



How algorithms are reshaping the exploitation of labour-power: insights into the process of labour invisibilization in the platform economy

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Abstract

Marx conceives of capitalism as a production mode based on the exploitation of labour-power, whose productive consumption in the labour process is considered as the main source of value creation. Capitalists seek to obscure and secure workers' contribution to the production process, whereas workers strive to have their contribution fully recognized. The struggle between capitalists and workers over labour-time is thus central to capital's valorization process. Hence, capital–labour antagonism is structured over the capture and exploitation of unpaid labour-time. Building on Marx's labour value theory, as well as on some of its contemporary interpretations, I call this struggle over labour-time capture a process of 'invisibilization' of labour. I claim that this invisibilization process is still a relevant form of surplus-value extraction in contemporary capitalism, especially in the platform economy, characterized by remote but pervasive control by algorithms. The rediscovery of this form of surplus-value extraction and its manifestation in platform labour is the main contribution of this study. To corroborate this contribution, I compare the case of platform labour with that of textile-clothing, where value production is more clearly based on the classical forms of surplus-value extraction (i.e., absolute and relative). This comparison helps to cast a new light on the nexus between work-process transformations and surplus-value creation, which is the core of the Marxian labour theory of value, and which – I argue – is crucial to understanding contemporary capitalist developments.

Keywords Capital · Invisibilization of labour · Labour-power · Labour-time capture · Platform work · Value

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Debates on the meaning of capitalist value have re-emerged in both scholarly discourse and public discussion after decades of silence (Mazzucato, 2018), possibly spurred on by the process of digitalizing the economy (and society) (Srnicek, 2017). This renewed attention on the concept of value is today not confined only to the most radical academic circles (Fuchs, 2014), but also involves non-Marxist economists (Mazzucato, 2018). The present study aims to participate in this debate, even though it adopts the critical perspective of the Marxist theory of labour. In such perspective, the value of everything can stem only from labour-power.

In Marxian theory, capitalism is seen as a specific production mode based on the valorization and appropriation of labour-power. The struggle between capital and labour over the capture of this value is considered as the characterizing feature of such social formation (Marx, 1867/2015). Yet, capital tends not only to exploit labour-power, but also to misrecognize its contribution to the valorization process. Capitalists seek to obscure and secure workers' contribution to that process, whereas workers strive to have their contribution fully recognized. Capital–labour antagonism at the point of production is structured over the capture of unpaid labour-time – a struggle that I call a process of 'invisibilization' of labour. I argue that this process of invisibilization is a third form of surplus-value extraction that needs to be added to the classical Marxian forms of relative and absolute surplus-value creation.

To corroborate my proposition, I show how this capital–labour antagonistic relation operates today in one of the new sectors of the global precarious economy: platform work, in which the system of time control, based on algorithms, contributes to workers' exposure to unpaid labour-time. More specifically, the ways in which algorithms allocate tasks and monitor platform workers' performance are conducive to the creation and expansion of unremunerated labour-time, whose execution is nevertheless essential to access and complete the (paid) tasks for which platforms 'employ' workers (Franke et al., 2023). The process of platform workers' labour invisibilization thus captures unpaid labour-time that these workers are compelled to 'donate' to platforms to carry out their work. The peculiarity of this process in platform labour is its pervasive and highly effective character, triggered by the introduction of algorithms as a factor of workforce exploitation.

Of course, the capture and exploitation of unpaid labour-time is not a new phenomenon in the history of capitalism. In critically revisiting this history, with the support of the Marxian labour theory of value and some of its contemporary interpretations, I show that the struggle over the capture and exploitation of labour-time has been one of the central struggles between capital and living-labour. Indeed, labour invisibilization is intimately related to the commodification process – the transformation of labour-power into a ('fictitious') commodity (Polanyi, 1944), whose 'free' trade between workers and capitalists marks the rise of capitalism. Within it, to survive, workers are, in fact, forced to sell their labour-power, namely, their capacity to work (Marx, 1867/2015), whereas capitalists buy and exploit it for the creation of (surplus) value.

However, the transformation of labour into a commodity has never been a smooth and natural process; on the contrary, its frontiers and substance have been continually contested in the history of capitalism. In this paper, I show and discuss how the struggle over the capture of unpaid labour-time is connected to the dialectic between

commodification and decommodification processes and is key to better understanding their recent developments within platform labour. To elucidate this nexus, I utilize the Marxian concept of labour-power value with the specific aid of various strands of contemporary Marxist tradition.

The paper is structured as follows. In the next section, I introduce the hidden histories of capitalism to shed light on the issue of labour invisibilization, which has been seen as one of the key struggles between capital and labour across capitalism since its infancy. Notably, drawing from two contemporary Marxist strands, the feminist theory and the dependency theory, I show how the formation process of labour-power value has always been contested. Such value does not express a political-economic objective measure of the value of commodities, but rather conveys a political measure of the power relations between classes at a given point in time. In the third section, building on this discussion, I formalize the third form of surplus-value, namely, the value-extraction mechanism that I have defined as the labour invisibilization process. In the fourth section, I illustrate how the struggles between capital and living-labour over the capture of labour-time occur in platform labour and I contrast them with those occurring in the textile-clothing sector. In the fifth and concluding section, I summarize the article's main contributions by showing why this integrated theory of value formation is attuned to understanding capitalist production and the related labour struggles.

Capitalism's hidden histories of the value of labour-power

Free (wage) labour is undoubtably a characterizing institution of the capitalist mode of production, but it is also important to underscore how one of its fundamental features has historically been the exploitation of unpaid labour. Dismissing the classical political-economic thesis on capitalism as an economic system merely reducible to free wage-labour (Rioux et al., 2020),¹ I suggest instead that extra-economic coercion and politico-legal constraints have played, and are still playing, a central role in the production of surplus-value. In other words, the expanded reproduction of capital has been historically premised on the geographical mobilization of both free and unfree labour relations (Wallerstein, 2011). In capitalist development, the standard employment relation has been an exception that has temporarily involved certain groups of workers in specific sectors and world regions (Bremner & van der Linden, 2014). The rule is capital's tendency to conceal and capture the value of labour-power, whereas workers constantly fight against this tendency. I illustrate the dialectic between capital and (unpaid) living-labour by examining labour-power formation processes.

¹ Although relatively common in the scholarly literature, it is incorrect to present Marx's work as belonging to the classical political economy tradition. All his mature work (1850s/1860s) is precisely aimed at criticizing that tradition, and especially the work of Smith and Ricardo (Lange, 2018). Needless to recall here what, in fact, the subtitle of *Capital* is: *A Critique of Political Economy*.

As several critical theorists have shown (Bieler & Morton, 2018; Gore & LeBaron, 2019; Mezzadra & Neilson, 2019; Rioux et al., 2020), the formation of an army of free waged-workers, forced to sell their own labour-power, is only a relatively small part of the story, but constitutes the official modernizing thesis on the capital-accumulation process and the rise of capitalism. The ‘existence of wage labour in itself does not indicate that we have a capitalist mode of production’ (Bieler & Morton, 2018, p. 88). The hidden story of capitalism concerns the permanence of human slavery, land dispossession, and other natural and social resources. Put otherwise, the development of capitalism has been accompanied by extra-economic coercion and extra-political-legal constraints gearing towards the formation of an army of ‘free’ unpaid or lowly paid workers, what Marx called the ‘reserve army of labour’ (Marx, 1867/2015). Middle Passage and Atlantic slavery have played a pivotal role in prompting and shaping the development of such extra-legal capitalism. Far from being marginal and exceptional to this development, or simply relegated to its inception, the experience of the Atlantic slave trade points to structural features of capitalism that are systematically underestimated by mainstream social theory (Mezzadra & Neilson, 2019). The deepening and extension of contemporary capitalist exploitation seem to have reinforced unfree labour rather than diminished it at global level (Gore & LeBaron, 2019). Indeed, the forms of labour exploitation encapsulated in the concept of unfree labour – typically described as forced labour, human trafficking, and modern slavery – remain resilient in the current global economy (Rioux et al., 2020). As Bieler and Morton (2018, p. 88) put it: ‘capitalism still works through a variety of forms of exploitation today not least in the form of bonded labour within wage labour conditions ... and various usages of modern slavery.’

