

THREE ESSAYS ON PLATFORM CAPITALISM  
AND ITS ALTERNATIVE

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AND ITS ALTERNATIVE

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University of Missouri-Kansas City, 2023

ABSTRACT

This dissertation delves into the intricate landscape of platform capitalism and its multifaceted relationship with labor dynamics, bringing forth a nuanced understanding of the evolving economic terrain. The first essay sets the stage by redefining platform capitalism's character. Contrary to prevailing views that paint it as solely rentier capitalism, this paper reveals that platform capitalism encompasses both productive and rentier facets. Employing a Marxist framework, it delineates three categories within platform capitalism: (I) pure-rent platforms, (II) rent-productive mixed platforms, and (III) pure-productive platforms. This essay challenges the conventional classification by scrutinizing surplus value and data creation, employing Uber as a case study. The second essay shifts focus to platform capitalism and labor dynamics. Employing an interlocking framework, it uncovers the intricate control mechanisms that bind workers to gig platforms through factor markets' dependence. This essay examines

the Artisan Courier Model (ACM) by interlocking framework enriching our comprehension of labor control and precarity dynamics. The third essay offers a model to counter the pervasive influence of platform capitalism. This paper advocates the state-platform cooperative partnership in response to corporate giants' dominance in the digital economy. This collaboration empowers platform cooperatives, ensuring financial autonomy, minimizing undue state interference, and fostering democratic self-sufficiency. This essay charts a path toward building a robust alternative within the capitalist landscape by providing a practical blueprint for cooperation. This dissertation comprehensively examines platform capitalism, labor dynamics within the gig economy, and a collaborative model to challenge the status quo. This dissertation contributes to the ongoing discourse on platform capitalism, enriching our understanding of its complexities and providing hope for those seeking to reshape the economic paradigm on a global scale.

## APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Graduate Studies, have examined a dissertation titled “Three Essays on Platform Capitalism and Its Alternative,” presented by Ali Alper Alemdar, a candidate for the Doctor of Philosophy degree and certify that in their opinion it is worthy of acceptance.

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## CHAPTER 1

### FROM VALUE CREATION TO RENT APPROPRIATION, RETHINKING PLATFORM CAPITALISM AND MONOPOLIZATION

#### INTRODUCTION

Starting from the 1990s, the digital revolution remarkably changed and transformed the economy. The digital economy accounted for 10.3 percent of (\$1,849.3 billion) of current-dollar gross domestic product (GDP) (\$2.4 trillion) in 2021 and economy provided 8 million jobs in total U.S. employment in 2022 (BEA, 2022). Digital platforms reduce transaction costs by introducing big data, cloud computing, artificial intelligence, algorithmic management, and machine learning and change labor-capital relations (Drahokoupil & Piasna, 2017). The platform economy is part of the digital economy. The platform economy refers to a marketplace in the cloud where companies, workers, and customers interact within less than seconds. The platform economy is complex and multidimensional and differentiates according to a specific business model, technology, way of using data, and labor-capital relations (Kenney & Zysman, 2015).

Platform economy attracted many scholars from various disciplines to study this new type of economy. Therefore, literature on digital and platform economies rapidly developed in the last decade. While one strand of the literature studies the benefits of digital and platform economies on growth and productivity, another literature body critically examines them. (Bukht, R., & Heeks, R. 2017; Schmid, 2001; Birch, 2019; Birch & Cochrane, 2022; Durand & Milberg, 2019; Foley, 2013; Pagano, 2014; Rikap, 2021; Teixeira & Rotta, 2012; Rotta & Teixeira, 2019). The critical studies focus on power relations among classes, monopolization of platform economy, and regulation. These studies aim to capture platform companies'

different profit and growth strategies and monopoly dynamics within platform markets. Strategies such as investments in intangible assets<sup>1</sup>, data collection, algorithmic management, precarization of labor, extracting surplus value from workers, and rent collection are some examples examined by the literature.

Despite the enormous work on digital and platform economies, the literature mainly focuses on the role of intangible assets on profits and delinking rent<sup>2</sup> appropriation from surplus extraction. Considering rent as a fundamental source of profit and monopolization leads most scholars to define digital platform capitalism as rentier capitalism. This paper challenges this understanding of platform capitalism and claims that not all platform companies are pure rentiers; therefore, some of them act like digital industrialists who employ intangible capital in the form of digital means of production while also being rentier at the same time. Although some parts of the platform economies are indeed based entirely on rent, the platform firms, in other words, modern digital corporations, usually are a combination of productive<sup>3</sup>, rent, and finance capital. Particularly, as this paper argues, in the labor platforms (gig economy) platforms, rent and surplus extraction often co-occur and support each other. These processes are theoretically separate but practically intertwined. The surplus value extraction process is a way of making profits and creating intangible assets that contribute to surplus value extraction and rent appropriation. From this perspective, rather than identifying platform capitalism as rentier capitalism, this paper argues that platform capitalism is the

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<sup>1</sup> Intangible assets refer non-physical assets of a firm such as goodwill, brand recognition, patents, trademarks, and copyrights. Orhangazi (2019) found that non-financial firms increase their market concentration and profitability by acquiring intangible assets.

<sup>2</sup> Rent is usually conceptualized as a form of economic rent driven from rent-seeking activities, which deteriorate economic growth and efficiency in mainstream economics (Krueger, 1974; Murphy et al., 1993). However, this paper uses older and classical version of rent that defined by classical thinkers like David Ricardo and Karl Marx. Rent is as the fraction of income stream appropriated by owners of scarce land (assets).

<sup>3</sup> Productive refers means of production, which a worker creates surplus value by employing of it.

combination of rentier and productive, which can be peculiarly categorized as pure rent platforms, rent-value creation platforms, and pure value creation platforms. This study identifies the value creation process in platform capitalism and its relationship with rent appropriation to illustrate rent-value creation and pure value-creation platforms through a Marxist framework.

This article contributes to the existing literature in two main aspects. Firstly, it presents an argument that platform capitalism cannot be solely understood within the framework of rentier capitalism. Instead, the article introduces a methodology that demonstrates that surplus extraction and rent appropriation can occur separately or simultaneously within platform capitalism. Moreover, this methodology facilitates the development of a new taxonomy that categorizes platform capitalism based on distinct profit mechanisms. Second, based on the new taxonomy, the article uncovers platform-specific investment strategies by individually identifying various profit channels. This detailed analysis allows for the identification of distinct characteristics of platforms based on surplus value and rent. To illustrate this theoretical framework, the study employs Uber as a case study, where we can illustrate how a mixed-platform appropriates surplus value and rent distinctively. The aim of this case study and the paper is not to calculate rate of profits of Uber perfectly. Rather it aims to show economic and social relations of surplus value creation and rent appropriation in mix platform company like Uber.

Uber is a massive platform that generates approximately 6 billion dollars in revenue annually and provides employment to nearly 4 million gig workers worldwide. It serves as both a gig platform and a social institution, representing the changing dynamics of capital and labor relations. “Uberization” was introduced to express precarious relations specific to



platform economies (Hill, 2015). Uber offers an excellent case study for examining rent-value creation and pure value creation platforms, making it a valuable point of discussion in the literature. Additionally, insights gained from studying Uber can be applied to other related platform firms. It's worth noting that capital-labor relations and the contrasting appearances of production and rent differ from the majority of literature that considers almost all activities as rent. In Uber, labor is the source of profit and a source of the most precious intangible asset/capital, data. The labor of Uber drivers generates profit and data along with other users' data (riders and merchants). This labor process is the production of value, and the nature of this production also generates data from mainly drivers and consumers. The first production represents direct surplus value extraction from gig economy workers by exploitation, and the second is (II) data (digital raw material) collection (extraction) from platform workers by appropriation. The extracted data becomes the raw material for the application that aims to maximize workers' efforts to extract more value from them. We can call this form of data as digital "circulating capital" that Marx defines. The productive form of data appears as a rent component on the rentier side of Uber.

This study utilizes the concept of ground rent in Marx when the rent appropriation process is defined. The literature uses different definitions of rent, which creates the sense of the existence of multiple forms of rent (Birch, 2019; Durand & Milberg, 2020; Foley, 2013; Pagano, 2014; Rikap, 2021; Sadowski, 2019; Teixeira & Rotta, 2012; Rotta & Teixeira, 2019). Even though this study's primary focus is not on rent, a specific definition of rent is needed to examine the process of rent appropriation. This challenge is based on two premises. The concept of rent in this study is based on two assumptions. The first premise is that not every profit realization occurs through the rent in platform economies. The second premise is that

there is a unified form of rent, which is digital ground rent that includes both knowledge (technology) and information (data).

The rest of the paper is organized as follows. The following section begins with a review that covers related literature. In Section 3, this paper offers the theoretical framework of the paper. This section constructs the theoretical model to analyze the digital platform economy. The following section will examine Uber to illustrate the theoretical framework developed in section 3. Section 5 briefly discusses Uber's monopolization strategies based on the logic set in Sections 3 and 4 and contrasts with other digital platform giants.

### Literature Review

This section covers a literature review of monopoly strategies of high-tech and platform companies and forms of rent that companies appropriate through their monopoly power. The focus on rent in platform capitalism, particularly, directs scholars to define platform capitalism as a part of rentier capitalism. The literature mainly focuses on the role of intangible assets in the monopoly power in digital economies. It specifies the importance of an intangible asset, data, particularly in platform capitalism. The literature posits that intangible assets are monetized through technology and knowledge rent (Birch, 2019; Sadowski, 2020; Durand & Milberg, 2020; Foley, 2013; Pagano, 2014; Rikap, 2021; Teixeira & Rotta, 2012; Orhangazi, 2019). Data rent emerges as a specific form of rent that the firms generate profits. Scholars who specialize in platform capitalism use the concept of data rent extensively to examine how platform companies generate profits (Birch, 2019; Sadowski, 2019, 2020; Mathew, 2020; Van Doorn & Badger, 2020). Sadowski (2019, 2020), Mathew (2020), and Van Doorn & Badger (2020) develop the concept of data capital to explain the multifunction of data in platform capitalism. They argue that data capital is a form of productive capital and a source of data

rent. Although the literature on rent in technology and knowledge-driven economy, this literature review is limited to platform and data-related rent studies.

Intangible assets and intellectual property rights (IPRs) are some of the most important factors that the literature pictures in explaining the monopolization of digital economies. The literature review starts by covering the importance of intangible assets and IPRs. Since rent is the way that firms to appropriate monopoly earnings, different forms of rent will be discussed following. Lastly, the relationship between data rent and data capital and their conceptualization in platform capitalism will be discussed.

## Rent, Data Rent, and Data Capital

### Forms of Rent

IPRs are the legal structure of knowledge assetization, which create legal monopolies (Pagano, 2014). Pagano (2014) says that IPRs are how modern intellectual monopolies appropriate rent. Pagano (2014) further argues that even IPRs are private property, they dominate the market, labor, and society. The rent garnered from IPRs is disruptive to economic growth (Pagano, 2014; Schwarz, 2022). Foley (2013) posits that IPRs and network externalities center knowledge and information-based incomes. Appropriation of rent from those channels is similar to the commons' enclosure movements, one of the critical features of the transition from feudalism to capitalism (Foley, 2013). IPRs can generate limitless times of rent in contrast to the rent generation from the land (Foley, 2013; Pagano; 2014; Rikap, 2021).

Intangibles, which are nonfinancial and non-physical assets, capture computerized information such as data, technological information, art, design, brand name, and organizational structure (Corradei et al., 2012; Durand & Milberg, 2020). Beyond IPRs, intangible assets are both productive and unproductive features. Computerized and technological information could be

considered productive aspects of intangible assets. Whether it is productive or unproductive, according to intellectual monopoly capitalism literature, intangibles are the source of rent that benefits the monopoly power of the corporations. There are different types of extracting rent within intangible assets, such as knowledge or technoscientific rents (Birch, 2019; Durand & Milberg, 2020; Foley, 2013; Pagano 2014; Rikap, 2021; Teixeira & Rotta, 2012), and data rents (Durand & Milberg, 2020; Rikap; 2021; Sadowski, 2019; 2020).

Centralization and privatization of knowledge are the essence of intellectual monopoly rents and monopolization (Foley,2013; Pagano, 2014; Rikap, 2021). Centralized and privatized knowledge is constantly transformed into intangible assets, the source of “intellectual” rent. Once the intellectual rents are garnered, companies’ monopoly power intensifies, resulting from more accumulation of intangible assets and rent (Rikap, 2021 p. 27). This cumulative causation forces monopolies to invest aggressively in R&D, patents, marketing, branding, mergers, and acquisitions (Teixeria & Rotta, 2012; Rikap 2021). Therefore, rent-seeking behavior becomes the core strategy for intellectual monopolies to accumulate capital.

Teixeria & Rotta (2012) offer the concept of knowledge-commodity that identifies intangibles as inputs to digital production and misses the importance of the role of data (information) in their analysis. According to them, knowledge commodity is a combination of privatized knowledge and commodified information<sup>4</sup> protected by patents and intellectual monopoly rights. They use the reproduction approach of Marx, and argue that in order for commodities to bear value, they have to reproduce (Marx [1891] 1991, p.283). So, knowledge commodities bear no value (Rotta & Teixeira, 2019, p.387)<sup>5</sup>. Rotta and Teixeira (2019) identify

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<sup>4</sup> Information, here, does not refer data but information of know-how.

<sup>5</sup> Knowledge commodity producers only extract rent through their products. The form of rent depends on Marx’s treatment on ground rent. Knowledge commodities could be input for firms that use them in production or a final good for end users.

four knowledge rent categories. "Monopoly Rent" arises from intellectual property rights, allowing owners to price knowledge-commodities above their zero value and extract rent. "Differential Rent Type I (DR-1)" occurs when different knowledge-commodities yield varied productivity levels. "Differential Rent Type II (DR-2)" arises when companies using knowledge-commodities have different capital amounts or compositions. "Absolute Rent" emerges when valuable knowledge-commodities are produced in an IP-protected sector with lower capital composition. These rents exist regardless of user type. Monopoly rent creates artificial scarcity, DR-1 depends on software exclusivity, and absolute rent draws from a surplus value in a specific sector, similar to land rents.

#### Rent and Data Rent in Platform Capitalism

Data rent usually refers to the company's ability to accumulate and centralize big data to use in various processes of production, distribution, advertisement, and market enclosures (Srnicsek, 2017; Sadowski, 2019;2020; Duran & Milberg, 2020; Rikap, 2021). The concrete form of monopoly power of data is data rent. The concept of data or data rentiership is applied to various high-tech and digital platform industries. Rikap (2021) applies data rentiership to analyze the high-tech giants like Amazon and Apple within the intellectual monopoly capitalism framework, and Duran & Milberg (2020) use the data-driven innovation rent analysis to see how intellectual monopoly capital works along GVCs. On the other hand, Srnicsek (2017), Sadowski (2019; 2020), and Birch et al. (2020) focus on data rent in platform capitalism. Data rent is considered as the concrete form of enclosures, private ownership, and control rights of personal data.

There are similarities and differences in using the concept of data rent in different industries. However, different bodies of literature commonly combine both productive and

unproductive roles of data in the idea of data without considering whether data is an object of rent or a part of the labor process in production. This unity causes a conceptual blurriness that makes it harder to analyze how data is valorized and used for productive purposes. Data rent is a broader form of data rentiership for Rikap (2021). She defines data rentiership as being a monopoly over big data and computational power on data. More data accumulation leads to “the more accurate the predictions of algorithms will be” (Rikap, 2021, p.27).

Besides data rentiership and data rent, Rikap (2021, p.137) also presents the concept of data-driven intellectual monopoly in analyzing Amazon. In Amazon or e-commerce-related retail companies, data appears as the source of innovation. Amazon uses processed data to expand the business and further innovate. Data-driven intellectual monopoly combines monopoly power over constant data extraction, accumulation, and capacity to analyze these data with machine learning, producing artificial intelligence. With these two components, tech giants like Amazon can expand their monopoly power almost without limit (Rikap, 2021, p.138).

Data rent or rentiership is also an important concept widely used in the digital platform capitalism literature. Sadowski (2020) examines contemporary capitalism by combining platform capitalism studies and rent theory. Data rent lies at the heart of his analysis and bridges platform studies and rent theory. He argues that platforms collect monetary rent and data rent, and these two types of rent are indispensable to each other. However, in his analysis, money, and data rents are not equivalent or interchangeable. Data valorization is complex and has many ways “other than just by exchanging them into money” (Sadowski, 2019;2020). We see similar challenges in the valuation of data. Sadowski (2020) argues that “value is the product of contingent socio-technical relationship” when he explains that data demonstrate the

nature of value. He further argues that platforms are at the center of coordination and rentier of this entire value chain. Besides ownership of data, the ability to control and manufacture data allows digital platforms appropriate the value<sup>6</sup> of data.

Birch et al. (2020) explain data rentiership through the assetization of personal data and transforming personal data into productive and owned resources, which lead personal data to be a financial entity. Birch et al. (2020) consider assetization as a significant shift in the way thin the innovation-finance nexus, “especially changes in the object of innovation; like personal data.” The primary motivation of innovations is data-driven to seek ways to create, extend, and reinforce the ownership and control of assets (i.e., rentiership) (Birch et al., 2020). We can find a similar analysis in Duran & Milberg’s (2020) definition of data-driven innovation rents. They argue that data-driven innovation rents are “the benefits accruing from the enhancement of innovation capabilities derived from data centralizations.” Centralized data control and generate asymmetric information systems along global value chains (GVCs) and data accelerate innovations. Siemens sensors on machinery, Goodyear tires sensors, and Walmart retailing software are examples illustrated by Duran & Milberg (2020) to explain data-driven innovation rents.

Birch et al. (2020) define data rent as the revenues derived from ownership and control rights of personal data. Once data is collected and stored, it can be leveraged to extract valuable insights, such as developing targeted advertising campaigns based on consumer behavior. Subsequently, this data can be monetized through methods like selling access to it or creating new products and services, such as predictive analytics tools for other businesses (Birch et al., 2020). Data rentiership is determined by the future financial expectations generated by

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<sup>6</sup> In this case, value equalized with rent.

innovations in data-driven sectors. Birch et al. (2020), similar to Rikap (2020, p.28)<sup>7</sup>, posit that data rentiership represents a social practice/process that considers rentiers as non-passive social actors who afford to make more data an asset to extract value from it.

In their analysis, selling access to personal data as a prediction service that might generate future yields to be capitalized is an example of extracting value from data or data rent. The critical word here is “service.” As Sadowski (2020) defines, platforms are the “X-as-a-service” business model, which refers to rentier relations; the use of the concept of service by Birch et al. (2020) is no coincidence. They find no direct ways to appropriate rent from the data itself. Instead, data have always been part of a service or product, and rent has continuously been appropriated from these services or products. Hence, the concepts of data or data rentiership become questionable concepts to capture and conceptualize “rentier” relations in contemporary capitalism.

Lastly, Srnicek (2021) categorizes the forms of rent in three ways, namely intellectual property (IP) rents, advertising rents, and infrastructure rents. Intellectual property serves as a major source of rent, where companies obtain exclusive rights over valuable knowledge, information, and technologies, allowing them to charge fees for access to the IP, sell products based on IP monopoly rights, or directly sell IP rights as financial assets. Advertising rents stem from platforms' monopoly control over targeted online advertising spaces, with advertisers paying rent to access these valuable ad spaces. Infrastructure rents arise from the fees users pay to access platform services, such as cloud computing or the "as-a-service" business model. Platforms like Uber and Airbnb extract rent by appropriating a portion of economic transactions facilitated by their platforms, and Amazon collects rent through its

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<sup>7</sup> “Rents are intrinsic dynamic of capital accumulation, not a collateral effect but an inherent feature of capital accumulation.”



computing cloud service, Amazon Web Services (AWS).

### Data Capital

In the platform capitalism literature, besides data being considered a source of rent, it is also formulated as capital. Sadowski (2019), Mathew (2020), and Van Doorn & Badger (2020) categorized data as capital with its other functions. Van Doorn & Badger (2020) argue that workers/drivers are in motion of dual value production in the gig economy: “the monetary value produced by the service is augmented by the use and speculative value of the data produced before, during, and after service provision. They discuss that there is a dual value creation process, while the first movement captures monetary rent through commissions and the second movement illustrates all the value of the data produced by gig workers. Sadowski (2019) similarly defines these two forms of data as data capital. The first form is the productive form of data, and the second form is “a form of capital that is distinct from but has its roots in, the economic capital. Data capital is more than knowledge about the world; it is discrete bits of information that are digitally recorded, machine-processable, easily agglomerated, and highly mobile. Like social and cultural capital, data capital is convertible, in certain conditions, to economic capital” (Sadowski, 2019). Even though Sadowski (2019) focuses mainly on digital labor in platforms like Facebook, YouTube, Twitter, etc., his conceptualization of data—as raw material and as the product of digital labor is perfectly compatible with taxi and delivery platforms. Data is created, collected, and circulated as capital; data in circulation is called data capital (Sadowski, 2019).

Mathew (2020) analyses data in three forms in the gig economy, notably Uber. The first set of data, called current data, is data about the direct daily experience. The second is

called data for medium-term product reorganization. The second use of data set is used to develop or create products for the medium term. Its use can vary locally, regionally, and globally. The last is inter-firm data collected by firms to be sold to business partners. Mathew (2020) draws his analysis between real and formal subsumption of labor. While the first form of data represents real subsumption of labor, the second and third data sets are of a form subsumption “in which data is itself part of the surplus drawn subsumed in one location” (Mathews, 2020).

Even though some studies illustrate the dual role of data, there is still no clarity of how data rent is realized and the conceptualization of productive data capital in the literature. First, the confusion about how or what kind of rent is generated makes the distinction between productive forces and rentier relations blurred. If almost all intangibles are assigned to be a part of pure monopoly power (IPRs, brand name, etc.) and the object of rent, we miss the roles of productive intangibles in production processes. As I will elaborate in the following sections, intangibles can be productive capital that dominates labor and increases productivity to extract more value from labor power. Hence, labor processes simultaneously can create intangibles such as data. However, the usage of rent in the literature prevents us from seeing this analytical way.<sup>8</sup> Second, when capitalized data is called data capital, it is a unity of productive and fictitious forms of capital. This unity combines two ‘value’ forms of data. Monetary value is created using productive data capital. Generated data during production has a value that transforms into financial value. In the former, the studies do not specify how the value of data is transmitted into the product’s price. In the latter, similarly, the transformation problem of

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<sup>8</sup> Related with the former problem, the definition of rent becomes too broad and that extinguishes the difference between specific rent in capitalism (transformation of rent in kind to money rent) and pre-capitalist rent (rent in kind).

the value of data into a monetary expression appears again.

We see rent appropriated directly through IPRs or digital products containing knowledge (algorithms, artificial intelligence, machine learning processes) and information (data). For the latter, these digital products are deconstructed and analyzed in different forms of rent. Birch et al. and Sadowski (2020) demonstrate that their understanding of data rent or rentiership is the rent of a service or product.

To understand the value creation and rent appropriation channels, the zone of rent and the zone of the productive area need to be clarified. This clarification is not straightforward since those areas usually overlapping and seem identical in most cases. However, once we start to define the multiple roles of intangibles in different production, distribution, and consumption phases, we will be able to see the differences between the zone of the productive area and the zone of rent. Making distinctions between these areas brings labor into the picture for both productive and rent zones.

In the following sections, this study illustrates a production model in a platform capitalism creates surplus value and data. Data as crucial digital raw material and intangible assets participate in the value and profit creation processes in two ways: First, data as digital raw material is productive capital, digital circulating capital. Second, data constitute digital ground rent with other intangible components. Later, the concept of digital ground rent will be presented to explain rent dynamics in platform capitalism.

### The Theoretical Framework

This section explores the theoretical characteristics of mixed and pure-productive platforms by discussing how the production creates surplus-value and intangible asset/capital data in platform capitalism. The platform has different meanings for different users. In the case

of Uber and mixed platforms, the platform represents a digital land where the restaurant or third party partner (tenant) pays a fee (rent) for each order. For a driver, it is an intangible machine that dictates, directs, and controls the labor process. Lastly, for a customer, it is a delivery service product that the customer pays for. The customer does not only purchase a food commodity but a delivery service commodity in which the food commodity is embedded. Because customers pay extra fees (delivery + service), which add to the food commodity, these different valorization processes show that rent and commodity production works together and supports each other. The last part of the section briefly introduces the concept of digital ground rent and explains that digital ground rent is monetized in pure-rent and mixed platforms.

### Production and Digital Productive Capital

One of the distinctive features of mixed and pure-productive platforms, notably in labor-based or gig economy platforms, is a form of dual production<sup>9</sup> performed during production. Platform companies (particularly gig platforms) vacuum a massive amount of cheap (precarious) labor and externalize most of their fixed costs to workers and appropriate data created in the production process. In the production process, two moments happen simultaneously: surplus-value extraction from workers by exploitation and data (digital raw material) extraction during production. The first movement symbolizes traditional waged labor relations. In mixed and pure-productive platforms, workers of the platforms as piece-wage earners<sup>10</sup> create surplus value. Some may argue that the platform collects rent from workers, too, because they rent the platform to perform production. This claim does not change the role

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<sup>9</sup> Dual production is different from joint production (Pasinetti 1980; Schefold, 1989). Data is a necessary input and output of any process in platform capitalism. Data is extracted in the production process but manufactured by algorithms. Data as output bears no immediate value and hence is not a commodity; however, it valorizes only as a part of the rent and constant capital that joins production as an input

<sup>10</sup> Marx (1976, p. 692) defines the piece-wage as “nothing but a converted form of the time-wage, just as the time-wage is converted form of the value of price of labour-power.”

of labor in value creation. This rent can be named “labor rent,” which is identical to surplus value.

If we consider ground rent in its simplest form, as *labour rent*, where the direct producer devotes one part of the week, with tools that belong to him either legally or in practice (plough, draught animals, etc.), to land that is in practice his own, and works the other days of the week for the landlord on his estate without reward, then the situation here is still completely clear: rent and surplus-value are identical. Rent and not profit is the form in which the unpaid surplus labour is expressed. (Marx, 1894 p.926)

The identical form of rent and surplus value provides a useful analytical tool to tackle the debates of what kind of labor form exists in the gig platforms. I will, however, use only the concept of surplus-value exploitation for two reasons. The first is surplus-value exploitation crystallizes the exploitative relations between platforms and more analytically powerful than the concept of labor rent. The second reason is to avoid further confusion about the concept of rent that has already been created in the literature.

