1. Value, rent and platform capitalism

Nick Srnicek

INTRODUCTION

As data have become central to the modern economy, reflections on its value and contribution have proliferated.¹ The aim of this chapter is to try and cut through the various accounts of value in the digital economy, highlighting inconsistencies and misunderstandings where needed, as well as extracting useful mechanisms and concepts where possible. In particular, this chapter will critique the currently dominant approach to data's value: the free labour thesis which argues that our online activities are productive of surplus-value. While this account of how value is produced, circulated, and captured offers intuitive (and sometimes comforting) analyses, I will argue that it nonetheless relies upon mistaken assumptions and inferences. In its place, I will offer an account that focuses on rent and value appropriation, rather than value creation. This approach will draw upon a Marxist analysis of the economy for its utility in understanding economic dynamics beyond the surface-level flow of prices, as well as its emphasis on medium- and long-term trends within a historical mode of production. The ultimate goal here will be, at a high level of abstraction, to set out where and how platforms are situated within the value-theoretic circuits of contemporary capitalism.² This macro-level picture will help to frame later chapters in this book, focused on the more detailed elements of work and labour relations.

While much of the ensuing discussion will be pitched at a high level of abstraction, these arguments are not merely scholarly. They touch upon some of the key issues today for understanding the systemic dynamics of global capital. Most notably, the question of whether the free labour thesis is true or not has an enormous bearing on how capitalism is doing. If true, the incorporation of billions of users into an unwaged digital system of capital accumulation should indicate that we are – or soon will be – in a new period of solid economic growth.³ If false, we should instead expect that capitalism is and will continue to be sluggish and prone to all sorts of emergency measures to ward off imminent crisis. One look at the rise of negative interest rates, the ballooning balance sheets of central banks, and the protracted recovery

from the 2008 crisis, would all suggest that the free labour thesis should be held with some suspicion. The contrasting approaches also have different implications for the world of work and labour relations. The free labour thesis would claim that work is extending across the social factory, and that more and more of our activities are being directly incorporated into the circuits of capital. For this approach, it ultimately matters little whether it is waged or unwaged work that is expanding. The alternative approach would, instead, argue that wage-labour remains the focus of the accumulation process and that efforts to constrain the power of these workers continue to take precedence. The debate over where and how value is created in the digital economy has political implications as well. If the free labour thesis is correct, then there is a persuasive case to be made that users deserve Wages for Facebook (modelled after the original Wages for/against Housework campaign)⁴ (Toupin 2018). If the thesis is mistaken, then our strategic resources would be better turned elsewhere. Likewise, there are implications for any strategic analysis of capitalists' power. A free labour approach might see less antagonism between platform firms and non-platform firms, whereas the approach we will elaborate here sees a growing source of antagonism between these two capitalist fractions. To get a better sense of which approach better approximates the conditions of contemporary capitalism, we will now turn to a more in-depth analysis of their arguments.

1 A CRITIQUE OF THE FREE LABOUR THESIS

Originating in the wake of the dot.com boom with Tiziana Terranova's path-breaking work, the 'free labour thesis' has gone on to become what is arguably the dominant Marxist approach to the data-driven economy of today (Andrejevic 2014; Brown 2014; Cohen 2008; Coté and Pybus 2007; Fuchs 2017; Greene and Joseph 2015; Jarrett 2014; Terranova 2000). Though not without its critics, the free labour thesis has become entrenched as both a dominant common sense in critical writing around the digital economy, as well as a more widely circulated intuition that is increasingly appearing in mainstream media discussions (Posner and Weyl 2018; *The Economist* 2018). While there is a strong autonomist Marxist strand, the most sophisticated versions of this argument often draw upon the work of Dallas Smythe and his unique approach to the role of advertising within capitalism (Smythe 1977). We will here take Christian Fuchs' work as the most developed version of this approach.

