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Monopoly Capitalism in the Digital Era

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Monopoly Capitalism in the Digital Era

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ABSTRACT

The paper applies the radical view of Monopoly Capitalism to the digital platform economy. Based on the seminal ideas of Hymer and Zeitlin that led Cowling and Sugden to define the large monopolistic firm as a means to plan production from a unique centre of strategic decision-making, we attempt to develop a framework where digital platforms are conceived as an evolution of large transnational corporations. Power and control in our Monopoly Capitalism view are then meant not only in terms of market relations, but rather as levers for coordinating global production and influencing world societies. Applying this framework to the Amazon case, we highlight the key analytical dimensions to be considered: not only Amazon dominates other firms and suppliers through its diversification and a direct control of data and technology; its power is also linked to global labour fragmentation and uneven bargaining power vis-à-vis world governments, as in the Hymer and Cowling's tradition.

Keywords:
Monopoly Capital, Monopoly Power, Digital Platforms, Amazon, Multinational corporation

JEL codes:
L12, L22, P12

> To be radical, or to be a scientist, is the same thing; it is a question of trying to go to the root of the matter. For Marx, this meant trying to uncover the "economic laws of motion of modern society," that is, first of all, seeing society as an organism in motion constantly changing and developing as it moves from its beginning to its end, and second of all, searching in the economy, i.e., in changing conditions of production and exchange, for the underlying basis of this motion. (Hymer, 1978, p. 16)

1. Introduction[1]

Right before the explosion of the Covid-19 pandemic, a cover of The Economist (number 9182, February 2020) was dedicated to the "Big tech's run", questioning whether a time of 'techlash' – namely, consumers and regulators who turn against giant tech firms – was over or not. After more than one year of pandemic, several events suggest why it is bound to last: to name just a few, an even sharper income polarization; dramatic job losses alongside a huge accumulation of wealth by Big Tech's CEOs; new digital tax proposals which however have not yet materialized.

However, a comprehensive theory on the nature of these firms and of the reasons behind their astonishing rise is still lacking. According to us, this is also due to a widespread adoption of a notion of 'power' merely in terms of 'market power', while Big tech – especially large digital platforms as Amazon, Facebook, and Google – usually operate across markets and countries by establishing hierarchical and semi-hierarchical relations with formally independent actors they interact with. In this context, as we will try to contend below, defining their sectoral scope and likewise their 'market power' can often result misleading.

An alternative and more comprehensive meaning of power, that is the one coming from theories of Monopoly Capital, is completely *excluded* from the mainstream debate on digital platforms. This is not strange, as economists often exclude from their works those previous analyses that are uncomfortable for their own theories. Let us think about classical economists: while portions of their ideas have been *included* in mainstream economics – such as Smith's invisible hand or Ricardo's comparative advantages –, others like an objective theory of value or the analysis of social classes have been *excluded*. Needless to say, the most excluded has been Karl Marx, probably for the political implications of his analysis: at the end of the 19th century an entire school of thought was set-up to replace the Marxian theory of value with the subjective utility one.[2] Such an exclusion concerns a scientist that, conversely, made the effort to *dialectically include* in his critical analysis all the contributions of his predecessors, especially Smith's and Ricardo's.

Similarly, other radical economists of the 20th century have based their analysis upon the *inclusion* of previous and dominant theories into their reflections. This is the case of Stephen Hymer, whose neoclassical analysis of large multinational corporations evolved

[1] An earlier and slightly different version of this work has been submitted to the *Cambridge Journal of Economics*.

[2] In Bohm-Bawerk's words, "[a] national economics that leaves out the theory of subjective value is built on air" (quoted in Bonar, 1888, p. 5).

into an analysis of imperialism. Or of Keith Cowling, who started from an industrial organisation background to develop a theory of Monopoly Capitalism that, throughout his life, evolved into a novel theory of the firm based on the notion of 'control'.