The second movement presents a mode of primitive accumulation, where workers produce data for free. This movement is similar to primitive accumulation in the early capitalism’s frontiers, extracting data for companies without being paid for their labor (Cassano, 2016; Mathew, 2020; Van Doorn & Badger, 2020).

For workers, platforms are the digital space of production and the object of production. Artificial intelligence, machine learning, and data infrastructure are key components of platforms. As the outcome of these components, algorithms shape decisions, governance, management, and pricing (Rosenblat & Stark, 2015; Kellogg et al., 2020; Lee, 2018; Gandini,

2019). Platform companies control labor processes through algorithmic management. This control is very similar to how “machinery offers to management the opportunity to do by wholly mechanical means that which it had previously attempted to do by organizational and disciplinary means” (Braverman, 1998, p.134). Machines’ main role is to realize centralized decisions of the management of firms to adjust the pace and efficiency in the production process (Braverman, 1998, p.134). This characteristic of machinery enables technical control of management over the labor process (Braverman, 1998; Kellogg et al., 2020). Platform via algorithmic management acts like physical machinery to control and discipline the labor process. Kellogg et al. (2018) summarize this control and discipline system under six mechanisms. According to these categories, “employers can use algorithms to direct workers by restricting and recommending, evaluate workers through recording and rating, and discipline workers by replacing and rewarding” (Kellogg et al., 2018). These mechanisms aim to standardize the labor process and outcome according to the needs of capital just as “a mechanical device the construction of which could hardly be simpler but one which enables management to seize upon the single essential control element of the process” (Braverman, 1998, p.134).

From the perspectives of the labor process theory and algorithmic management, this paper offers the concept of digital means of production that commands physical labor. In this way, the platform becomes digital machinery for workers. The value creation of workers is physical labor; while they are using the app, the data embodied in the app joins the productive work. At the risk of oversimplification, the data, in this way of production, express itself as digital raw material and, at the same time, the product of the same laborer. While the companies provide only digital means of production, workers employ the rest of the capital. Marx’s

analysis of fixed capital and circulating capital in Capital Vol II chapters 8 and 9 help us understand digital means of production. Digital means of production as constant capital includes both fixed and circulating capital (Marx, 1893; Franco & Ferraz, 2019). The distinction between fixed and circulating capital is their duration of turnover and the portion that they transmit their value into the product (Marx, 1893). The software and algorithms are fixed capital in digital means of production. “During the entire period of its functioning, a part of its value always remains fixed in it, independently of the commodities which it helps to produce” (Marx, 1893, p.160). This feature gives this portion of constant capital the form of fixed capital. Marx concludes that the rest of the material parts of advanced capital are expressed as circulating in the production process. As a digital raw material, data enters the value creation process, such as a driver using the app in which the software and algorithm actively consume the data. Rahko and Craig (2021) posit that two reasons make data a unique resource. (I) data is cumulative, more accumulation brings more benefits, and (II) data is non-rivalrous such that one person’s use of data does not exclude others’ use.

Each time data enters the production process, they transmit the entire value into the product. In this case, the value of data should be equal to the unpaid labor of the worker who extracts data freely during production<sup>11 12</sup>. However, since the data from the production process is manufactured autonomously by software and algorithms, they do not require any reproducible labor time, which makes them bear no value. The essential raw material in digital means of production, which is data, is provided by the same laborer who uses it. Extraction of

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<sup>11</sup> Free means free from drivers. Uber, however, invests heavily in the process of data manufacturing (collection of data, store of data, filtering of data, and decreasing processing of data), which creates costs that could be seen under R&D expenses. Engineers build and improve a digital infrastructure for data manufacturing, then autonomized technology reproduces data after they are collected.

<sup>12</sup> Even though data is collected in the production process, algorithms and software manufacture data for needs of platforms. Since data is not commodified, they have no price.

data and surplus appropriation happen simultaneously<sup>13</sup>.

In this type of production, the relation between instruments of labor and the subject of labor is formed oddly. In production, instruments of labor are fixed capital, and the subject of labor is circulating capital (Marx, 1893). When Marx's analysis is applied to productive form of platforms, data as raw material (circulating capital) becomes the subject of labor, and labor, at the same time, becomes the laborer of its subject. That is the unique component of production in platform capitalism.

The reproduction of a platform's capital is expressed slightly differently from the classical expression. In the classical reproduction of capital

$$M - C_{M_p}^L \dots P \dots C' - M'$$

Where (M) is money to be advanced to purchase the commodities (C) that are factors of production, i.e., the means of production ( $M_p$ ) and the labor power (L). The means of production and labor power constitute (P) productive capital, which is employed to produce commodity capital (C') that transforms into money capital (M') when it is sold.

As stressed previously, platform firms externalize most of their cost of production. Workers usually burden this cost and provide physical productive capital. Platform firms employ only digital means of production. The reproduction of capital when digital means of production is employed.

$$M - C_{DM_p}^L \dots P^{C_r} \dots C' - M$$

In this scheme, the firms purchases the factors of production, which are the means of production and digital means of production (DM\_p), and labor power (L). DM\_p is the

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<sup>13</sup> For example, in In Uber, data is updated every five minutes, and drivers use different data with each delivery/drive (Chen et al., 2015). The frequency of turnover is far higher than physical production.



constant capital of the productive capital and is formed by digital fixed and circulating capital. While digital fixed capital, in this case, is a data center, software algorithms, and circulating capital are data. As I described, digital circulating capital is produced during the sphere of production without any labor cost and bearing no value. It joins the production as a “free gift” of living labor (Marx, 1893). Each time the circulation capital is completed, the rate of money invested in the digital means of production decreases incrementally since the cost of circulating capital is near zero.

$$P \cdot C_r \dots C'$$

The model represents production platform capitalism. When the production is completed, the service commodity is the first output of the production. It is represented as  $C'$ . The second output is that generated by workers, expressed as  $C_r$ . Data, different from the service commodity, is only the output of the production, and it is not a commodity. The reason is that data is not directly monetized; in other words, it is not transformed into money capital. Rather, produced data becomes digital raw material (digital circulating capital) and a part of digital ground rent.

The success of platform companies depends on the amount of data that they can collect, manufacture, and process. Without a stream of data, most companies cannot function. The data, in particular, in labor-based platform companies like Uber, Lyft, DoorDash, Didi, etc., directly join the value creation process and become capital (Thatcher et al, 2016; Attoh et al., 2019; Sadowski, 2019; Mathew, 2020; Van Doorn & Badger, 2020). Data is collected from both producers and consumers. Any usage of applications by consumers and platform workers' labor makes possible the extraction of data. The data creation process is not a neutral action performed by workers. It is a process that creates intangible capital (Thatcher et al., 2016;

Attoh et al., 2019; Sadowski, 2019; Mathew, 2020; Van Doorn & Badger, 2020). One form of extracted data is the raw material of the apps and algorithms. Constant data production ensures the value creation process goes on without interruption.

While data is generated during production, they are manufactured by algorithms and software and stored in data centers (Sadowski, 2019; Fu & Soman, 2020). We can illustrate data manufacturing mechanisms and functions through the Uber example. The example of Uber can be applied to many platforms since it extracts data from both producers and consumers.

### Data Manufacturing in Uber

There are two types of data in Uber: real-time data and historical data (Fu & Soman, 2020). Real-time data is the one that Uber uses during their operations, and once an operation is completed, data created in the process becomes historical data. Historical data is manufactured, stored, and used to improve Uber platforms (for every segment of Uber) and create new products and databases such as Uber Transit and Uber Movement (Bell & Smyl, 2018; Fu & Soman, 2020). Uber's data centers generate real-time data from various sources like user applications and backend microservices. This includes application logs, system logs, and special events for tracking trip updates, driver status changes, and order cancellations (Fu & Soman, 2020).

Manufacturing data is not a cost-free action. It needs sophisticated knowledge, technology, and storage. Data storage is a crucial operational component of Uber. Data centers are not only storage but also data factories. Analytical data are continuously collected from

Uber's data centers across multiple regions<sup>14</sup>. These streams of raw data form the source of truth for all analytics at Uber. Most of these streams are incrementally archived in batch processing systems and ingested in the data warehouse. This is then made available for machine learning and other data science use cases. The Real-Time Data infra component continuously processes such data streams for powering a variety of mission-critical use cases such as dynamic pricing (Surge), intelligent alerting, operational dashboards, and so on (Fu & Soman, 2020).

Uber's digital infrastructure is built on open-source technologies. Open-source technologies provide "significant improvements and customizations to make the open-source solutions fit in Uber's environment and bridge the gaps to meet Uber's unique scale and requirements" (Fu & Soman, 2020). Rikap (2020) argues that using open-source technologies by intellectual monopolies intensifies their monopoly power and creates profit for them. It is true that predating open-source technologies increases intellectual monopolies' monopoly power. In the case of Uber and mixed platform companies, predating open-source technologies means that improving the platform's productivity as digital means of production and contributes to the efficiency of the platform as digital land, which may result in a positive effect on rent prices.

### Digital Ground Rent

Rent becomes a challenging and complex concept when applied to digital and platform economies. It is because sources of productive work and rent appropriation usually unify in an elusive way. Digital economies' complex and highly abstract structures usually make rent

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<sup>14</sup> Data centers are distributed in different locations, and Uber uses external data storage like HDES, Amazon s3, and Google Storage

appropriation and surplus value extraction inseparable. Production, on the other hand, is not performed in a concrete way. That brings another challenge to the literature analyzing sources of profits and rents in platform economies. In the previous section, the paper analyzed how production might occur in platform firms. This section elaborates on the concept of rent that the paper offers by using Teixeira & Rotta's knowledge commodity and Srnicek's analysis of rent in platform capitalism.

The valuation of immaterial, abstract products poses challenges, and applying Marx's value theory to them sparks debate. While some argue that platform users create value (Fuchs, 2014), the opposite camp argues that the labor theory of value doesn't apply to cognitive capitalism, where labor power's determinacy is limited or nonexistent (Hardt & Negri, 2001; Lazzarato, 2006). Others suggest value creation in the digital economy is based on financial derivations (Arvidsson, 2016; Bryan et al., 2015).

On the other hand, this section offers a Marxist concept of rent to understand how platform companies monetize their intangible assets/capital besides their productive parts, as discussed previously. For Marx [1891] (1981), ground rent is the stream of surplus from productive industries to landowners as payment for scarce land assets. Departing from Ricardo, Marx could see that depending on treatment and capital investment on land, different forms of ground rent appear as absolute rent, differential rent-I, and differential rent-II. Ground rent is part of surplus value, which goes to the landlord who owns scarce and privately-owned land. While differential rent-I arises from decreasing fertility from the most productive to lesser productive ones due to fertility and location differences, differential rent-II appears by "differences in the distribution of capital (and creditworthiness) among farmers" (Marx, [1891] (1981), p.815). Absolute ground rent occurs when agricultural products of the land exceed the

cost of production. Even though Marx did not explain monopoly rent as he did differential and absolute rents, Harvey (2006) elaborates on monopoly rent in Marx with monopoly price. Harvey (2006, p.350) uses Marx's example of "a vineyard which produces exceptional quality but can be produced only in a relative small quantity" (Marx, [1891] (1981), p.910). The products of this vineyard are sold at a monopoly price. This monopoly price creates monopoly rent. Prestige, status, location, and class power of landlords<sup>15</sup> determine monopoly price and rent (Harvey, 2006, pp. 349-50).

Even though Marx's theory of ground rent was initially developed to understand rent appropriation in agriculture and land (Harvey, 2006), it can be modified for digital economies (Teixeira & Rotta, 2012; Rotta & Teixeira, 2019). However, Rotta & Teixeira's (2019) knowledge commodity approach is limited to IPRs and digital inputs such as software. Their analysis does not deal with advertisement and infrastructure rent, which Srnicek (2021) explains. While this paper does not aim to offer new rent analysis, it uses Rotta & Teixeira's (2019) knowledge commodity approach and Srnicek's (2021) understanding of rent to identify rent in platform capitalism. Therefore, the paper identifies rent in platform capitalism as digital ground rent, which is influenced by the ground rent theory of Karl Marx and benefits from Rotta & Teixeira's (2012; 2019) concept of knowledge commodity and Srnicek's rent analysis on platform capitalism.

Digital ground rent is the combination of knowledge (software, AI, algorithms, IPRs, digital structure) and information (data) that a company has. A company's computational power depends on its acquired technological knowledge and information. Depending on the platform and market, firms can extract rent intensively from knowledge or/and from

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<sup>15</sup> Their ability to not to allow unused lands to keep their price above than competitive prices.

information but usually the combination of both. While industrial, cloud, and product platforms<sup>16</sup> rely mainly on, but not only the knowledge they have, labor-based and advertisement-driven platforms may extract rent from their data power. However, no platform can run purely on knowledge or information, even the most data-driven platforms need algorithms and software, a similar logic applies to knowledge-driven platforms, they still need data to operate and develop their products (Srnicek, 2017; Rotta & Teixeira, 2019). Besides the power of knowledge and information that a platform has, network effect is another important determinant of rent (Srnicek, 2021, p.37).

The knowledge part of digital ground rent is explained by Rotta & Teixeira (2019). The platform reproduces itself through data flow and engineers' labor to update them. Engineers' labor and increasing volume of incoming data ensure that the platform's digital systems improve and work efficiently. The platform firms aggressively invest in technology to improve their computational power and data capacity. The companies try to diversify their data and their rent earnings. Uber, for example, is preparing to be a platform to publish advertisements like Facebook (Davalos, 2022). These advertisement rents are different from advertisements that we see on TV or in printed media. They are knowledge-information commodities that individualize advertisements for related consumers through their algorithms and data. This logic even applies to platforms like Spotify. Spotify does not offer just songs but an individualized platform based on users' preferences. Individualization of products is only possible with companies' computational power derived from algorithms and data. We can

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<sup>16</sup> Industrial platforms (e.g., GE and Siemens) that create the necessary hardware and software for digitized manufacturing, reducing production costs and shifting goods into services. The subsequent type involves cloud platforms (like AWS and Salesforce) that own the digital infrastructure and software of businesses, offering them on a rental basis. Industrial platforms (e.g., GE and Siemens) create the necessary hardware and software for digitized manufacturing, reducing production costs and shifting goods into services (Srnicek, 2017).

conclude that the platforms that rely on knowledge-information commodities (including advertisement) are examples of pure rent platforms. Rent and productive mix platforms are seen mostly in labor-based platforms. As shown in this paper, platforms like UBEREATS, Doordash, and Grubhub. Some pure-productive platforms are Uber's mobility section Lyft, and Amazon Mechanical Turk. The next section delivers a concrete example of rent and a productive mixed platform via the example of Uber.

### Profit, Rent, and Surplus Value in Uber

This section illustrates how profit and rent are appropriated through different and interconnected channels. Later in the section analysis of Uber's monopoly strategy that can be applied to gig economy platforms.

Uber is a pioneer company in the gig economy that presented the concept of "Uberization" in labor and capital relations and is also a strong example to illustrate rent-productive mixed platforms. The term "Uberization" has become an analytical tool to explain ways and which labor and work are formed in a digitalized world. Uber defines itself as a technology platform connecting consumers with ride services, delivery services, and public transportation. Using the network, technology, and operational power, it aims to facilitate movement from point A to point B. It also connects shippers with carriers in the freight industry, utilizing the same infrastructure and expertise (Uber, 2021, p.4). Uber externalizes its tangible assets, such as cars, and limits its ownership of capital-intensive assets by renting hardware and software equipment (Rahko & Craig, 2021). What Uber really owns is its digital platform. The ownership of this platform enables Uber to gain profit.

Before heading to the analysis of the profit and rent of Uber, it would be better to explain the main revenue channels of Uber. Clarification of these channels will significantly

facilitate distinguishing between where Uber collects rent and where Uber extracts surplus value and intersections of these zones. Uber mainly generates revenue from fees paid by drivers and merchants. The company claims that they are “an agent in these arrangements as we arrange for other parties to provide the service to the end-user” (Uber, 2022, p.52).

There are two main revenue channels in Uber. The first channel is the revenue from Merchants (restaurants and groceries). This revenue is considered digital ground rent. Merchants (restaurants and grocers) pay fees (rent) to use the digital platform (ecosystem or land) of Uber. The second revenue channel is the earnings from the Mobility segment and is subject to debate in the literature, whether they are workers, petty commodity producers, and independent contractors. Even though debates over forms of labor in Uber are beyond the scope of this paper, I consider Uber drivers as piece-wage earners. Workers earn a wage by completing trips or delivery.

#### Surplus Value Creation, Exploitation, and Profit

Calculating surplus value and profit is possible only if we look at Uber’s mobility segment. In the mobility segment of Uber, a transportation service or ride commodity is produced during a ride. So, as a result of the riding process (production), “the value of the elements of production (labour-power and means of production) consumed in it plus the surplus-value created by the surplus-labour of the labourers employed in transportation” (Marx, 1893). As previously mentioned, Uber drivers are piece-wage earners and labor power and use physical means of production that they bring into the production and digital means of production Uber owns.

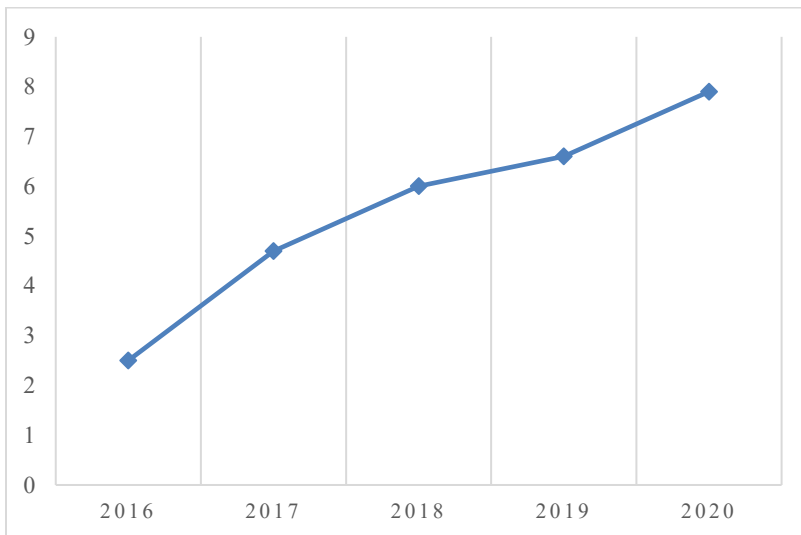
Digital means production (digital fixed and circulating capital) of Uber bears no value but has cost that appears when production begins. This study offers that the “Cost of Revenue”



in the Uber financial statements can best approximate the cost of digital means of production or constant capital<sup>17</sup>. Cost of revenue is defined as insurance costs related to Mobility and Delivery services, credit card processing fees, bank fees, data center and networking expenses, mobile device, and service costs. Payments to delivery services, Couriers, and Carriers (Uber’s cargo segment, Freight) are also included here (Uber, 2022)<sup>18</sup>. These costs are associated with trips (both ride and delivery) and reflect the cost of digital constant cost of Uber in each trip. Other costs that are illustrated in Table 2 reflect the distribution of profit among subsumed classes and investments.<sup>19</sup> Since these expenditures do not reflect digital “means of production”, they are not added into calculation profit rate.

Figure 1 (a)

*Cost Of Revenue (Including Depreciation and Amortization) (In Billions)*



Source: Uber & Trefis

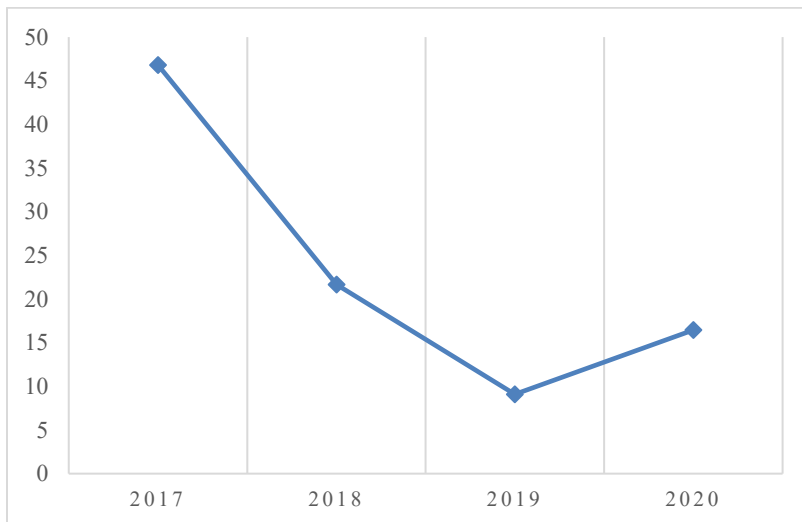
<sup>17</sup> “That part of capital, therefore, which is turned into means of production, i.e. the raw material, the auxiliary material and the instruments of labour, does not undergo any quantitative alteration of value in the process of production. For this reason, I call it the constant part of capital, or more briefly, constant capital” (Marx, 1981, p.317).

<sup>18</sup> Since production analysis can only be applied to the Mobility segment, payments to Couriers and Carriers do not affect digital constant cost of Uber.

<sup>19</sup> Subsumed classes do not directly involve the production process. Their position is to ensure that the surplus-value creation process continues without interruption (Resnick & Wolff, 1989).

Figure 1(b)

*% Change In Cost of Revenue (Including Depreciation and Amortization)*



Source: Uber & Trefis

Figure 1 (a) illustrates that Uber's revenue cost has an increasing trend. The numbers jumped from 2.5 billion \$ to 7.9 billion \$ in 5 years. Figure 1(b) also tells that there is decreasing growth trend in the cost of revenue in Uber. The change from 2016 to 2017 decreased by almost 25 percent between 2017 and 2018. In addition to Figure 1 (b), the cost of revenue as % of Revenue has a similar trend. While the cost of revenue constituted 66.3 % of revenue in 2016, this rate declined to 43% in 2020. These rates indicate that the cost of digital means of production is in a declining trend.

#### Value Creation and Profit

The total value created in Uber's mobility segment mainly goes to driver earnings and driver incentives. Even though Uber stopped publishing the amount that they pay to drivers, it is possible to make an estimation by taking Uber's quarterly report in 2019 as a benchmark.

Table 1

*Gross Bookings, Total Contra Revenue (in millions)*

(In millions)	1Q 2017	% of CR	2Q 2017	% of CR	3Q 2017	% of CR	4Q 2017	% of CR	1Q 2018	% of CR	2Q 2018	% of CR
Gross bookings	\$7,303		\$8,531		\$9,521		\$10,825		\$11,287		\$12,012	
Other Revenue	83		89		81		72		47		28	
<b>Adjusted Gross</b>	<b>7,386</b>		<b>8,620</b>		<b>9,602</b>		<b>10,897</b>		<b>11,334</b>		<b>12,040</b>	
Net Promotions	154	2.6	159	2.3	145	1.9	144	1.7	132	1.5	142	1.5
Net Partner Earnings	5196	88.6	6041	87.5	6589	88.3	7500	88.3	7811	89.3	8232	89.1
Partner Incentives and Misc. Payments	356	6.1	476	6.9	388	5.2	459	5.4	407	4.7	427	4.6
Refunds	19	0.3	21	0.3	19	0.3	22	0.3	25	0.3	27	0.3
Taxes and Fees	142	2.4	208	3.0	325	4.4	365	4.3	372	4.3	411	4.4
Total Contra Revenue	5867	100.0	6905	100.0	7466	100.0	8490	100.0	8747	100.0	9239	100.0
Net Revenue	<b>1,520</b>		<b>1,715</b>		<b>2,136</b>		<b>2,407</b>		<b>2,588</b>		<b>2,801</b>	

Source: Uber (2019)

Table 1 illustrates the quarterly gross bookings and net revenue statistics of Uber in 2018. Around 95 percent of gross bookings have been paid to drivers under net promotions, net partner earnings, and partner incentives components. It should be noted that this table is the combination of all segments of Uber, meaning that both values that drivers create and rent that is paid by merchants are included. In order to find an approximate number of what drivers get, Table 1 as the benchmark is used.

By using Table 1, how much Uber pays to drivers can be found. For example, In the yearly report of 2021, Uber's gross bookings from the mobility segment were \$41,513 million and net revenue was \$9,182 million in 2019. According to components of Table 1, 95% of gross bookings, before net revenue goes to drivers and merchant-related earnings. In Table 1, net partner earnings include Uber payments to mobility drivers, Uber Eats drivers, and restaurants. When the rate of gross bookings payment to only mobility segment in 2018, \$30,714 million of \$41,513 million have been paid to drivers. In this way, variable capital can

be calculated for each given year.

Table 2

*Percentage of Revenue*

	2018	2019	2020	2021
	100%	100%	100%	100%
<b>Revenue</b>				
<b>Cost and expenses</b>				
Cost of Revenue, exclusive of dep and amort	50%	51%	46%	54%
Operations and Support	13%	16%	16%	11%
Sales and Marketing	28%	33%	32%	27%
Research and development	13%	34%	20%	12%
General and administrative	18%	23%	24%	13%
Depreciation and amortization	4%	3%	5%	5%
<b>Total cost and expenses</b>	<b>126%</b>	<b>160%</b>	<b>143%</b>	<b>122%</b>

Source: Uber, 2020 ; Uber, 2023

From the same report, constant capital can be calculated. As the Table 2 illustrates, the cost of revenue, considered the constant cost of Uber, was 50 percent of net revenue (Uber, 2023). When this rate is applied to the mobility segment, we find that the constant capital for the mobility segment is \$4,591 million. Depreciation is 4 percent of net revenue. The sum of digital constant capital and depreciation equals \$4,958 million. The approximate surplus value equals \$41,513 - \$30,714 - \$4,958 million, which equals \$5,840 million before tax.<sup>20</sup> As mentioned, other expenses like operations and support, sales and marketing, research and development, general administrative, and interest expenses represent both distributions of surplus-value among subsumed classes and (tangible and intangible assets) investments. The

<sup>20</sup> Surplus value is “the original sum advanced plus an increment”, which is  $M' = M + \Delta M$ . In other words, total revenue minus constant and variable capital advanced gives us surplus value. (Marx, 198', p.251).

same logic can be applied in each given year.