For Fuchs, time spent by users on social media platforms is time that produces value in the form of data commodities that are sold to advertisers (Fuchs 2014, pp. 89–90). This includes both the active creation of online content as well as the more passive 'data exhaust' created by simply being online. This data commodity then has its value realised when users interact⁵ with the subse-

quent ads and the advertiser pays the platform (Fuchs 2014, pp. 117–18). This online activity is deemed to be exploited and therefore value-producing.⁶ This labour is also deemed to be ideologically coerced – one can leave Facebook, but only by withdrawing oneself from a key means of sociality (Fuchs 2014, pp. 90–1). This aspect is important because a key element of wage-labour is that it is coerced: if the proletariat had access to their own means of subsistence, they would not need to enter into and compete on a labour market and capitalism would lose its value generator. An element of coercion is therefore an essential condition for value-producing labour. Lastly, Fuchs also argues that, like wage-labour, this online labour is alienated in that the workers do not own the data and content that they produce online.

There are a number of arguments that can be laid against this position. We will begin by taking the argument at its strongest and assume that its claims are true. In this case, let us fully accept the free labour thesis – our online activities are value-producing. Yet immediately we can raise suspicions about how significant this added source of value creation is to the digital economy.⁷ Looking at the top-tier Western platforms,⁸ only Facebook and Google are dependent on advertising.⁹ Amazon is increasing its share of advertising but remains much more dependent on cloud computing and its North American ecommerce platform. Apple and Microsoft also have small advertising segments, but their businesses are dominated by other elements. And even among the two advertising oligopolies, Google is shifting towards new revenue sources in the form of cloud computing, gaming, and general consumer hardware. This is part of a broader turn towards enterprise-facing businesses – with Amazon's Web Services (AWS) perhaps the clearest indicator of this, as the company's operating income largely comes from this enterprise service, rather than from more consumer-facing ecommerce. So even if the free labour argument is entirely correct, it appears to only explain a small – and dwindling – portion of the digital economy.

More fundamentally, we can question whether these activities are in fact generative of surplus-value. The Marxist framework offers a very stringent set of conditions that have to be met in order for surplus-value to be created by a production process. In particular, value-producing work is waged labour that operates in the context of a production process with markets for inputs (labour, in particular) and markets for output, where the overall aim is an expansion of value. (Importantly, this does not mean that value-producing labour is only industrial labour or physical labour – every economic sector, as well as immaterial labour, can be considered to produce value *under the right conditions*.) Do our online activities meet these criteria? First of all, personal data is not typically sold by these firms. While data brokers do commodify data in some sense, this is not the business model of the advertising platforms (Christl and Spiekermann 2016; Federal Trade Commission 2014). Instead,

what companies like Facebook and Google do is use data to create and offer finely targeted advertising spaces that companies can then bid over. This is not the sale of data to another entity in any meaningful sense. Yet even if data was commodified and sold, the data is not produced in a competitive market with the aim of increasing value. Put simply, just because something has been commodified and sold in market does not make it a *capitalist* commodity. For that to take place, the production process of the commodity needs – at a minimum – to be oriented towards the market, the creation of surplus-value, and the reinvestment of that value back into a new production cycle. For a number of commodities, these conditions simply do not hold: for instance, informal petty commodity production in developing economies, most artistic products, and most online activities (Sanyal 2013; Beech 2016).

Perhaps more to the point, there is no notion of socially necessary labour time – and therefore no notion of abstract (value-producing) labour – within the unpaid ‘work’ of online activities. There is no market mediation of this ‘work’, which would render inefficient work as uncompetitive, and which would drive the competitive systemic search for greater productivity. There is, in other words, no implicit standard against which any given production process could be measured as either efficient or inefficient. For example, if a data commodity is produced by our online activities, what quantity of socially necessary labour time (SNLT) does it embody? Fundamentally, this is impossible to determine. SNLT requires competition between different producers, mediated by the market and validated by exchange, in order to exist. Absent these sorts of conditions, all we have is concrete labour time and use values. It is telling, therefore, that when Fuchs goes to calculate the value created by unpaid Facebook users, he relies upon concrete labour time (Fuchs 2014, p. 105). There is no notion of abstract labour time that could be used to carry out the same calculations. In fact, arguably, the very nature of personal data means that it cannot be subjected to a capitalist production process without destroying the very characteristics which make it useful in the first place – its (relatively) spontaneous, unmanaged expression of someone’s behaviour. If the processes which generate authentic personal data were to be really subsumed, that data would become an expression (predictable and pointless) of that rationalised production process, rather than an expression of a self.