In this work we argue that such a notion of 'control' is the key to understand the rationale behind contemporary capitalism and, in particular, of large digital platforms, suggesting that the latter share a number of characteristics already anticipated by Monopoly Capital scholars, especially Hymer (1970, 1972), Cowling (1982), Cowling and Sugden (1987, 1998). Indeed, digital platforms give rise to major theoretical and regulatory challenges when their power is analysed relying exclusively on a standard market-based approach. First, the platform business model is based on the monopolization of all personal, behavioural and economic information flowing through the network they control (Zuboff, 2019). This means that the distribution of information is radically asymmetrical, effectively preventing the deployment of any competitive market mechanisms. Second, the tendency of platforms to operate across sectors and to cross-subsidize market sides relying on selective below-marginal-cost strategies makes most of the standard criteria used to measure market distortions and dominant positions – e.g., market shares, mark-up levels, gap between actual and competitive prices – useless (see Section 2). For these reasons, one of the world's leading digital platform, Amazon, has been epitomized by the current chairman of the Federal Trade Commission (FTC) as 'an antitrust paradox' (Kahn, 2016).

In our view, the difficulties in understanding (and of antitrust policies in successfully dealing with) platforms' pervasive power are due to a fundamental flaw affecting all mainstream economic analyses: the removal of a "non-market" conception of power, with the result of leaving control, subordination, dependence and exploitation out of the picture. Accordingly, we build on some of the most relevant insights of Monopoly Capital theory and focus precisely on the (non-market) power of control to investigate the nature and increasing dominance of tech giants, especially digital platforms. In particular, we argue that the theoretical cornerstone concerns the relentless need of platforms to *extend their control in all possible directions: on labour, governments, suppliers, competitors, clients*. To this regard, we identify four drivers through which control is exerted and power is accumulated.

First, *growth and diversification* (Kenney et al., 2020). By dominating 'strategic' sectors and services (e.g., logistics, online advertising and profiling, cloud services) that are instrumental (complementary) for many other goods to be produced, distributed and sold, and relying on predatory prices to enter high-value product segments, digital platforms expand their sectoral scope increasing the amount of value extracted from markets and third parties (e.g., Amazon's increasing cut of sellers' revenues). Second, *R&D and technological investments* (Rikap and Lundvall, 2020; Zuboff, 2019). By investing heavily and selectively in technological domains – such as Big data, Cloud computing, Artificial Intelligence (AI), Machine Learning (ML) – that are key to control information networks and their physical counterparts, digital platforms lock-in and "subsume" to their strategies those interacting with them (e.g., users trading privacy for the access to social networks, consumers facing high switching cost, third parties that cannot avoid relying

on platforms to advertise or sell their products). Third, *labor fragmentation and surveillance* (Alimahomed-Wilson and Reese, 2020). Often perceived as immaterial entities employing a small number of well-paid high skilled workers that are free to unleash their own creativity (Vallas and Schor, 2020), platforms' operations and value capture rely instead on fragmentation, surveillance and the (direct and indirect) exploitation of a large and geographically dispersed workforce (Bogliacino et al., 2019; Tubaro et al., 2020). Digital networks are powered indeed by millions of individuals scattered around the world and subject to heavy workloads coupled with unprecedented levels of control of the working activity – e.g., online workers training AI algorithms and 'polishing' web contents, Amazon Mechanical 'Turkers' (De Stefano, 2016); blue collars employed in platforms-related logistics facilities. Not surprisingly, a relevant share of platforms' strategic actions and investments are directed at maintaining a tight control over these workers (Delfanti, 2021). Fourth, *governments and 'retaliatory power'* (Ietto-Gillies, 2002; Culpepper and Thelen, 2020). Because of the scale of their activities, their control of a politically vital asset such as private information and their *de facto* alliance with a strongly locked-in customer base (Culpepper and Thelen, 2020), platforms can counter hostile institutions and regulations (e.g., regulations aimed at limiting the appropriation of personal data, increasing taxation, reducing the scope of their activities, and protecting the workforce directly and indirectly employed by platforms). To this aim, they leverage a retaliatory power going far beyond that of earlier transnational corporations (Rehman and Thelen, 2020).

Overall, our contribution adds to the extant literature by exploring each of these drivers of power accumulation with the aim to show how the search for a growingly pervasive control over both the economic, technological, and political domains represents the multifaceted and, in 'Hegelian' terms, unifying element characterizing digital platforms. Moreover, the conceptual framework provided is further qualified by means of an application of the former to the Amazon case, with the aim to assess whether the strategic decisions which inform its business model provides support to our theoretical reconstruction.

