduced to science" (Taylor 1990, 56) and it functioned with the work of "managers and engineers with a professional purpose of systematizing the shop rules" (Commons 1924, 139), or in other words, responsible for redefining the working rules governing managerial transactions inside of the firm.

John R. Commons (1919) acknowledged the promising capacities of scientific management to increase productivity by systematizing the shop rules. However, he was critical of the adoption of the practices that took the worker as a commodity and/or machine, denying democratic mechanisms of workers` representation in the process of bargaining and defining of working rules governing the producing organization. This "despotic" attitude would be one of the main reasons for labor unrests (Commons 1921, x) in a time where the original institutionalists were not only providing a theoretical counterpoint to orthodox economics but were also concerned about the maintenance of the American system of liberal democracy while fascism and communism grew as potential threats (Kaufmann 2005, 24). For Commons (1921, 8), the industrial problem was a matter of capitalism failing to provide labor's security of expectations in their jobs, and management without democracy with unilaterally defined working rules would menace capitalism by keeping workers in a state of insecurity.

Workers and the Rule of the Algorithms

When we turn our investigation to the case of the digital labor platforms of the twenty-first century, we should be cautious if we propose to read it through a Commonsian approach that was conceived in the early phase of modern industrial and financial capitalism. However, the relative novelty of these labor relations reinforces the importance of these debates in the field of institutional economics and its continual interest in the conflicts between capital and labor.

With the absence of a physical plant in the form of the traditional factory system where workers would interact with each other and operate machines under a set of working rules enforced by the surveillance of a foreman, how can the transactions between capital and labor be analyzed in ride-hailing platforms? In his contribution in providing an institutionalist approach to digital platforms, Baronian (2020) defined them as "techno-institutional center of capital valorization", sharing elements of labor-management and exploitation of the workforce to achieve their profit-seeking interests. Following Baronian, we also argue that platforms have the elements of profit seeking (going business) and controlling mechanisms through algorithms (going plant), but here we argue that the going plant is as important as the going business in comprehending the platform-firm, for, as discussed by Bazzoli and Dutraive (2002, 34), the firm for the institutionalist has to do with all of the complex interactions between individuals and the collective action, being a matter not only of defining prices by bargaining transactions, but also creating use-values through managerial transactions.

In the going plant of the ride-hailing platform, the workforce is organized by working rules and technological mechanisms that substitute the rule-of-thumb with the rule-of-algorithms, a modern rule-of-science in the age of data collection. These algorithms direct how workers should do their jobs (working rules) with the wealth-creating language of command and obedience, with little if any room for discretionary action for the drivers. Aneesh (2009) named the use of algorithms to organize de producing organization "algocratic management", where "action is controlled neither by socializing workers into regulatory demands, nor by punishing workers for their failure, but by shaping an environment in which there are only programmed alternatives to performing the work (Ibid., 356). In the same way, Yeung (2017) uses the term "algorithmic regulation" to explain that algorithms are used as decision-making systems to "manage risks and alter behavior". These are working rules settling expectations,

but having the platform`s interest as the only one responsible for defining the rules thus protecting the platform's expectation.

With no room for discretionary actions and with a high capacity of data collecting and processing to use them as bases to organize the producing organization, digital labor platforms have gone further in the effort of mapping the working rules of the shop than the older approach of scientific management could ever achieve. In the case of ride-hailing drivers, routs are pre-defined, platforms match clients, decide prices and centralize payments and communication (Maffie, 2020b), and what is left of autonomy for the workers is deciding when to log on the platform. Driver`s activities are responses to managerial transactions aimed at creating use-values (rides), with the risk of being kicked out of the platform by subjective and unclear criteria of evaluation outsourced by the platforms to their clients (Slee 2017; Abílio 2019).

Power Asymmetry and Labor Insecurity

The practice of managing the workers through algorithmic mechanisms, such as location monitoring and game-like inducing tools, happens beyond the driver's knowledge of its functioning, which, among other consequences, may result in temporary blocks or permanent banishment from the platform. This lack of transparency on the working rules concerning subjective performance criteria from both platforms and passengers on the side of the drivers, as well as the increasing capacity for data collecting and processing on the side of the platforms, have created a situation of asymmetric powers. This asymmetric power is the lack of bargaining power on the side of the worker that, if dissatisfied with the managing practices and the working rules of his activities, has in quitting the job his only alternative. As Commons and Andrews (1936) argued, the lack of interdependence between capital and labor, with the latter being easily substituted by other workers, is not bargaining power, because bargaining power would be the capacity to withhold from making decisions without the constant threat of unemployment.

Unregulated workplaces such as the algorithmic management in digital labor platforms are coming closer to becoming what Commons saw as despotic mechanisms of control, where the absence of democratic spaces for workers' collective voice, and even the denial of the employment status, result in labor insecurity of expectations in their daily transactions. And, as Atkinson (2004) argued, the Commonsian approach to labor economics had a special interest in debating this very emergence of free markets for labor and the consequent menaces of competition to the unprotected workforce.