Table 3

*Rates of Profit*

Cost of Revenue (in million)	2018	2019	2020	2021
Mobility	\$ 4,719	\$ 5,480	\$ 2,801	\$ 3,755
Uber Eats	\$ 730	\$ 1,280	\$ 1,796	\$ 4,515
Rate of Profits (Mobility)	18%	17%	19%	15%
Components of Profit (in million)				
Surplus	\$ 6,322	\$ 7,213	\$ 4,314	\$ 4,683
Variable Capital	\$ 30,472	\$ 37,007	\$ 19,499	\$ 28,199
Digital Constant Capital	\$ 4,719	\$ 5,480	\$ 2,801	\$ 3,755

Source: Uber, 2019; Uber, 2022, Author's Calculations

The individual profit rate of Uber for the mobility segment can be calculated by applying Marx's formula of profit rate (Marx, 1992, p.133). Table 3 demonstrates that the mobility segment of Uber has considerably high and declining profit rates. The only increase is seen in 2020 and is related to a decrease in variable and constant capital due to the Covid-19 pandemic-related trip decline.

### Exploitation

Drivers are the key factor in Uber gaining market power in the industry. That is why driver incentives and promotions should be considered as Uber's investments to attract new labor. If we deduct those payments from partner earnings, by definition, we reach a higher rate of profit for Uber. I will elaborate on this Uber investment strategy in the section where I discuss Uber's strategy on surplus and rent.

Uber exploits its drivers by charging commissions and fees. It is a direct method to

appropriate the surplus value of the labor power of Uber drivers. Uber claims the fee is 25% of the total fare (service-commodity). However, there are almost all extra fees that Uber charges, and these fees increase the rate Uber charges up to 35% (Helling, 2021). The rate of exploitation and surplus value cannot be calculated only by looking at Uber's commissions/fees on total fare because Uber externalizes maintenance, energy, health, and vehicle insurance costs to drivers.

Table 4

*Estimating Uber fees and commission rate per hour*

Row	Item	Source	Data
	Number of driver participants		
1	participants	Cook et al. 2019, Table 1	1,873,474
2	Number of driver-weeks	Cook et al. 2019, Table 1	24,832,168
3	Weekly fares	Cook et al. 2019, Table 1	\$376.38
	Gross fares/hour, person-weighted		
4	weighted	Cook et al. 2019, Table 1	\$21.07
5	Trips per week	Cook et al. 2019, Table 1	29.83
6	Hours per week	Cook et al. 2019, Table 1	17.06
7	Booking fee per trip		\$1.55
	Trips	Row 5 × Row 2 (Mishel, 2018 calculation)	740,743,571
8	Trips	Row 5/Row 6 (Mishel, 2018 calculation)	
9	Trips per hour	Row 9 × Row 7 (Mishel, 2018 calculation)	1.75
10	Booking fee per hour	Row 9 × Row 7 (Mishel, 2018 calculation)	\$2.71
	Gross fares/hour, hour-weighted		
11	weighted	Row 3/Row 6 (Mishel, 2018 calculation)	\$22.06
12	Total passenger fare/hour	Row 10 + Row 11 (Mishel, 2018 calculation)	\$24.77
	Commision/fees on total fare	Row 10 + (Row 12 – Row 10) × 0.25 (Mishel, 2018 calculation)	\$8.23
13	fare	Row 13/Row 12 (Mishel, 2018 calculation)	
14	Commision/fee rate	Row 13/Row 12 (Mishel, 2018 calculation)	33.20%

Source: Cook et al., 2019; Mishel, 2018

Table 4 summarizes the calculations done by Cook et al. (2018) and Mishel (2018) using Uber's administrative data from 2015 to 2017. Mishel's (2018) investigation delves into the amount of money Uber collects per hour (\$24.77) and how much of that total is taken as commissions and fees (\$8.23). Mishel's findings align with Helling (2021)'s conclusions, which indicate that around 35% of passenger fares go toward Uber's fees and commissions. However, Mishel (2018)'s analysis also includes driver expenses in addition to commissions and fees, adding \$4.78 per hour, meaning drivers only earn \$11.77 of the \$24.77 collected per hour. This reflects just 47.5% of what riders pay.

#### Appropriation of Digital Ground Rent

Machine learning, artificial intelligence (AI), data extraction, data processing, and data storing are the key factors that constitute both productive and rent parts of Uber's platform. All these components are the digital machine and land of Uber. The concrete example would explain better how the system works in Uber. Uber EATS uses a machine learning platform called Michelangelo. The Michelangelo platform has several models over meal delivery time predictions, search rankings, search autocomplete, and restaurant rankings (Hermann & Del Balso, 2017). From the moment that order is placed, the regression models in the Michelangelo platform predict the delivery time, which includes the average preparation time of the meal, finding parking, walking inside to get food, then walking back to the car, driving to the customer's location, find parking and walk to the customer's door to complete the delivery. The model (knowledge) includes information (data) from "the request (e.g., time of day, delivery location), historical features (e.g., average meal prep time for the last seven days), and near-real-time calculated features (e.g., average meal prep time for the last one hour). Models are deployed across Uber's data centers to Michelangelo model serving containers and are

invoked via network requests by the UberEATS microservices. These predictions are displayed to UberEATS customers prior to ordering from a restaurant and as their meal is being prepared and delivered” (Hermann & Del Balso, 2017).

Uber’s rent platform is constructed by two fundamental intangibles: knowledge and information. Uber’s ability to increase the efficiency of its platform relies on improvements in machine learning and AI and the data that Uber extracts. From the UberEATS example, Uber collects different types of data and uses them in their regression models to predict delivery time. Uber collects data on the abstract labor of restaurant workers, the abstract labor of drivers, abstract preferences of customers. These different forms of data build Uber’s abstract general dataset, which captures complex productive and unproductive relations in Uber’s digital ecology. In addition to this example, the Uber Movement dataset is entirely constructed by the abstract labor of drivers. Thus, it is seen that drivers who are productive workers build intellectual monopoly power along with Uber’s machine learning and AI techniques. Accumulation of data helps Uber engineers improve their models, which intensifies surplus value extraction and rent appropriation and provides more monopoly power to Uber to set monopoly prices in the market.

Uber's most recent financial reports tell us the delivery segment’s revenue is generated from fees through customers, restaurants/groceries, and net delivery fees, which is what Uber gets minus what Uber’s partners (restaurants and grocers) get. Since the customer is an end-user and does not use the platform for production purposes, theoretically, the customer’s payment to Uber is not considered a rent payment.

We can call Uber’s mobility revenue is net rent revenue. Uber charges different rates for different “products”. Figure 2 illustrates those different plans that Uber offers Merchants.



These prices reflect prices of digital ground rent that Uber collects from Merchants.

Figure 2

*Uber Eats' Different Plans*

## Choose the plan that's right for you

Uber Eats offers multiple plans to help you reach new customers and grow your sales on the Uber Eats app. Choose between Premium, Plus and Lite. All plans include delivery and pickup, order management and tracking, and customer support.

Lite Plan	Plus Plan	Premium Plan
Keep costs low	Grow your sales	Maximize your sales
Our lowest-cost plan, for businesses looking to reach customers who already know you. You pay:	Our mid-cost plan to help businesses get discovered by new customers. You pay:	The best fit for businesses who want to stand out and reach more new customers. You pay:
<ul style="list-style-type: none"> <li>• 15% fee for delivery orders</li> <li>• 6% fee for pickup</li> </ul>	<ul style="list-style-type: none"> <li>• 25% fee for delivery orders</li> <li>• 6% fee for pickup</li> </ul>	<ul style="list-style-type: none"> <li>• 30% fee for delivery orders</li> <li>• 6% fee for pickup</li> </ul>
You'll only be visible to customers in the app who are looking for you by name.	Your business will be shown in the home screen and search results of the Uber Eats app.	Your business will be shown higher in the home screen and search results of the Uber Eats app.
<a href="#">Get started</a>	<a href="#">Get started</a>	0% fees if you don't get at least 25 orders. <sup>1</sup> We match your Uber ad spending, up to \$100 per month. <sup>2</sup> <a href="#">Get started</a>

Source: <https://merchants.ubereats.com/us/en/pricing/>

Table 5

*Rent*

	2018	2019	2020	2021
<b>Cost of Revenue (in million)</b>				
Uber Eats	\$ 730	\$ 1,280	\$ 1,796	\$ 4,515
<b>Rent</b>				
Net Revenue-Before Tax and Other Costs	\$ 1,783	\$ 3,109	\$ 5,221	\$ 10,526
Price of Rent as Take Rate Percent	23%	21%	17%	20%

Source: Uber, 2020; Uber, 2023; Author's Calculations

Table 5 illustrates how much Uber collects and could charge at what percentage rate to merchants on average. The pandemic helped Uber to increase revenues significantly. In two years, Uber tripled revenues because lockdowns in the restaurant industry made restaurants, grocers, and customers more dependent on delivery platforms. Regarding rent-price, the average prices Uber charges are still below Uber's two relatively expensive plans.

### Uber's Investment Strategy on Drivers and Technology

So far, this paper has covered how the production process creates value and capital and contributes to monopoly rent for Uber. This subsection zooms in on Uber's investment strategy of drivers and technology and analyzes the reasons why Uber invests in drivers and Uber's technology strategy to expand control over labor to extract more the relative and absolute surplus value.

Uber's financial statements and operational strategies indicate that Uber heavily invests in drivers; in other words, Uber spends to attract new drivers and keep the drivers at work. Once the Covid-19 pandemic hit Uber's operations, Uber lost many drivers and struggled to convince labor to back to work. One of the strategies to bring back workers that Uber applied is a one-time stimulus worth \$250 million given to drivers Uber. Further, Uber decreased its take rate from 25.8% to 18.7 % in 2020 (Paul, 2021). Having the highest possible number of drivers is the critical factor for Uber's monopoly strategy. Uber (2021) utters the crucial role of drivers as:

If Drivers choose not to offer their services through our platform, or elect to offer them through a competitor's platform, we may lack a sufficient supply of Drivers to attract consumers and merchants to our platform. To the extent that we experience Driver

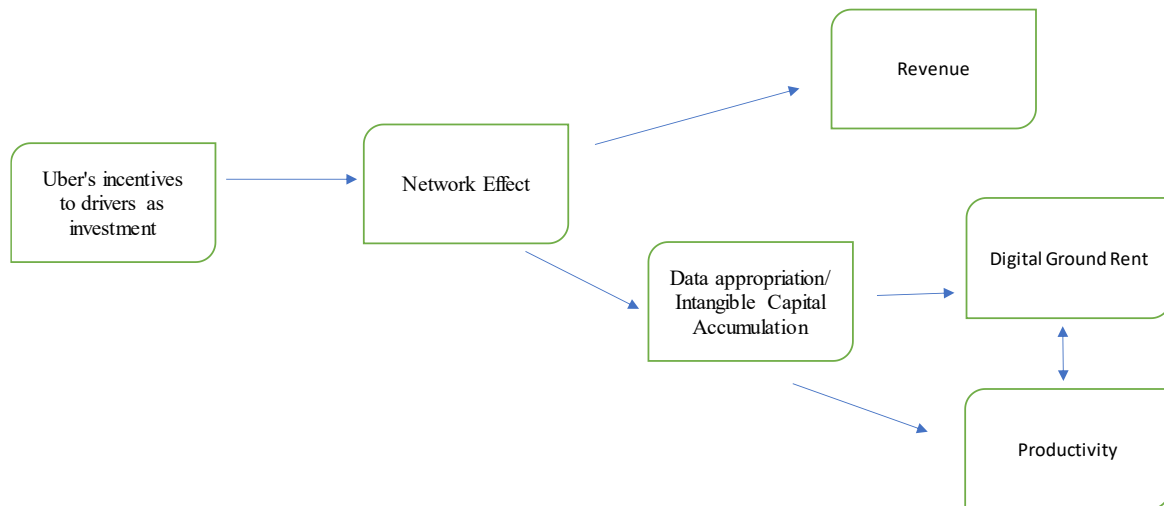
supply constraints in a given market, we may need to increase or may not be able to reduce the Driver incentives that we offer without adversely affecting the liquidity network effect that we experience in that market. (Uber, 2021 p.17)

Uber needs drivers but not as their official employees. Keeping Uber drivers' status as "independent contractors" is crucial for Uber to maintain full market power and expand its operations in different locations without bearing labor and legal cost. Uber and other gig companies invest heavily to keep gig workers' status as independent contractors. Uber, Lyft, and Doordash, together spent \$200 million to affect public opinion when California voters were voting Proposition 22 (Bond, 2020).

Uber's investments (incentives, direct stimulus, or reduction in take rate) on drivers lead to a network effect that draws more drivers and customers into Uber's platform. The network effect contributes to Uber's monopoly power in two ways. An increasing number of drivers match more consumers, which generates more revenues for Uber. Secondly, more drivers and more rides and delivery mean more data appropriation and more intangible capital accumulation for Uber. If the number of drivers is sufficient, customers and merchants are willing to work more with Uber. Thus, Uber will be able to extract more data from various types of users, improving the computational power of its machine learning system used for productive and rent appropriation purposes. As discussed above, dual production creates both profit and generates data for Uber. Engineers use data that drivers create to develop Uber's platforms to increase productivity and efficiency. Developments in different platforms in Uber feed each other and unify the zone of production and the zone of rent.

Figure 3

*Uber's Investment Strategy on Driver*



Uber's report (2021) elucidates the company's position about drivers and monopoly power.

Our success in a given geographic market significantly depends on our ability to maintain or increase our network scale and liquidity in that geographic market by attracting Drivers, consumers, merchants, shippers, and carriers to our platform. If drivers choose not to offer their services through our platform, or elect to offer them through a competitor's platform, we may lack a *sufficient supply of Drivers to attract consumers and merchants to our platform*<sup>21</sup>. (Uber, 2021, p. 16)

As discussed, Uber drivers provide different forms of profit channels to Uber. The first is profit from surplus extraction, which at the same time, generates data. The second is the network effect contributing to surplus production and rent appropriation. Graef (2015) and

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<sup>21</sup> Emphasis added.

Sokol & Comerford, 2016) argue that ride-hailing platforms like Uber benefit from indirect network effects enhanced by the user feedback loop and the data snowball effect. As argued in this paper, Sokol & Comerford (2016) posit that the more users a platform has, the more attractive it becomes for users. However, they argue that this is not because of the direct network effect but because of a user feedback loop mechanism that creates better insights for consumers and their needs. Therefore, one can argue that Uber's investments in the drivers will have multiple outcomes, directly and indirectly. The last two possible outcomes relate to monopoly power by gaining intangible capital.

The technological development of Uber reflects its monopolization strategy. Once a driver starts to work for Uber, Uber immediately monitors and controls the drivers. A closer investigation of Uber's patents shows how Uber aims to maximize its control over drivers and the production process (Lin, 2021)<sup>22</sup>.

When Uber's PR story of driverless cars ended by selling the autonomous vehicles unit to Aurora, it became clear that Uber's innovation and technology strategy was to expand control over gig workers and construct a gigantic data center for mobility delivery and freight services.

While Uber's gig workers generate data, Uber's engineers develop technologies to control and monitor them by using data that the workers produce. The more workers work, more Uber's algorithms control them. As elaborated in the previous sections, the dialectic

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<sup>22</sup> A safety risk scoring patent in 2019 is designed to monitor and assess drivers according to the combination of customer feedback and phone metadata to assign drivers a safety score based on their carefulness in driving ("vehicle operation) and drivers' interaction with passengers ("interpersonal behavior"). A driver's total safety score is calculated using weighted risk assessment scores from two categories by algorithms along with any related metadata, including driver's Uber profile, trip duration, distance traveled, GPS location, and car speed. This total score labels the driver as having a low, medium, or high safety risk. Uber can take disciplinary action such as receiving a warning in the app, a temporary account suspension, or an unspecified "intervention" in real-time if the driver has a high safety risk.

relation between labor and technology constantly feeds Uber's monopoly power because it creates intangible capital for several purposes.

### Conclusion

Even though the literature overwhelmingly describes platform capitalism as rentier capitalism, this paper offers a different lens to look at platform capitalism. By focusing on the functions of intangibles and considering them as capital, this paper argues that there are three forms of platforms according to the channels they generate profit and rent. In a theoretical sphere, platform capitalism is categorized into three forms, namely (I) pure-rent platforms, (II) rent-productive mixed platforms, and (III) pure-productive platforms.

In the case of Uber, this paper could demonstrate how Uber is an example of a rent-productive mixed platform and differentiated from pure-rent platforms. As seen in the case of Uber, labor has a double role for the firm. It is the source of profits and the most valuable intangible asset, data. Various data types are extracted through dual production and manufacturing for different purposes. Data benefits and are used for both production and rent in Uber. Once rent and production are theoretically distinguished, it would be possible to see how intangibles work and appear differently.

Drivers are one of the most critical elements of Uber. They provide the necessary labor for labor and are sources of Uber's most precious capital, data. When we consider drivers at the center of Uber's operations, it will not be wrong to see Uber's expenditures on drivers as investments. As this paper shows, from the beginning of its establishment, Uber has invested primarily in driver incentives, bonuses, etc., to attract and keep drivers in Uber. This investment strategy indicates both investments in tangibles and intangibles. This indirect strategy of intangible asset investments cannot be seen through financial statements.

From the perspective drawn in this paper, we can conclude that platform capitalists are not just rentiers but also techno-capitalists who own digital means of production and appropriates surplus value from platform workers. This perspective allows a new political horizon to legally consider platform workers as regular workers. Platform workers are the workers in the digitalized factories<sup>23</sup> and their political struggle can focus on controlling digital means of production.

However, this interpretation solves another piece of the investment puzzle of platform economies. Since drivers are the indispensable entry step of the massive scale of data extraction, investments to attract drivers should be counted as investments in tangible and intangible. Data extracted through the production process are used to improve labor productivity to expand relative surplus extraction and strengthen the monopoly power of Uber to appropriate monopoly rent.

On the other hand, this paper is limited in its discussion of all profit channels of Uber. The paper does not deal with the financialization element of the firm, which is equally essential with rent and surplus-value appropriation. Despite this limitation, from the logic drawn in this paper, it would not be wrong to say that intangibles created during production and used in production and rent contribute to the financial value of Uber. This interpretation still needs an empirical investigation. The following study will deal with this interpretation.

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<sup>23</sup> In this case, we can refer to platforms' apps.

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## Appendix

I begin by reading all information and data from Uber's financial statements for 2019 and 2022. I obtain "Cost of Revenue" data from the 2019 and 2022 financial reports. Data on Cost of Revenue is reported with the combination of all segments. To find the Cost of Revenue for the mobility segment, I use the percentage of revenue table. Since revenues are reported for each segment, I calculate the cost of revenue by taking percentages of revenue and assuming that each segment has the same composition. Using the same logic, I calculated depreciation.

Rate of Profit

Cost of Revenue of Mobility = Mobility Revenue x Cost of Revenue as Percentage of Revenue

Depreciation = Mobility Revenue x Depreciation as Percentage of Revenue

I use Marx's (1981) the rate of profit;

s = surplus value

c= constant capital

v= variable capital

surplus value = revenue – (c+v)

In Uber's case, my calculation of revenue before tax is

Gross Bookings of Mobility – Variable Cost (95% of Total Contra revenue of Mobility, which equals to Gross Bookings- Revenue) – Digital Constant Cost

Then, rate of profit before taxes would be,

$$\text{Rate of profit} = \frac{s}{c+v}$$

As Marx states in Capital Vol II, Chapter 8, constant capital is means of production, “which functions as factors of the labour-process so long as they retain the independent use-form in which they enter this process.” In this case, I employ digital means of production, in other words, digital constant cost, which is the cost of revenue.

$$\text{Rate of profit of Uber Mobility} = \frac{s}{\text{digital } c+v}$$

Rent

Rent is what Uber appropriates from merchants (restaurants and grocers) in delivery.

In Uber Eats,

Rent = Gross Bookings – Payments to Merchants (95% of Total Contra revenue of Delivery)

Uber prices rent by charging different fees from Merchants. To find rent price as take rate, I

calculate the ratio of  $\frac{\text{Net revenue (rent)} \times 100}{\text{Gross bookings}}$ .



CHAPTER 2  
INTERLOCKING, CONTROL AND GIG ECONOMY:  
THE ARTISAN COURIER MODEL IN TURKEY  
INTRODUCTION

On 24 January 2022, Trendyol Express couriers got together in front of the company's headquarters in Istanbul to protest the company's eleven percent pay increase despite the fifty-five percent official inflation rate (Ceri, 2022). The protestor couriers stated that "this increase does not even pay monthly gasoline expenditures. In addition to our monthly operating expenses, Trendyol Express must consider that we have long-term loan payments. We expect the company to revise their pay increase regarding current economic conditions" (Ceri, 2022). Working conditions and accidents of couriers already had an impact on the public. The protest quickly spread to platforms companies like Hepsijet, Scotty, Aras Cargo, Sürat Cargo, Yurtiçi Cargo, and Yemeksepeti Banabi (Hamsici, 2022). The couriers on every platform demanded more pay raises to adjust their financial positions to survive. Even though the workers perform twelve hours a day and six days a week, their net earnings are around minimum wage or less (Kıdak, 2021; Küçük, 2022). With the nationwide protests, Trendyol had to increase wages from 11 percent to 39 percent. The workers' resistance paid off for workers on other platform companies (Evrensel, 2022).

While financial difficulty was the main reason for the wave of strikes, the interviews with workers tell us their frustration with the harsh control mechanisms of the system and the financial difficulties that they need to tackle on a daily basis (Olcan & Avcı, 2022; Öz, 2023).

Gig couriers face financial challenges, such as the cost of fuel, maintenance, and vehicle loans required for their operations. Workers are experiencing financial stress as the cost of operations rises, which is reducing their net earnings and affecting their ability to maintain their daily lives. The stress of workers, on the other hand, would be a vehicle at the hand of platform companies to compel couriers intensively in long hours. Workers' financial stress and legal vulnerabilities are the causes of long working hours, work accidents, and the accumulation of debts.

The model where the burden of legal and operational costs carried by workers in digital platforms is called the gig economy in platform capitalism (Srnicsek, 2017). Platform capitalism has spread globally through development in computing power, big data, and information communication technologies (De Stefano, 2016; Gandini, 2018; Kenney & Zysman, 2016; Srnicsek, 2017; Woodcock & Graham, 2020). While the term gig, historically, refers to the short-term arrangements in musical events, the gig economy denotes widespread short-term, piece-work contracts to different industries in digital platforms. Platforms are mediators between gig workers and end-users; in economic terms, they match supply and demand. They usually collect fees from workers and end-users for using digital platforms. However, the platforms are neutral entities that match only supply and demand as the growing literature has shown, platforms are capitalist organizations that aim to intensify their control over producers and end-users to extract more profit and data (Rosenblat & Stark, 2015; Shapiro, 2018; Mathew, 2020; Woodcock & Graham, 2020).

The gig economy under platform capitalism could be analyzed as the revival of the putting-out system in the early merchant capitalism, where a merchant capitalist assigned and distributed work tasks to piece-wage workers, supplying necessary raw materials and supplies



to perform their labor in their homes or small workshops (Marx, [1867] 1981; Stanford, 2017). Different from the classical putting-out system, decentralized work in gig economy is controlled and managed by the centralized digital infrastructure. This digital and algorithmic control management system is defined as Digital Taylorism<sup>1</sup>.

Externalization of production costs and risks to workers under piece-wage working system is the characteristic of precarious work. Precarity<sup>2</sup> is derived from a particular form of subordination of platform workers to the platform rooted in the lopsided power relationships between capital and labor. In the power relationships between capital and labor, asymmetries play a vital role in this model (Rosenblat & Stark, 2016; Shapiro, 2018). Thus, the gig economy is a combination of precarious labor devoid of labor rights and guaranteed income with a digital platform economy that enables gig work to spread quickly globally.

The gig economy was introduced to Turkey through e-commerce platforms in an environment where insecure service jobs dominate employment. Platform companies like Yemeksepeti, Trendyol, and Hepsiburada were pioneers in developing the gig economy. The e-commerce companies in Turkey began by launching a gig model called the Artisan-Courier Model (ACM) (Esnaf Kurye Modeli), in which workers are considered the owners of their sole proprietorships. Gig workers used to be “formal” workers of these companies or subcontractor companies until this model was introduced. Some companies still simultaneously have formal

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<sup>1</sup> Digital Taylorism, a contemporary form of Taylorism, examines how digital technologies impact work organization by focusing on the digitized nature of tasks. It highlights the efficiency gains achieved through technology dissecting, measuring, and optimizing work processes (Gautié et al., 2021; Park & Ryoo, 2023)

<sup>2</sup> This paper approaches precarization as a movement from secure jobs to insecure jobs. In literature, precarity or precarization have different conceptualization and implications in between the Global North and the Global South (Bhattacharya & Kesar, 2020). From Eurocentric and Global North perspectives, it refers to the modern forms of labor processes and non-standard, insecure, and precarious work relationships that have emerged due to globalization, associated structural changes, and labor market flexibility reforms (Standing, 2011). From the Global South perspective, precarity is derived from informality. The concept of precarity in the economic realm is frequently viewed through the prism of informality in the Global South. The notion of the informal economy is closely tied to the course of capitalist development in a particular manner (Bhattacharya & Kesar, 2020).

employment and artisan couriers (Kaya, 2022).

Critical studies have investigated platform capitalism's exploitation and labor control, particularly in the gig economy. These studies have focused on different modes of control (Gandini, 2019; Wu et al., 2019; Veen et al., 2019; Moore & Joyce, 2019; Joyce & Stuart, 2021; Mathew, 2021) and the relationship between the state, firms, and workers (Zhang et al., 2021). These studies have shown how specific work arrangements and organizations determine labor control and increase surplus value appropriation from gig workers, as well as workers' reactions to the control methods of gig platform companies. The literature on gig economy research has revealed platform-specific configurations and arrangements in capital-labor relations. The studies have mainly focused on distinct control mechanisms during the labor process (Moore & Joyce, 2019; Joyce & Stuart, 2021), and some other studies zoomed in on the form of exploitations that exist in the gig economy (Mathew, 2020; Joyce, 2020; Yin, 2022).