The article is organized as follows. Section 2 reviews the literature on digital platforms highlighting the economic and political aspects which have fostered their growth. In Section 3 we recall the notions of control and power in Hymer and Cowling and sketch our theoretical framework. In Section 4 we apply our framework to digital platforms, highlighting similarities and discontinuities with respect to the transnational corporations investigated by Monopoly Capital scholars (Cowling and Sugden, 1987, 1988). We then focus on the Amazon case and make use of our conceptual framework to explore the deep logic behind its strategy and operations. Section 5 summarizes the main achievements of the work and discusses some policy implications.

2. Digital platforms: a brief review of the literature

From an historical point of view, the power of digital platforms can be traced back to an act of 'virtual colonization'. It was December 1991. In a purely 'Polanyian' fashion, the bipartisan-supported Al Gore-sponsored 'High Performance Computing Act'

transformed a public space, the Internet, hitherto free from capitalistic accumulation, into an arena wherein value creation, capture and concentration will soon take place at unprecedented size and speed.[3] This is what Greenstein (2001) called 'the commercialization of the Internet'. Henceforth, the fears of those warning Capitol Hill about "letting the structure and management of the network [Internet] becoming dominated by just a few, powerful private-sector gatekeepers" (O'Mara, 2020 p. 291) gradually become reality. In 2021, four largest US tech companies, including the three major digital platforms – Amazon, Google and Facebook – are together worth more than the entire Tokyo Stock Exchange. Amazon alone is worth more than Germany's whole Dax index. Notably, this scenario does not appear to be affected by the 2020's US Congress investigation on 'Amazon, Apple, Google and Facebook dominance' or by the discussion of new antitrust laws targeting digital corporations (Popiel, 2020).

Interestingly, the business model of digital platforms came to the fore less than two decades after the 'shareholder revolution' that shifted power from large Fordist companies to financialized multinationals relying on aggressive outsourcing, asset stripping, and labor-reducing strategies (on this point, see Rahman and Thelen, 2020). In a shareholder value-oriented world, stock price was the core metric of success, and share value rested heavily on hitting analysts' quarterly profit projections (Lazonick and O'Sullivan, 2000; Krippner, 2005). Conversely, with the advent of digital platforms, 'short-termism' seems to fade away: digital corporations often report low operating profits and show a business model which is oriented to the reinvestment of cash flows, especially in R&D activities. In other terms, financial capital appears having suddenly become 'patient', being attracted by the prospect of large platform companies to dominate the entire economic space in the medium run.

In academic research, the increasing market concentration due to the remarkable rise of platforms and data-related business models contributed to the flourishing of studies in a number of disciplinary domains, among which: management, economics, sociology, political science, antitrust, labor and media studies (see, among others, Evans and Gawer, 2016; Kenney and Zysman, 2020; Montalban et al., 2019; Culpepper and Thelen, 2020; Feldman et al., 2021). In particular, the literature on the economics of information technology identified several mechanisms which may lead to a growing concentration of digital markets (for an extensive review, see Calvano and Polo, 2021). Digital platforms – especially those known as transaction platforms, e.g., Amazon, Airbnb, eBay and Uber – compete in what Rochet and Tirole (2003, 2006) have called two-sided (or even multi-sided) markets, i.e., markets that involve two groups of agents and in which the benefit of one group joining a platform depends on the size of the other group joining the platform (Evans, 2003; Parker and Van Alstyne, 2005; Armstrong, 2006; Evans and Schmalensee, 2008). These markets typically give rise to (i) network effects, both direct and indirect; (ii) economies of scale, due to their cost structure and data-driven business model; and (iii) greater product differentiation, thanks to the huge amount of data that platforms are

[3] As O'Mara (2020) documents in detail, the network upon which the Internet is built, the National Science Foundation Network (NFSNET), was aimed at empowering academic research not allowing any commercial use. No less relevantly, the knowledge and technology base underlying the NFSNET is the result of decades long public investment programs.

able to gather. It follows that network externalities and a cost structure such that high fixed costs are combined with little or no marginal costs (causing average costs to fall dramatically as size increases) allow platforms to displace new entrants and consolidate a dominant position in the market (Varian et al., 2004). Adopting a market perspective, such network effects are at the roots of the strong lock-in syndrome characterizing customers and third parties relying on platforms (Parker et al., 2016). Although network effects existed prior to online platforms, today these effects are magnified by the business model of modern digital platforms, whose expansion relies on capturing, storing, and processing data from millions of users on the web by means of sophisticated computer algorithms (Evans and Gawer, 2016).