All of this is not to say that online activities *can’t* be value-producing. The social media manager for a firm may spend part of their time producing content to be shared online – and this would be value-producing work. The difference is the social relations into which the same activity is placed: waged and guided by capitalist imperatives, or not?

2 RISE OF THE RENTIER

A major part of the reason for the dominance of the free labour thesis is that it appears to parsimoniously explain a key intuition of the platform economy: that our personal data *is* incredibly valuable for the technology giants. And yet, as we have argued here, the free labour explanation relies on illegitimately applying the concept of productive labour beyond its remit. So how else can we explain the utility of data extraction while simultaneously explaining the vast wealth and resources of the largest platforms?

To begin with, we need to recall that within a Marxist approach, the *distribution* of value is not necessarily in direct correspondence with the *production* of value. In the simplest model of how this asymmetry emerges, we might imagine the production processes of capitalism as creating a vast and growing pool of surplus-value, which is then appropriated afterwards and distributed amongst a variety of capitalist and non-capitalist actors. Crucially, this entails that there is no direct or necessary relationship between the surplus-value created by a capitalist and the surplus-value appropriated by that same capitalist. With respect to the platform giants, this means that their obvious capacity to capture value need not be matched by their immanent capacity to produce value.

The first way in which this divergence between production and appropriation occurs is through the equalisation of the profit rate across industries.¹⁰ As a result of the tendency for capital to seek after the highest rate of profit, producers will move into sectors with abnormally high rates of profit. This leads to more supply (as existing firms invest more to take advantage of high profits), more competition (as new entrants move in to take advantage of high profits), and the ensuing dynamics eventually create a lower rate of profit for that sector. The opposite process happens in industries with a low rate of profit, until the (tendential) point at which the rates are equalised across industries. Significantly, for our purposes, the rates of profit will thereby diverge from the sources of the profit. Industries with low organic composition will create most of the surplus-value, but as a result of the equalisation process will tend to receive less value back than they created. By contrast, industries with high organic composition will create less surplus-value but will appropriate more of it in the end.

The second way in which the location of value production diverges from the location of value appropriation is through the use of economic and political power to capture surplus-value created elsewhere. For example, a capitalist financed with a large debt may produce a significant amount of surplus-value, but interest and tax payments will require that a cut of that surplus-value be distributed to finance capital and government. The latter two actors have

not necessarily created any value, yet they have provided services which are necessary for the reproduction and realisation of the initial productive capital. Their roles and positions within the overall accumulation process therefore enable them to appropriate surplus-value despite not necessarily producing any surplus-value. As a result, the initial capitalist ends up with less surplus-value than they produced. This is a general process throughout the capitalist system:

There are many other modes of appropriation of surplus value, such as monopolization of sectors of the market, marketing and advertising, establishment of intellectual property rights through patents, copyrights, and trademarks, ownership of scarce energy or other natural resources, superior cleverness in arranging financial transactions or structuring financial property rights, controlling medical treatment, and so forth. (Foley 2013, p. 260)

Through a variety of means, therefore, economic actors (whether capitalist or not) will tend to use their powers to capture as much value from the aggregate pool of surplus-value as possible.

It is this second process which is particularly significant in explaining the contemporary dominance of the platform giants.¹¹ The argument in the remainder of this chapter will be that ‘rent’ is the most appropriate category for understanding the location of platforms in the capital accumulation process.¹² This argument will build on, though diverge from at points, a number of recent works on the topic (Christophers 2019; Fine 2019; Mazzucato 2019; Rigi and Prey 2015; Sadowski 2019, 2020; Zeller 2007). What then do we mean by rent? First of all, we do not mean the neoclassical idea of rent-seeking, which refers to government interference in markets that enables a firm to extract higher profits than would otherwise be possible (Birch 2019, p. 10). This concept of rent remains beholden to a neoclassical image of markets and states and postulates perfectly competitive markets as the natural state of things. We will instead draw upon Marx’s notion of rent which, while focused on the ownership of land, can be usefully generalised for a broader understanding of how rents operate today. While Marx differentiates between a number of different types of rent (differential, absolute, and monopoly), the common element is that rent is income which accrues from the ownership, control, and/or possession of a scarce asset¹³ (Birch 2019, p. 2; Christophers 2019, p. 2; Foley 2013).