Once one disentangles the concept of capitalist exploitation from the narrow paradigm of the exploitation of free paid labour at the point of production, a new meaning of the wage-labour concept becomes possible. One may postulate that this notion of labour was adopted by Marx to stress the structural differences between it and ancient production systems. Unlike slavery, where the legal ownership of labour resides with the slave owner, who possesses the individual as property and can, therefore, control mobility by whatever means, within capitalism, mobility resides with the individual worker, at least in principle. Workers are formally free to sell their own labour-power in exchange for a salary, in the sense that there is no law providing for workers to serve the same employer for ever, as in principle they can always quit one employer for another (Smith,). The emergence of free (wage) labour is, therefore, a peculiarity of capitalism as a social formation.

Yet, a detailed analysis of the history of capitalist production in Britain, for instance, showed that its rise depended on both the slave trade and enslaved workers. Therefore, one should avoid adopting the image of ‘capitalism as an abstract mode of production’ (Bieler & Nowak, 2021, p. 8), founded on the legal wage relationship. As Marx effectively states (1867/2015, p. 508):

To become a free seller of labour power, who carries his commodity wherever he finds a market, he must further have escaped from the regime of the guilds, their rules for apprentices and journeymen, and the impediments of their labour regulations. Hence, the historical movement which changes the

producers into wage-workers, appears, on the one hand, as their emancipation from serfdom and from the fetters of the guilds, and this side alone exists for our bourgeois historians. But, on the other hand, these new freedmen became sellers of themselves only after they had been robbed of all their own means of production, and of all the guarantees of existence afforded by the old feudal arrangements. And the history of this, their *expropriation*, is written in the *annals of mankind in letters of blood and fire* [emphasis added].

Put otherwise, ‘capitalism is not simply an economic system of “free” waged labour; it is also, at its heart – in the creation of the very labour power it requires to produce the profits on which it thrives – a political system of unfreedom’ (Ferguson, 2019, p. 97). My argument on the formation process of labour-power value shares, and starts from, the recognition of these hidden and extra-legal histories of capitalism. To shed light on such process, I combine the Marxian theory with two recent developments in the Marxist tradition, specifically the feminist theory (Bhattacharya, 2017; Mezzadri, 2020)² and the dependency theory (Higginbottom, 2012; Marini, 1973), which have contributed to a broader and more dynamic comprehension of labour-power value. These authors’ interpretations of this concept seem more attuned to the understanding of the value creation process as a struggle over unpaid labour-time capture.

For Marx (1867/2015), the value of labour-power corresponds to *necessary* labour-time, meaning, the part of the working day for which workers are paid by their employer for their reproduction. Such value is determined by the power relations between capital and labour within society. This ‘structured antagonism’ (Edwards, 1986) derives from the fictitious nature of labour as a commodity (Polanyi, 1944). Workers strive continually for the decommodification of their labour-power, namely, the expansion of their rights and needs outside of the market logic, whereas capital aims for full commodification, meaning, the total subsumption of workers’ life to the market logic. For instance, in twentieth-century western Europe, the social struggles for the decommodification of labour have been one of the main drivers of the rise of the welfare state (Esping-Andersen, 1990; Korpi, 2006). As Esping-Andersen put it (1990, p. 22): ‘Decommodification occurs when a service is rendered as a matter of right, and when a person can maintain a livelihood without reliance on the market.... Decommodification strengthens the worker and weakens the absolute authority of the employer.’ Seen from this perspective, the value of labour-power is closely

² Marxist feminist theorists have been relevant in refocusing attention on the crucial role that social reproduction plays within capitalism. For them, the social and care activities that are needed for the reproduction of labour-power are also essential for the reproduction of capitalism itself and its relations of exploitation. This insight has long been neglected in the (orthodox) Marxist tradition. However, within the feminist tradition, there is disagreement on the role of such activities in relation to value production. One strand supports the view that these activities are only indirectly productive, meaning, that they are essential for the working activities creating surplus-value (i.e., productive), but they are not per se productive; Bhattacharya (2017) and Ferguson (2019) hold this position. By contrast, the other strand maintains that reproductive activities also are immediately productive in that they contribute directly to the production of value; Dalla Costa and James (1972), Federici (2004), and Mezzadri (2019) belong to this group. For a detailed discussion on their theoretical differences, see Bieler and Morton (2021). I do not have a specific take myself on this theoretical debate, although for my paper’s argument on the value of labour-power I have drawn mostly from Federici and Mezzadri.

related to the societal processes of de/commodification (Polanyi, 1944). The more a society is de commodified, the higher the value of its labour-power, and vice versa. Hence, the value of labour-power, which regulates the extension of socially necessary labour-time, is far from being an objective economic parameter, but can only be understood as the result of class struggle at the broader societal level.

Value creation beyond the formal labour process This insight derives originally from the feminist theories of the 1970s' tradition (Mezzadri, 2019), which questioned the claim that the value of labour-power was to be understood as simply the monetary remuneration of the (male) factory worker – the household breadwinner (Dalla Costa & James, 1972; Federici, 2004). Rather – for these feminist activists – the value of labour-power was itself the result of a political struggle over its actual meaning, that is, over the set of commodities and activities that could be considered as included in it. This was the ultimate meaning of the struggles in which feminist movements engaged in the 1970s to claim a salary for their (unpaid and unrecognized) work of care and reproduction at home (Federici, 2004). Dalla Costa and James (1972) argued for unpaid labour in the home to be valued and paid for as labour. Reproduction workers – women and subaltern groups – were denied recognition, and their labour-time was conceived as a personal service offered in a social relation of private exchange (Mezzadri, 2020).

Whereas the orthodox Marxist tradition focused on the wage relation as central to capitalism, these feminist activists argued that the unpaid caring labour of women was necessary to reproduce the wage-labour force. For them, the nexus of the capital–labour relation was to be developed well beyond the simple production of wage-labourers by including the full fabric of social reproduction (Mezzadri & Neilson, 2019). Notably, these theorists denied the idea of reducing capitalism to an economic system characterizing housework as non-work. They accordingly eschewed the retention of rigid Marxist dichotomies, such as productive/reproductive and paid/unpaid, confining housework to a position outside value-generation processes (Mezzadri, 2020). In their view, work was much more than what was done for wages. Much human labour is unpaid, including unpaid domestic labour, largely carried out by women (Bieler & Morton, 2021). Put otherwise, the Marxist feminist critique made visible a concept of labour that is analytically hidden by classical economists and politically denied by policymakers. For these Marxist feminist scholars, the basket of necessities forming the value of labour-power has an ever-changing magnitude, affected by politically contingent power relations even within a specific social formation at a given time.