In this regard, the growing dominance of platforms seem to be based on their increasingly pervasive control of all relevant information flowing throughout the society (Kenney and Zysman, 2016, 2020). To quote Rahman and Thelen (2018, p. 178), platforms gain unprecedented power "through their capacity to extract and harness immense amounts of data in ways that allow them to operate as critical intermediaries and market makers [achieving a] level of market dominance that inspires comparison to classic monopolies of the nineteenth and twentieth centuries corporations". In other terms, by owning and controlling data, platforms dictate the terms of interaction between workers and employers, buyers and sellers, clients and contractors, creators and viewers, and advertisers and consumers. To use an expression made popular by Zuboff (2015), the growth of the platforms over time implies therefore a continuous improvement and refinement of the 'technology of surveillance'.

According to Zuboff (2015, 2019), the accumulation of surveillance assets relies on two key factors, namely technology and network size. First, large platforms as Amazon, Facebook or Google invest relentlessly and selectively in technologies (see above) and knowledge domains that ensure dominance in data mining and processing: data storage, cloud computing, artificial intelligence (AI), machine learning (McKinsey, 2017; Fanti et al. 2020; Kenney et al., 2021). Keeping such a persistent technological advantage makes these platforms an inescapable gateway for those who need to: search information (e.g., Google), digitize and produce services and contents (e.g., Amazon Web Services, UpWork), work (e.g., Amazon Mechanical Turk, Uber), buy and sell (e.g., Ebay, Amazon marketplace, Alibaba), communicate (e.g., Facebook, Instagram), advertise products and services (e.g., Google). Second, as networks' size and scope increase, the amount of data the platform can syphon out grows too. It follows that the degree and stringency of its control over the economic space increases as well; in fact, as the efficiency and the economic value (reflected by the evolution of platforms' stock prices) of the network rises, network users are increasingly locked-in on both the supply and the demand side (for a thorough discussion, see Parker et al. 2016)

Nonetheless, Rikap (2021) highlighted a relevant dichotomy in the operation of platforms. On the one hand, they promote the centralization of capital through mergers and acquisitions. On the other, differently from the traditional monopolies analyzed by

Baran and Sweezy (1966), platforms rely on a vertical disarticulation of the value chain.[4] In other words, unlike transnational corporations of the last century "whose advantages were related to the size of their tangible capital, intellectual monopolies [i.e., large digital platforms] concentrate intangible assets, while deconcentrating tangible ones" (Rikap, 2020, p. 4). More remarkably, Rikap and Harari-Kermadec (2020) pointed out that in most analyses within the Monopoly Capital tradition – e.g., Hilferding (1985), Lenin (1916) and Baran e Sweezy (1966) – planning relations between individual capitals competing or exchanging in the market were substantially excluded. In other words, these scholars lucidly recognized the monopolistic character of capitalism as it was emerging; yet, as Rikap and Harari-Kermadec (2020, p. 5) wrote, "planning outside the factories – as a power relation of subordination that takes over the subordinate individual capital's capacity to organize and coordinate its production processes – is still absent [in these authors]." Conversely, as we further contend below, such 'planning outside of factories' – theoretically overcoming the 'predominance of competition' – can be found in Hymer's and Cowling's contributions.

3. Theoretical background: the notions of 'power' and 'control' in Hymer and Cowling

An appropriate starting point to understand how Hymer and Cowling's view of Monopoly Capitalism is Hymer's analysis of the firms' *efficiency contradictions*. He clearly detects the extension of control as a means of large (multinational) corporations for organising an international division of labour: "multinational corporations are torn in two directions. On the one hand, they must adapt to local circumstances in each country. This calls for decentralised decision making. On the other hand, they must coordinate their activities in various parts of the world and stimulate the flow of ideas from one part of their *empire* to another. This calls for centralised controls" (1970, p. 445, emphasis added). Moreover, investigating the *law of uneven development*, Hymer identifies a tendency towards "a hierarchical division of labour between geographical regions corresponding to the vertical division of labour within the firm. It would tend to centralize high-level decision-making occupations in a few key cities […] and confine the rest of the world to lower levels of activity and income (1972, p. 114). The continuity of Hymer's notion of control appears therefore clear, moving from a theory of the firm's behaviour to an analysis of imperialism having at its core the multinational corporate capital.