Capital's control over labor is not limited to the mechanisms traditionally described in the literature. In both the Global South and the Global North, capital is able to maintain control over labor by locking workers into low-paying and precarious jobs through indebtedness (Bardhan, 1980; Bellofiore & Halevi, 2010; Lloyd & Horsley, 2022; Mezzadri, 2016). Many gig couriers/delivery workers are locked into different factor markets to purchase or lease vehicles, pay taxes, and maintain gas and vehicle maintenance. Due to state or company regulations and a lack of personal vehicles, vehicle loan debts appear as a fundamental reason that gig workers are stuck in debt relations (Ravenelle, 2019; Zhang et al., 2021; Kidak, 2021). In some countries<sup>3</sup>, states require gig workers to meet specific vehicle standards, while

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<sup>3</sup> China is one of them (Zhang et al., 2021).

platform companies may require gig workers to have vehicles that meet their own standards. These legal or contractual arrangements that externalize all operational costs to gig workers, combined with the financial constraints of gig workers, allow platform companies to increase control over labor. Inspired by the gig courier's resistance in Turkey, the paper delves into ACM, benefiting from the interlocking literature, and examines how debt and interlocking model add to platform control of the labor process and production and immiserates platform workers.

This paper investigates capital's control over labor and labor processes through workers' dependence on different markets, benefiting from the interlocking framework. This dependence resembles agrarian and informal workers' interdependence to factor markets in the Global South. However, interlocking in the gig economy differs from the interlocking in the agrarian economy in the Global South with its distinct labor control mechanisms. The paper suggests that utilizing the interlocking framework provides a theoretical perspective to understand the entrapment of gig workers in precarious work situations and contribute understanding of control mechanisms under the modern putting-out system with Digital Taylorism. So, the artisan courier model is a model in which companies externalize operational costs and avoid legal burdens (labor law) and an interlocking model in which surplus appropriation is secured by interlocked labor to factor markets and contracts. Thus, the interlocking fuels platform companies' capability to control labor. Additionally, the interlocking framework brings an angle to look at precarity in the gig economy from the Global South perspective. With this angle, we can see how precarity is being created in the gig economy in Turkey. The paper theorizes the artisan courier model as the interlocking model platform capitalism that establishes labor control through the interlocking workers to factor

markets and indebtedness. Since the artisan courier model is a variation of the standard gig work, this framework can be applied to gig work around the globe.

The next section introduces the theoretical framework of the study. The theoretical framework includes a brief literature survey on labor control in the gig economy to show distinct control mechanisms applied in related gig platforms. In the same section, the paper examines the interlocking relations and explains how interlocking and indebtedness influence work and labor control in the agrarian economy. The following section draws a picture of the development of platform capitalism and the gig economy in Turkey. Under this section, the paper argues how economic and political developments paved the way for platform firms to exploit precarized workers in Turkey. The ACM and interlocking relations section delves into the artisan courier model and its relations with interlocking contracts. In this section, the paper discusses that the artisan courier model is an interlocking labor model and how the interlocking design of the artisan courier model strengthens gig companies to intensify labor control. The discussion section provides some concluding remarks.

## How to Control and Interlock Labor

### Control over Workers and Labor Processes in the Gig Economy

Multiple labor control mechanisms exist in the varieties<sup>4</sup> of the gig economy. Depending on the types of gig platforms, which have different algorithmic management, pricing, autonomy, and contracts they make with producers/workers, the companies develop their control mechanisms. Ride-hailing and delivery platforms are the most apparent examples

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<sup>4</sup> The terminology used by (Leonardi & Pirina, 2020) to identify different operation grounds of the gig economy such as ride-hailing (Uber & Lyft), delivery (Deliveroo, DoorDash, and Postmates), freelance platforms (Upwork, Freelancer, and Fiverr), task-based platforms (TaskRabbit and Handy), and crowdsourcing platforms (Amazon Mechanical Turk).

of algorithmic management and controlling gig workers. The studies on algorithmic management and labor processes in ride-hailing and delivery platforms illustrate that algorithms and data-driven management systems regulate worker behavior, scheduling, and performance (Gandini, 2018; Griesbach et al., 2019; Kellogg et al., 2018; Mäntymäki et al., 2019; Mathew, 2020; Rosenblat & Stark, 2015; Shapiro, 2018; Tassinari & Maccarrone, 2020).

The delivery and ride-hailing platforms determine and control work tasks, the pricing and compensation structures, and the overall workflows. This centralized control enables platform owners to dictate and shape the labor process according to their interests. Algorithmic management reduces the autonomy of workers by tightly regulating their behavior and decision-making (Rosenblat & Stark, 2015; Shapiro, 2018). Workers are often subject to strict performance metrics, such as ratings and completion rates, which they must meet to maintain their position on the platform. Deviations from prescribed guidelines can result in penalties or even termination. Workers have limited agency and are constrained by the algorithmic rules and instructions imposed upon them. Algorithms drive the intensification of labor in gig platforms (Gandini, 2018; Mäntymäki et al., 2019; Mathew, 2020; Tassinari & Maccarrone, 2020). They constantly optimize and increase efficiency, often pushing workers to maximize their output within specific timeframes. Algorithmic management enables extensive data collection and analysis about workers' behaviors, preferences, and performance. These data are valuable to the platform owners as it helps refine algorithms, improve operations, and target advertising. The data extraction further strengthens the power of capital by providing platforms with valuable insights into labor processes, allowing for more effective control and manipulation of workers (Rosenblat & Stark, 2015; Mathew, 2020). In platform capitalism, algorithmic management and control directly influence and shape workers' labor process and

efficiency. The productivity or efficiency increase happens with improving algorithms' computational power and big data (Kellogg et al., 2018).

Algorithmic management is relaxed in freelance, task-based, and crowdsourcing platforms. In these types of gig platforms, companies exploit the precarious conditions of marginalized and immigrant laborers who are usually excluded in formal labor markets to exercise their control. From domestic service gig platforms to other on-demand platforms, immigrant workers are overloaded with work and paid low wages. Precarious workers trapped in interlocking power systems formed by segregated labor markets and unregulated labor contracts become cheap labor. For those workers, working longer hours and following the platforms' criteria become a *sine qua non* (Van Doorn, 2017; Van Doorn et al., 2020; Yin, 2022).

The financial and social vulnerabilities of workers, combined with poor or zero labor regulations, are manipulated by gig platform companies to set algorithmic<sup>5</sup> and fix regulations to control workers and labor processes. To understand workers' financial vulnerability and dependencies on platform companies, the next section explains how labor became more indebted and subsumed by finance capital. After providing a concise explanation, the subsequent section delves into the interlocking framework and literature, highlighting its connection with the increasing debt and how it affects labor control in the gig economy.

### Indebtedness and Interlocking: How Labor is Controlled by Indebtedness and Interlocking Arrangements

Despite the contribution of the existing studies on the gig economy and labor control

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<sup>5</sup> Algorithmic is used to define companies' changing pricing and rating policies based on data extraction and machine learning.

to our understanding of control and exploitation mechanisms in the gig economy, they do not sufficiently consider the impact of the indebtedness of the working class and the nature of gig contracts that bond workers on platform work. However, finance capital and household indebtedness play key roles in labor control in the contemporary global economy. This control was theorized as the concept of subsumption of labor to finance (Bellofiore & Halevi, 2010; Bellofiore, 2013; Bryant et al., 2015). This phrase is used to describe the economic and social insecurity caused by the growth of unstable employment and low wages coupled with mounting household debts. These factors force workers to work increasingly longer hours. (Bellofiore & Halevi, 2010; Bellofiore, 2013).

To detail the relationship between indebtedness and work and understand the distinct mechanisms where workers are being indebted and trapped in precarious work and debt, the studies on the informal and agrarian economies in the Global South provide great insight. The literature examines the unequal relationships of mutual dependence in the agrarian economy among landlords, creditors, employers, and laborers (Bardhan, 1980; Hart, 1985; Mezzadri, 2016). The literature demonstrated that the dominant classes in rural areas maintained and perpetuated their power by simultaneously assuming multiple roles as landlords, merchants, and moneylenders, while the transactions between these dominant classes and their subordinates—agricultural tenants or laborers—were interconnected across diverse markets, thereby reinforcing patterns of subordination across all of these markets (see Bhaduri, 1983, 1986, 1999; Bharadwaj, 1974, 1994; Mezzadri, 2016; Srivastava, 1989).

The interlocking analysis can be further expanded to show how the growth of the value-chain agriculture compels farmers to depend on credit for high-priced inputs such as seeds, fertilizers, and pesticides. Consequently, farmers accrue debt, resulting in a financial

dependency on value chains, increased labor efforts, and longer working hours to repay debts and generate income (McMichael, 2013). Similarly, labor contractors intertwine subordinates in sweatshop regimes, including petty commodity producers and home-based laborers, across labor and credit markets (Mezzadri, 2016). Mezzadri (2016) emphasizes the crucial role of credit provision, especially through advanced payments, as a form of investment contractors utilize to control and attach migrant labor, ensuring their subsistence and loyalty. This interlocking of credit and labor discipline operates across various markets and is intricately linked to production and reproduction processes. The interlockers, the dominant classes in this context, are labor contractors who function as informal capitalists. These contractors connect their subordinates in labor and credit markets to maintain their dominant position within intricate production networks. Informal capitalists are individuals involved in business activities without direct ownership of production means. As informal capitalists, these labor contractors dominate the contracting networks despite not owning land or fixed capital. They achieve this dominance by implementing strategies that strengthen their position in various markets and social aspects. These strategies include unique payment systems involving advances and selectively interlocking specific subordinates while excluding others based on their roles in productive and reproductive realms (Mezzadri, 2016). Interlocking labor contracts are the contracts that informalize the economy, exploiting petty commodity producers<sup>6</sup> (PCP) and disguised wage laborers<sup>7</sup> in different subcontracting arrangements

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<sup>6</sup> The production processes of PCP are primarily carried out in small households, with no hired waged workers, but relying on unpaid family labor. It's common for these labor processes to be based on kinship relations, where labor is not considered as a commodity to be sold. Due to the lack of capital/wage-labor relationship, PCP units are generally classified as non-capitalist, according to Bernstein (2009) and Harris-White (2014).

<sup>7</sup> Disguised wage labor refers to a form of employment in which workers appear to be engaged in petty-bourgeois production or self-employment, but in reality, they are functioning as wage laborers. Disguised wage labor involves a situation where workers may have their own means of production, such as tools or small-scale enterprises, but their labor is primarily controlled and directed by capital. Despite the appearance of autonomy



(Mezzadri, 2016).

In agrarian and informal economies in the Global South, the interlockers behave like monopolists and set prices for the means of production by using their power to influence the terms of trade in different markets, which can affect the prices of factors of production. For example, a landlord who controls both land and credit may offer lower wages to laborers in exchange for access to credit, which can affect the price of labor (Bardhan, 1980). Similarly, a money-lender who controls credit may charge higher interest rates to borrowers who also need to purchase inputs, which can affect the price of inputs (Ahamed Lebbe, 2018; Basu, 1983).

The interlocking literature can be divided into two bodies. While this literature primarily focuses on agriculture, some studies have centered on markets and their perceived imperfections, though without fully examining power dynamics and hierarchical relationships (Bardhan, 1980). Others have looked into how those in power extract more resources and exploit others (Bharadwaj, 1974, as cited in Mezzadri, 2016). These investigations revealed that the dominant classes in rural areas maintained their authority by taking on multiple roles, like landlords, merchants, and moneylenders. Transactions between the dominant classes and their subordinates, such as agricultural tenants or laborers, were intertwined across various markets, leading to continued patterns of subordination within all these market spheres (Bhaduri, 1986; Bharadwaj, 1974, 1985).

As demonstrated in the Global South's agrarian and informal economies, where interlocking workers to factor markets create financial vulnerability, a similar trend with more complex relations is evident in the Gig economy. Gig economy platforms employ various strategies and tactics to establish control over gig workers, often rendering these workers

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or independence, these workers are subject to the domination and exploitation of capitalist relations (Bernstein, 1988; Harriss-White, 2012).

financially vulnerable. This is achieved by making workers reliant on various factor markets.

In the section on ACM, this paper delves into the nature of gig work and the work contracts that interlock workers to factor markets, accentuating the stress experienced by workers. The section briefly explains who the interlockers are and how they establish interlocking in different markets. Moreover, we examine how this interlocking strengthens platform firms' control, as evidenced by the artisan courier model in Turkey. Before exploring these specifics, the following section offers crucial insights into the development of platform capitalism and the gig economy in Turkey. Through an exploration of Turkey's macroeconomic history and progress in platform capitalism, the section illustrates Turkey's economic and political picture, enabling the emergence and exploitation of the artisan courier model. This understanding will help shed light on how macroeconomic advancements have allowed platform firms to take advantage of vulnerable workers in Turkey.

## Development of Platform Capitalism and Gig Economy in Turkey

### Macroeconomics Background

Srnicek (2017) explains the development of platform capitalism by starting from the early stages of neoliberalism (the late 70s and early 80s). The initial point of platform capitalism was not the technological advancements but the collapsing post-war welfare state in the USA. Following this collapse and the rising neoliberalism, the barriers against the free movement of capital were lifted (Harvey, 2004). Deregulation of financial markets, dissolution of labor unions, and creation of freedom for capital to expand globally formed a basis for platform capitalism. During the dot-com boom and bust, the internet and computing technology experienced significant acceleration, leading to platform capitalism's emergence. However, the most critical stages of platform capitalism development occurred during the

aftermath of the 2008 crisis, which had significant consequences in the labor market (Srniczek, 2017). In addition to these factors, household indebtedness should be counted as another crucial factor that forces labor to work in the platform/gig economy.

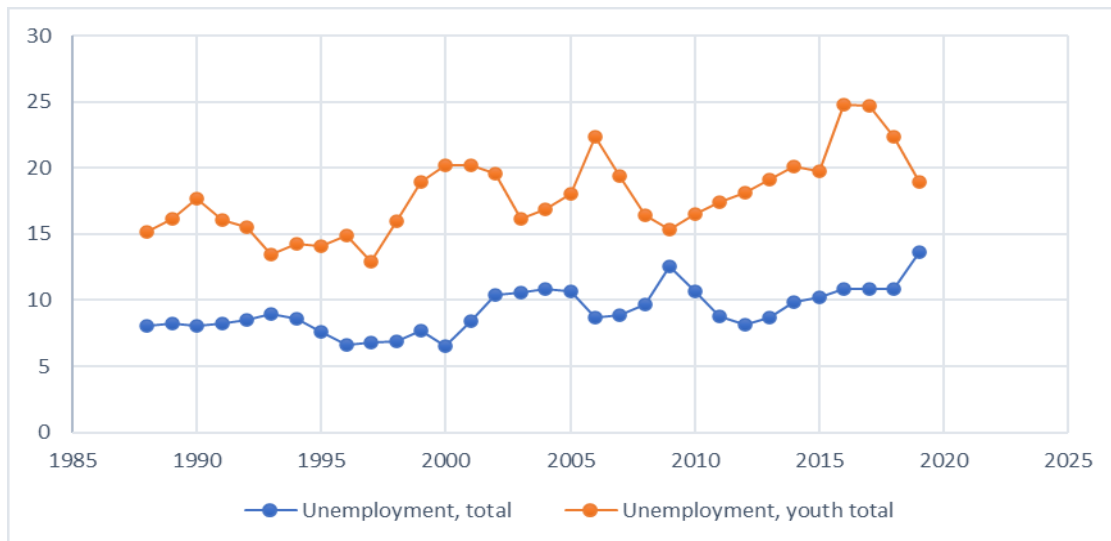
These developments in the global economy and the rise of neoliberalism impacted and shaped Turkey similarly. The emergence of neoliberalism in Turkey made the rise of the gig economy that relies on precarious workers possible. Platform capitalism and gig economy platforms emerged in Turkey after the neoliberal restoration of the economy, particularly in the labor market. The neoliberal restoration that started in 1980 was intensified as a response to the 2001 crisis in Turkey during the rule of the Justice and Development Party (AKP) (2002-today). During consecutive AKP governments, Turkey followed a capital-inflow dependent, debt-led, construction-centered growth model, which weakened industrial employment and promoted low-productive and insecure service sector jobs (Orhangazi, 2019a; 2019b).

Turkey's history of neoliberalism started with the January 24 Decisions in 1980 as a neoliberal response to several economic crises that occurred in the 70s under the import-substituting industrialization (ISI) model (Akçay & Türel, 2022). However, the decisions could not be implemented due to strong resistance from labor unions and the socialist movements. The January 24 Decisions had to wait until the 1980 coup d'etat in September that closed labor unions and jailed socialist leaders in the country. The January 24 Decisions in Turkey encompassed key neoliberal reforms involving the deregulation of financial markets, privatization of state economic enterprises (SEE), weakening labor unions, and opening financial markets to capital flows. These reforms played a central role in the country's neoliberal restoration from the 1980s to the millennium, coinciding with the aftermath of the 1980 coup d'état. Turkey's neoliberal experience is often regarded as one of capitalism's

experimental laboratories. (Köse & Bahçe, 2012, pp. 161-162). During this time, Turkey experienced an income distributional shock, which widened income inequality, slumping real wages, and increased household debt (Boratav, 2018). The consecutive crises caused by speculative capital mobility in the 1990s and high inflation rates were significant factors that led to the last stages of neoliberal restoration under the rule of the AKP government, which took power in 2002. Rapid privatizations, elimination of secure public jobs, and promotion of precarious jobs under the flexible jobs slogan increased labor's fragility against capital (Oğuz, 2014; Orhangazi, 2019b)<sup>8</sup>.

Figure 4

*Total unemployment & youth unemployment (ages 15-24) % of the total labor force*



Source: WorldBank

Turkey experienced significant net foreign capital inflow (529,9 billion US dollars)

<sup>8</sup> While employment in services as percentage of total employment increased from 40 percent to 56 percent from 1991 to 2019, the employment in industry as percentage of total employment decreased from 30 percent to 25 percent during the same period (sources: <https://data.worldbank.org/indicator/SL.IND.EMPL.ZS>; <https://data.worldbank.org/indicator/SL.SRV.EMPL.ZS>).

between 2002-2017 (Orhangazi, 2019a). This period, particularly between 2002-2013, was considered the success story of the AKP government (Orhangazi, 2019a). In reality, this period witnessed a debt shift from the public to the private sector, including the corporate sector and households. Foreign debt and credit-led economic growth fueled domestic debt in foreign currencies (Orhangazi, 2019a; Orhangazi & Yeldan, 2021).

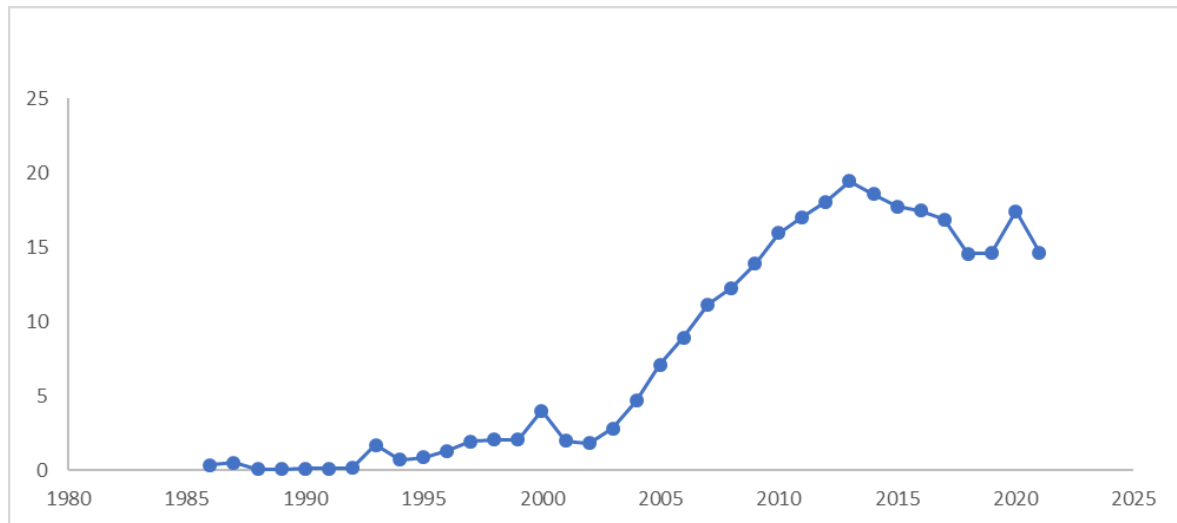
Since the beginning of the AKP government and neoliberal re-restoration, the labor market has become fragile, and household debt has significantly increased. Figure 4 illustrates Turkey's total unemployment and youth unemployment rates. During the AKP government, it is seen that the total unemployment has slightly risen, and youth unemployment reached twenty-five percent<sup>9</sup>. Figure 5 depicts the proportion of total household debt obligations, encompassing debt, loans, and debt securities, in relation to the Gross Domestic Product (GDP). Notably, there has been a significant surge in household debt to GDP since 2002, coinciding with the successive governments of the AKP. The rationale behind this upward trajectory of household debt is expounded upon by Karacimen (2014), who posits that the growing inclination of households towards consumer credits and credit card utilization is the primary driving force. Karacimen (2014) further argues that the persistence of stagnant real wages and the proliferation of low-wage and precarious employment opportunities constitute the principal catalysts fostering the augmented demand for consumer credits and credit cards.

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<sup>9</sup> It is important to say that the COVID19 pandemic related unemployment was catalyst to increase employment in gig delivery and courier jobs. The research of Istanbul Planning Agency with 600 couriers indicate that eighty percent of couriers started to work a courier due to being unemployed after pandemic

Figure 5

*Household Debt to GDP (%)*

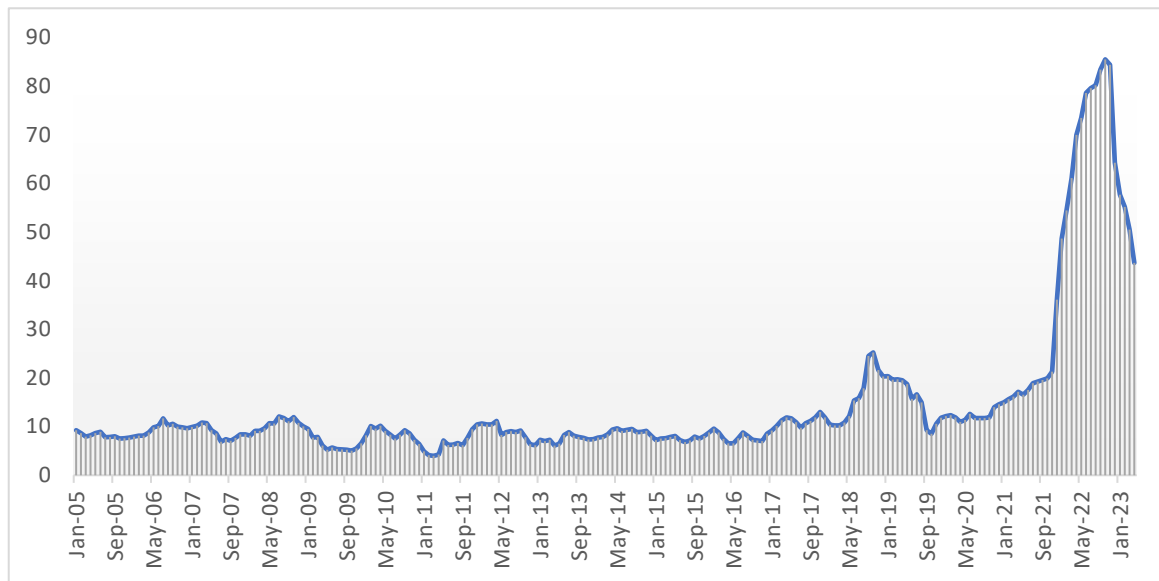


Source: BIS (Bank for International Settlements)

These macroeconomic factors and the crisis period that started in 2018 with skyrocketing inflation rates dramatically deteriorated the economic and social conditions (Akçay & Üngen, 2019; Orhangazi, 2019a). Inflation and inflation-related pay increase demand were the main factors behind gig courier and delivery workers' protests. Figure 6 illustrates the dramatic increase in inflation starting in 2020. The overlapping timing of the artisan courier protests and the inflation peak is not coincidental. Their earnings are tightened into production input prices, so any increase or inflationary pressure on them heavily affects them under the artisan courier model. The following subsection briefly illustrates the development of the model that makes workers more vulnerable and discusses the emergence of e-commerce, which forms the foundation of the artisan courier model.

Figure 6

*Consumer Price Index (2003=100) Annual Change (%)*



Source: TurkStat

### The Rise of E-Commerce and Artisan Courier Model

Platform capitalism could not have existed without internet technology. Internet technology was introduced to the public in Turkey during the 1990s, but mass use started in the mid-2000s (Turkstat, 2022). Internet access and internet usage by households and individuals almost doubled between 2012 and 2022<sup>10</sup>. Significant increases in internet usage changed and impacted consumption and trade. Due to mass internet usage, e-commerce platforms have become common in Turkey (Turkstat, 2022). Figure 7 illustrates that the proportion of buying or ordering goods or services online was only 10.3 % in 2012. However, this number hit 46.2 % in 2022. The e-commerce market experienced record growth (90%) in

<sup>10</sup> While the proportion of the internet usage was 47.4 % in 2012 for individuals, it increased to 85 % in 2022. The proportion of household's internet usage increased form 47.2 % in 2012 to 94.1 % in 2022.

2020 due to the Covid-19 pandemic. Additional 30% growth in 2021 and 2022 leveraged the volume of e-commerce to \$42.9 billion in 2022 (trade gov.).