The notion of rent is useful here for a few reasons. First, as argued above, it helps us to situate platforms in relation to the productive economy. Second, it helps us to understand that much of the value of the digital giants is the result of ownership and/or control over scarce assets. This is most obviously (personal) data, but it is also a matter of infrastructure and intellectual properties as well. Lastly, this more general notion of rent leads us to an important point: that while Marx wrote about rent as something stemming from a natural asset (i.e. land), the idea of rent as ownership and/or control over a scarce asset

ultimately does not distinguish between natural and non-natural assets. The concept of rent can apply to any asset, which allows us to extend the idea – and the mechanism of value capture – to a much broader range of economic phenomena than is traditionally the case. In Christophers' work, for instance, eight different types of assets are outlined, each with their own particular dynamics, and each with their own history of prominence and occlusion (Christophers 2019). The distinctions between natural and non-natural assets, in turn, give rise to different discursive apparatuses surrounding their production, maintenance, and justification. The ownership of land, for example, is more readily deemed 'unproductive', whereas ownership of non-natural property contains the vestiges of productive activity which are often mobilised when it comes to arguments around the validity of intellectual property.

With these basic characteristics of rent in mind, the remainder of this section will argue that we can distinguish between three prominent mechanisms of rent in the contemporary digital economy: intellectual property rents, advertising rents, and infrastructure rents. Each of these is in play, to varying degrees, in all the major platforms – though some have obvious affinities with the types of platforms I have outlined in *Platform Capitalism*. Advertising rents are obviously most closely associated with advertising platforms as their primary source of revenue. Infrastructure rents are, in turn, more closely associated with the cloud platforms and lean platforms.¹⁴ Platforms, in general, are much more about the capture of value from elsewhere in the economy. Data, in this reading, rather than being a source of all digital value, are instead a means to achieving the capture of rents. It is a valuable input (i.e. raw material) which enables, for example, the creation of personalised ad spaces, the production of new proprietary goods and services (such as a search engine), and the optimising of existing goods and services (such as cloud provision). While there are presently limited cases where data function as a commodity exchanged on the market, more often than not data act as an input that differentiates companies from their competitors. Instead of seeing data as the result of exploitation therefore, it is perhaps more useful to see them as the result of appropriation.

3 INTELLECTUAL PROPERTY RENTS

The first major source of rents for the digital platforms – intellectual property (IP) – has been covered quite extensively in the existing literature (Foley 2013; Frase 2016; Perelman 2003; Stalder 2018). In this case, companies create – or today, more often purchase – valuable knowledge, information, technologies, and other immaterial products. Unlike traditional physical assets, there is no a priori reason that these immaterial assets could not be replicated and spread around to anyone who might find a use for them. Except, crucially, the state then applies and enforces IP rights which enable companies to exclude others

from using these immaterial assets. In other words, the state extends the property-form to intellectual products, and thereby grants a monopoly over this IP.¹⁵ With monopoly ownership of a scarce asset, firms are then able to extract a rent from other economic actors who want access to that resource.¹⁶

Such rents play a large role in numerous industries today, such as the pharmaceutical, biotechnology, consumer products, or entertainment industries (Christophers 2019). With their emphasis on information, they also play a large role in high-tech industries as well. In terms of the major platforms, all rely quite significantly on IP for their respective power, but many also generate significant revenues from the strategic licensing of IP. Microsoft is perhaps the leader amongst the top platforms, boasting of having more than 61,000 patents (with a further 26,000 pending) and listing US\$17.3 billion of intangible assets (pre-amortisation) in its financial statements for 2019 (Microsoft 2019). Such is their importance that absent the IP surrounding Microsoft Windows, for instance, it is difficult to see how the company would be in the market-leading position that it is right now.