An extension of Hymer's notion of control within an industrial organisation framework is offered by Keith Cowling. Cowling (1982, p. 5) is "interested in demonstrating the extent of capitalist control over the degree of monopoly, and thus over the distribution of income, […] to isolate those factors which determine the degree of monopoly". Therefore, Cowling looks at Monopoly Capitalism from multiple angles: his industrial organisation background is used to analyse the source of profits in an oligopolistic market structure, both theoretically and empirically. His work is complex precisely because it represents

[4] A similar phenomenon led Bellofiore (2011) to coin the expression of 'centralization without concentration'.

an "attempt at merging together macro and micro elements through the links between monopoly power, degree of monopoly and macro analysis" (Ietto-Gillies 2005, p.160). This way, Cowling has stepped away from mainstream economics without adopting the purely macroeconomic approach of 20th century Marxism. As a consequence of this strategy, "his radical counterparts sometimes labelled his approach as 'Neoclassical Marxism'" (Pitelis and Tomlinson, 2017, p. 187).

Interestingly, a common feature that we detect between Hymer and Cowling is that, in their earlier analyses, they both seem to touch the key point of their theoretical approach without making it explicit. Consistently, when Cowling (1982, chapter 4, also based on Cowling et al., 1980) deals with 'mergers and managerialism', he is implicitly interested in a wider analysis of what modern corporations are, that is attaining a novel theory of the transnational firm. However, he would only make it explicit in his subsequent works with co-authors (Cowling and Sugden, 1987, 1994, 1998; Cowling and Tomlinson, 2005, 2011).

In this context, what is worth emphasizing for our purposes is the shift that these authors operated by moving from an analysis focused on the internal characteristics of the firm – where Hymer's contributions can be interpreted in continuity with contemporary authors such as Penrose and Chandler (Pitelis, 2002) – to a theoretical perspective which includes firms' external relations in order to grasp the deepest economic and political nature of giant corporations. In particular, taking the latter perspective makes it possible to highlight the power relations that inform the bargaining position of firms towards other firms, labour, and governments. What results is therefore a definition of the firm as a "means of coordinating production from one centre of strategic decision-making", extended to a cross-border coordination in the case of the transnational corporations (Cowling and Sugden, 1987, p. 12).

Most importantly, the notion of 'control' which results from this perspective is not merely concerned with the *internal* ability of coordinating resources as in the Penrosean tradition. Conversely, it is rather a form of *power* as an *external relation* towards other economic and institutional actors, namely firms, suppliers, trade unions and governments. To use Cowling and Sugden's words, "the power to make strategic decisions is the power to plan the overall direction of production in the firm. This includes the power broadly to determine a firm's geographical orientation, its relationship with rivals, with governments and with its labour force" (Cowling and Sugden, 1998, p. 64). Consistently, the notion of 'control' should be conceived as defined by Zeitlin (1974): "the power to make strategic decisions includes the ability to plan a corporation's relationships with other corporations, its relationships with governments and employees, and its geographical orientation" (see Branston et al., 2006, p. 191). In this sense, Cowling and Sugden (1998) endorsed a shift from a market-oriented to a production-oriented perspective. Consistently, they opposed what they considered the "excessive concern with markets and exchanges" (p. 60) at the core of the mainstream theory of the firm, according to which all exchanges 'external' to

firms' legal boundaries should be conceived as market transactions, i.e., as purely inter-firm market relationships.[5]

The landing of Cowling and Sugden's approach is a rather optimistic view of "an alternative non-hierarchical system […] relating to flexible specialisation and industrial districts" (Cowling and Sugden, 1998, p. 82) as a means to go 'beyond capitalism'. This view also inspired other theories of large corporations as network firms (e.g., Ietto-Gillies, 2002) where the main issue becomes re-balancing the existing power unbalances among firms. Or, more generally, recent theories paying more attention to the wider public interest (Branston et al., 2006; Cowling and Tomlinson, 2011). However, we believe this is only a partial way to use Hymer's and Cowling and Sugden's idea of the large monopolistic firm as a means to coordinate and plan production from a unique centre of strategic decision-making.