Figure 7

*Proportion of buying or ordering goods or services over the Internet by latest time, 2012-2022*



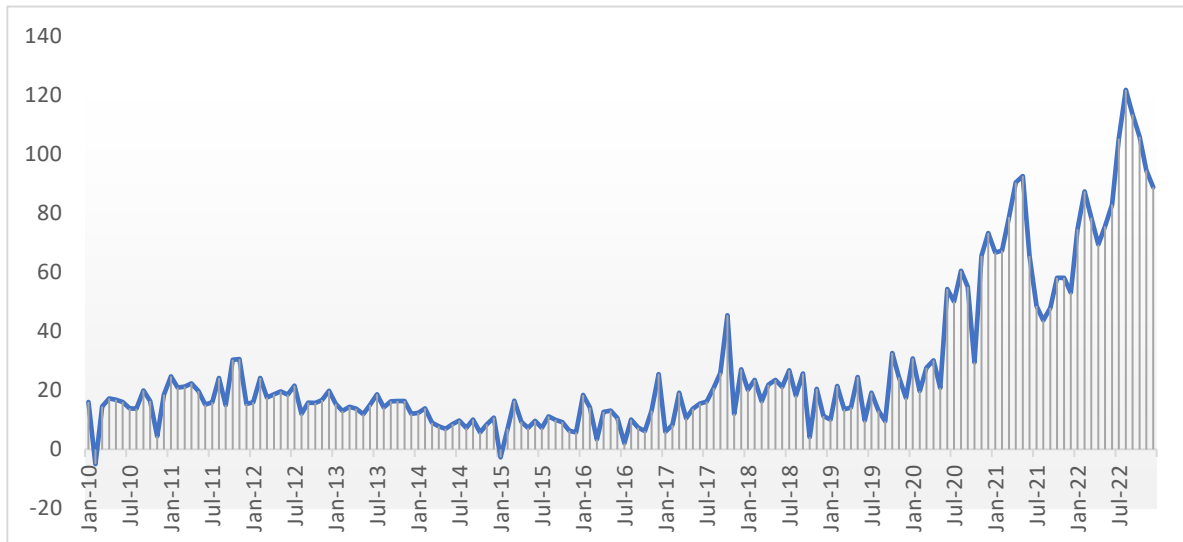
Source: Turkstat

The cargo and freight industry naturally accompanied the development of the e-commerce industry in Turkey (Kidak, 2021). Figure 8 shows that the postal and courier activities turnover index increased by almost 50 percent from 2018 to 2023. The growth in e-commerce and postal courier activities are strong indicators of the development of the platform/gig economy. However, e-commerce and delivery platforms in Turkey started their operations by formally employing couriers and delivery workers. The gig economy formed with the introduction of the ACM (Kidak, 2021).



Figure 8

*Postal And Courier Activities (Calendar Adjusted Turnover Index Annual Percentage Change (%))*



Source: TurkStat

## The Gig Economy and Artisan Courier Model as the Form of Interlocking Workers and Precarious Work

### Theorizing Interlocking and Precarity in the Gig Economy

The interlocking framework provides a theoretical lens, which enables us to investigate how the gig economy actively weaves a complex web that ensnares gig workers through multiple dependencies. The interlocking literature demonstrated that the dominant classes in rural areas maintained and perpetuated their power by simultaneously assuming multiple roles as landlords, merchants, and moneylenders, while the transactions between these dominant classes and their subordinates—agricultural tenants or laborers—were interconnected across diverse markets, thereby reinforcing patterns of subordination across all of these markets (see

Bhaduri, 1983, 1986, 1999; Bharadwaj, 1974, 1994; Mezzadri, 2016; Srivastava, 1989).

The interlocking framework explicitly details control mechanisms through the dominant classes' multiple roles in different factor markets. The framework allows us to see how a capitalist maintains control over workers as an employer, lender and provider of means of production. The capitalists act like different forms of capitalists in different factor markets to lock workers in their primary work. They appear financiers or suppliers of raw materials and means of production to standardize the labor process (by determining the technology level). They foster dependency of laborers on capital to ensure surplus appropriation. Thus, the interlocking framework elaborates control mechanisms within the putting-out system under Digital Taylorism, considering capitalists' ability to establish control structures in different factor markets to secure surplus value extraction.

Similarly, as landowners and moneylenders seek to bind landless labor to agrarian or informal work in the Global South, gig economy platforms also aspire to establish such attachment for gig workers. To cultivate such attachment, gig economy platforms employ strategies similar to the interdependent practices commonly observed in Global South regions. These strategies can be classified into two main steps:

The first phase of interlocking in gig economy platforms involves worker attraction, a critical element for achieving network effects. Building on Mezzadri's (2016) analysis, gig platforms employ diverse financial incentives to entice workers, including stimulus programs after the pandemic<sup>11</sup>, akin to the initial step in interlocking by informal capitalists. These

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<sup>11</sup> These bonuses usually are given when a gig worker completes a certain number of tasks<sup>11</sup>. Uber offered a \$250 million stimulus to put drivers back to work after the pandemic (Bellan, 2021) and launched an advanced payment program that allowed drivers to get a no-interest loan up to \$1000 in 2016. (For detailed examples see <https://therideshareguy.com/uber-sign-up-bonus-for-new-drivers/#:~:text=How%20Does%20the%20Uber%20Driver,200%20rides%20within%2030%20days>. And <https://www.moneysmylife.com/doordash-promotions/>)

incentives encompass signup and referral bonuses, immediate cash out options, flexible payment schedules, piece-work-related bonuses, and platform-specific debit cards.

An explanation of signup bonuses and platform-specific debit cards would be helpful in understanding the initial steps of interlocking. For example, prominent ride-hailing and delivery platforms like Uber, Lyft, Doordash, and Grubhub offer signup bonuses as advanced payment. Upon completing their initial trips, they also provide initial payments to new drivers or riders. Platform-specific debit cards, widely adopted in these sectors, are pivotal in fostering financial interdependency among workers, platform companies, financial intermediaries, and other capitalist entities in factor markets. Uber and Lyft offer similar debit cards, such as Uber's Pro Card, which grants cashback on fuel, maintenance services from select automotive aftermarket providers, and dining at designated restaurants. These cards feature tiered benefits—Blue, Gold, Platinum, and Diamond—earned through trip completion and offer enhanced rewards during specified peak hours (Driver Rewards with Uber Pro, n.d.). Lyft's Direct Card has almost identical procedures to Uber's Pro Card (The Lyft Direct Debit Card for Drivers, n.d.).

While signup bonuses aim to attract workers and make them complete initial trips, the platform-specific debit cards interlock workers to platform companies through accessing debit cards and other capitalist entities at factor markets, which platform companies determine. At the same time, different statutes in debit cards appear as a control mechanism to compel gig workers to work longer hours and specific dates and hours, which companies determine.

The incentives that gig platform companies offer would not be enough if a gig worker, particularly in ride-hailing and delivery platforms, has no equipment or vehicle. In this case, the gig worker seeks external funding, such as loans from formal or informal markets or rental

options. This is another step of interlocking in the gig economy. Sometimes, the platform companies step in and offer financing options for the gig workers. Uber's financing program (2013 to 2015) with Santander Bank for targeted individuals with poor or no credit scores in the USA to purchase new cars to work for Uber is one of the examples of a direct interlocking relation. Exploiting drivers' vulnerable situations, Uber enforced high weekly payments under long-term leases, leading to defaults and significant losses for the company. Although Uber has since outsourced this option to third-party partners, many platform workers remain in precarious financial positions. Other platform companies today offer various financing options to generate interest and fee earnings from loans while keeping workers locked into their platforms (Levine, 2015). In addition to financing options, car and vehicle rental companies offer an alternative to gig workers (Zhang et al., 2021).

Along with platform firms' strategies to attract and lock workers to their platform, once gig workers start working, they face financial pressure to maintain their operational costs. Considering the non-guaranteed income of platform workers and household and work-related-vehicle debts, the consequences of a missing working day or any penalty given because of customer reviews would be financially fatal for workers. This pressure on workers interlocks them to different factor markets and empowers platform firms to increase their control over workers. The idea of autonomy and freedom that platform capitalism promised immediately turns into a prison constituted by work and debt. Debt and indebtedness are key factors in interlocking relations, labor control, and precarity in the gig economy.

The concept of interlocking relations within the gig economy illuminates the profound implications for the precarity experienced by gig workers. Like historical practices observed in the Global South, where landowners and moneylenders bound landless labor to precarious

agrarian or informal work, gig economy platforms consciously cultivate dependencies among gig workers. These strategically constructed dependencies manifest through practices mirroring those observed in the Global South. Financial incentives like signup bonuses and platform-specific debit cards are designed to attract workers and establish enduring financial interdependency. Gig workers, frequently lacking necessary resources, rely on external funding sources, further exacerbating their precarious positions (Kidak, 2022; Ravenelle, 2019; Zhang et al., 2021). The well-intentioned provision of platform-sponsored financing often results in heightened financial vulnerability. Moreover, the non-guaranteed income and mounting debts associated with gig work exert tremendous pressure on workers, intensifying their reliance on platform-based employment (Ravenelle, 2019; Zhang et al., 2021). This interlocking with various markets and the burden of debt compounds the precarity embedded within the gig economy. The autonomy and freedom initially espoused by platform capitalism become increasingly elusive as workers grapple with the enduring realities of financial insecurity.

From the perspectives drawn, the paper argues that interlocking relations and precarity are the primary driving forces behind labor control. These dynamics, interwoven in the fabric of gig work, profoundly shape workers' experiences. Interlocking practices strategically forge dependencies between gig workers and platform companies. Simultaneously, the prevalence of precarity, characterized by financial instability and the erosion of worker autonomy, is intensified. As a result, these two dynamics, interlocking and precarity, emerge as the central mechanisms through which labor control operates within the gig economy, exerting a significant influence on the lives and livelihoods of gig workers.

Next section begins investigating the ACM's expanded form. The section provides

more insight into the artisan courier model and its interlocking construct. After that section, the paper investigates how this model and interlocking relations strengthen capital's control over the labor process and shape precarity. The paper benefits from Kidak's (2021) field study with twelve artisan couriers with commercial vans that investigate couriers' class positions and work practices, Kucuk's (2022) field study with eighty-four artisan motorcycle couriers, and Ceylan's (2022) field study with eleven artisan motorcycle couriers that examine labor processes in the artisan courier model in Istanbul. In addition to these studies, this study benefits from various visual and written media interviews with artisan couriers.

### The Artisan Courier Model-Making Precarity

The artisan courier model refers to a typical self-employment model in the gig economy. Thus, it is vital to highlight the model's legal structure and its impact on precarity and interlocking relations. The model can be understood as a way of precarization of labor since workers are left absent from labor and social security rights.

In this model, courier and delivery workers are expected to form sole proprietorships and provide invoiced cargo or delivery services (Kidak, 2021; Ceylan, 2022). As Kidak (2021) highlights, the legal status of artisan couriers remains unspecified in labor laws, resulting in a lack of labor protections<sup>12</sup><sup>13</sup>. They are not legally considered subcontractors since they do not satisfy requirements under the law<sup>14</sup> neither. However, their contract with platform companies

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<sup>12</sup> The traditional workers/employees are subject to Labor Act. Under the Labor Act, companies hire workers with 4A social insurance, which imposes work safety and conditions are determined by the 4857 coded Labor Act (Ceylan, 2022). Under 4A social insurance, employers must pay employees' social security premium.

<sup>13</sup> According to the Turkish Law article 4 of the Working Time Regulation, working hour is limited with 45 hours weekly and it is not allowed a worker/employee to work more than 11 hours in a work day.

<sup>14</sup> Legally, to be a subcontractor, the individual firm must (1) be an employer, (2) have employees who work in ancillary or specialized work, (3) be subjected to primary employer permanently, and (4) has workers who only work in primary employers' workplace. No study (Kidak, 2021; Ceylan, 2022) showed an artisan courier who employs workers for their individual firm.

is considered subcontractor contracts (Kidak, 2021; Tekgida-Is, 2021). Even though artisan couriers can work only with primary employers, some platform companies hire artisan couriers through another subcontractor company. The company called Vigo is an example of it. Vigo is the subcontractor of Getir and hires workers instead of Getir. The restaurants and grocery stores can subcontract agreements with Vigo or other artisan courier firms for delivery services<sup>15</sup>. If the restaurants or groceries cancel the subcontractor contract with artisan couriers, Vigo directs couriers to alternative enterprises under another subcontractor contract (Ceylan, 2022). The ACM as a business model extended from giant gig platforms to national or local retail companies. The supermarkets can hire couriers under this model. These couriers work only for retail companies and restaurants but as independent workers (Küçük, 2022). The ACM is clearly seen as a legal engineering that flouts the labor law and relieves firms of all legal responsibility regarding labor costs.

Under the artisan courier model, the courier and delivery workers are subject to the 4B social security insurance system for artisans and the self-employed (BAĞ-KUR)<sup>16</sup>. Under BAĞ-KUR, self-employers can benefit from the public health system freely and the public pension system as long as they pay their monthly premiums. In instances of missed or overdue payments, the self-employed individual's access to BAĞ-KUR may be revoked<sup>17</sup>. Based on the information provided in Table 6, there has been a substantial rise of nearly 400% in the premiums for artisan BAĞ-KUR from 2018 to 2023, during a period of inflation.

The legal status of artisan couriers directly impacts the couriers' precarity due to the

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<sup>15</sup> For more detail see: <https://vigovigo.com/>

<sup>16</sup> There are three type of social security programs in Turkey: employees (4A), self-employed (4B), and civil servants (4C)

<sup>17</sup> According to Turkish Social Security and General Health Insurance law no 5510 article 4/b, those with social security debt cannot benefit from public health insurance (Kidak, 2021; Kotan, 2022).

risk of losing health and pension benefits. The interviews with artisan couriers illustrate that almost all gig courier workers have premium debts and cannot make monthly payments for BAĞ-KUR premiums (Kıdak, 2021; Ceylan, 2022). In accidents or injuries, these workers have to bear the high expenses since they cannot benefit from free public health services. Additionally, workers experience a loss of earnings when they take time off work due to injury, as they are not compensated during this period (Kıdak, 2021; Ceylan, 2022).

Without legal protection, the couriers face the risk of dismissal from the platforms due to health problems and accident-related injuries, which preclude them from working for a long time (Ceylan, 2022). In addition to the risk of dismissal, medical and accident-related maintenance costs when not working put extra financial stress on the couriers' shoulders (Ceylan, 2022).

Table 6

*Monthly Artisan BAĞ-KUR Premium (in Turkish Lira)*

Year	Artisan BAĞ-KUR Premium	Yearly Change %	Year	Artisan BAĞ-KUR Premium	Yearly Change %
2009	229.77 ₺	-	2017	613.23 ₺	7.6
2010	251.50 ₺	9.0	2018	700.17 ₺	13.2
2011	275.00 ₺	8.9	2019	882.51 ₺	23.0
2012	305.84 ₺	10.6	2020	868.18 ₺	-1.6
2013	337.61 ₺	9.9	2021	1,055.36 ₺	19.5
2014	369.49 ₺	9.0	2022-1	1,476.33 ₺	33.3
2015	414.52 ₺	11.5	2022-2	1,908.00 ₺	25.5
2016	568.21 ₺	31.3	2023	3,452.76 ₺	57.6

Source: TurkStat

Even the slogan of this model is to “be your own boss,” some firms<sup>18</sup> may require

<sup>18</sup> Firms with vehicle artisan couriers, particularly, requires the certain criteria like age ( no more than 6 years old) and capacity for the vehicles.



certain vehicles to operate. Before beginning work, unless the artisan couriers own their vehicles, they must purchase or rent vehicles. The couriers work an average of twelve hours and six days after they signed the contract with gig platform companies (Kidak, 2021” ilerihaber, 2021 accessed, March 14, 2023, Ceylan, 2022). Artisan courier workers are in a precarious legal and financial position when working for gig companies. The artisan courier model’s design allows these companies to reduce their labor and legal costs while the workers themselves are left to bear significant debt and financial risks<sup>19</sup>.

Finally, artisan couriers have no legal right to form a union because they are considered “artisans” or small business owners (Kidak, 2021). This is another significant factor of precarity that the ACM causes. The artisan courier model is the heart of the gig economy in Turkey<sup>20</sup>. While the number of formal and informal courier-delivery workers reached over 900 thousand, the number of workers under the artisan courier model reached over 100 thousand during the pandemic (Kidak, 2021).

The preceding section has provided an overview of the ACM and its impact on generating job insecurity while exacerbating the vulnerability of artisan couriers. Within this framework, the intricate network of interdependencies within the ACM gains prominence. Subsequently, the forthcoming section will explore these intricate connections more deeply, focusing on elucidating payment and pricing mechanisms and analyzing the multifaceted costs confronted by artisan couriers. This section will uncover the strategic maneuvers employed by gig platform companies to attract and bind workers to their platforms. These strategies often involve manipulating interlocking elements across diverse markets, frequently at the expense

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<sup>19</sup> The cost of a minimum wage worker, including insurance premiums and taxes were 4,382.44 Turkish Lira in 2021 and became 11,759.40 Turkish Lira in 2023. The gig companies do not only relieved from these costs but also operation equipment costs like vehicles and their maintenance and taxes.

<sup>20</sup> Other type of platform freelance jobs is out of scope this paper.

of the couriers.

### Pay, Pricing, and Costs as Interlocking

As artisan couriers start their businesses, they encounter various expenses. They must first cover the legal costs to establish their firms, and then they need to purchase delivery equipment. This equipment includes helmets and delivery jackets with the companies' logos and designs (Kidak, 2021; Ceylan, 2022). In addition, the vehicles have ongoing costs, such as maintenance, gas, tax, and insurance. It is worth noting that these costs are sensitive to inflation, especially gas prices<sup>21</sup>. Many couriers do not have their own vehicles initially and must resort to various forms of debt to acquire them. Only a tiny and fortunate percentage of couriers are exempt from this financial burden. While these different costs are the key for gig companies to establish interlocking relations with artisan couriers, the companies apply different payment and bonus methods to attract artisan couriers. Elaborating on these payment and bonus methods will provide insight into the initial step of an interlocking and labor control model.

Platforms like Yemeksepeti, Trendyol, Getir, and Hepsiburada were pioneering companies developing the gig economy. Gig workers used to be “formal” workers of these companies or subcontractor companies until this model was introduced. Some companies still have formal employment and artisan couriers simultaneously (Kidak, 2021; Ceylan, 2022). While the artisan couriers have their payments based on a piece or hour-based payment, the couriers the firms formally employ have fixed payments (Kidak, 2021; Ceylan, 2022). Table

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<sup>21</sup> Since the gas expense is the primary and daily cost for the couriers, the couriers demanded pay raises to cover increase in gas expenses during the protests.

7 illustrates the major companies' payment systems<sup>22</sup>. Ceylan (2022, p.129-130) shows that those employed by the firms are paid minimum wage. The companies pay a fixed piece rate per delivery. The companies also offer bonuses depending on daily deliveries and mileage. Couriers can be either motorcycle couriers or vehicle couriers (commercial vehicles). The price per delivery varies depending on the type of vehicles and their sizes. The couriers are usually assigned to a specific location (based on their residential addresses) for their deliveries.

Bonuses constitute an important part of companies' payment systems and strategies to control gig work. Platforms may adopt the 'golden hours' system to attract couriers to work during peak demands. Ceylan (2022, p.134) offers this quote from a Trendyol Go worker: "The golden hours have extra weekly bonuses. If you deliver packages within these 30 hours, suppose you delivered 40, you get a 60 TL bonus. For 55, you get 100 TL; for 70, you get 260 TL; for 81, you get 350 TL; for 100, you get 450 TL; and for 115, you get 500 TL". In Yemeksepeti Express, the company offers weekly bonuses based on package deliveries<sup>23</sup> and welcome bonuses, which give 1000 TL for every delivery milestone (1<sup>st</sup>, 100<sup>th</sup>, 500<sup>th</sup>, and 1000<sup>th</sup>) (yemeksepetiexpress.com). Yemeksepeti also employs the scoring system. This system was influenced by various factors, including logging in and out, delivery times, and acceptance of deliveries. In addition, the algorithm's preference for assigning packages to couriers with higher scores could lead to increased daily delivery opportunities (Ceylan, 2022, p.135). Paket Taxi<sup>24</sup> is another example of a fixed payment plus bonuses depending on the number of deliveries. In 2023, Paket Taxi offers fixed payments depending on shifts, which the company

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<sup>22</sup> It is important to say that the payment system impacts labor control. Ceylan (2022, p.131) indicates that the hour-based payment system releases some delivery speed for courier and delivery workers.

<sup>24</sup> Seventy percent share of Paket Taxi, which was founded in 2016, was acquired by Migros, a retail giant in Turkey, in 2022 (KAP, 2022). After the acquisition, new and existing couriers started to work mainly under Migros operations.

determines. The payment structure for shifts is as follows: a 9-hour shift pays 20,000TL, while a 12-hour shift pays between 21,500TL and 30,000TL, depending on bonuses (Kanca, 2022; Kaya, 2023a).

Table 7

*Companies' Payment Systems*

Piece-Based System	Hours-Based Payment	Fixed Payment
Trendyol Go Yemeksepeti Express Hepsijet Aras Cargo	Getir Vigo	Yemeksepeti Paket Taxi

Source: Kidak (2021); Ceylan (2022) and companies' websites.

Various platform companies provide different payment schedules to artisan couriers. Some use a piece-based system, while others use a fixed payment system (see Table 7). The piece-based system may offer higher earnings but requires longer working hours and more intense work. In contrast, the fixed and hours-based payment systems offer lower-intensity work with lower gross earnings. Unlike the major platforms such as Uber, Doordash, and Grubhub, the platform companies advertise job opportunities in specific locations where they need couriers. Interested couriers apply for the work and are hired if they meet the criteria. Once they sign the contract, they download the necessary apps and obtain the required delivery equipment, a cost the couriers must bear.

The economic challenges confronting artisan couriers compel their involvement in a web of financial dependencies colloquially called "debt chains." At the core of these financial entanglements lies the initial and ongoing expenditures associated with procuring vehicles, representing a critical entry point into the gig economy (Kidak, 2021). For couriers lacking

access to their vehicles, the only viable route is to purchase or rent them, which can be achieved through gig companies or conventional rental agencies. Gig companies, in particular, frequently extend rental and purchase agreements to couriers, solidifying their position as employers and vehicle suppliers within these economic relationships. Consequently, this intertwines artisan couriers with these gig companies, creating an interlocking bond spanning labor and factor markets.

This interlocking relationship is exemplified in various contexts. For instance, Paket Taxi mandates that its couriers utilize specific motorcycles for delivery. Couriers without motorcycles conforming to the company's standards are left with no alternative but to rent or purchase them. Typically, couriers opt for motorcycle rentals from the company, commencing with a three-month lease period, followed by the possibility of entering into a purchase agreement. These agreements entail twelve installments, conveniently deducted from their biweekly earnings (Kaya, 2023b). Vigo introduced a parallel scheme in 2022, wherein couriers make an initial endowment payment, and subsequently make 12- or 9-month installments, depending on the motorcycle brand, deducted from their biweekly earnings (IHA, 2022). Furthermore, couriers may finance motorcycle purchases through bank loans, as elucidated by Ceylan (2022).

Couriers operating commercial vans follow a similar trajectory, where they must either rent or purchase vans meeting their respective gig companies' specifications before commencing work. With only a few exceptions, couriers must provide vans that satisfy these company requirements. However, some companies like Migros Sanal and Iste Gelsin exclusively permit couriers to use companies' vehicles. In such instances, couriers can rent or purchase these vans through installment payment plans.

This multifaceted vehicle acquisition process underscores a significant financial burden for artisan couriers, highlighting the complex interplay of economic relationships within the gig economy. In essence, gig companies wield considerable influence as employers and critical providers of the essential means of production and credits, resulting in a profound attachment of artisan couriers to these platforms.

Not all companies provide rental and purchase agreements for vehicles. Artisan couriers usually apply for vehicle loans to access vehicles, particularly commercial vans (Kıdak, 2021). In this case, the artisan couriers' debt relation with banks in the credit market bound them to the gig platforms. Banks enter interlocking relations another dominant class in the artisan courier model. According to Kıdak's (2021) calculations, Table 8 displays the average income and expenses of an artisan courier who owns a commercial van. In Turkey, no government regulations mandate vehicle standards for artisan couriers. However, as discussed, the companies impose these standards, resulting in costly expenses for the couriers (Kıdak, 2021). Table 8 also shows two types of loans that couriers typically take out. Kıdak (2021, p.82) explains that couriers who apply for a vehicle loan must pay an endowment of thirty percent of the vehicle's value. In order to pay this endowment, the couriers apply for personal loans, which results in couriers paying two loans in a month. Even though the monthly income seems to be almost 8,000 TL, after the deduction of the cost of operations, the worker's net income becomes only 1,572.3 TL. This amount is way below the minimum wage in 2021 (after tax 2,825.90 TL). It is impossible to expect workers to pay their social security premium (1,055 TL in 2021).

Table 8

*Average Monthly Income & Expenses of An Artisan Courier with a Commercial Vehicle in 2021*

Income	Turkish Lira (TL)	Expenses	Turkish Lira (TL)
Average Daily 130 deliveries & 26 working days	7967.80	Vehicle Loan*	3327.00
		Personal Loan**	1744.50
		Vehicle's Tax & Insurance	250.00
		Amortization & Maintenance & Other Expenses	300.00
		Gas	774.00
<b>Total</b>	<b>7967.80</b>	<b>Total</b>	<b>6395.50</b>

\* Based on the standard criterion of companies, the cheapest vehicle in April 2021 was 151,900 TL. To acquire a vehicle loan, 30 % of the vehicle's value must be paid in advance. In this case this payment refers 45,570 TL

\*\* It is assumed that couriers do not have 45,570 TL to pay in cash for a vehicle loan. They need to get a personal loan for this amount

Source: Kidak's (2021) interviews and calculations

Source: Kidak's (2021) interviews and calculations

This income and expense table does not include accident-related medical and maintenance costs due to the unpredictable nature of accidents. The fragility of artisan couriers, stemming from the lack of public insurance, can also be incorporated into their interlocking strategy. For instance, Vigo offers private health insurance to couriers at a daily cost of 5 TL. In addition to their monthly operational expenses, artisan couriers must cover one-time taxes, and accountant costs when establishing their individual firms (Kidak, 2021). The same company also offers financial support for artisan couriers' accounting expenses and gas costs when contracted gas stations purchase gas. However, eligibility for these supports is subject to the company's work regulations imposed on artisan couriers. To qualify for financial support in accounting costs, artisan couriers must complete 250 work hours monthly. Gas expense

support varies depending on the couriers' length of service with Vigo. Couriers working for 0-3 months receive 3 percent support, while those working an additional three months on top of their current tenure receive 5, 7, and 10 percent assistance (see: <https://vigovigo.com/kampanyalar/>).

As illustrated in the case of Vigo, companies establish interlocking relationships across various factor markets to appropriate surplus value. Similar to strategies employed by companies like Uber and Lyft, artisan couriers become intertwined within factor markets to access 'means of production' (specifically, delivery resources) at reduced costs compared to market rates. These interlocking arrangements are reinforced by setting working hours and tenure requirements, cementing labor attachment. Payment systems, bonuses, financial assistance, and debt relations between gig companies, couriers, and third parties like banks and rental agencies are instrumental in interlocking relations and tightening labor control. On the other hand, the absence of labor and social rights, including legal working hours, union representation, and social security, creates precarious working conditions. Additionally, debts arising from vehicle rental or purchases and health expenses due to accidents further heighten couriers' vulnerability and dependence on gig work. The subsequent sections of this paper delve into how gig companies exercise labor control within this interlocking model.