This highlights another point about IP: that it can be used in a variety of ways to create market power, with rents existing in a number of direct and indirect forms (Christophers 2019; Zeller 2007). The most obvious rent is the income that accrues from charging others for access to the IP. Microsoft Windows, for example, charges users a fee to download and use the operating system; and Microsoft's more recent shift to cloud software means that access is something which is constantly threatened by repeal. More generally, licensing fees and royalty payments are all examples of this type of rent. A second form of IP rent emerges when a company uses IP to create a product or service that, because of IP exclusion, others cannot copy. The company can then sell that product and reap the rewards from having monopoly rights over the IP at the heart of it. Many of Google's platforms are examples of this, with proprietary knowledge lying behind the services that draw in users, extract their data, and attract advertisers. Lastly, IP rent can also occur when a company directly sells its IP rights to another company, effectively turning the IP into a financial asset that can be used to reap an income stream immediately. For example, in 2011 Google spent more than US\$12 billion to acquire a smartphone company, Motorola Mobility (Taylor and Waters 2011). While Motorola was deemed a lagging company at the time, it did have access to more than 17,000 patents that were crucial for Google's struggle with Apple – and therefore Motorola's owners were able to turn them directly into commodities to be sold.

As with the other rents, their existence is often premised on a foundational kernel of surplus-value production. In this case, for instance, the initial production of IP is (typically) a value-producing activity. The wages, fixed capital, and production process for generating immaterial products are no different in value terms than the production processes for creating material products. Both

of them can generate surplus-value in the process. The difference arises after the production of the product, when the potentially widespread cheap replication of IP is instead locked up by monopoly rights and an income stream of rent is generated. Moreover, because intellectual property is non-rivalrous, it means the potential rent is not constrained in the same ways that land might be, reducing the significance of the initial production process.¹⁷

Advertising Rents

The most obvious rent, one which has a large and direct impact on the user-facing levels of the internet, is advertising. Here, monopoly ownership over personal data – and the network effects that draw in user data – combines with the creation and control of targeted online advertising spaces. The more data one has, the more targeted an ad can become, meaning that the handful of companies with massive amounts of personal data are able to effectively dominate the market. Advertisers, eager to spread word of their products, then rely upon these scarce assets and pay a rent to their owners in order to post their ads in the most valuable spaces. In traditional Marxist terms, it is a flow of surplus-value from the productive sectors of the economy towards a non-productive sector – one which is oriented towards the realisation and validation of surplus-value, but which has no direct role in the production of surplus-value. In effect, the handful of firms who control the data which enable targeted advertising build an online environment which they then rent to others for a fee.

Two of the largest Western platforms, Facebook and Google, are almost entirely indebted to the extraction of advertising rents. In their most recent financial statements, Facebook received 98.5 per cent of its revenue from advertising, while Google received 85.8 per cent of its revenue from advertising.¹⁸ A third major platform, Amazon, is also seeing rapid growth in this area (Weise 2019). The source of these firms' particular power in the digital advertising market, however, stems from their control over massive collections of personal data. Here, personal data are used to reduce costs (of finding out information about individuals) and to create targeting systems that ostensibly offer prime real estate for those who want to market their products.

Nothing of this is to say that advertising does not play a value-theoretic role in capitalism. For instance, the production of ad platforms can, itself, be surplus-value generating as a firm employs constant and variable capital in order to produce market research commodities, technological platforms, and other outputs. But in general advertising's role is heavily circumscribed and almost entirely related to the distribution of value rather than the production of value. Advertising may shift demand from one firm to another, or one sector to another – but both are redistributions of demand. Advertising may also create

new demand, but in this case it, at best, decreases the turnover time of the production process¹⁹ (Lebowitz 1986, p. 168). With targeted advertising, the promise is that the data collected can enable advertisers to more quickly – and cheaply – find consumers, thereby reducing their turnover time and enabling the capital tied up in the process to be channelled instead towards production. As Bruce Robinson says, ‘Functionally, it may be seen to play a role analogous to traditional market research in aiming to provide the basis for a more precise relationship between the seller and the market’ (Robinson 2015, pp. 46–7). Advertising can enable, in other words, individual capitalists to more rapidly create surplus-value, but advertising does not, in itself, create surplus-value (Caraway 2016, p. 77).

Infrastructure Rents

While intellectual property rents and advertising rents have been covered quite extensively in the existing literature, the third primary form of rent has been much less discussed. Infrastructure rents emerge from the fees paid for access to the use of a platform. As Christophers points out, such rents are neither natural (like land) nor state-created (like intellectual property), but instead emerge from the network effects that drive platforms towards monopolistic positions (Christophers 2019, p. 11). As a result, their scarcity is a product of these dynamics, and as the economy becomes increasingly digitised the owners of these platforms gain more control over the fees that can be charged to access them.