For sure, these strategic decisions encompass decisions that are both internal and external to the firm, with external ones referring most of all to subcontracting relations with (formally) independent suppliers. This is key in the digital platform economy and it has been accepted also in more mainstream perspectives, alongside persistent critical approaches (e.g., Strange and Humphrey, 2019, or Buckley and Strange, 2015). In all these contributions, while it is recognised that power in markets is more than simply "price margin" and has to do with the above mentioned 'planning outside of factories', still relationships are always 'market relations'. This seems limited as compared to the theoretical advancements of Hymer, Cowling and Sugden. Power relations between giant firms and a wide range of different actors (extensively studied in other disciplines such as sociology or political science) are still completely ignored in current economic literature, precisely because they cannot be explained in terms of market relations. So our question is: can we give an economic interpretation of such relationships, going beyond pure market relations?

Saying, as the literature on GVCs has largely shown, that weaker firms involved in subcontracting/outsourcing activities with a 'lead firm' means a 'power asymmetry' in contractual terms is a key aspect, but it is not the only one. Weaker firms competing among themselves to become subcontractors of lead firms are implicitly asked to modify their internal structure and competences to win this race. In other words, as agreed in current economic literature, their internal organization of production is not completely

[5] While Cowling and Sugden's conceptualisation of the modern corporation is remarkably different to the neoclassic theory of the firm – whose Coasian pillars make it mainly based on transaction costs –, prominent scholars such as Strange and Newton (2006) argued that Hymer's approach could be considered an anticipation of Gereffi's (1994, 1999) to the analysis of lead firms in global value chains (GVC); conversely, they contend that it would be substantially different from the theoretical framework of Cowling and Sugden (1987, 1998). Although an in-depth discussion on the (dis)continuities between Hymer, Cowling and GVCs scholars as Gereffi goes far beyond the scope of this work (on this see also Strange and Humphrey, 2019), according to our reading important commonalities between these authors can be found. As stressed by Ietto-Gillies (2002, p. 51), linking Hymer and Cowling & Sugden reflections on labour fragmentation, "a natural extension of this idea of control as removal of conflicts is in the area of control over labour which is considered by Hymer (1970 and 1972) […] The fragmentation of labour over many nation-states allows the TNCs to exercise wider control over labour in strategies of divide and rule (Cowling and Sugden, 1987; Sugden, 1991) and to remove conflicts with labour". See also Balcet and Ietto-Gillies (2020).

free, but it is constrained by standards and explicit requests by lead firms. That, in the end, induce a constant structural and technological change in their counterparts, modifying the *DNA* of these ones. Of course, it is the market transaction between lead firms and subcontractors the act that formally requests this modification; but, if these small firms do not accept to modify themselves, they would hardly survive. Following an evolutionary perspective, it means that their structural change is an intrinsic request of survival, it is an 'internal need' that is just 'confirmed' when a successful transaction with a lead firm is taking place. In extreme cases, smaller firms might have to change their structure in advance, even if the contractual agreement with the lead firm will not take place (unsuccessful transaction).

Why should this mechanism be limited to subcontracting firms? We can simply extend this reasoning, even starting from that specific case. If subcontracting firms have to survive and adapt to the giant firms' requests, they would probably need to ask their employees (or external collaborators) a longer or more intense working day. Extending this view to all workers in a specific location, we then might want to check the level of unionization there: so if a trade union of workers is stronger in a country and weaker in another one, power relations vis-à-vis trade unions would mean that in some countries the working day would be longer and in other it would disappear, for a *global* re-organisation of work induced by few giant firms (in line with the late Hymer writing about imperialism). All these events (successful/unsuccessful subcontractors; length and intensity of their employees' working day; strength/weakness of trade unions) will result in different behaviors of workers as 'consumers'. Again: this is largely discussed in terms of market preferences, but when a person is buying a different commodity on a market, it is simply the last step of an internal change of that person (influenced in the past by radio and TV advertising, nowadays more by the ownership of data on the web, as discussed above). Finally, all these changes (in people behavior and in firms' demography having an impact on quantity and quality of jobs) have an impact on governments' decision about public spending. The decision on opening/closing a factory by a lead firm is just the most evident fact of power unbalances: governments are in a way *obliged* to use public money to try and attract/keep that firm's production. Or, to give another example, the existence of firms in a strategic sector in a country (that might need to put more public money to sustain it) is clearly depending on the strategic decisions of those lead firms: the governments of countries where many subcontractors are active, would probably use public money for other purposes or for sustaining other sectors. The internal organization of the lead firm directly and indirectly shapes the sectoral specialization of countries.