### Working Hours, Autonomy, and Labor Control within Interlocking Relations

The universal myth of the gig economy is that workers are their bosses and decide how much and how to work. The gig economy practice in Turkey is not immune to this myth either. The gig model was introduced as a working model in which workers (business partners in mainstream discourse) can decide when and how much to work. Even though the general



opinion of workers about this form of gig work is the opposite of the idea introduced, some still decide to work in this model because of the promised autonomy by the platform companies (Kıdak, 2021; Ceylan, 2022).

Despite some positivity expressed about the artisan courier model's higher pay and bonus options by some couriers, most workers still complain about a lack of autonomy and working hours (Kıdak, 2021; Öztan & Özkaplan, 2021; Ceylan, 2022). In an interview with an artisan courier of the Getir delivery platform, the courier states, "I work sixteen hours a day, and every thirteen minutes, I make delivery. At the end of the day, I have no time but sleep" (patronlarinensesindeyiz.org, 2022).

Working hours are the key determinant in understanding autonomy in the artisan courier model. As discussed, without labor law regulations, artisan couriers can work way beyond legally determined working hours. Every company has distinct working hours regulations. Ceylan's (2022) study provides insight into the companies' shift and working hours regulations. While some companies like Trendyol Go may even require couriers to fulfill 45 hours a week of work with 30 hours in golden hours commitment, Getir and Vigo determine shifts as 8, 10, and 12 hours for couriers and allow them to pick. However, Ceylan (2022, p.112) points out that the couriers with Vigo only pick time shifts that the company determines. In the case of Yemeksepeti, the couriers must choose 10 to 12 hours basis daily work with the option of three days of not working. Unlike the option of working 15 days a month and resting for the other 15, Ceylan (2022, p.112) emphasizes that the company strictly prohibits such practices by introducing an absenteeism system with well-defined limitations and time-based restrictions specifically tailored for its couriers. Should a courier surpass these established thresholds, whether through absences or failure to adhere to assigned shifts, the system is

designed to issue warnings or temporarily suspend the courier's access for a fixed period, typically lasting three days.

A series of media interviews with different artisan couriers from different platforms stated that the companies decide on various parts of the labor process, such as the brand of vehicles that workers must have, delivery locations, and delivery time (Örücü & Akkoç, 2022). Additionally, platform companies practice hybrid management, a combination of algorithmic and traditional management (Ceylan, 2022). Unlike big delivery platforms like Uber Eats, Deliveroo, and Doordash, which rely on algorithmic management in labor control (Rosenblat & Stark, 2015; Griesbach et al., 2019), delivery and courier platforms in Turkey both use algorithmic management and traditional management<sup>25</sup>.

Capital's control over the labor process expresses itself in working hours and speed/pace of deliveries. In the media interview (Örücü & Akkoç, 2022), Ferhat, a Yemeksepeti artisan courier, explains capital's domination over his labor process and life as

If I had an alternative, I would not spend a minute here. We do not have fixed shifts nor weekends, or paid leaves. We work eleven, twelve, and sometimes fifteen hours. We cannot even see our family anymore...Even though we work intensely, we are forced to increase the speed of deliveries. We sometimes feed ourselves while riding our motorcycles. On such busy days, we do not even find time to go to the toilet.

As shown in the previous section, workers are often locked to gig companies and work through the loans, rental agreements, and vehicle purchase agreements they make before work. The studies with motorcycle and commercial vehicle artisan couriers conclude that vehicle-

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<sup>25</sup> The traditional management includes warehouse management system, Cant (2020) explains in the case of Deliveroo as “warehouse management comes order processing, release, retrieval and picking”.

related debts are essential for disciplining labor (Kıdak, 2021; Ceylan, 2022; Öz, 2023)<sup>26</sup>. If the couriers who have vehicles and no debt on them, their autonomy level would be relatively higher than the couriers who have vehicle debts to acquire vehicles to begin the gig work (Kıdak, 2021; Ceylan, 2022). A Trendyol artisan courier who joined the protests explains the importance of vehicle ownership in determining indebtedness and labor control as

I bought my car with cash. Leaving the company here may not cause me much loss, but the same does not apply to many people. Those who buy cars have to take out a loan and repay it. That is the crucial part, in my opinion. They forced people into debt and made them work here. Things might be more flexible for those like me who did not get into debt, but it is not the same for someone who has to make a monthly payment of seven thousand Lira (Olcan & Avcı, 2022).

Imposing specific vehicle standards by companies also determines the level of indebtedness for the artisan couriers.

The vehicle standard varies in each firm. Our firm stipulates commercial vehicles to start working, but some firms may accept passenger cars. I bought a five-year-old vehicle. I will use it for two more years... The T company first asked everyone to have commercial vehicles; they indebted people. They asked me to buy a commercial vehicle too. I took out a loan and was indebted. I pay two thousand and five hundred Liras for a loan and two thousand and two hundred for other expenditures. (Kıdak, 2021, p. 60)

Kıdak (2021, p. 60) articulates that artisan couriers with commercial vehicles quickly realize that “being the boss of your own business” can only be possible by participating in a chain of debt. This tight debt relationship attaches workers to the gig work and ensures that

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<sup>26</sup> The indebtedness due to vehicle loans even impacted the participation to protests. Öz (2023) found that most artisan couriers with commercial van loans did not participate the protests due to the risk of default.

workers do not miss a day or an hour. Non-guaranteed income even puts more on workers. Increasing debt and decreasing real income stress workers in satisfying their household needs (Kıdak, 2021, p. 81).

Whether the interlocking relations are established directly between gig companies and artisan couriers or indirectly in factor markets, the artisan couriers are trapped in debt relations due to the interlocking settings of the ACM. A Trendyol courier who participated in the protests reveals his relationship with interlocking relations and debt: I started this business, which I thought was profitable, by taking a vehicle loan. However, I have nothing after paying loans, social security, and the cost of the vehicle's maintenance. I cannot even pay my debt!" (Ceviz & Ergine, 2022). It is evident that debt is one of the most significant factors that compels artisan couriers to work longer and more intensely (Kıdak, 2021; Ceylan, 2022; Küçük, 2022). The tension between the means of production and means of subsistence expenses expresses the courier's fragile position in interlocking relations. Any inflationary movement in factor markets directly impacts artisan couriers' purchasing power for their means of subsistence (Ceylan, 2022, p.126). The couriers must calculate every detail in the work to keep their earnings exceeding the production costs on a daily basis. In many cases, the workers take more debt to pay their debt (Kıdak, 2021; Evrensel, 2022). Every new form of debt caused by the ACM deepens and adds new dominant actors to the interlocking relations.

In a nutshell, labor contracts within the artisan courier model are deliberately structured to result in extended working hours and a loss of autonomy for couriers during their work processes. Companies exert control by dictating working hours and payment schedules and implementing bonus and penalty systems. This model is not merely about outsourcing; it also serves as a strategy to intensify the workday. Autonomy and working hours represent one

aspect of how gig companies expand absolute surplus value. The other facet is elucidated through the specific control mechanisms employed within this model, designed to enhance productivity and speed among the interconnected couriers. The debt and costs that artisan couriers face exacerbate their conditions and help gig companies extend their control over labor and labor processes.

### Work Intensity and Safety

On the back of the courier's delivery jacket, the phrase "Delivery in minutes" was emblazoned, a stark irony given the courier's incapacitation following an accident, a jacket he was required to purchase by the company (Örücü & Akkoç, 2022). Disturbingly, a report from *kuryehaklari.org* (2023) revealed that no less than 55 couriers have tragically lost their lives in traffic accidents. A primary concern among couriers, as documented in various studies (Kıdak, 2021; Öztan & Özkaplan, 2021; Küçük, 2022), is the relentless pressure imposed by companies to expedite deliveries, often compelling couriers to surpass legal speed limits. This combination of extended working hours and the imperative to deliver at breakneck speeds jeopardizes workers' well-being and places their lives in grave danger.

Algorithmic management is the key vehicle of platform companies to monitor and control workers. Using algorithmic management on platforms functions similarly to physical machinery in controlling and regulating the labor process in the digital gig economy (Kellogg et al., 2018). In this data-driven machinery, the algorithms control and regulate every step of the labor process. The aim of algorithmic management and algorithms is to increase the efficiency of gig workers (Kellogg et al., 2018). GPS tracks the movement of couriers, and customers rate each delivery. Marginal delays in delivery can cost significantly to workers. They may face immediate penalties by having a bad customer rating or being cut from their

earnings. In addition to algorithmic control over workers, we can see direct control from companies over workers. Yemeksepeti and Getir artisan couriers state that significant time pressure and strict delivery constraints, with a limited three-kilometer delivery distance from the warehouse (Ceylan, 2022). Late deliveries result in decreased performance levels and reduced earnings. The company's lack of consideration for humanitarian conditions, such as traffic or delivery location, led to constant warnings and mobbing.

The couriers also expressed concerns about compromising their safety due to the pressure to meet delivery deadlines, leading to disregarding traffic rules and risking their lives. The workers face intense pressure from their boss to expedite deliveries, leaving no room to explain their circumstances. The need to deliver packages promptly often results in time constraints, where even a slight delay, like waiting for an elevator, can lead to reduced earnings. The speed pressure is so high that despite the city's lower speed limit for motorcycles, they are compelled to exceed it, maintaining speeds of seventy to eighty kilometers per hour (Örücü & Akkoç, 2022).

The interlocking relations within the gig economy, driven by algorithmic management and direct control mechanisms, result in intense surveillance and regulation of workers. Algorithmic management<sup>27</sup> employs constant monitoring, GPS tracking, incentive systems, customer ratings, and real-time algorithms to optimize worker efficiency. However, this control exerts relentless pressure on couriers, compelling them to exceed legal speed limits, jeopardizing their safety, and leaving minimal room for flexibility. Late deliveries incur immediate penalties, while companies disregard humanitarian considerations such as traffic

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<sup>27</sup> Algorithmic management in the gig economy can be called digitalized Taylorism (McGaughey, 2018). While the gig couriers and delivery workers work in their individual vehicles (workplaces), they are connected and controlled in digital assembly lines through algorithmic management.

conditions. In this pursuit of efficiency and profit, couriers face precarity, compromising their well-being and safety in the relentless drive for faster and more efficient deliveries.

### Discussion

The artisan courier model represents an interlocked form of exploitation in which gig companies act as dominant parties, subordinating artisan couriers to their platforms through labor contracts and debt relations. These companies employ various interlocking strategies to strengthen and tighten labor control during the labor process. The precarization of labor, achieved by classifying workers as independent firms and excluding them from traditional labor rights, plays a crucial role in interlocking workers and perpetuating labor control. As a result, the artisan courier model and the gig economy should not solely be viewed as outsourcing models; they create multiple dependencies for the couriers, and these dependencies, combined with hybrid managerial techniques, further intensify labor control and lead to labor immiseration.

Attracting workers to platforms is the first step of attaching them. Pay and payment models with bonus systems attract couriers into the model, while debts, financial aids, contracts, and costs interlock them to different factor markets and attach them to gig work. Gig companies exert significant control over the workers' financial circumstances by forcing artisan couriers into indebtedness through loans, rental agreements, and vehicle purchase agreements. Using vehicle-related debts is crucial in locking artisan couriers to their platform. Imposing vehicle standards incurs substantial debts prior to working. As artisan couriers become entangled in a chain of debt, their financial vulnerability increases, leaving them reliant on continuous work to meet loan payments and household expenses. While in Kidak's (2021) study, only two artisan courier could pay their social security premiums over twelve

interviewed artisan couriers, Ceylan (2022) shows that only one artisan courier could pay his social security premiums.

In interlocking relations, platform companies act simultaneously like employers, financiers, and vehicle suppliers. This would be a classic example of interlocking relations in agrarian and informal economies in the Global South. Platform companies like Trendyol and Yemeksepeti, which offer no financing methods to artisan couriers, lead artisan couriers to depend on different or selected capitalists in factor markets. The artisan courier's financial dependency on the capitalists in factor markets attaches them to platform companies.

The interlocking contracts between platform companies and artisan couriers establish a tight debt relationship that compels workers to work long hours, often without guaranteed income, to ensure they do not default on their debts. The interlocking relations and control over the labor process show parallelisms with agrarian and informal economies in the Global South. Payment and bonus systems, requiring workers to purchase companies' delivery equipment, rental and purchase agreements for vehicles, and gig companies' role as subcontractors constitute interlocking relations in the artisan courier model. These factors both attract and attach workers to platforms and tighten labor control.

### Conclusion

In conclusion, this paper has shed light on the emergence and dynamics of platform capitalism and the gig economy, with a specific focus on the case of Turkey. Inspired by the artisan courier protests and strikes in 2022, the paper elaborated on different interlocking relations and labor control in Turkey's gig economy model, artisan courier by benefiting from the critical (mostly Marxist) literature on the gig economy and the Global South.

While platforms are often portrayed as mediators between gig workers and end-users,



the reality is that they function as capitalist organizations seeking to maximize profit and extract data from both producers and users. The asymmetrical power relationships between capital and labor play a central role in this model, resulting in precarious work for gig workers who lack labor rights and guaranteed income. The gig economy represents a combination of labor precarity and a digital platform economy that facilitates the rapid spread of gig work on a global scale.

The introduction of the gig economy to Turkey occurred within a broader context of neoliberal economic policies and the precarization of labor. The Justice and Development Party (AKP) government intensified the neoliberal restoration of the economy, favoring foreign capital inflow, debt-led growth, and an emphasis on the service sector with low labor productivity. E-commerce platforms such as Yemeksepeti, Trendyol, and Hepsiburada were pioneers in introducing the gig economy to Turkey, initially through the artisan courier model. The contribution of this study to the literature lies in its comprehensive analysis of the interlocking contract model in the gig economy, specifically focusing on the artisan courier model.

The research sheds light on the intricate web of contracts and relationships established by gig companies to control and exploit artisan couriers. By examining the interlocking strategies employed by these companies, such as payment systems, debt relations, and managerial techniques, the study provides valuable insights into how labor control is intensified in the gig economy. Moreover, the research highlights the precarization of labor and the exclusion of workers from traditional labor rights as crucial factors in perpetuating labor control and creating multiple dependencies for couriers. This understanding challenges the conventional view of the gig economy as a mere outsourcing model and emphasizes the

deeper implications of labor immiseration and exploitation within this system. Additionally, the study identifies parallels with agrarian and informal economies in the Global South, offering a broader perspective on the impact of interlocking relations on labor practices and worker vulnerability. Overall, this research contributes to a more nuanced understanding of the gig economy and its impact on the labor force, opening avenues for further exploration and critical analysis of labor relations in contemporary economic systems.

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## CHAPTER 3

### ECONOMIC AND POLITICAL RESILIENCE THROUGH COOPERATION:

#### UNVEILING THE STATE-PLATFORM COOPERATIVES

#### PARTNERSHIP MODEL

#### INTRODUCTION

Platform capitalism, propelled by advancements in computing power, big data, and information communication technologies, has achieved global proliferation (De Stefano, 2016; Gandini, 2018; Kenney & Zysman, 2016; Srnicek, 2017; Woodcock & Graham, 2020). In the midst of the ever-expanding reach of platform capitalism, which exercises its dominion over various aspects of our lives, including urban dynamics (Sadowski, 2019), labor markets, and even our emotional landscapes, a countervailing force of resistance and alternative strategies is emerging. This resistance is not confined to mere sporadic efforts but takes shape through deliberate actions and innovative approaches. In the realm of employment, for instance, workers are not content with merely attempting to unionize within the ranks of platform giants such as Uber, Lyft, and Amazon. They are charting a different course by establishing alternative cooperatives under platform technology. Inspired by the cooperative tradition, these cooperatives are not just about changing how to do business; they are about reshaping the economic landscape while instilling democratic values and enhancing local development.

Platform cooperativism offers an alternative to the capitalist framework of platform capitalism, emphasizing democratic principles and fairness. This emerging economic model addresses challenges within the corporate sharing economy through the core tenets of

ownership, solidarity, and a reimagining of innovation and efficiency. It involves the establishment of cooperatively owned and operated platforms, a strategy pursued by unions, municipalities, and various cooperative entities, with the overarching goal of providing a more equitable and democratic alternative to the corporate sharing economy (Scholz, 2016).

However, the survival and growth of platform cooperatives in the face of dominant platform capitalist giants are fraught with challenges, potentially casting doubt on their ability to thrive within a capitalist competitive landscape<sup>51</sup> (Bauwen & Kostakis, 2016a; 2016b). To address these hurdles, forming partnerships between state entities and cooperatives has emerged as a pivotal strategy for the global success and expansion of platform cooperativism (Scholz et al., 2021). These partnerships can take various forms, including multi-stakeholder cooperatives<sup>52</sup> (MSCs) and collaborations at the municipal level.

Furthermore, proposals to extend this cooperative-state relationship to a global scale through radical municipalism and guild socialism have also gained traction (Milburn & Russell, 2020; Muldoon, 2022). Nevertheless, reservations and critiques persist regarding the involvement of states in democratic participation processes and concerns about potential financial dependency on the state (Bauwens & Kostakis, 2015; Kasparian, 2022).

This paper presents a collaborative model in light of the challenges and criticisms surrounding the partnership between the state and platform cooperatives. This model seeks to ensure guaranteed earnings for platform cooperatives, reduce state intervention in state-led worker cooperatives, and promote democratic and financial self-sufficiency among platform

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<sup>51</sup> Platform cooperativism is criticized by having a closed copyright system that does not allow generating global open commons. The criticism argues that platform cooperatives cannot survive in capitalist competition (Bauwen & Kostakis, 2016a, 2016b).

<sup>52</sup> “Multi-stakeholder cooperatives (MSCs) are co-ops that are owned and controlled by more than one type of membership class such as consumers, producers, workers, volunteers, or community supporters” (Berner, 2013).

cooperatives. The state-platform cooperatives partnership model as proposed in this paper is built through a full employment<sup>53</sup> program. The full employment program(s) is a robust theoretical perspective to eliminate involuntary unemployment (reserve of labor in a Marxist sense) and boost economic and social development. The paper's partnership model design considers full employment instrumental in establishing the partnership between state and platform cooperatives. Within the model, the provision of guaranteed public jobs not only serves the purpose of attaining full employment but also functions as a means to propel the transition towards a cooperative-based economy. To build the collaborative model, the paper first explains platform cooperativism and its existing cooperative models. The explanation includes current state-platform cooperative partnerships and states' incentives for platform cooperatives. Second, the paper draws from the literature on job guarantee proposal to critically investigate its applicability to platform cooperativism.

The collaboration model presented in the paper sets itself apart from established policies and suggestions for assured public employment by incorporating both state-backed worker cooperatives and platform cooperatives. The model aims to build a bridge between state-backed worker cooperatives and platform cooperatives to strengthen platform cooperatives. So, they can achieve sustainable operations locally and nationally. The state-backed worker cooperatives eliminate involuntary unemployment, make cooperatives widespread in the economy, and collaborate with platform cooperatives. The bridge between state-backed worker cooperatives and platform cooperatives also seeks to reduce the state's

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<sup>53</sup> Full employment refers Post-Keynesian theory of full employment. Rather than neoclassical economics' assumption self-adjusting markets, Post-Keynesian theory defines full employment is a state of the economy where everyone who is willing and able to work can find a job at a fair wage. This is achieved through government intervention in the labor market, such as the implementation of a "Government as the Employer of Last Resort" policy proposal, which commits the state to hiring anyone able and willing to work at a given money wage, thereby effectively eradicating involuntary unemployment (Seccareccia, 2004).

influence on state-backed cooperatives. This paper proposes three types of cooperatives to facilitate collaboration: state-backed worker cooperatives, platform cooperatives, and multi-stakeholder platform cooperatives for governing digital commons. These cooperatives can work together to achieve common goals.

The idea behind the three forms of cooperatives is to create employment, promote democratic and financial independence, and establish digital commons<sup>54</sup>. The creation and advancement of digital commons is particularly important to build anti-capitalist alternatives to capitalist platform cooperatives. As Fuchs (2021) argues, advancing the digital commons is essential for advancing digital democracy and safeguarding the public sphere.

The structure of the paper is as follows. The next section discusses the essentials of platform cooperativism. This section examines forms of existing platform cooperatives and public-cooperative partnerships under platform cooperativism. Then, the section covers Argentina's guaranteed public employment programs and the job guarantee proposal. The aim of this section is to show the operations, benefits, and critiques of these programs. Following the introductory sections of platform cooperatives and guaranteed public employment programs presents, the paper proposes a state -platform cooperativism partnership. First, it discusses the three forms of cooperatives and their functions in the model. Second, it offers the government's proposal as the Buyer of the First Resort (BFR) as part of the model. The discussion section points out the possible outcomes and limitations of the partnership model.

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<sup>54</sup> The digital commons refer to a type of shared resource that is accessible to all members of a community or society through digital means. It includes digital content, software, and other digital resources that are freely available for use, sharing, and modification by anyone. The concept of digital commons is based on the idea of the commons, which refers to a shared resource that is managed and governed by a community for the common good (Fuchs, 2021).

## Cooperativism in Platform Capitalism

### Platform Cooperativism

The idea of platform cooperativism is inspired by the cooperativism tradition and digital labor platforms (Scholz et al., 2021). Platform cooperatives emulate the platform technologies of capitalist platforms and operate this technology as a cooperative where profit is distributed among the owners (Scholz, 2016). The vision of platform cooperativism is to create socially fair and ecologically sustainable platforms alternative to platform firms. The democratic ownership of the platforms is central to platform cooperatives. Diverse forms of proprietors and democratic proprietorship manifest in the realm of platform cooperativism. As posited by Scholz (2016), the proprietorship of platforms may encompass entities such as unions, municipalities, and a myriad of cooperative structures, ranging from multi-stakeholder and worker-owned cooperatives to producer-centric platform cooperatives. According to the Platform Cooperativism Consortium<sup>55</sup>, there are about 500 projects related to the cooperative ownership of digital platforms in more than 34 countries.

Platform cooperatives generate revenues like platform companies by charging fees per service, license, trip, or delivery but divide profits among workers, producers, and stakeholders. As cooperatives, the decision-making processes are democratically applied. Examining some platform cooperatives helps us understand how the cooperatives function.

From tourism to agriculture and care work, platform cooperatives operate in every field where

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<sup>55</sup> The Platform Cooperativism Consortium is an initiative focused on advancing the development and understanding of platform cooperatives. It is a collaborative effort among scholars, activists, practitioners, and policymakers to explore and promote the concept of platform cooperativism as an alternative model to traditional platform capitalism. The consortium aims to support research, education, and advocacy related to platform cooperatives, focusing on fostering democratic ownership, fair labor practices, and community governance in the digital economy. It provides a platform for sharing knowledge, best practices, and resources and facilitates collaborations and partnerships among individuals and organizations interested in promoting platform cooperativism (*The Platform Cooperativism Consortium*, n.d.).

capitalist platform firms operate. Fairbnb is a well-known platform cooperative that provides hosting and tourism services. Fairbnb, a multi-stakeholder cooperative, operates as a cooperative version of Airbnb. The cooperative initially emerged in Venice, Amsterdam, and Bologna but currently operates in Europe, North America, and Australia. The cooperative's headquarter is located in Bologna, Italy. Even though different stakeholders, including employees, ambassadors, hosts, guests, social projects, investors, tourism ecosystems, and public agencies, only workers and investors have voting rights as sole owners (Vidal, 2022, p.34). The fifteen percent commission fee that Fairbnb charges from the customers is split in half and half. One half goes to community projects, and the other half to the platform distributed among stakeholders.

Another platform cooperative is the farmers-owned Farm Generations Cooperative's GrownBy, operating in the United States. The app provides a marketplace for local food by matching buyers with the cooperative's farmer members. Farmers who use the GrownBy app for sales can purchase company equity, granting them a profit share. Farmer members also participate in vital company decisions, including selecting farmer representatives for the board of directors. This setup embodies cooperative values by combining ownership, decision-making, and financial benefits (Shute, 2020).

In ride-hailing, The Drivers Cooperative in New York City, like its capitalist competitors, Uber and Lyft, the drivers to match customers over a platform, and the platform charges fees from drivers and customers. Unlike Uber and Lyft, profit is distributed among drivers and other cooperative workers, and workers democratically govern the platform (Forman, 2022). Platform cooperatives operate as a global federation as well. CoopCycle operates as a cooperative federation that unites bike delivery cooperatives across multiple

countries. Governed by a 10-member board, primarily representing delivery cooperatives from six nations<sup>56</sup>, it shapes the organization's strategic direction and ensures alignment with core values. The platform offers a decentralized approach, granting each cooperative autonomy while leveraging network effects through the federation. CoopCycle extends digital infrastructure to its cooperatives, facilitating knowledge sharing and resource pooling. The platform's software empowers cooperatives to manage deliveries, offer e-commerce solutions to clients, and monitor tasks and payments securely. Notably, the CoopCycle software's Copyleft license mandates a cooperative model and public availability of modifications (Kasparian, 2022).

The Up & Go cooperative illustrates care work within platform cooperativism. Established in 2017, it is a worker-owned platform connecting users with cleaning services. Operated by a network of six cooperatives in Brooklyn, New York City, the platform facilitates user searches for cleaning companies based on location, price, and availability, supported by user reviews. Governance is founded on one member, one vote, with structured decision-making and consensus levels. Of its revenue, 5% is allocated to platform upkeep, while 95% directly benefits worker-owners. Equitable profit sharing distributes equal dividends among cooperatives, despite slim profit margins from higher wages. Challenges arise from divergent perspectives, addressed through conflict resolution and decision-making training, underscoring effective communication commitment.

Platform cooperatives operate almost all in different industries. Many examples can be given from the rest of the world. As explained in this section, platform cooperatives' formation varies from producer to multi-stakeholder cooperativism. The following subsection elaborates

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<sup>56</sup> Primary countries are France, Belgium, Spain, Italy, Germany, and the Netherlands. Other countries include Canada, Poland, Sweden, Argentina, Uruguay, Chile, and Mexico.

on another form of cooperativism, which would complement the understanding of cooperativism in the platform economy.

### Open Cooperativism

Besides platform cooperativism, another related movement creates an anti-platform capitalist model. The model is called open cooperativism. Open cooperativism combines the principles of cooperative ownership and governance with the values of the open-source movement (Bauwens & Kostakis, 2014; Bauwens, 2014). The open cooperativism framework aims to carry multi-stakeholder cooperatives into a more socially progressive area where civil rights organizations, global social movements<sup>57</sup>, and grassroots movements link with MSCs for a collaborative economy (Gonzales, 2017). Open cooperatives aim to establish a connection between cooperative platforms and the domain of commons-based peer production (Papadimitropoulos & Malamidis, 2023).