Once one admits that the standard of necessity is politically variable and contingently determined by class struggle at the social level, then one can extrapolate that the struggles over the recognition of the value of labour-power take place both within and outside the workplace. Specifically, what these feminist authors claim is that there is also a key struggle over the value of labour-power reproduction, whose outcome determines the amount of socially necessary labour-time (Marx, 1867/2015). Accordingly, such amount of time is continually shaped by

society's politicization process as a result of the power relations between classes. Determining the value of labour-power is always a political struggle, whose outcome is affected not only by labour mobilizations in the workplace, but also by social mobilizations arising within other spheres, such as those of the new social movements in the 1970s (Cini et al., 2017).

Value as a measure of class organizational strength (even between countries) The value of labour-power does not correspond merely to what workers reckon as physiologically and psychologically necessary to maintain and reproduce themselves. Rather, it is the value that corresponds to the 'labour time necessary to produce the goods which are politically and socially necessary to keep workers' labour power (as a class) available to capitalists' (Friedman, 1977, p. 268). If we accept this definition, then we can view the value of labour-power as shaped by workers' differing power potentials and not by their different cultural habits or by their different ideas of subsistence. In short, its determination reflects power relations between collective groups, not individual workers' psychological needs. This determination points to a political interpretation of why this value has continually varied between different countries and regions across the globe. Its variation between countries does not reflect people's differing psychological needs, but rather their political ability to resist. Provocatively, one may argue that it is the accumulation of worker struggles that determines the accumulation of capital (and, within it, the share appropriated by workers) in each country, and not vice versa (for a similar interpretation, see Cini et al., 2017). In other words, the variation in the amount of necessary labour-time between the working classes of different world regions derives from their differing capacities regarding collectively organizing.

In advancing this proposition, I rely on the Marxist tradition of dependency theory (Marini, 1973), whereby Global South countries are considered as being super-exploited, in the sense that their workers' wages are reckoned to be normally paid below subsistence level and that such extra amount of surplus-value produced is structurally drained by Global North countries and firms (Wilson, 2020). These dynamics of super-exploitation are the main cause of the generalized state of economic (and social) impoverishment of the Global South workforce and of their countries' dependence on the Global North. Yet, what these authors point to is that such impoverishment is the result mainly of differential worker resistance and managerial strategy for counterpressure between distinct regions (see, for instance, Smith, 2016, pp. 280–315).

It is not by chance that pay levels have been recently declining even among the Global North workforce, whose traditional labour organizations have undergone a generalized process of political weakening and/or institutional co-optation (Atzeni, 2021). More broadly, declining wage shares seem determined by socio-political factors, such as the demise of social security, the presence of structural unemployment, the weakening of working-class organizations, and the proliferation of repressive labour regimes (Munck, 2020). These developments have spawned a huge expansion of the informal economy at global level, reflected in

the spread of employment conditions under which workers have neither legal contracts nor eligible labour rights (Bremán & van der Linden, 2014). As a recent ILO (2018) report pointed out, an absolute majority of the economically active population in every region are informally employed. Informality has also found new channels of transmission. These channels reproduce labour as a highly precarious relation in developing contexts and are now also doing so in developed regions with the rise of platform labour. Therefore, it is not a coincidence that process informalization is an integral part of advanced capitalist economies.

Overall, contingent and non-standard forms of contract are becoming the prevalent employment relations, making labour increasingly ‘uncertain, unpredictable and risky from the point of view of the worker’ (Kalleberg, 2009, p. 2) Labour precarity and the informal economy are closely related processes. Together, they enable capital to transfer social risks onto its workers and to escape extant regulation. As a result, a significant proportion of the global workforce, whether in the Global North or the Global South, has been undergoing a dynamic of declining wage share and can hardly afford the costs of its own reproduction with only one wage (see ILO, 2019). In other words, today we are observing a renewed recommodification of labour at global level, prompted by the constant tendency of capital ‘to force the cost of labour back towards ... absolute zero’ (Smith, 2016, p. 238) and by workers’ generalized decreasing ability to organize collectively to wrestle this tendency back.

The outcome of this struggle that labour-power is fighting (and losing) globally is the acceleration of a process that Burawoy (2010) called ‘destructive decommmodification’, that is, the pushing out of wage labour into the informal sector. ‘Increasingly, exploitation is [becoming] a privilege rather than a curse, especially in the South but also in the North with growing unemployment and underemployment’ (Burawoy, 2010, p. 308). The creation of this reserve army of labour places downward pressure on existing wage levels, threatens employed labourers with layoffs, discourages labour organization, and increases the intensity of labour for those employed. In short, the process of work informalization reduces the value of labour-power. Seen from this angle, the value of labour-power can, therefore, be viewed as a measure of working-class organizing power.

In the next section, I lay the ground for the theoretical formalization of what I have identified as a third form of surplus-value, namely, the process of labour invisibilization. The section’s main objective is to show how the processes of labour invisibilization and labour commodification are inherently related. This theoretical discussion will help make sense of the rise of platform labour and of its algorithm-based exploitation.

Notes on the third form of surplus-value

In *Volume I of Capital*, Marx presents his labour theory of value, that is, the idea that the exploitation of labour-power, meaning the set of mental and physical capabilities existing in physical form – the living personality – in a human being,

is the only source of economic value in capitalism: ‘the specific use-value which this commodity possesses of being a source not only of value, but of more value than it has itself’ (Marx, 1867/2015, p. 136). Under the capitalist working day – and this constitutes the secret of its labour process – workers are employed for a period of time longer than the time necessary for their subsistence, which Marx defines as *necessary labour-time* (or *necessary labour*), meaning the period during which they work to reproduce their labour-power. The extra labour-time that workers cede to capital is what Marx defines as *surplus labour-time* (or *surplus labour*), that is, the period of time in which they work beyond the time necessary for their reproduction. Marx calls the process of extra labour-time extraction *surplus-value production*. The capture of labour-power’s extra time is the peculiarity of the capitalist working day and the source of value on which such mode of production is based. More notably, the surplus-value rate, also known as the exploitation rate, is the ratio between surplus labour-time (S) and necessary labour-time (V), that is, S/V. The surplus-value rate can be represented by formula 1:

$$\text{Surplus} - \text{value rate} = \text{surplus labour} / \text{necessary labour}$$

The above formula depicts the ratio of the time in which surplus-value and labour-power value are produced. The lower the time of labour-power reproduction, the higher the surplus-value rate.

Further, as ‘the value of labour-power, i.e., the labour-time requisite to produce labour-power, determines the labour-time necessary for the reproduction of that value’ (Marx, 1867/2015, p. 220), for Marx, necessary labour is equal to the value of labour-power. Hence, the surplus-value rate can be represented by formula 2:

$$\text{Surplus} - \text{value rate} = \text{surplus labour} / \text{value of labour} - \text{power}$$

In short, the surplus-value rate is given by the ratio between surplus labour and the value of labour-power (Marx, 1867/2015, Chap. 18). Marx formalizes two distinct forms of surplus-value production (S/V): the absolute and the relative. I illustrate these forms by adopting the working-day scheme:

$$\begin{aligned}\text{Working day} &= a-----c \\ \text{Necessary labour} &= a----b \\ \text{Surplus-labour} &= b---c\end{aligned}$$

Absolute surplus-value Capital continuously and simply aims to lengthen the working day (or intensify the working process) to increase the magnitude of surplus-value, as shown below in the shift from working day I to working day II. ‘The prolongation of the working day beyond the point at which the labourer would have produced just an equivalent for the value of his labour-power, and the appropriation of that surplus labour by capital, this is the production of absolute surplus-value’ (Marx, 1867/2015, p. 360).