In synthesis: if it is true that few giant firms can influence the world economy with their market power, then it cannot be denied that such a power (and control) automatically involves many other aspects of economic and social life. That is just another way to mean that capitalistic accumulation progressively takes the control over the whole society from a decreasing number of decision-making centres, that is centralization of capital as an additional step after the real subsumption of labor under capital (Marx, 1867). Over the last decades, giant transnational corporations have been at the top of this process; today, among them it seems that a sub-set of most digitalized ones will be in charge of shaping

the world economy. For this reason, we try and adapt our perspective to the digital platform economy and to the Amazon case in the following sections.

4. Power, control and digital platforms

4.1 Digital platforms as an evolution of large transnational corporations

In this section we argue that digital platforms, particularly those controlling large networks and operating as a *de facto* infrastructure (e.g., Amazon, Apple, Facebook, Google – on this point, see, among others, Rehman and Thelen, 2020; Kenney et al., 2021), can be interpret as a data-driven evolution of the transnational corporations described by Hymer, Cowling and followers. Consistently, if for these authors *control* is the key to understand the very nature of corporations, for digital platforms controlling the economic space is an 'existential objective' (Parker et al. 2016).

Data-related technologies allow giant platforms to improve their command on actors they interact with in at least two ways. First, leading platforms as Google or Amazon try to maintain or increase the competition among complementors yet retaining a certain degree of control over the overall digital (and physical) architecture (Gawer and Cusumano, 2014). This allows stimulating complementors' innovativeness, intangible and competence sharing, so to syphon out (via acquisitions or imitation) what is more strategic and valuable in their production. This is an 'implicit monopoly' of both actual and potential innovation. By the same token, as noted by Zhu and Liu (2018), platforms such as Amazon use data to detect and in some cases penetrate market segments that show the greatest potential for success, competing directly with third-party sellers. The result is that many third-party vendors – despite having previously developed successful products – are pushed out of the market, thereby further consolidating the 'market control' exerted by the marketplace orchestrator. In addition, by including new markets within the network perimeter, giant tech corporations increase the dependence of those relying on them resizing or eliminating altogether market alternatives – e.g., Uber vs traditional taxi, Amazon's marketplace vs third parties' own websites, Facebook and Instagram vs competing social networks.

These elements may contribute to magnify the degree of dependence that both customers and suppliers have vis-à-vis platforms (1970, 1972). On the one hand, once a supplier or a third-party seller must rely on a given platform to reach all or most of her customer base the alternatives become surviving by submitting to the strategic decisions of the platform (e.g., charge a certain discount, modify products in a certain way, not using competing platforms), or exiting the market altogether. On the other hand, the broader, heterogeneous and efficient the content of the network (e.g., number of friends and participants in a social network, goods and services sold on the online marketplace), the greater the cost that customers bear should they wish leaving the platform because of unilaterally undesirable actions performed by the latter (Parker et al. 2016). Accordingly, as larger and diverse the network, as vast the amount of information owned by the platform, as effective the retaliatory actions that the latter can put in place to avoid a resizing of the network itself.