Open cooperatives aim to build international digital commons where every commoner<sup>58</sup> contributes, and cooperatives benefit from the common's knowledge and resources (Bauwens et al., 2019). Open cooperativism is not an alternative or competitive model to platform cooperativism. Despite their differences, both platform cooperatives and open cooperatives have compatible goals. Platform cooperatives address the urgent issue of digital precarity by providing immediate relief. On the other hand, open cooperatives promote the integration of principles like Commons-based Peer Production and the Commons into the cooperative framework and the Social and Solidarity Economy, leading to a convergence of efforts (thecommonstransitionpremier, nd.).

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<sup>57</sup> Open data society, open economy communities, solidarity economy, and food sovereignty movements are the example of social movements (Gonzales, 2017).

<sup>58</sup> Commoners are P2P producers in commons.



Open cooperativism encompasses three key institutions: the productive community, the entrepreneurial coalition, and the for-benefit association (Bauwens et al., 2017). The productive community comprises individuals, users, and contributors involved in producing shareable resources within the global commons, either through paid work or voluntary contributions. The commons-oriented entrepreneurial coalition comprises generative enterprises that add value to the limited common resources. The for-benefit association bridges productive communities and commons-oriented enterprises, supporting the infrastructures of commons-based peer production. In contrast to traditional nonprofit organizations, for-benefit associations operate under conditions of abundance, maintaining cooperation between productive communities and enterprises and safeguarding the commons through licensing, conflict management, fundraising, and other related activities (Bauwens et al., 2017; Papadimitropoulos, 2021). Open cooperativism has a specific approach to the relations with the state. This approach will be elaborated in the following section.

Open cooperativism addresses some problems facing traditional and platform cooperatives, such as limited access to capital and resources. Applying the Design Global, Manufacture Local (DG/ML) model is one of the solutions that open cooperativism offers to address resource and capital issues. The DG-ML model plays a fundamental role in open cooperativism. The DG-ML model follows the logic that what is not scarce becomes global (i.e., the global commons of knowledge, design, and software) and that what is scarce (i.e., hardware) is local. The local commons are linked to the global digital commons through various means, including transition towns, decentralized communities, and fab labs/makerspaces that operate on free and open-source software/hardware and renewable-energy systems (Rifkin, 2014; Kostakis et al., 2015).

To sustain open coops, cooperatives and nonprofits can monetize digital commons by employing the peer production license<sup>59</sup>. Enspiral, a network consisting of various social enterprises; Fairmondo, an online marketplace that is open-source, ethical, and has multiple stakeholders; Sensorica, a pioneering Open Value Network that tracks value in new ways to support Commons-based Peer Production; and Mutual Aid Network, a cooperative structure that operates locally and offers resources for generative economies are examples of Open Coops. All of these examples are currently operating or federating on an international level.

There are some examples of platform and open cooperatives intersecting. One of the most significant examples is Open Food Network (OFN)<sup>60</sup>. The Open Food Network (OFN) exemplifies the convergence of platforms and open cooperatives. OFN, a global digital food network, unites diverse local platforms with varying governance models operating within distinct ecosystems. Established in 2012 in Australia, it has expanded its reach to regions like California, Italy, Catalonia, the Basque Country, Brazil, and India. While many local branches and the network operate as non-profits, some employ a cooperative approach for collective platform ownership and management, as seen in instances like CoopCircuits in France and Katuma in Catalonia (De Cler, 2023).

OFN's governance is built on democratic participation, organized around five semi-autonomous Circles, coordinated by OFN core instances: Australia, France, the UK, Canada, and the USA. This democratic structure emphasizes stakeholder input and mirrors open-source software principles. This model fosters inclusivity, distributing decision-making power equitably (Papadimitropoulos & Malamidis, 2023). Economically, OFN employs a two-tier

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<sup>59</sup> The CopyFarLeft-License of Dymtri Kleiner (2010) is an example of peer production license, that charges capitalist platforms use of commons and distribute all financial gains and profits among the worker-owners.

<sup>60</sup> <https://openfoodnetwork.org/>

model. The first tier entails a transaction fee to the hosting OFN instance, covering platform maintenance. The second tier involves a commission fee for food hubs managing distribution costs. The remaining surplus is divided among producers, aligning with their contributions. This distribution reflects OFN's commitment to equitable compensation and stakeholder inclusion. Although service providers and contributors may receive recompense, it typically takes the form of grants or donations (Papadimitropoulos & Malamidis, 2023).

The Open Food Network (OFN) seeks to establish a connection between platform cooperatives and commons-based peer production (CBPP) by deploying the digital commons to launch Short Food Supply Chains (SFSCs)<sup>61</sup> as opposed to conventional food supply chains. The OFN facilitates SFSCs by offering a digital platform connecting farmers and food hubs with consumers. As a global network of non-profit entities, OFN collaboratively develops open-source software and knowledge accessible via localized online platforms worldwide. This approach utilizes digital commons to establish SFSCs, fostering a participatory and democratic food system rooted in cooperation, contrasting the conventional competition and exploitation-driven model (Papadimitropoulos & Malamidis, 2023).

### State and Cooperative Partnerships

Both Platform and open cooperativism understand that collaboration and partnership with the public (state) are crucial for cooperatives to thrive and digital commons to expand. To build such partnerships, they come up with different models and policies. In this subsection, the paper summarizes perspectives on public-cooperative partnership models and applications. The open cooperativism model offers the partner state approach to build a foundation between

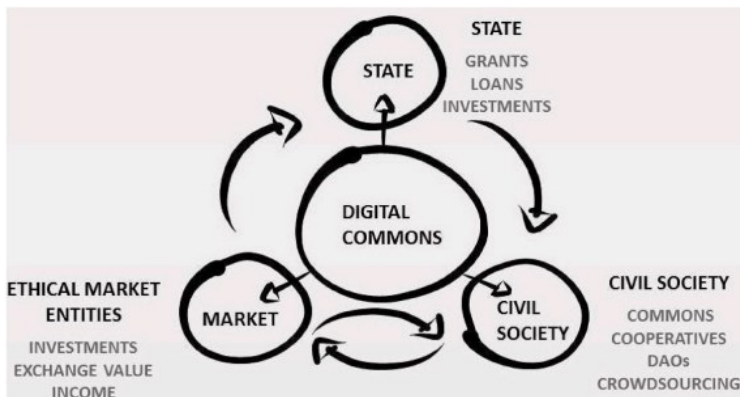
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<sup>61</sup> Short Food Supply Chains (SFSCs) are a type of food system that involves the direct sale of food products from producers to consumers, without the involvement of intermediaries such as wholesalers, retailers, or processors (Renting et al., 2003; Jarzebowski et al., 2020, cited in Papadimitropoulos & Malamidis, 2023).

open cooperativism and the state. The partner state, as proposed by Bauwens & Kostakis (2015), refers to a new state role characterized by active collaboration and partnership with civil society actors, particularly in the context of open cooperatives, as seen in Figure 1. The key idea behind the partner state is to move away from a purely regulatory role and towards a more facilitative and enabling role. Rather than being a distant and authoritative entity, the partner state actively supports and engages with open cooperatives to foster their development and success. This collaboration occurs through various means, such as policy frameworks, legal support, and resource allocation. The partner state works with open cooperatives by creating an enabling legal and regulatory environment. Traditional legal frameworks and regulations are often designed for conventional market-based enterprises, which can pose challenges for open cooperatives.

Figure 9

*Open Cooperativism*



Source: (Papadimitropoulos & Malamidis, 2023)

The partner state recognizes this and seeks to adapt or create new legal frameworks that accommodate the unique characteristics of open cooperatives, such as collective decision-making, shared ownership, and open access to knowledge and resources, as seen in Figure 9. Regarding governance, the partner state encourages participatory decision-making processes

within open cooperatives. The state may actively promote and support mechanisms that ensure broad participation, such as consensus-based decision-making, participatory budgeting, or multi-stakeholder governance models. Therefore, the partner state can facilitate the relationship between digital commons and ethical markets by empowering and facilitating the direct creation of value by civil society at the territory scale (Bauwens et al., 2019). This means that the state can support the development of commons-based enterprises and contribute to the growth of ethical markets, which can help sustain the digital commons (Bauwens et al., 2019). The partner state supports the digital commons with DG-ML in open cooperativism through taxation, funding, regulation, and education (Papadimitropoulos, 2020). Furthermore, the state can establish and maintain infrastructural frameworks conducive to commons-based contributory systems, thereby enabling and facilitating civil society's direct value generation on a regional scale. This phenomenon can be exemplified in the Bologna Regulation for the Care and Regeneration of the Urban Commons, exemplifying a partner state approach that anticipates the eventual establishment of a fully realized partner state in the future (Bauwens et al., 2019, p.59).

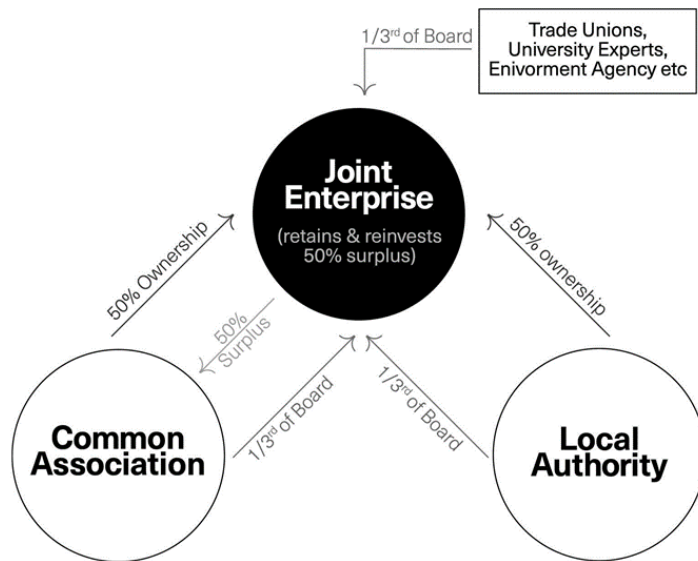
The collaboration between the partner state and open cooperatives aims to distribute power and promote democracy by decentralizing the state. Digital commons play a crucial role in this process by empowering civil society to create value at a regional level. Furthermore, digital commons provide a platform for citizens to collectively engage in actions and social movements that potentially transform the current state structure into partner state models that recognize individual and collective autonomy among citizens. This partnership, in turn, fosters greater democracy and decentralization of power. Additionally, the partner state would retain the solidarity functions of the welfare state but de-bureaucratize the delivery of its services to

the citizens (Bauwens et al., 2019). According to the partner state approach, by actively engaging civil society actors, the state moves beyond a purely representative form of democracy and embraces a more participatory and inclusive approach (Bauwens & Kostakis, 2015; P2P Foundation, GB et al., 2019).

Milburn & Russel (2020) offer a complementary proposal to open and platform cooperative models called The Public-Common Partnership (PCP) model. The model offers a collaboration model between cooperatives and the state. PCP (Milburn & Russell, 2020) perspective advocates the collaboration of platform co-ops and municipalities or local governments to solve issues that platform co-ops face, such as finance, investment, and productive capital. The model offers a public-commons ownership model decentralized from the central government. In the model, the public refers to municipalities and local authorities, as seen in Figure 10 as “Local Authority.”

Figure 10

*Public-Common Partnerships Model*



Source: (Milburn & Russell, 2020)

They offer co-ownership of platforms with municipalities and building associations based on commons (i.e., multi-stake ownership), as seen in Figure 10. The financing of PCP programs usually comes from public funds, private donations, and grants from international organizations. In some cases, PCP programs may generate revenue by providing services or products that benefit the community, such as renewable energy or sustainable agriculture (Milburn & Russell, 2020).

In platform cooperativism, there is no directly proposed model for public and platform cooperativism partnership. However, some ongoing practices can explain platform cooperatives' relations with the public. One of the examples is CoopCycle in Argentina. As part of the global CoopCycle federation, CoopCycle in Argentina collaborates with the national technology worker cooperative, FACTTIC (Argentinian Federation of Technology, Innovation and Knowledge Worker Cooperatives [Federación Argentina de Cooperativas de Trabajo de Tecnología, Innovación y Conocimiento]) to obtain technological support. The Argentinian state support was pivotal in catalyzing CoopCycle's local implementation. The funding through the grants that FACTTIC acquired from the state enabled software adaptation in areas such as payment gateways and tax adjustments. This financial backing also led to regulatory advancements, including a cooperative regulatory model. A subsequent grant facilitated documentation and systematization, expanding engagement with cooperatives, organizations, and government agencies. A full-time developer joined the team, aided by additional state grants. This support extended beyond economic support and include political endorsement and regulatory enhancements. Resolutions in 2020 and 2021 eased cooperative formation and streamlined procedures. State backing facilitated CoopCycle's growth but presented challenges in proposal formulation and financial management.

## What is Missing in Existing Open & Platform Cooperatives and State Partnership Models?

From the open cooperativism model to PCP, and platform cooperativism, we can observe two fundamental roles assigned to the state. The first is the state as the legal regulator to create ethical markets and a direct funder to platforms and commons through grants, investments, and loans. The second role is that of the state as one of the stakeholders in joint enterprises. As discussed in this subsection, the state is usually referred to as local governments and municipalities.

Despite the existing models' enormous contribution to the public-state partnership models, there is still space to improve the existing relations. Notably, the existing models do not consider employment models, which can connect public and platform cooperatives. The models do not seriously consider the unemployed and their inability to access cooperatives. Their strategies involving state-cooperative collaborations exhibit notable limitations, primarily favoring specific groups and classes that possess the financial and technological means to access the advantages offered by cooperatives and digital commons. This limitation would prevent platform and open cooperatives from becoming globally prevalent.

Our imaginations about the state and cooperative partnership as progressive and radical scholars can go well beyond the existing state and platform cooperative partnership models. When we consider the state a job provider for the sake of its citizens, we can expand our imagination in this partnership. The state's capacity to create employment that can generate demand for platform cooperatives' services would be a significant and sustainable way to expand platform cooperatives. The following section explores Argentina's guaranteed public employment program and the job guarantee proposal to see the state's capacity to create guaranteed employment and its real-world example.



## State as Guarantor Employer

States appeared as guarantor employers in different countries and periods who created jobs and set floor wages (Kaboub, 2007). There were different public guarantee employment program applications, from federal/central governments to local or municipalities. This section critically analyzes the case in Argentina and the job guarantee (JG) proposal.

### The Case of Argentina

Two programs in Argentina deserve to be investigated because of their guaranteed employment design with worker cooperatives. These programs were Jefes y Jefas de Hogar Desocupados (JJHD) in 2002 and the Social Income and Employment Schemes Plan (PRIST) in 2009. These separate but connected plans provide helpful insight into a collaboration model between state and platform cooperatives.

The Jefes de Hogar program exemplifies an employment guarantee initiative within the Argentine context, conceived as a responsive strategy in the wake of the profound economic tumult witnessed during 2001 and 2002. The program's central objective entails furnishing a monthly stipend of 150 pesos to the head of a household, contingent upon a commitment of no less than four hours of daily labor. This engagement entails participation in community service endeavors, minor construction or maintenance tasks, and vocational training programs encompassing rudimentary education attainment. Eligibility prerequisites necessitate the inclusion of households containing minors under 18, individuals with disabilities, or expectant mothers. Typically, a household is restricted to a single participant enrolled in the Jefes program (Tcherneva & Wray, 2005).

Evidently, Jefes strategically entrusts local and municipal governing bodies, endowed

with an intimate understanding of their respective communities' economic exigencies, with program administration. Concurrently, the program redefines specific pursuits as socially beneficial, reshaping prevailing conceptions of labor. The Argentine experience underscores the guaranteed employment program, as evidenced by its establishment within five months. Holistically, the Jefes initiative has effectively provided a protective underpinning for vulnerable households while enhancing the local economy through contributions to community services and minor construction or maintenance ventures (Tcherneva & Wray, 2005). Regarding the worker cooperatives formed under JJHD, while the program did not specifically promote the formation of worker cooperatives, it did support the creation of community-based organizations (CBOs) that could undertake public works projects and provide services to their communities. Some of these CBOs may have taken the form of worker cooperatives (Vuotto, 2012).

Almost seven years after the JJHD program, Argentina implemented another employment program called *Plan Argentina Trabaja*, Argentina Works Plan in 2009. The plan emerged as a response to another global economic crisis. This time the Argentinian government implemented a program to create employment directly through worker cooperatives (Dobrusin,2013). This endeavor entails a governmental stipend to foster the formation of worker cooperatives orchestrated through municipal administrations and social entities. These cooperatives are tailored to local contexts, initially composed of 80-120 members, later reduced to no more than 30 (Dobrusin,2013). The same year, Argentina implemented another plan, The Social Income and Employment Schemes Plan (PRIST), to promote worker cooperatives' creation and development. The program provided economic and financial incentives to support the formation and growth of cooperatives, as well as technical

assistance and training. The incentives included subsidies for purchasing equipment and machinery, loans, and working capital and infrastructure grants. The program also provided training and technical assistance to help cooperatives improve their management and production processes (Vuotto, 2012). This plan created thousands of cooperatives in various sectors, including recycling, textiles, and food production (Vuotto, 2012).

### The Job Guarantee Proposal

The job guarantee (JG) program proposal is a federally (or central government) funded and locally administrated guaranteed public employment plan (Forstater, 2006; 2013;2017; Tcherneva, 2018;2020; Wray, 2018). In this program, the federal (central) government funds the entire program using functional finance principles (Lerner, 1943). Based on Minsky's employer of last resort (ELR) policy (1986), it assigns local governments to provide guaranteed jobs. The program establishes a price floor for wages and inelastic demand for labor supply. During economic booms, the labor pool in the JG program is expected to flow into private businesses; during economic turndowns, the pool expands with labor flow from the private business (Mitchell, 2001).

The Job Guarantee (JG) program, as discussed by various scholars (Forstater, 2006; 2013; 2017; Todorova, 2009; Tcherneva, 2018; 2020; Wray, 2018), aims to address gaps left by profit-driven enterprises, particularly in areas such as community care, early childhood development, education services, communal services like recycling and cleaning, and local farming. It focuses on non-profit employment initiatives intended to foster communal progress. The JG roles are deliberately structured to yield social benefits and cater to various needs, including environmental conservation. For example, they encompass roles in recycling, energy installation, and urban landscaping (Forstater, 2006). Todorova (2009) adds a feminist

perspective, viewing JG as a means to monetize unpaid care labor and potentially alleviate the disproportionate burden on women. Tcherneva (2020) extends the concept to encompass care, environmental, and communal jobs within a national care framework.

Rather than competing with private enterprises, the JG program aims to bolster the labor market by training workers in specialized skills that could subsequently enhance productivity for private businesses (Mitchell, 2001; Tcherneva, 2019). This innovative approach addresses unemployment and offers a pool of skilled labor to benefit private companies without additional costs. The JG program aims to serve as a mutually beneficial support system for businesses while advancing social welfare objectives beyond the conventional Keynesian full employment policies.

#### The Critique of Guarantee Employment Programs and Proposals

Despite its progressive components, the guaranteed employment programs and the JG proposal face political and economic limitations. These limitations bring questions about the program's sustainability and capacity to transform society. Even though the JJHD reached great success in poverty elimination in a short time (Tcherneva & Wray, 2005), the program's self-limitation on selecting only one breadwinner in a household could only guarantee income for the household but not guarantee employment for everyone willing to work.

We could see that the implemented programs in Argentina aim to stabilize capitalist relations and do not provide a consistent set of anti-neoliberal programs. Additionally, the program is funded by the state but implemented by local governments, which allows the state to shift the responsibility of social welfare to the local level, thereby reducing its own role in providing social protection.

These initiatives hinge entirely on the functioning of a government within a capitalist

framework, rendering their political stability precarious. In the event of a change in government that does not prioritize the interests of the working class, these programs may face the risk of termination. Consequently, the JG proposal's heavy reliance on the capitalist state presupposes the state's neutrality in the political arena, which never holds. The JG proposal lacks a comprehensive strategy to safeguard itself against potential threats from the capitalist class or the state. Moreover, the success of the JG proposal and its implications in countries like Argentina is contingent upon the political and economic decisions made by capitalist states. This intricate interdependence between these programs and the political and economic apparatus jeopardizes their long-term sustainability.

The resistance against the program from the capitalist class would not be surprising (Kriesler et al., 2020). As Kriesler et al. (2020) explain, the capitalist state, with its bureaucracy, favors big capitalist corporations. One of the critiques of state-backed worker cooperatives is the involvement of politicians and bureaucracy in managing cooperatives in Argentina (Vuotto, 2012). This involvement of limited autonomy and democratic decision-making in worker cooperatives as government policies and programs may reinforce the centrism of the state agent and limit the participation of cooperative members and local authorities (Vuotto, 2012)

The JG proposal's last political and social dilemma is its social welfare vision and practical application that benefits the private sector. The construction between the JG program and the private sector allows skilled labor trained in the JG programs to switch to private sector jobs. This flow is not undoing but redoing capitalist relations under the classical or platform capitalist firms.

In Argentina, the JJHD and PRIST programs exhibit the potential for synergistic

collaboration, although they have historically operated independently at different junctures. When joined with other cooperatives receiving state financial support, state-backed worker cooperatives form a promising alliance. Building upon these intriguing prospects and drawing inspiration from the JG proposal, this paper introduces a novel partnership model. This model envisions an economic and social framework capable of challenging the dominance of platform capitalism—a product of the neoliberal era. In the upcoming section, we will delve into the specifics of this partnership model between the state and platform cooperatives, outlining its fundamental structures.

## The State—Platform Cooperativism Partnership Through a Guaranteed Public Employment Program

### Forming Cooperatives

The vision of the model is to build a counter-hegemonic economic, social, and political power against platform capitalism. Even though the capitalist and particularly neoliberal state is criticized here, the model's partnership model aims to influence and transform the state by making platform cooperatives and state-led worker cooperatives not only a dominant economic power but also a political power that offers a counter-hegemonic power against neoliberalism.

This partnership model focuses on how platform cooperatives can thrive and expand with state support while the state's influence in the democratic governance of platform cooperatives remains limited. From the vision posited in this paper, the model connects the state and platform cooperatives through the guaranteed public employment program. The model treats the guaranteed employment program not as a reaction to crisis or a way to ease the social and economic stress caused by neoliberal policies, but rather as a vehicle to improve

the underdeveloped regions/localities with state-backed cooperative jobs while connecting them to platform cooperatives which compete with capitalist platform firms.

The partnership model comprises of three forms of cooperatives: state-backed worker cooperatives, platform cooperatives, and multi-stakeholder platform cooperatives. While state-backed worker cooperatives operate under the guaranteed public employment program, multi-stakeholder platform cooperatives function as semi-public entities to provide data and technology services to platform cooperatives and the public

Figure 11

*The State-Platform Cooperatives Partnership Model*

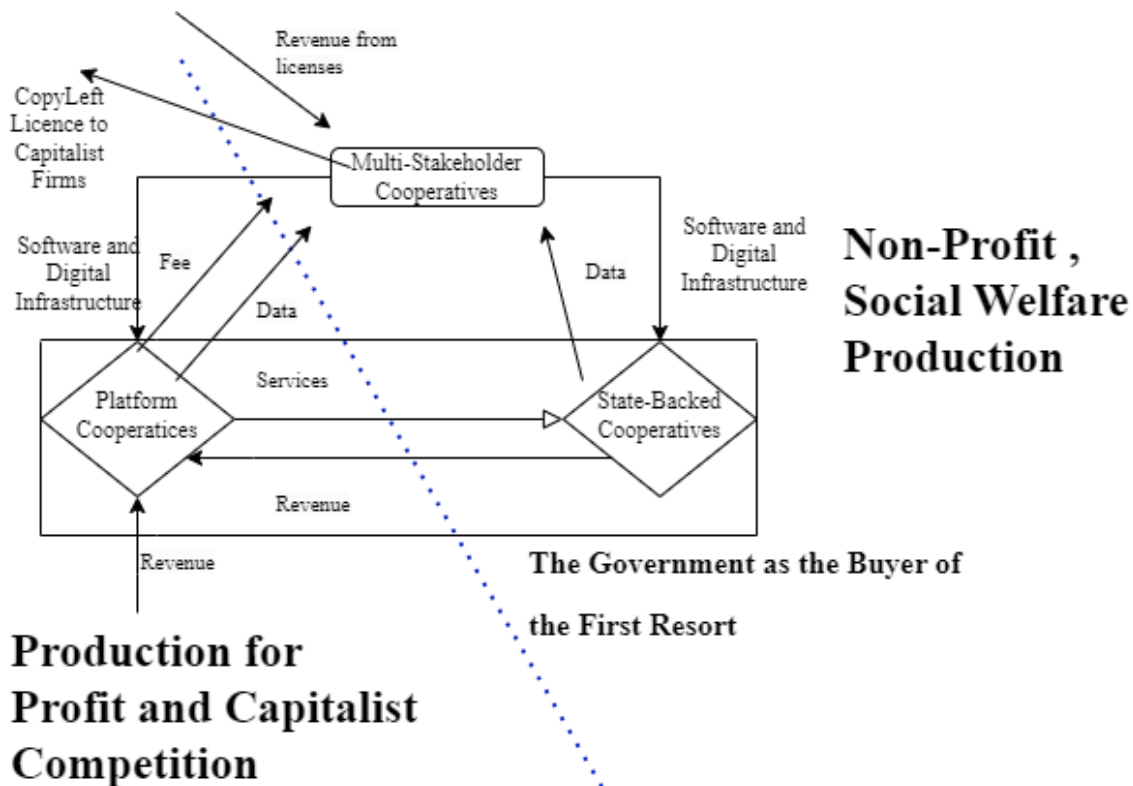


Figure 11 summarizes this partnership model and operations of three cooperative forms. The dotted line separates the zone between “Production for Profit and Capitalist Competition” and “Non-Profit, Social Welfare Production”. The first form of cooperatives is state-backed worker cooperatives, projected to be created under the guaranteed public employment program. The federal/central government and registered local governments/authorities finance the state-backed cooperatives. These cooperatives are non-profit worker cooperatives that create social welfare and provide public jobs. The second form of the cooperative is the multi-stakeholder platform cooperative. These cooperatives provide data and technology services to platform and state-backed platform cooperatives. Two types of multi-stakeholder platform cooperatives are projected. Data cooperatives and technology producer cooperatives would offer data and technology, including platform software, algorithms, and licenses. Platform cooperatives form the third form of cooperatives under this partnership model.