Working day I: $a-----b---c$,

Working day II: $a-----b-----c$



The production of *absolute surplus-value* consists, therefore, in the lengthening of the working day.

Although capital tends spontaneously to maximize the magnitude of surplus-value by endlessly extending the working day (a-c), such tendency encounters both physical and social limits (Marx, 1867/2015, Chap. 10).

Relative surplus-value Another result of workers' resistance in the workplace is that capital is thus forced to limit the length of the working day and to strive to increase the surplus-value by keeping this length constant. The principal method that capital adopts to pursue this end is to introduce technological innovation in labour processes in the basket of commodities necessary for labour-power reproduction so as to shorten the necessary labour-time in relative terms (relative to the surplus-labour increase). This implies an alteration, not in the length of the working day, but in its division into necessary labour-time and surplus labour-time. As shown below in the shift from working day I to working day II, line $b'-c$ represents the net increase of surplus-labour-time consequent to a relative contraction of the necessary labour-time caused by the introduction of technological innovation.

Working day I: $a-----b---c$

Working day II: $a-----b'-----b---c$



The production of *relative surplus-value* consists, therefore, in the cheapening of the value of labour-power through the introduction of technological innovation in the labour process.

However – as shown in the previous section – capital appears able to expand itself also through a process of 'destructive decommodification' (Burawoy, 2010): an increasing number of people in both the Global North and the Global South are pushed out into informal labour (ILO, 2018). This process leads more and more people to work for wages below the cost of reproduction of their labour-power. These developments seem to point to the manifestation of a form of surplus-value extraction, based on an extreme casualization of work. This phenomenon is, however, far from being completely new in the history of capitalism. Marxists of various strands have often been aware of its existence. For the dependency theorists, 'reducing the size of the basket [of the necessary commodities] is a third way to increase the rate of exploitation' (Smith, 2016, p. 197). They call capital's tendency to lower the wage below the value of workers' reproduction *super-exploitation* (Higginbottom,

2012) or *sub-subsistence surplus-value* (Wilson, 2020). In their view, this form of labour-power exploitation constitutes a third type of surplus-value production, which, although implicit (but not absent) in *Volume I* and *III* of *Capital*, was not fully theorized by Marx.

For Higginbottom (2012), the rediscovery of this third form of surplus-value is a breakthrough, providing the key to unleashing the dynamic concept of surplus-value contained in *Capital*, where – in his view – Marx mentions three distinct ways through which capital can increase surplus-value. However, Marx formalizes only two of them: absolute surplus-value and relative surplus-value. Marx consigns instead to the sphere of competition, and outside his analysis, the third mechanism, namely, the reduction of wages below the value of labour-power. However, the current process of recommodification is driving wage labour into the informal sector (ILO, 2019), thus – the dependence theory argument goes – pushing workers below the level of the necessary wage (Wilson, 2020).³

Building on these insights, I also share, and start from, the recognition of the existence of a method of value extraction based on the process of casualization. However, rather than focusing on the fall of wages below the value of labour-power, I identify the existence of another mechanism of this type, which is more directly based on (unpaid) labour-time capture. I call this mechanism the *invisibilization of labour*. At its heart is capital's ability to conceal the contribution of labour-power to the valorization process. Pushed by the current wave of commodification, capital captures a growing share of workers' unremunerated labour-time at the expense of their formally paid share. In doing so, capital is able to seize from workers an ever-increasing quota of productive labour-time from their working day. Here, surplus-value is created not only from the consumption of labour-power in its paid labour-time – like in the absolute and relative value extraction formulas – but also, and above all, from the direct exploitation of unpaid labour-time outside such consumption. What is more – and this aspect represents the key feature of this value extraction – the capture of unpaid labour-time is also necessary for capital to exploit labour-power in its paid labour-time. Ironically enough, without the capture and exploitation of this quota of unpaid labour-time, no capitalist exploitation can take place. In brief, without labour invisibilization, there is no process of exploitation whatsoever.

Seen from the labour side, this process of casualization leads to the expansion of the range of working activities that are not remunerated but whose completion is, nevertheless, necessary for workers to access paid work. Pulignano and Morgan (2022) define the expansion of these activities in precarious labour as the rise of the 'grey zone.' By it, they mean the emergence of 'a transition space under

³ By contrast, Marx (1867/2015, p. 368) remained tied to the classical political economists' idea for which 'the value of labour-power cannot fall ... without a rise in the productiveness of labour.' However, as Friedman highlighted (1977, p. 268): 'once the fact that real long-run wage levels are determined by struggle is accepted, the relation between real wages and the value of labour power must be re-examined. ...the purpose of dealing primarily with values for Marx was to reveal the essential, class divided nature of capitalist society.' In other words, as widely argued here, the value of labour-power can go either down or up in the long run, depending on the balance of class forces.

conditions of precarious work, where people's unpaid labour becomes necessary to access paid work. Unpaid work in the “grey zone” is unremunerated (yet, productive) work outside the home’ (Pulignano & Morgan, 2022, p. 7). Seen from this angle, the invisibilization manifests itself in the expansion of the quota of unpaid labour-time that workers are forced to ‘freely’ and ‘gratuitously’ donate to capital to obtain the quota of paid labour-time. Yet – as illustrated above – such unpaid quota is equally ‘productive’ from a capitalist point of view, meaning that it contributes equally to the capital valorization process. In this sense, capital is able to capture the unpaid time between periods of paid time. Put otherwise, this mechanism of surplus-value extraction entails the capture of unpaid labour-time, which is formally considered as non-work but whose completion is essential for workers to access the formally paid labour-time.

Adopting this perspective elucidates how the processes of labour invisibilization and labour commodification are, thus, inherently related. Bluntly said, the invisibilization of labour can be seen as a result of its process of commodification: the more work is disruptively commodified, the more its contribution to the valorization process tends to be invisibilized. Its recognition or not depends instead – as seen above – on the outcome of the class struggle at societal level. Formalizing this proposition through the surplus-value formula, we can include – for analytical ease – the expanding amount of unpaid labour-time in the denominator.

If:

$$\text{necessary labour (V)} = \text{unpaid labour} \uparrow (\text{V}')$$

then:

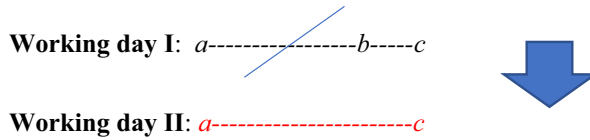
$$\text{surplus-value rate} = S/V'$$

In algebraic terms, necessary labour will tend to a positive value infinitesimally small ($0+$), whereas the surplus-value rate will tend to a positive infinite value ($+\infty$). Visually:

$$\text{surplus - value rate} = S/V'_{0+} = +\infty$$

This means that, in this relation with capital, all exploited labour can be potentially transformed into surplus-value. More notably, the larger the number of unrecognized labour activities included in the denominator *necessary labour* ($0+$), the higher the rate of surplus-value ($+\infty$). Indeed, if surplus-value derives from unpaid labour, then the capture of (more) unpaid labour is equal to (more) surplus-value. Put otherwise, this increase in the number of labour activities, which are not recognized as part of the valorization process, contributes – precisely because of this dynamic – to the augmentation of surplus-value. These

activities are excluded from the formal computation of the surplus-value rate. However, it is precisely their informal and substantial inclusion in the capitalist labour process that constitutes the source of surplus-value creation. Visually:



In other words, the full working day may become, in principle, surplus-labour and, therefore, entirely surplus-value. This is the ‘secret’ of the value-extraction mode based on the invisibilization of labour.