Thus, making use of the early Industrial Relations terminology, the "digital labor problems" are fundamentally problems of higher insecurity of expectations in the side of workers created by opaque defined working rules that, when summed up to their vulnerability in labor markets in times of economic crisis, create a stage in which labor has no choice other than subjecting and staying in platform activities despite the unclear mechanisms of control. The denial of the employment status also shares similarities with Commons' critique of the system of sweatshops (Commons 1905), where cheap work and subcontracting were prevalent in the textile industry. As McIntyre and Ramstad (2004) summarized, Commons' reading of the sweating system aimed at the social distancing created between employers and employees, also marked by the contractor's control of information and workers' insecurity and lack of information concerning their jobs.

Finally, literature is advancing in the debate on how and of what instruments the platform workers are using to overcome the ubiquity and control of the algorithms, either by creating formal collective groups or by organizing in online forums where they try to make sense of the platform's mechanisms (Woodcock and Johnson 2017; Woodcock and Graham 2020; Maffie 2020a). Thus, acknowledging the conflicts that may arise from this relation of

socially distant employers and employees and the use of algorithmic mechanisms of surveillance and managerial transactions is the first step to a debate on how workers and collective action can address the digital labor problems of the twenty-first century.

References

Abilio, Ludmila Costhek. 2019. "Uberization: From entrepreneurship to subordinated self-management." *Psicoperspectivas* 18 (3): 1-11.

Aneesh A. Global Labor: 2009. "Algocratic Modes of Organization." *Sociological Theory* 27 (4): 347-370.

Atkinson, G. 2004. "Labor and the Menace of Competition," in *The Institutionalist Tradition in Labor Economics,* edited by Dell P. Champlin and Janet T. Knoedler, pp. 39-49. Armonk, NY: M.E. Sharpe.

_____. 2009. "Going Concerns, futurity, and reasonable value. *Journal of Economic Issues* 43 (2): 433-330.

Baronian, Laurent. 2020. "Digital Platforms and the Nature of the Firm." *Journal of Economic Issues* 54 (1): 214-232.

Bazzoli, L., & Dutraive, V. (2002). "L'entreprise comme organization et comme institution." *Économie et Institutions,* 1: 5–46.

Commons, J. R. 1905. *Trade Unionism and Labor Problems*. New York: Ginn and Company

_____. 1919. *Industrial Goodwill.* New York: McGraw-Hill.

_____. 1921. *Trade Unionism and Labor Problems*. 2nd Series. Boston: Ginn and Company.

_____. 1924. *Legal Foundations of Capitalism.* New York: Macmillan, 1924.

_____. 1934. *Institutional Economics. Vol. 1: Its Place in Political Economy*. New York: Transaction Publishers.

Commons, John R., and John Andrews. 1916, 1st ed.; 1936, 4th ed. *Principles of Labor Legislation*. New York: Harper & Bros.

Guedes, S. N. R. **I***ntrodução à Teoria Econômica de John Rogers Commons*. Curitiba: Appris, 2019.

International Labour Organization (ILO). 2018. *Digital Labor Platforms and the future of work: towards decent work in the online world*. Geneve: International Labor Office.

Kaufman, B. E. 2005. "Historical Insights: The Early Institutionalists on Trade Unionism and Labor Policy." *Journal of Labor Research*, 26 (1): 1-32.

Mateescu, A.; Nguyen, A. Explainer: Workplace Monitoring & Surveillance. ***Data and Society.*** Available at < https://datasociety.net/library/explainer-algorithmic- m anagement-in-the-workplace/>

Maffie, M. D. 2020a. "The Role of Digital Communities in Organizing Gig Workers." *Industrial Relations* 59 (1): 123-149.

_____. 2020b. "Are we 'sharing' or 'gig-in'? A Classification System for online platforms." *Industrial Relations Journal*, 51 (6): 536-555.

McIntyre, R., and Ramstad, Y. 2004. "Not only Nike's Doing It: 'sweating' and the contemporary labor market" in *The Institutionalist Tradition in Labor Economics*, edited by Dell P. Champlin and Janet T. Knoedler, pp. 39-49. Armonk, NY: M.E. Sharpe.

Möhlmann, M.; Zalmanson, L. 2017. Hands on the wheel: Navigating algorithmic management and Uber drivers' autonomy. *Proceedings of the International Conference of Information Systems,* December 10-13, Seoul, p. 1-17.

OECD. 2019. *An Introduction to Online Platforms and Their Role in the Digital Transformation*; Paris: OECD Publishing. DOI: https://doi.org/10.1787/53e5f593-en

Rochet, J-C.; Tirole, J. 2003. Platform Competition in Two-Sided Markets. *Journal of the European Economic Association* 1 (4), 990-1029.

Schmidt, F.A. 2017. *Digital Labour Markets in the Platform Economy.* Bonn: Friedrich-Ebert Stiftung. Available at: http://library.fes.de/pdf-files/wiso/13164.pdf

Slee, T. *Uberização: a nova onda do trabalho precarizado*. São Paulo: Elefante, 2017.

Taylor, F.W. *Princípios da Administração Científica*. São Paulo: Atlas, 1990.

Woodcock, Jamie and Mark Johnson. 2017. “Gamification: What it is, and how to fight it.” *The Sociological Review* 66 (3): 1-17.

Woodcock, Jamie and Mark Graham. 2020. *The Gig Economy*: *a critical introduction*. Cambridge: Polity Press.

Yeung, Karen. 2018. “Algorithmic regulation: A critical interrogation.” *Regulation and Governance* 12 (4): 505-523.