Cloud computing is perhaps the clearest example, with businesses renting access to hardware and software that, in an earlier era, they would have owned. But infrastructure rents also emerge to a less obvious degree from the rise of the ‘as-a-service’ business model whereby others retain ownership over a particular asset (cars, homes, bikes, etc.) and then charge users a fee to access them for a period of time. As Jathan Sadowski has put it, through this ‘platforms have [...] been able to expand rentier relations in ways that *enclose* everyday things’ (Sadowski 2019). Infrastructural rents also exist in the form of intermediary platforms that others come to rely upon. Uber and Airbnb, for instance, appropriate a part of the economic transaction that their platform makes possible (Christophers 2019, p. 11). The economic actors who use these platforms are, in effect, paying a tithe to the platform owners in order to use their scarce asset.

While part of infrastructure rents emerges from control over key intellectual property, fixed capital is an essential aspect for their existence. AWS is the exemplar here, with vast amounts spent on building a planetary-sized computing infrastructure – a scale that precludes all but a few competitors (currently, Microsoft, Google, and Alibaba) from ever standing a chance in the market.

This infrastructure also manages to appropriate a vast amount of income for Amazon. In 2017, for instance, more than 100 per cent of Amazon's operating income came from AWS.²⁰ In effect, the rest of Amazon was losing money, while the cloud computing unit was bringing in more than US\$4 billion of operating income. Such is the influence of infrastructural rents in our contemporary era.

As with the other forms of rent though, it is not all unproductive activity, and cloud computing does have other impacts on value. Most obviously, cloud computing is desirable for businesses because it enables the rapid expansion of resources, often at levels of technical expertise that are far beyond what the businesses themselves can provide, effectively increasing productivity and the extraction of relative surplus-value in many cases. Similarly, the pure intermediary platforms have rapidly expanded in part because they reduce transaction costs and thereby (at least potentially) raise the rate of profit for firms that rely on them. Their impact on value creation also extends to their ability to reduce turnover times, enabling less capital to be tied up in the circulation process and more of it to be devoted to productive activities (Dantas 2019, p. 142).

CONCLUSION

Given these three forms of rent, the primary conclusion to be drawn is that much of platform capitalism is based on the appropriation of value that is produced elsewhere in the global economy. As we have been at pains to point out, this is not to say that these platforms have no impact on value accumulation, as, for instance, platforms can reduce transaction costs for other businesses and thereby impact the rate of surplus-value creation for those businesses. Nor is it to say that these platforms have not created what mainstream economists call 'consumer surplus' that goes unmeasured by metrics based upon monetary forms (Brynjolfsson et al. 2019). Yet what is ultimately determinant for capitalism qua system is capital accumulation as expressed in monetary form. And in those terms, platforms are more impediments than accelerants.

This presents a number of direct consequences. If platforms are predominantly rentiers, then capitalism not only does not have a new source of value, in fact it has a new obstruction to accumulation – a conclusion which is diametrically opposed to the free labour thesis. The growth of this rentier sector is doubly damaging for capital. It means, first, a reduction in the average rate of profit because these non-productive capitalists must receive the same rate of profit as other sectors – yet they generate no new surplus-value themselves, and instead act to thin out the total surplus amongst more capitalists. Second, since these tech rentiers are monopolists, they also prevent the equalisation of the profit rate by impeding the flow of capital into direct competitors. As a result, not only do they appropriate surplus-value from productive firms, they

also appropriate *more* than the average firm receives.²¹ All of this also entails that there is an emerging antagonism between fractions of capital: between the platform owners and the non-platform companies that increasingly depend on them and pay them rents. As Marx and others have long noted, rentiers have different class interests than productive capitalists or workers. (Neocosmos 1986). But unlike various accounts of digital feudalism or an emergent new mode of production, this struggle takes place *within* the structural imperatives defined by capitalism – a struggle over the distribution of surplus-value rather than its overcoming (Wark 2019).