Labour invisibilization and struggles for its recognition in platform work: a comparison with textile-clothing

In this section, I show how labour invisibilization manifests itself today in the algorithm-based exploitation of platform workers. To elucidate the specificity of this process, I compare the case of platform work with that of textile-clothing, where value production is still based on the classical Marxian forms of surplus-value extraction. The textile-clothing sector produces a physical good, such as garments, whereas platform labour delivers mostly immaterial goods, such as food delivery, transportation, and the identification or writing of contents in images or videos.⁴

This comparison allows me to achieve two objectives. First, it shows the highly effective character of the invisibilization process in platform work, under the remote but pervasive control of algorithms. Second, and equally important, it delimits the scope of applicability of this process: textile-clothing, as many other work sectors (Block & Burns, 1986), is still dominated by the other two forms of surplus-value extraction. In this sense, capitalism is to be conceived as a mixed mode of value production.⁵

⁴ For analytical ease, I adopt the term platform work throughout the text, even though I am aware of the diversity (and complexity) of work organization and working categories that fall under this label. Platform labour is defined as a working situation in which the user exhibits a relation of economic dependence towards the platform with which she/he collaborates. Platforms have an intermediary function between these users (i.e., workers) and their clients (Wood et al.,). The main distinction in the scholarly literature is between platform workers who deliver their work online (crowdwork) and those who deliver onsite (work on-demand via apps) (De Groen & Maselli, 2016). In the section, I review two working examples of each of these categories: *Amazon Mechanical Turk* workers for crowdwork and food delivery couriers for work on-demand via apps. Textile-clothing includes, on the other hand, all the activities part of the production of clothes, ranging from the fabrics to garment components, to the assemblage of the final product.

⁵ More importantly, this comparison helps to avoid the generalizability syndrome, whereby, when a new phenomenon is identified, scholars are led to believe that it holds for the whole of society. On the contrary, as my comparison of the forms of surplus-value extraction between the sectors examined also shows, real-world dynamics are much more entangled and complicated; therefore, their analytical inter-

To examine the antagonistic relation between capital and labour in the two sectors, I adopt a materialist approach to social reality, drawing on Marx's dialectical epistemology (Marx, 1857/1973). What Marx sought was 'the internal structure and coherence of the capitalist system, its existence as a historically specific totality' (Ollman, 2003, p. 144). In this epistemology, the 'internality of structure and agency is assumed' (Bieler & Morton, 2018, p. 31). Notably, by dialectical approach, I mean a conception of reality understood as a totality composed of internally related parts, 'whose constant interaction and development determine the transformation of the whole itself (i.e., capitalism)' (Caruso & Cini, 2020, p. 1009). The identification of contradictions is central to this way of inquiring into reality. From a dialectical perspective, contradiction stands for 'the incompatible development of different elements within the same relation, which is to say between elements that are also dependent on one another' (Ollman, 2003, p. 17). To highlight the internal antagonistic dynamics within platform work and textile-clothing, I critically review the extant literature for each case investigated. These are now analysed, separately.

Platform work

The labour invisibilization mechanism appears built into the way in which platforms exploit the workforce. Several studies on this sector have, in fact, reported how and to what extent many tasks and activities undertaken by these workers are unpaid, contributing to the creation of economic value without their input being remunerated or even recognized as labour (Wood et al., 2019). Unpaid labour generally consists of unremunerated but work-related activities, such as time spent waiting or searching for tasks/orders, travelling between orders, building a reputation, performed by workers alongside their (lowly) paid tasks. The specificity of platform architecture (Lei, 2021) derives from the fact that it is precisely the execution of these unpaid activities that allows workers to access their paid tasks.

According to Pulignano et al. (2021), the exploitation of unpaid labour is related to the incorporation of digital intermediation technologies in platform labour processes. These technologies allow for new modes of standardization, decomposition, quantification, and surveillance of labour. Among these, the most ground-breaking is the algorithm, a mathematically based mode of work control and organization leading to optimization mechanisms and performance ratings (Srnicsek, 2017). More specifically, algorithmic control systems optimize the worker-control process by analysing and using workers' performance ratings, metrics, and data collected from clients and users to make decisions about the allocation of future tasks and worker retention (Wood et al., 2019).

The introduction of these control systems into the governance of labour has provided platforms with two advantages that were unavailable to traditional firms in the past: (1) vertical control of the workforce, (2) an absence of social obligations as

Footnote 5 (continued)

pretations need to be nuanced. Thanks to one of the anonymous reviewers for sharing with me this reflection.

stipulated by employment law towards it. For Altenried (2020), it is precisely standardization and algorithmic management in combination with the possibility of logging onto the platform from any place with a stable internet connection that allows the inclusion of a broad range of workers. Workers can access platforms from their homes, internet cafés, and even their mobile phones. This process opens up new pools of workers to capital. Platforms claim, instead, to operate only as a database via which supply and demand are matched. They are therefore able to maintain tight control over their users, while presenting these workers as self-employed, with no formal dependence relation and, therefore, also without the protections of health and safety, rights to various kinds of paid leave, and rights to employers' contributions to pensions and social insurance. For Cole et al. (2022, p. 5) the 'use of zero-hours contracts and new technologies allow employers to secure unpaid labour time within the normal working day.' In brief, in platform work, the combination of work informalization with algorithmic control leads to a capture and exploitation of unpaid labour-time.

Platforms aim to achieve network effects, that is, produce a higher volume of transactions than their competitors (meaning, attract more platform participants). The higher the number of contractors, the more valuable the platform is to requesters, as the chances of making a successful match are progressively higher, the more workers are available at a given time (Srnicek,). The higher the number of requesters, the more valuable platform participation is for workers who have higher chances of reliably obtaining work. 'By extension, successfully growing the numbers of workers and requesters attached to the platform makes it more profitable for the platform firm, and more advantageous to investors' (Keegan & Meijerink, 2022, p. 21). The expansion of the network effect enables platforms to make more profit in two ways: on the one hand, from the higher number of transactions on which companies apply their fee; on the other, from the capacity of platforms to decrease the fee accorded to workers for each transaction as a result of the market marginalization of the other platform companies and, accordingly, of the increase in their reserve army of workers (Griesbach et al., 2019).

More specifically, algorithmic control systems invisibilize necessary labour-time in the two main categories of platform labour, that is, work on-demand via apps and crowdwork, although through different forms. In work on-demand via apps, this mechanism is achieved through the allocation of working shifts based on workers' availability, speed, and order acceptance/rejection; in crowdwork, it is achieved through the creation of online reputations based on workers' speeds, ability, and quality of task completion (De Groen & Maselli, 2016). However – as shown below – the effects of both types of algorithmic control are a net extraction of value out of various moments of workers' unremunerated activities: all their apparently 'non-productive moments' (Woodcock, 2021, p. 34) become, in fact, immediately economically productive for platforms. I now briefly examine the two platform categories, separately.⁶

⁶ To identify the various forms of labour invisibilization inherent in platform labour, I have drawn partly on Pulignano et al. (2021). However, unlike their study, I have not distinguished between time-based and not time-based forms of unpaid labour, but I have retained the classical Marxian working-day framework. This has allowed me to grasp better the differences in extraction mechanisms between those based on relative/absolute surplus-value and those based on labour invisibilization.