These three types of cooperatives connect in several ways. State-backed cooperatives provide social wealth to multi-stakeholder and platform cooperatives. These cooperatives are the guaranteed buyers of the services and goods provided by platform cooperatives. This connection is analyzed in the state subsection as the buyer of the first resort. Multi-stakeholder platform cooperatives aim to transform data and technology from privately appropriated capital to digital commons. These platforms collect data from the operations of state-backed and platform cooperatives to store and use to develop or improve software for state-backed and platform cooperatives. Additionally, they aim to create software to be rented for capitalist entities under the CopyFarLeft licenses. Platform cooperatives produce services and goods for state-backed cooperatives and earn guaranteed profit from their services. At the same time,



they generate data that are collected from the multi-stakeholder platform cooperatives during their operations. Platform cooperatives use software and algorithms that are produced by multi-stakeholder cooperatives. Platform cooperatives also charge fees for multi-stakeholder technology and data platform cooperatives to provide additional investment pools for technological infrastructure. The following subsections expand the formation of the three forms of cooperatives under the state-platform cooperatives partnership model and deepen their connections.

To sum up, state-backed cooperatives are projected to eliminate involuntary unemployment and provide essential services, ranging from environmental jobs to care work, that adapt to meet the needs of their local communities. The technology behind this model is created by multi-stakeholder platform cooperatives, which decommodify software, data, and digital infrastructure for state-backed and platform cooperatives and the public. Should capitalist entities wish to use this technology and data services, a fee is charged by the multi-stakeholder cooperatives. Platform cooperatives benefit from both state-backed and multi-stakeholder cooperatives. State-backed cooperatives serve as guaranteed purchasers of platform cooperatives' products and services, while multi-stakeholder cooperatives provide technology solutions to platform cooperatives.

#### State-Backed Worker Cooperatives

Creating state-backed worker cooperatives under the guaranteed employment scheme aims to eliminate volunteer unemployment and promote equal economic and social development across uneven geographies. In addition to these objectives, state-backed worker cooperatives provide leverage for platform cooperatives. State-backed cooperatives would operate in areas like early childhood and senior care, environment and sanitation, education,

infrastructure, occupational training, agriculture (urban and, if possible, rural), and petty commodity production (local artisan production). These cooperatives would be based on the needs of communities and could be derived even more.

Everyone willing to work in the workforce could be employed in state-backed worker cooperatives. The workers would be offered minimum wage as base salary and benefits (including health and bonuses during the year). The workers in state-backed cooperatives could also work in platform cooperatives to earn extra income, even if they work full-time in the cooperatives. The workers also would have the right to form unions.

State-backed cooperatives would provide essential childhood, senior care, and environmental services. Depending on the local needs, state-backed cooperatives could be formed in agriculture, construction, and manufacturing. The production would aim to create social wealth by promoting free services for the public. They would also transform unpaid care work into paid social work undertaken by the community (Todorova, 2009). Occupational training and education cooperatives would benefit from experts in multi-stakeholder and platform cooperatives. Participating in this training and education, the workers in state-backed cooperatives could learn about cooperativism (how to run and manage it) and technology (programming and data analysis). The successful participants could join multi-stakeholder platform cooperatives or even form new platform cooperatives.

Unlike classical worker cooperatives, state-backed cooperatives generally do not aim to profit. Hence, there is no residual and residual distribution among workers. The management of state-worker cooperatives belongs to workers. Agricultural cooperatives might be exceptional state-backed cooperatives. If they produce surplus products more than the community's needs, they can sell the surplus product outside of the commodity for profit. In

this case, the profit shall be distributed among workers.

State-backed cooperatives acquire the technology from multi-stakeholder cooperatives. From software to run computers to using platform apps, the technological infrastructure they provide. With this technology infrastructure, digital technology is updated constantly<sup>62</sup>.

### Multi-Stakeholder Platform Cooperatives

Multi-stakeholder cooperatives are common and preferred in platform cooperatives (Scholz et al., 2022; Vidal, 2022). These cooperatives allow governance by representatives of two or more stakeholder groups within the same organization, including consumers, producers, workers, volunteers, local government authorities, and unions. These cooperatives aim to capture various interests and impacts of an organization while recognizing the interdependency between them (Vidal, 2022).

In this model, however, the multi-stakeholder cooperatives have particular roles and operations. They would be semi-public entities that provide digital infrastructure services. Local authorities such as municipalities, universities, technology cooperatives like FACTTIC in Argentina, and platform cooperatives would be the co-owners of these cooperatives.

They function as data and technology cooperatives. Data cooperatives are a self-governing association of individuals formed to collectively manage and benefit from their personal data. Unlike traditional cooperatives, data cooperatives focus on data collection, ownership, and governance. They aim to empower members by providing expert guidance on data management and protection, conducting internal analytics for collective benefits, and negotiating improved services and discounts on behalf of their members (Pentland & Hardjono; Scholz & Calzada, 2021).

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<sup>62</sup> This technology improvement mechanism is elaborated under multi-stakeholder cooperatives.

Data cooperatives utilize data in a responsible manner with a focus on social benefits. Cooperative members collectively determine data collection guidelines, safeguarding community data rights and ensuring equitable, socially advantageous data usage. These cooperatives prioritize data collection that serves the interests of communities (Scholz & Calzada, 2021).

This model envisions data cooperatives as slightly different from the existing data cooperatives. Data cooperatives would be multi-stakeholder platform cooperatives, comprising data owners (all users), universities, platform cooperatives, and local governments and municipalities. The data cooperatives not only aim to safeguard community data rights but also create and expand digital commons by collecting personal data users' and producers' data from the operations of platform cooperatives.

Data cooperatives would aim to collect data in every digitalized service and operation. As Rikap (2021) reveals, the diversification of data is crucial in the monopolization strategies of the platform and high-tech companies since this strategy boosts technological advancement. Thus, multi-stakeholder data and technology cooperatives would aim to diversify their data; however, contrary to capitalist companies, they would use data and technology for the public and cooperatives. The property of big data in data cooperatives would belong to the users and producers, unlike privatized big data in the hands of capitalist platforms.

Data centers are crucial infrastructures in the digitalized world. State and private entities have built nearly 8,000 data centers to have gigantic cloud server capacities as of January 2021 around the globe (Daigle, 2021). Platform giants invest billions of dollars in data centers<sup>63</sup>. Data centers must be considered public utilities, as Muldoon (2022) offers. As public

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<sup>63</sup> Only Amazon has spent \$52 billion in data centers since 2011 (Barthel, 2023).

utilities, central/federal governments should be responsible for constructing data centers, while the technology and data cooperatives run and construct cloud services.

Data cooperatives use various data types for different purposes. Data as an essential input for platforms are used to improve software and algorithms to be used by platform cooperatives. Using big data brings another multi-stakeholder platform into the picture: technology cooperatives<sup>64</sup>. The multi-stakeholder platform technology cooperatives comprise technology cooperatives, universities, and local-national research institutions. The primary aim of cooperatives is to create new software for the use of platform and state-backed cooperatives and improve existing software with incoming data from data cooperatives. Secondly, software and other digital products created by multi-stakeholder platform technology cooperatives are protected under the copyleft license. By the copyleft licenses, the digital products and software are rented to capitalist firms, generating an income stream for digital commons. The surplus is distributed among the members of multi-stakeholder cooperatives.

Even though open cooperativism influences multi-stakeholder platform cooperatives, their specific roles, operations, and relations with state-backed and platform cooperatives make them different and unique. With this form of multi-stakeholder platform cooperatives and their relation with platform and state-backed cooperatives, platform and multi-stakeholder platform cooperatives and having control over massive data centers can scale up while creating an anti-capitalist mode of production with democratic governance. This is another significant difference between the paper's state-platform cooperatives partnership model from the

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<sup>64</sup> Technology cooperatives, owned and controlled by their worker and customer members, operate within the technology sector. Notable examples include Germany's third-largest IT company, Datev, and Online Computer Library Center (OCLC), a cooperative comprising 30,000+ libraries, museums, and related institutions worldwide. In addition to these technology cooperatives, a network of technology cooperatives in the UK, CoTech, connects clients with technology cooperatives (*About « CoTech « Cooperative Technologists*, n.d.) They engage in diverse activities like software development, data management, and online services (Sammallahti, 2022).

platform and open cooperativism models. Platform cooperativism and open cooperativism do not aim to scale up; instead, they focus on scope and anti-capitalist autonomous zones. However, this partnership model provides a path to scale up and expand non-capitalist relations.

### Platform Cooperatives

In this model, even though the primary aim of platform cooperatives is to operate for profit, they remain responsive to community needs and adapt their operations accordingly. Thus, platform cooperatives compete with capitalist platforms and provide services for communities by responding to the needs of state-backed worker cooperatives. In both operations, platform cooperatives earn profit. While the profit they earn from the state-backed cooperative is guaranteed, they still need to challenge capitalist platforms. Nevertheless, with the technological support from multi-stakeholder cooperatives and participants from state-backed cooperatives, they reach a certain level of technological advancement and network effect. Platform cooperatives charge a fee to the pool used for technology and new platform cooperative investments in each service and operation.

The wages in platform cooperatives are expected to be higher than minimum wage due to a guaranteed income stream from the government and the elimination of the crucial digital infrastructure cost by multi-stakeholder data and technology platforms. With a significant technological cost decrease thanks to data and technology platforms and guaranteed income from the state, platform cooperatives can provide wages higher than minimum wages.

State-backed worker cooperatives and data and technology cooperatives within multi-stakeholder cooperatives contribute to the expansion of platform cooperatives through technological innovation and assured market demand (profit). In conceptualizing the economic

nexus between state-backed worker cooperatives and platform cooperatives, the ensuing subsection employs the government as the buyer of the first resort.

### The Government as the Buyer of the First Resort

Financing limitations and competing against platform giants are the two significant challenges platform and other cooperatives face (Olsen, 2013). To solve these problems, the paper's partnership model proposes a government as a buyer of first resort for platform cooperatives. As the buyer of first resort, the government builds a bridge between state-backed cooperatives and platform cooperatives. Since central/federal governments' spending is not revenue-limited (Bell, 2000), state-backed cooperatives would be better financially than local government-funded cooperatives and worker cooperative giants like Mondragon. This role of the government significantly increases the chance of survival and expansion of platform cooperatives.

In the first instance, state-backed and platform cooperatives still heavily depend financially and politically on the capitalist state. The state-cooperative partnership model proposes two ways to limit this dependency. Before explaining these two ways, I illustrate an existing multi-stakeholder cooperative, which operates similarly to the proposed model in this study, and show how the government as the buyer of the first resort works by manipulating some of the institutions and relations in this example.

Consegne Etiche, an Italian multi-stakeholder platform cooperative in Bologna, exemplifies a public-platform co-op partnership. Collaborating with the Municipality of Bologna and the Foundation for Urban Innovation<sup>65</sup>, they established a support network

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<sup>65</sup> The Foundation for Urban Innovation is an independent corporation chartered by the city of Bologna and the University of Bologna to plan economic development.

following extensive local stakeholder interviews, including shopkeepers, cooperatives, couriers, student organizations, urban planners, and volunteer groups. This led to the creation of Consegne Etiche, a platform co-op that provides fair-wage home delivery services, prioritizing worker safety, dignity, labor protections, and insurance. Beyond deliveries, Consegne Etiche partners with institutions like the public library for home book delivery and the Baker's Association for morning bread distribution. They also promote environmental responsibility through bicycle-based couriers (Scholz et al., 2021, p.38).

The Consegne Etiche shows how effective coordination and cooperation between public and platform co-ops could be. The platform co-op's partnership with public institutions guarantees revenue for the co-op and addresses the city's needs. This social and economic construction of Consegne Etiche creates a solid alternative to platform firms.

The location of Consegne Etiche is not a coincidence. Bologna has a unique political structure. The city is associated with the Italian socialist movement, so in Europe and Italy, Bologna is called "the red city" (Scholz et al., 2021, p.38). Besides the city's political background, Bologna is the capital of one of Italy's most wealthy regions, the Emilia Romagna region. The region and Bologna have a robust cooperative culture. Eight thousand cooperative enterprises generate forty percent of the region's GDP (Scholz et al., 2021, p.37). The unique structure of Bologna and Emilia Romagna made it possible to establish Consegne Etiche. There are similar examples of this partnership in Europe and the globe, where progressive and relatively wealthy regional governments and municipalities exist (Scholz et al., 2021; Muldoon, 2022).

From this example, the government as the buyer of the resort model can be illustrated with some modifications. The Foundation of Urban Innovation would be translated into multi-stakeholder data and technology cooperatives with the collaboration of the city, the University



of Bologna, and technology cooperatives operating locally and globally. Consegne Etiche would then change its form from a multi-stakeholder platform cooperative to a platform cooperative in the form of a producer cooperative.

In Italy, even though there are no nationally implemented guaranteed public employment programs, there are still cooperatives supported by the state. These cooperatives are called social cooperatives, which engage in various activities such as urban revitalization, social tourism and Bed & Breakfast services, social farming, gardening, and more. These cooperatives primarily rely on funding from the Italian state's welfare benefits, managed through a democratic process (Scholz, 2023). In Bologna, social or multi-stakeholder cooperatives play a crucial role, delivering 85 percent of care services catering to children, the elderly, disadvantaged individuals, those with disabilities, and other vulnerable groups (Scholz, 2023)<sup>66</sup>. However, these cooperatives do not aim to eliminate involuntary unemployment in their region.

When we transform social cooperatives into state-backed worker cooperatives, we can build the government as the buyer of the first resort model. The state-backed worker cooperatives become the guaranteed purchasers of delivery services of the Consegne Etiche platform cooperative. In the papers' model, while Consegne Etiche provides services to the state-backed cooperatives, it generates profit simultaneously. A portion of the fee for delivery services is directed to the platform cooperative technology and development pool to be used by The Foundation of Urban Innovation as a data and technology producer platform.

The example of Consegne Etiche illustrates how multi-stakeholder data and technology

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<sup>66</sup> Across Italy's 110 provinces, there are more than 11,000 social cooperatives, with over 700 operating in Emilia-Romagna, thanks to the enactment of a 1991 law (referred to as Cooperative Law 381/1991 for those interested in the legal details) that encouraged their establishment by offering favorable tax rates to both cooperative organizations and their investors (Scholz, 2023).

platforms and state-supported cooperatives can come into existence when the design of the platforms is changed. The key distinction between the current Foundation for Urban Innovation and the multi-stakeholder cooperative model proposed in the paper is its scale. Through the multi-stakeholder cooperative structure, the Foundation for Urban Innovation gains the capacity to connect with global open and platform cooperatives, significantly amplifying their technological and data capabilities and transforming them from local entities into global players. Additionally, when social cooperatives operate within guaranteed public employment programs, they evolve into state-supported worker cooperatives, which can be established in every location if needed.

The Foundation for Urban Innovation as a multi-stakeholder data and technology cooperative, Consegne Etiche as a platform cooperative, and social cooperative as state-backed cooperatives under guaranteed public employment can be formed not only in Bologna where the city has a solid political and economic motivation for cooperatives but anywhere in Italy. The Foundation for Urban Innovation includes all universities and collaborates with local municipalities. The government, as the buyer of the first resort through state-backed cooperatives, can financially stabilize platform cooperatives and respond to local needs effectively.

### The Real Flexible Employment

Initially, platforms emerged in the gig economy, marketed as an alternative to traditional capitalist employment, promoting collaborative consumption and flexible work led by worker-entrepreneurs (Prassl, 2018). However, the true nature of platform capitalism became apparent as it gained traction. Platform workers were exploited through independent contracts, non-guaranteed piecework wages, and pervasive surveillance and control via

algorithmic management. Under platform capitalism, flexibility in employment often meant extending work hours beyond legal limits. In contrast, the public-platform cooperative model offers a distinct approach to flexible employment, bridging guaranteed public positions within state-backed worker cooperatives and roles in platform cooperatives, aiming to rebalance employment dynamics in favor of workers. This transitive employment intends workers to diversify their skills while having a guaranteed income.

The model connects state-backed cooperatives with platform cooperatives with jobs. Workers can allocate their time between platform co-ops and guaranteed public employment jobs. For example, Bauwens & Kostakis (2015) point out that many open cooperative contributors work voluntarily. Most of their social reproduction relies on their jobs in capitalist entities. These contributors can join state-backed worker cooperatives that provide occupational training and education services as instructors. The contributors can train the community from childhood to adulthood in topics like coding, open software, and open-platform cooperatives. While the contributors earn minimum wage, they also get their shares from their contributions to the licensed global commons.

In another example, if a full-time platform cooperative member is willing to teach about the essence and principles of platform cooperativism and managerial aspects of platform cooperatives, the member can work as a state-backed worker cooperative as an instructor and earn hourly-base minimum wage. With this contribution from the platform and multi-stakeholder data and technology cooperatives, cooperatives can recruit educated and skilled labor who are experts in platform cooperativism. The workers in state-backed worker cooperatives can join these training and education programs to learn new skills. The successful graduates can be employed by multi-stakeholder or platform cooperatives or be the next

pioneers of new platform cooperatives. In addition to the previous example, a worker in the state-backed worker cooperative can work in platform cooperatives to earn extra income if there is availability in platform cooperatives.

The demand for state-backed worker cooperatives is expected to be higher in poorer locations<sup>67</sup> and during the economic crisis. Once regional or local development is enhanced through this partnership model, the demand for existing or new platform cooperatives is expected to increase. As discussed previously in the paper, the model projects that the average hourly wages in platform cooperatives are higher than the state-backed worker cooperatives. It means that platform cooperatives should provide minimum wage plus piecework earnings. The aim of the wage differential is to make platform cooperatives to be more attractive for labor.

During stagnations or economic crises, state-backed worker cooperatives can employ labor who lost their job in the private capitalist sector. During their time in state-backed cooperatives, these “new” workers meet with a democratic governance culture and are exposed to cooperativism. During the economic recovery and growth period, instead of their return to capitalist enterprises, they are encouraged to join the platform or multi-stakeholder cooperatives. This strategy is to convert labor from capitalist entities to cooperatives and is part of a progressive political program to strengthen platform cooperatives and democratic associations against capitalist platform firms and capitalist states. If an extreme case with an inefficient labor supply for state-backed cooperatives occurs, that case shows a labor transfer from state-backed cooperatives to existing and newly established platform cooperatives. One of the great purposes of this model is to make platform cooperatives economically self-

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<sup>67</sup> In Argentina, both the JJHD and PRIST programs were initially implemented in poor peripheries of Buenos Aires (Kasparian et al., 2022).

sufficient and dominant in the economy.

This purpose and strategy also represent a separation from the job guarantee proposal of MMT since MMT's job guarantee proposal does not consider the JG jobs as rivals to capitalist jobs. Instead, they treat the job guarantee jobs as those that train the unemployed for capitalist jobs. However, the state-platform cooperativism partnership model, as the counter-hegemonic model to platform capitalism, desires platform cooperatives to be dominant forms of entities in the economy.

### Democratic Governance

One of the most progressive sides of the co-op model is the democratic governance of the organizations/firms. Participatory governance and shared ownership with combination platform technology, which presents digital infrastructure to lower transaction and communication costs, can improve the efficiency and prevalence of platform co-ops (Scholz et al., 2021; Kasparian, 2022). State-backed worker cooperatives can easily fit into the democratic governance and ownership model of cooperatives. Unlike most non-democratic public jobs, the democratic design of state-backed worker cooperatives and platform cooperatives can collaborate to develop and spread democratic governance methods to every region, city, and local area.

Within the state-platform cooperative partnership model presented in the paper, there exists an intrinsic democratic governance structure across the three distinct cooperative forms. While each cooperative form retains a degree of autonomy in its governance, it also holds full accountability to other cooperatives within its operational framework. These three cooperative forms collectively weave an economic network founded upon democratic cooperative principles.

In addition to their inner democratic processes, multi-stakeholder data and technology cooperatives, state-backed cooperatives, and platform cooperatives govern and decide their local operations and investment strategies. It means they do not operate in isolation but run the entire economic relations democratically. The strategic plan, investment, and political decisions can be discussed and voted on through online platform cooperatives like Loomio<sup>68</sup>.

In essence, the democratic association is formed by three form cooperatives under the public-platform cooperative partnership model. The economic power of the democratic association comes from fees that are charged for technology and investment purposes, CopyFarLeft Licenses, platform cooperative expansion, and local economic development through the formation of state-backed worker cooperatives. On the other hand, the governance model of the democratic association provides autonomous and solidarity-based political power, which can create local and national resistance against anti-cooperative state intervention.

## Discussion

The state-platform cooperative model presented in this study distinguishes itself from existing proposals through its unique three-tier cooperative structure. This distinctive feature enhances technological advancement, stimulates employment, and fosters economic and political autonomy within each cooperative form. By adopting the state-partnership model, these platform cooperatives can enjoy a guaranteed stream of revenue and profit while contributing to a cooperative-centered and locally driven development policy that includes a secure employment scheme.

State-backed worker cooperatives funded by the federal/central government and

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<sup>68</sup> Loomio is a New Zealand platform cooperative that operates globally. The platform provides outcome-focused software (<https://www.loomio.com/>).

administered by local government or municipalities are the guaranteed first buyers of services platform cooperatives provide. This organization of state-backed worker cooperatives sit at the heart of the model. This model ensures that platform cooperatives sustain their operations at a certain level. In addition to the guaranteed earning stream from state-backed worker cooperatives, platform cooperatives are projected to charge a specific fee for each service to direct a common fund for investment and technological advancement. This fee is charged from both state-backed cooperatives and other customers for each service. It means that some of the revenue from the state is transferred to the common fund for investment purposes of platform and multi-stakeholder cooperatives. One of the aims of this fee is to create economic insurance in case a hostile government to this model comes to power.

The economic and democratic design of the model significantly differs from other public and cooperative-common partnerships. In the state-platform cooperatives partnership model, various income streams to the partnership from the private sector and central government ensure that platform cooperatives sustain and expand. At the same time, the expansion of digital commons in the model is more significant than other proposals since the model establishes greater technological (formation of multi-stakeholder data and technology cooperatives, and public data centers) and economic scale (CopyFarLeft License and Platform Cooperative Service Fees).

Multi-stakeholder data and technology cooperatives are the technological engines of the model. By scaling up digital commons with the cooperation of university and technology cooperatives, advanced software and digital products can be created to compete with gigantic capitalist platform cooperatives. It is also important to note that software and digital products created by multi-stakeholder data and technology cooperatives are freely used by state-backed

and platform cooperatives. These free and constantly updated software and digital products improve efficiency for state-backed and platform cooperatives. It is a cheap, "common" advanced technology for public and platform cooperatives.

The model presented here has significant micro and macro impacts on economies. On a micro level, it aims to establish democratically governed entities in which profit is distributed among participants and producers. In terms of democratic governance, this partnership is an opportunity to spread the democratic governance model of platform cooperativism and open cooperativism. State-backed worker cooperatives are crucial in spreading the democratic governance model. State-backed worker cooperatives can be established in every region and community in a country and can bring platform cooperatives. From poor rural areas to slums, state-backed worker cooperatives generate income and employment and establish a model that connects the people in a democratic way of producing social value.

At the macro level, the model proposes a short and medium-term full employment policy combined with guaranteed public employment and cooperative models. A "progressive" government boosts aggregate demand, starting from the lowest income and unemployed population with the guaranteed public employment model. The aggregate demand boost is accompanied by platform and multi-stakeholder cooperatives, which can advance digital technology with common property. The government can generate income and property equality through this model with progressive economic growth. Progressive economic growth means the growth of platform cooperatives and social-value-creating relations. By utilizing local resources and cheapening technology through digital commons, the cost of production could be significantly lowered. Thus, the democratic form of production in the model prevents predatory monopolies and intermediaries who increase prices by extracting rent in the



economy. For example, open food networks connect local producers and customers without going through capitalist intermediaries. This partnership model can significantly maintain income inequality by expanding state-backed and worker cooperatives.

This paper reveals the early and limited version of the state-partnership model. The complete financing mechanism of the model is beyond the scope of this paper. However, the diverse financing options, including fundraising, grants, support from municipalities and cities, private funding from venture capitalists with an affinity for cooperative enterprises, and public loans, along with the formation of public banks (Mazzucato & Penna, 2016; Marois, 2022) and functional finance (Lerner, 1943) will be elaborated in the future research. In addition to the financing mechanisms, national and international aspects, including the democratic governance model, will be excluded from the paper. Future research will address these issues as well.

### Conclusion

The control of platform capitalism over our daily life, workers, and producers is expanding daily. The struggle against platform giants from workers' resistance to platform cooperatives also expands worldwide. This struggle is the key to preventing platform firms' ability to capture and abuse our individual data and common technology. Besides the workers' struggle against platform giants, several models like platform cooperativism and open cooperativism are already growing and are trying to expand their impact. Despite their effort and progress, they struggle to be a solid alternative to platform giants.

The state-platform cooperative model introduces a unique approach with a three-tier cooperative structure. It promotes technological progress, job creation, and economic and political autonomy within cooperatives. This model aligns platform cooperatives with state-

backed worker cooperatives to ensure stability and offers economic insurance through service fees.

Multi-stakeholder data and technology cooperatives are vital in driving innovation and providing free digital tools for all cooperatives. This model promises micro-level benefits, such as profit distribution and democratic governance, and macro-level advantages, including full employment policies and economic growth.

However, this paper offers a preliminary discussion about the partnership model. Future research will delve into the comprehensive financing mechanism, national and international implications, and democratic governance models. This ongoing exploration aims to shed light on the transformative potential of this cooperative model in our economies and societies.

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## VITA

Ali Alper Alemdar was born October 1, 1989, in Istanbul, Turkey to Osman and Mukrime Alemdar. After completing his education in the Turkish public school system, he enrolled at Isik University in Istanbul, majoring in Economics. He earned his Bachelor of Arts in 2012. Upon graduating, he was accepted into the Masters of Art program in the Department of Economics at Kadir Has University in 2013. He received his Master of Arts in Economics in 2015. Alper had worked several years in the private sector until he was accepted into the Interdisciplinary Ph.D. program in the Department of Economics at the University of Missouri-Kansas City. He subsequently received another Master of Arts in Economics in 2021. Alper is a full-time tenure track faculty member in the Department of Economics at St. Francis College.