However, this obstructive function of rent is moderated by another characteristic of many of these companies. On one level, they appear as monopolies dominating their particular industries (search engines, ecommerce, social media, etc.). Yet many of the orthodox characteristics of monopolies do not appear here: lowered output, for instance, or reduced innovation. If anything – and this brings us to a key contemporary mystery – these monopolistic firms appear instead to be one of the prime innovators and investors in the global economy. In the US economy, for instance, the tech giants are some of the biggest spenders on capital expenditures and research and development (Meeker 2018). This is not the usual activity of standard rentiers, which are typically presented as obstructions to capital accumulation. This investment is all the more striking given that, in general, the post-2008 period has been one of the weakest periods in the US for growth in investment.²² Yet the technology giants have been a notable exception to this trend. So we have productive capitalists who are *not* investing, and non-productive rentiers who *are* investing. What to make of this?

While it is not entirely clear, two hypotheses present themselves. The first hypothesis has to do with the disaggregation of capital accumulation functions. For instance, Marx noted that, at times, different types of capital (production, commercial, financial) could converge into one firm, while at other times, specialised firms might concentrate on particular functions. While not a distinct type of capital, perhaps today we are seeing a case where the investment function of the accumulation process is being displaced to particular firms? A second hypothesis builds on the debates in economic geography in the 1970s and 1980s around the standard interpretation of rentiers (as obstructions to accumulation) and a new interpretation of rentiers (which argued they had important distributive functions for capital) (Haila 1988). As David Harvey and others argued, land was becoming a financial asset through which land-owners took on an economic interest in attracting the most productive uses of capital in an effort to generate higher returns both now and in the future (Haila 1988, pp. 83–4; Harvey 2006). Insofar as advertising and IP rents both rely on the price mechanism to distribute finite supply to a far larger demand, we might see them as similarly operating a useful distribution function for capital.

(Infrastructural rents, by contrast, appear at the moment much less subject to this, since supply exceeds demand.) In turn, investment is a rational effort to seek to expand their rentier empires.

In either hypothesis, these are firms that, as we have seen, are growing their infrastructural empires across the economy. If their investment is largely pouring into the further expansion of this rentier apparatus (an open question), then we truly are seeing a significant shift in intra-capitalist power. When we turn to the world of work, we can see that these macroeconomic shifts have other significant impacts as well. Broadly speaking, the capturing of global value by a handful of planetary platforms should be expected to exacerbate inequalities between workers: with those working for the constrained non-platform companies facing increasing squeezes, while workers for the major platforms instead having the potential – though not always the actuality – of better working conditions. This is particularly the case for high-skill workers in advertising and cloud platforms, which continue to reap significant profits from their positions. On the other hand, lean platforms – despite their ability to monopolise infrastructural rents – remain beset by low margins, with their workers facing the brunt of these challenging economic conditions. In any case, any given conjuncture of capitalism is a unique mixture of the continuous and the discontinuous, and while we can use continuities to shed much light on the digital platform giants, it is clear that there nevertheless remain significant novelties that have yet to be fully understood.

NOTES

1. My thanks to Matt Cole, Julieta Haidar, Maarten Keune, Michal Rozworski, and Jathan Sadowski for their comments on an earlier draft of this chapter.
2. This chapter will make explicit some of the arguments that were only implicit – or unfinished – in my earlier book *Platform Capitalism* (Srnicek 2016).
3. Christian Fuchs, for example, calculates that Facebook received 64 billion hours of unpaid work in 2011 (Fuchs 2014, p. 105). By any reasonable standard, this would suggest a vast expansion of surplus-value and a significant increase in the rate of profit. A critic of my argument could, however, claim that absent this new source of surplus-value, capitalism would be in an even more dire situation than what it currently finds itself in. This could admittedly be true, though the critic would then have to show the timings and ways in which this new source has gradually expanded and impacted the global pool of surplus-value.
4. It is worth noting though that the most prominent advocate of the free labour thesis, Christian Fuchs, rejects the idea of Wages for Facebook, instead preferring universal basic income as a better response.
5. The relevant interaction depends on what pricing model is being used for the advertising – whether cost-per-click or cost-per-impression.
6. While a detailed textual exegesis of the source of Fuchs' error goes beyond the scope of this chapter, we would argue that it stems from conflating a moral idea of exploitation with a political economy idea of exploitation here. For instance, when

responding to critics and when attempting to justify a broad image of value production, Fuchs typically relies on the intuition that a particular activity is (morally) exploited and then claims that since the activity is (economically) exploited it is therefore value-producing.