In work on-demand via apps, every choice made by platforms, from the assignment of gigs to the management of shifts, is established by an algorithm, which is designed for time and resource optimization of work delivery. Platforms, such as *Uber*, *UberEats*, or *Delivero*, maximize flexibility and minimize labour costs by calling on and paying workers only for the specific timespan needed to perform the task (Tassinari & Maccarrone, 2020). In particular, food delivery couriers experience various forms of labour-time capture when performing their working activities, especially in the timespan between their app log-in and log-off. Indeed, the longer couriers are potentially logged on, the more network effects are created, the more value platforms extract:

- i *Waiting time*. The time spent waiting for orders is not recognized as labour-time. Couriers are compelled to wait for orders at specific meeting points, such as central squares or streets. In several companies, the timespan between the shift's initial log-in and the first order is not recognized as labour-time either.
- ii *Time spent searching for tasks*. The time spent searching for the destination (in cases of errors, such as wrong addresses or restaurants closed) and in delays at restaurants (i.e., queues and wrong orders) are not recognized as labour-time.
- iii *Travel time*. The time spent travelling to and from work, as well as that spent travelling between orders are not recognized as labour-time.
- iv *Compulsory breaks at work*. The time spent on compulsory breaks, such as meals, naps, and chats with colleagues and clients, and the time invested in dealing with conflicts with restaurant staff and clients are not recognized as labour-time.

Overall, food-delivery platforms pay couriers only for the actual accomplishment of their delivery tasks. Paying couriers per delivery allows companies to redefine elements of the working day as non-productive time beyond the scope of paid work. This means stripping out any other time necessary for task completion from couriers' formal labour-time (Woodcock, 2021). However, without spending such time, workers cannot access the paid share of their labour-time. This, in turn, leads to work extensification. In this sense, there is a positive correlation between the time that workers spend at work – whatever form it takes – and companies' value augmentation: the more time couriers spend in carrying out non-paid activities, the more platform value is created (Keegan & Meijerink, 2022).

In crowdwork, platforms tap workers into a planetary labour market, by allowing them to enrol from anywhere. This high degree of spatial flexibility allows platforms to maintain a vast reserve labour pool. 'At any given time, there will be a high number of workers searching and competing for a small number of tasks' (Howson et al., 2022, p. 6). This algorithm-based global labour governance leads to various forms of labour-time capture by platforms, whose appropriation is based upon the exploitation of workers' online reputation, namely, the visibility that they are able to gain on the platform with which they have a working relationship. Indeed, given such globally based competition, workers seek to maximize such reputation, which is workers' main tool for earning an income. More specifically, workers are rated by their clients following task completion; those with the

best scores calculated through an algorithmic ranking receive more work from clients (Wood et al., 2019). In short, getting clients, namely, paid labour-time, depends on having a good reputation. However, workers cannot take the reputation gained on a specific platform (and the underlying data) to another platform: companies do not allow workers to connect with clients outside of their circuit.⁷ This is why crowdworkers are forced to work long hours without any guarantee that they will receive a paid task to increase their non-portable score/reputation. Hence, these workers perform various forms of unpaid labour compulsorily and simultaneously in the hope of gaining a higher rating. In turn, these extensive periods of non-paid labour-time that crowdworkers devote to the augmentation of their own reputation to reach out to as many clients as possible increase platforms' network effects and, therefore, their value. In short, workers' online reputation is platforms' main tool to trigger a labour invisibilization process.⁸

- i *Job searching and applications.* The time spent building one's online profile, looking for and applying for jobs on the platform, and doing things like gaining qualifications by taking tests (some of which workers have to pay to take) or training with the hope that this will make them eligible for more work in the future are essential to access the paid labour-time, that is, the specific tasks performed for clients. Yet, the time and effort spent creating the profile, looking for available work, and applying for tasks are not recognized as labour-time.
- ii *Setting low pay levels.* Given the high level of competition among these workers for tasks, it is not rare for crowdworkers to undervalue their own work by setting lower rates to receive first reviews and improve their reputation. This undervaluation can be considered a form of self-super-exploitation, in the sense of self-cheapening the value of their own necessary labour-time.
- iii *Communication with clients.* The long time spent communicating with clients, often to resolve inconsistencies between task descriptions and clients' expectations, is not recognized as labour-time. However, this time is essential to crowdworkers to increase their reputation among clients and, therefore, potentially their likelihood of accessing further paid labour-time.

⁷ Following Wood and Lehdonvirta (2022), I also contend that platforms' formal reputation systems function differently from the informal reputation of industry networks. 'Whereas industry reputation is regulated informally by social norms and interpersonal networks, platform reputation systems are regulated to a much greater extent by the platform company's regime of software code and organizational practice' (Wood & Lehdonvirta, 2022, p. 13). In brief, the power to regulate the market shifts from the industry and community to the technology companies that operate the platforms. It is this shift, associated with the non-portability of online reputation, that makes workers' unpaid labour-time so relevant for them to access their paid labour-time.

⁸ Amazon Mechanical Turk (AMT) workers are a case in point of crowdwork, whose labour can, in principle, be unpaid. These workers are assigned to perform micro tasks, such as identifying specific content in an image or video, writing product descriptions, or answering questions. The peculiarity of this work derives from the fact that AMT clients can refuse to pay workers if they are not satisfied with the work AMT workers perform (Altenried, 2020). As a result, AMT workers often run the risk of not even getting paid for their full labour-time.

- iv *Doing extra tasks.* The time spent completing extra tasks to keep clients satisfied and get good reviews, as well as the completion of extra tasks needed for project maintenance, planning, or work-related tools, are not recognized as labour-time. Yet, the more extra tasks performed, the more the client is satisfied, the higher the online reputation. As shown, this is critical for crowdworkers to obtain more paid labour-time.

Overall, the return of a seemingly outdated form of employment relation is emerging in crowdwork: the piece-rate. Each task completed becomes, in fact, an individual service, although the relation between the worker and the platform lasts only a few seconds or minutes. This labour configuration allows, for instance, clients to hire 60,000 workers for two days, instead of hundreds of homeworkers for a few weeks (Irani, 2015). To earn a survival income, these workers are, thus, forced to seek and complete as many tasks as possible.

By and large, the analysis of labour processes in both work on-demand and crowdwork tells a similar story: the larger the number of unpaid activities included in the labour process (V'), the higher the rate of exploitation in platform work.

$$\text{Surplus} - \text{value rate}_{\text{platformwork}} = S/V'$$

In this sense, ‘the expanded surplus value production depends on the progressive erosion of worker control over the labour process’ (Spencer, 2000, p. 225) through the introduction of algorithmic management. A manifest labour invisibilization process seems, thus, to take place extensively in this sector. Platforms do not recognize, or pay for, a large portion of their workers’ labour-time and, consequently, generate extra-surplus-value. From the workers’ perspective, this means that they do not earn a living wage to survive solely from their platform job but need to combine other jobs or working activities to make a living (Pulignano et al., 2021; Wood et al., 2019).

However, platform workers have been able to fight back against these new and old forms of exploitation. The valorization process adopted by the platforms has, in fact, produced a downward impact on working conditions and regulation of employment, triggering the emergence of antagonism and worker solidarity (Tassinari & Maccarrone, 2020). In both work on-demand via apps and crowdwork, workers have successfully organized collective actions to claim better working conditions, pay, social rights, and various forms of insurance (i.e., healthcare, pension, and so on), as well as redress for violation of contracts and labour laws (Joyce et al., 2020). From a dialectical perspective, this shows that, whereas some features of the labour process have operated against the emergence of worker solidarity, others have acted as a trigger for collective action.

In this respect, the most combative segment of the platform workforce has been food delivery couriers (Cini, 2023), who have staged forms of collective action over the last years, initially and especially in several European countries (Joyce et al., 2020; Tassinari & Maccarrone, 2020). More recently, wildcat strikes and street demonstrations against *Uber Eats*, *Glovo*, *Rappi*, and *iFood* have taken place in various Global South countries, such as Costa Rica, Guatemala, Brazil, Mexico, Ecuador, Chile, Peru, and in Argentina, India, Indonesia, and China. These strikes were called

in protest at working conditions, particularly following the global Covid-19 pandemic. They built on demands being made in different contexts and regions, demonstrating a familiar pattern: higher wages (including a minimum rate), protective equipment for workers, improved terms and conditions, lack of accountability, and deactivation by the platform (Woodcock, 2021).

Even in crowdwork, forms of collective solidarity have emerged recently (Wood et al., 2021). For instance, Amazon Mechanical Turk workers have increasingly made use of the client reputation system, Turkopticon, to rate employers in terms of fairness, responsiveness, and generosity of pay (Irani, 2015). Such an alternative use of the rating system has allowed these workers to make their relationships with employers visible and to call those employers to account (Altenried, 2020). Turkopticon has, in fact, created an internal and specific voice opportunity for Amazon Mechanical Turk workers, who from time to time have orchestrated brand-shaming campaigns against Amazon with some success (Irani, 2015).

By and large, the overarching and explicit goal of all these mobilizations was to demand the recognition of a formal employment relation (Tassinari & Maccarrone, 2020; Wood et al., 2021). The outcome of such struggle can determine the degree of formalization that labour relations exhibit in the sector. Where workers' collective organizing is strong, such relations are more likely to be institutionalized and integrated into the existing system of industrial relations (i.e., Global North regions); in contrast, where such organizing is weak, informal and invisible types of labour relations are doomed to dominate and endure (i.e., Global South regions) (Joyce et al., 2020). The uncritical acceptance of a linear conception of capitalist development from informal to formal employment relations is refuted here by showing that the balance of class force is crucial in facilitating or limiting a more beneficial outcome for workers. In this regard, platform workers – especially food delivery couriers – aimed not only to demand higher wages and all the labour rights inherent in a standard employee contract, but also to question the role of platforms and their unfettered power over them (Woodcock, 2021). From this angle, the structured antagonism occurring between platforms and their workers can be seen as a political struggle over the value of workers' labour-power. The magnitude of such value measures a power relation between opposing forces: the more on the workers' side, the higher.

Textile-clothing

The exploitation of the textile-clothing workforce is orchestrated through the production pattern of the global value chain (Gereffi et al., 2005). Global value chains are a model of commodity production geared to the reduction of (labour) costs. Their operational logic is to outsource all labour-intensive activities to small and informal establishments in Global South regions to circumvent international labour standards. This process allows the outsourcing of responsibility and pressure to informal actors in countries with lower levels of labour rights and laws (Carstensenn, 2021). In short, a global value chain is a production network between different actors and processes in search of cheap labour. Albeit producing distinct types of goods, every

single chain operates, thus, in the same manner: a transnational corporation (generally headquartered in a Global North country) externalizes part of its operations to a partner firm in which it has no formal ownership (generally based in a Global South country), while maintaining a high and tight level of control over the operation by contractually specifying the way in which it is to be conducted. In such relationships, most of the lead firm's profits appear to arise as a result of its own valued-added activities in the countries where the commodities are consumed (especially in the Global North), and the super-exploited workers, employed in the labour-intensive phases, are recognized as making only a very marginal contribution (Smith, 2016). Accordingly, the surplus produced in the low-wage segment of the world is siphoned off and accumulated by the transnational corporations located in the Global North.⁹

The exploitation of textile-clothing workers is a case in point of this particular labour regime of production (Baglioni, 2021), where a lowly paid female workforce is put to work. In such a regime, formally independent small factories and workshops, located in Southeast Asia – especially India, Bangladesh, and Pakistan – are pressured to deliver very cheap fabrics and garment components to transnational corporations (headquartered in the US and Europe), representing the sole owners of the final product and ultimate supervisors of the chain. The disciplining and exploitation of women, at home and in factories, ensure, thus, a high rate of surplus-value for capital. Various classical forms of absolute surplus-value extraction, induced by this labour regime, are manifested in the sector. More specifically, three modes of labour-time capture that these workers undergo can be singled out.¹⁰

- i *Labour control*. The first form in which the capture of workers' labour-time occurs in the textile-clothing sector is through the strengthening of control and the (informal) extension of the working day beyond the scope of paid labour. A significant number of this workforce (especially single young women) live in informal dormitories, close to the workplace, where employers exert strong control during and after work. By guaranteeing such control, these informal settlements expand exploitation rates, contributing directly to labour-surplus extraction and value generation (Mezzadri, 2020).
- ii *Labour circulation*. The second form in which value is extracted from these workers is through their forced (seasonal) internal circulation. More specifically, employers externalize all costs of labour-power reproduction by sending home their workers once production is over or halted. In India, the reproduction of the

⁹ For Roy (2017, p. 39), this value-capture process occurs because 'the value[s] produced in the developing South are captured not at the point of production rather at destinations for consumption by transnational corporations. Value capture occurs not because parent firms contribute in a large measure to production activities but because they maintain control over design, development, distribution channel[s] including the ultimate retail loop.'

¹⁰ To build this part, I have drawn especially on work by Mezzadri (2019, 2020), who has extensively investigated the garment sector in India, but similar forms of value extraction are present in other global value chains. Gore and LeBaron (2019, p. 570), for instance, depict three forms of value capture undergone by African workers in the cocoa industry: 'i) the non- and under-payment of wages, ii) requirements to complete unpaid labour as a condition of employment; iii) the lending of money to workers and charging high interest rates.'

industrial workforce is, indeed, ensured by its embeddedness in informal economies of care operating in rural areas (Mezzadri & Majumder, 2020). By offering this free safety-net infrastructure, such economies also ensure the cheapening of labour below its reproduction cost – a process that, in the specific case of female garment workers, is reinforced by patriarchal norms.

- iii *Domestication of labour.* The third form in which surplus-value is captured is through the use of domestic labour and the related process of ‘housewifization’ (Mies, 1986; Mezzadri, 2020). Notably, ‘housewifization means the externalization, or ex-territorialization of costs which otherwise would have to be covered by the capitalists’ (Mies, 1986, p. 110). When labour can be outsourced to the home, employers’ costs in terms of real estate and equipment can be eliminated or reduced (Finkin, 2016). The economic logic of this housewifization is a significant reduction in labour costs (Mezzadri, 2019). This is a form of value extraction based upon what Marx (1867/2015) called and identified as a ‘putting out’ system: part of the labour process is carried out at home by (normally) female workers, whereas some middle men must assume the costs of delivering raw materials and collecting products.¹¹ Similarly, some highly labour-intensive parts of the textile-clothing production process are today outsourced to Indian households, where the female components carry out specific working tasks. Yet, these women are not fully, or only, perceived as (factory) workers, but also as housewives, and all the extra domestic work that women do is considered as supplementary. They work from home for both textile-clothing production and the reproduction of the household in which they are embedded. Textile-clothing capital does not pay them for the latter activities and can also exploit the household to avoid various costs (i.e., commuting time, food, breaks, and so on) for the former activities. Therefore, the household produces and reproduces a reserve army of cheap female labour, paid well below the cost of their reproduction (Baglioni, 2021).