7. With its focus on advertising and personal data, the following critiques also broadly apply to the notion of 'surveillance capitalism' (Zuboff 2019).
8. We focus on Western platforms in this chapter, but the major Chinese platforms tend to be even less dependent on advertising revenues. Alibaba, on a generous reading, only makes 6 per cent of its revenues from advertising, Tencent makes 18 per cent, and even Baidu remains significantly less dependent on advertising with 73 per cent of its revenue from that segment (source: 2019Q3 financial statements).
9. The following discussion relies on revenue breakdowns found in the 10-K and 10-Q filings of these companies.
10. Note that this equalisation is under the assumption of the free flow of capital, with no barriers. As we will see later, absent this free flow of capital, some areas can maintain unusually high rates of profit.
11. The first process also has an important role to play, particularly in the ways in which it generates hierarchical global value chains through which surplus-value is produced in developing nations and then transferred to leading firms in the developed world (Caffentzis 2013; Dedrick et al. 2010). This process, however, has more relevance to goods-producing firms with extensive supply chains, like Apple, than to the rent-appropriating platform firms like Google and Amazon.
12. Much of the following discussion will rely implicitly upon Marx's analysis of rent (Marx 1991, pp. 751–950).
13. Brett Christophers argues for adding a second condition on to this definition: namely, 'market conditions of limited or no competition' (Christophers 2019, p. 2). This latter condition he draws from the mainstream understanding of rent, which takes into account the market conditions of an asset. Christophers' argument here is that monopoly control of an asset is insufficient to guarantee that a rent is accrued – e.g. monopoly ownership of an asset for which substitute goods are easily procurable means that buyers will simply tend towards the substitute good rather than paying the rent. However, this latter condition seems more akin to a characteristic that (partially) determines the quantity of rent rather than determining whether a rent exists or not. For this reason, we will stick with the more traditional Marxist and heterodox definition of rent.
14. In *Platform Capitalism* I distinguished between cloud and industrial platforms, though I no longer believe this distinction points to more than a surface-level difference. At best, there is a distinction between the general and the particular.
15. With respect to Marx's terminology, IP rents are a type of monopoly rent rather than a differential rent. Broadly speaking, the former rent accrues to a rentier by virtue of monopoly control over an asset (e.g. land-in-general). By contrast, the differential rent accrues first to a capitalist who has access to a rentier's asset (e.g. particularly productive land) which enables a cheaper production process. The surplus profits that are generated by virtue of access to the higher quality asset are then appropriated by the rentier.
16. The exact quantity of rent depends on a number of factors. As Christian Zeller notes, 'The amount of the monopoly rent depends on the concrete demand and supply conditions. The more inelastic the demand reacts to price increases, the larger the rent. If substitution goods exist, the demand is more elastic and thus

the monopoly rent smaller. The more strategically a patent is localized in a technological development path, or the broader the field covered by the patent, the more numerous and the higher the licensing revenues the owner can call in from all those who want to use the patent for the development of technologies and products. In contrast to the differential rent, which arises due to differently favorably located or fertile pieces of land, no information differential rent can emerge, because every enclosed information is unique and is normally used in each case for the production of specific products' (Zeller 2007, p. 98).

17. Strictly speaking, there remain some limits to access and replication of immaterial assets, and so we therefore should be careful not to assume that these costs are zero. Making the latter assumption often tends towards overly optimistic conclusions and mistaken beliefs in a 'break' from capitalism.
18. Based on calculations from 10-Q statements for 2019Q3.
19. As Brett Caraway argues, 'the activities of unwaged content producers allow firms to decrease costs (c+v) of new media commodities (content and market research), thus raising the rate of profit (s / c+v) and the rate of surplus value (s / v). To the extent that free labor contributes to this process, it should inform our analysis of value' (Caraway 2016, p. 77).
20. Calculation based on Amazon's 10-K financial statement for FY2017.
21. It is worth emphasising here that by productive and unproductive we do not intend any moral judgement, nor do we intend that the unproductive is without utility for society. Instead we simply mean what is productive of value for capitalism, a category which all too often in fact excludes activities we would deem useful for society.
22. See <https://fred.stlouisfed.org/series/PNFI>

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