Overall, and different from the platform work case, my analysis of the textile-clothing labour process indicates that specific forms of absolute value extraction (labour control) and labour casualization (labour circulation and domestication of labour) are today intrinsic to this production regime. Here, capital tends to externalize the costs of labour-power reproduction. Garment capital makes use of what Marx defined in *Grundrisse* as the capitalist appropriation of ‘the free gift of nature’ (Marx, 1857/1973, p. 627), meaning capital’s capacity to appropriate, for free, natural (and social) resources for its self-expansive purpose. In textile-clothing, what capital appropriates for free is the social reproductive infrastructure of the local communities and households where its labour processes are embedded. This allows it to lower the value of labour-power and, therefore, to augment the amount

¹¹ Marx (1867/2015) had already discovered the crucial role of gender- and age-specific labour components in the accumulation process when analysing the way in which capitalists restructured the labour process, replacing more expensive male workers with cheaper female (and child) labour-power. Capital always seeks to exploit large numbers of workers in oppressed social categories (in this case women), whose reproductive value is less than that of others.

of surplus-value achieved. From the workers' perspective, this means that they do not need to earn a subsistence wage with their garment job, as they can always – and they do – rely on the free supporting webs of their families and communities to survive.

However, textile-clothing workers also have succeeded in staging some forms of collective resistance. Like in platform work, the antagonism between capital and living-labour is manifested here as a struggle over workers' labour-time. As Mezzadri and Majumder (2020, p. 7) stated, such conflict is 'a struggle between the time employers aim to devote to production and realization of surplus and the time workers need to reproduce their value as labour-power, replenishing their means of subsistence and bodies to continue selling their labour.' Put otherwise, garment workers' principal objective is to fight against their invisibilization process in this socially expanded circuit of commodity production by claiming recognition of their contribution to this production. Like platform workers, their mobilizations are not only about recognition of a formal employment relation, but also about the conquest of a favourable power relationship between two antagonist forces at a broader societal level (Bieler & Nowak, 2021), whose outcome determines the value of their labour-power. Such value is, therefore, the measure of a class relation: the larger its magnitude, the higher the worker-power in society at large.

Looking at these processes from a dialectical perspective, one can better grasp the political significance of their antagonism. Although capital, for its self-expansion, is able to make use of textile-clothing workers' social resources beyond the formal workplace, workers are, at the same time, able to (counter)use such resources to fight back against capital. Several studies on labour conflicts in the garment industry have, indeed, shown how and to what extent such conflicts depended more on the social networks to which workers had access outside the formal workplace (and trade unions) (Nowak, 2019; Atzeni, 2021; Helmerich et al., 2021). In these conflicts, informal networks beyond the workplace proved to be essential resources for their mobilization. For instance, in Cambodia, neighbourhoods and homes served as the organizing basis for the strikes and mass mobilizations of female garment workers to demand better working conditions, even outside and against male-dominated trade unions. In this case, it was their reproduction space – the social webs of their local communities – that became the centre of political organization (Bieler & Nowak, 2021). Likewise, female garment workers in India fought simultaneously against male-dominated unions and against capital, combining workplace-based activity with organizing in neighbourhoods focused on social reproduction needs, to see their labour and rights formally recognized (by both male-led unions and their employers) (Mezzadri, 2020).

To conclude, one lesson in particular can be drawn from the mobilizations of textile-clothing workers and, more generally, from the struggles of Global South workers. As all these struggles cut across what are often conceived of as separate areas of production and reproduction, it is impossible to draw a neat division between workplace organizing and social movements. Therefore, to understand these mobilizations, it is necessary to go beyond what occurs within the formal workplace, as the antagonism of capital–labour relations, as well as the reproduction of their interdependence, 'is fundamentally shaped by the spatial contexts within which this occurs'

(Cini, 2021, p. 5). In short, and similar to the analysis of platform workers' conflicts, the adoption of a dialectical, holistic approach seems very appropriate here.

Concluding remarks

Reinvigorating the debate on what constitutes value seems a compelling way in which to understand the contemporary capitalist economy, characterized by both informality and technological innovation. Bringing the theory of value back into the analysis of these processes helps to make sense of their origins, of their underlying relations, and, above all, of the social forces that have generated them. In this article, I have done so by critically engaging with the Marxist labour theory of value, which turns out to be well suited to account for the above transformations.

In comparing the textile-clothing and platform labour sectors and their conflicts, I have argued that labour-time is still a key measure of value production in capitalism. My study has shown how one of the main conflicts today in the global economy is precisely about the value of labour-power. However, the focus on platform work has allowed me to identify the specificity of the process of value extraction within that sector, under the remote but pervasive control of algorithms, in contrast to the absolute forms of surplus-value extraction in textile-clothing. Notably, platform capital aims to capture a growing share of workers' unremunerated labour-time at the expense of their formally paid share at the point of production, whereas workers strive to see it fully recognized. What is more – as I have demonstrated in the paper – it is precisely the execution of these unpaid activities that allows workers to access their paid tasks. I called this dialectical relation over labour-time capture in the labour process the invisibilization of labour, which I have singled out as being a relevant form of surplus-value extraction in capitalism, only marginally identified by Marx in *Volumes I and III of Capital*.

This revisited theorization has allowed me to provide a more political comprehension of value that appears relatively more attuned to understanding contemporary processes of labour informalization and technological innovation. These processes are seen as the result of power relations between opposing forces. More specifically, by analysing the logic of exploitation of the platform workforce, I have shown how the processes of labour invisibilization and labour commodification are inherently related: the more platform work is commodified, meaning, weakened in terms of rights and protections, the more its contribution to the valorization process tends to be invisibilized. Identifying this invisibilization process helps to overcome the sharp and controversial analytical distinction between informal and formal labour (Bieler & Nowak, 2021). Indeed, if one admits capital's tendency to invisibilize labour and living-labour's tendency to fight against this, then the formalization of labour relations in a given society can be understood only as the result of capital–labour antagonistic relations. Recognizing this dialectic helps eschew both a deterministic understanding focused on the centrality of capital and a voluntaristic approach devoting unique attention to workers' agency.

To conclude, my paper has offered a more articulated understanding of free wage-labour and its formation process. By shedding light on capitalism's hidden

histories, I have illustrated how the presence of coerced and unpaid labour under capitalist social formation is not an anomaly but the result of capitalist dynamics. Capitalism is a mode of production based on the extraction of surplus-labour through a variety of forms of exploitation, of which wage-labour represents only one possibility. Liberals and orthodox Marxists define coerced labour, instead, as a deviant form of exploitation, obtained by extra-economic and extra-legal means, and thereby as qualitatively different from free wage-labour, the only ‘normal’ capital–labour relationship. Yet, looking at concrete empirical occurrences reveals how difficult it is to draw a clear distinction, as unfreedom and exploitation are experienced in complex real-world situations, determined by different processes still occurring today, such as neo-colonialism, land dispossession, human trafficking, and so on. Seen from this angle, unfree labour is not situated in a deviant sphere, but, rather, can be seen as embedded in the global political economy. This insight allows the rediscovery not only of a capitalist history of unpaid women’s contributions, but also of a broader history of the wageless across time and space. Capitalism is about, and above all, the exploitation of unpaid (and coerced) labour.

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Data Availability All the COGONU data are stored in a google drive folder associated with the researcher’s UCD email account (lorenzo.cini1@ucd.ie), which is protected by Multi-Factor Authentication (MFA) and accessible only to the researcher.

Declarations

Conflict of interest I declare no conflicts of interest.

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