Second, the technological infrastructure combined with monopolization of the access to information gateways allows digital platforms to concentrate in their hands an immense amount of power while asset ownership and risks remain highly decentralized (Zuboff, 2019; Kenney et al., 2021). Following but going beyond the transational corporation by Monopoly Capitalism scholars, the platform can therefore exert an improved form of 'architectural control' by positioning itself as the *de facto* leader of an international division of labor that originates beyond the confines of the company. As argued, this provides the platform with the ability to subsume, adapt, and profit from the innovative efforts made by its formally independent complementors. As noted by Durand and Milberg (2020), the data centralization which results from platforms' capability to generate, control, and manage information allows these firms to exert a 'panopticon control' over value chains and learn from their partners' business procedures, thereby improving (at almost no cost) their innovation capabilities.[6]

More broadly, at the base of this dynamic is a progressive shift of market power along the value chain, from product and content producers to platforms, which benefits from being involved in global networks whose governance is ultimately based on power relationships (Gereffi, 1994, 1999; Bair, 2005; Gereffi et al., 2005; Mahutga, 2012; Dallas et al., 2019; Strange and Humphrey, 2019). Again, what is worth emphasizing for our purposes is the strategic behavior adopted by large tech corporations in GVCs, that – mostly thanks to their financial, organizational and data-based assets – allow them to pursue an orchestration of economic actors populating their production and innovation networks which often resembles an effective extension of their strategic planning power outside their formal boundaries. Following previous insights provided by Cowling and Sugden (1987), we therefore stress that the boundaries of these giant corporations end up being really enlarged as their internal production planning is effectively combined with the direct and indirect subordination of formally independent suppliers and institutional actors they globally interact with.

Most importantly, when strategies aimed at controlling and extracting value from labour are at stake, digital platforms show both similarities and discontinuities as compared to what Cowling and Sugden (1987, 1994) highlighted with respect to the corporations of the last century. A first aspect is related to the workforce directly employed by digital platforms; in this regard, a significant segmentation is in order. On the one hand, we find a circumscribed group of high-skilled high-wage workers, often owning companies' stocks, who are charged with managing the network's digital infrastructures (e.g., cloud, servers, algorithms), analysing data, performing research and developing related technologies. For platforms, attracting the best expertise in fields such as physics, mathematics, and computer science is vital to maintaining efficiency and maximize the value of the network, ensure its ubiquity, and make users increasingly dependent on it.

[6] This interpretation also sheds light on the logic behind the ecosystems of innovation having giant technology corporation as major orchestrator. For example, the App Store owned by Apple represents a powerful tool for leveraging third-party applications, thereby accelerating innovation at a pace Apple could not have achieved with in-house developers alone (Rikap, 2018). In this way, digital platforms take advantage of a potentially unlimited pool of external innovators, whose fortunes increasingly depend on being able to join – albeit in a subordinate position – the innovation ecosystem controlled by digital platforms themselves.

Leading platforms compete hard with each other for these skills.[7] On the other hand, there are those employed in the low value-added phases of the production process (e.g., the Amazon's logistics workers, the 'click-workers' that moderate contents and 'clean' Facebook, Google or Youtube interfaces). Although important for the functioning of the network, this workforce is highly fragmented and workers are mostly hired with precarious work arrangements and often lack adequate welfare protections. A second aspect concerns the tighter control that platforms exert on workforce thanks to advanced technological devices combined with peculiar techno-organizational practices, e.g., individual monitoring tools ensuring the achievement of given production targets (as the Amazon's electronic bracelet – for a thorough analysis, see Delfanti, 2021), gamification to stimulate competition among workers. These strategies allow for a leap forward in the surveillance of workers and giant tech corporations use this 'surveillance power' on the timing and modalities of work activity to optimize business production planning and prevent any form of labour organization (Prassl, 2018).[8]

Finally, softening governments' constraints on their actions as well as alleviating the tax burden are also strategic objectives of the corporations analysed by authors such as Cowling and Sugden (1987, 1994) and Ietto-Gillies (2002). Digital platforms take a leap forward also in this respect. This can be assessed in the first place by looking at the huge amounts of money these companies have spent on lobbying to dissuade governments from taking measures that could limit their economic power – to illustrate, Facebook, Amazon, Apple, and Google together spent over $ 20 million on lobbying just in the first half of 2020,[9] showing a growing trend compared to previous years (UNCTAD, 2019). Secondly, the strong reliance on intellectual properties combined with their global scale make shifting the tax burden easier for giant platforms than for traditional, tangible-intensive corporations (Prasad and Sounderpandian, 2003; Rikap, 2020). Thirdly, as Culpepper and Thelen (2020) have pointed out, the dependence of increasingly large masses of consumers on their services provides platforms with a *de facto* 'consensus base' that is likely to discourage governments from hostile actions.

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[7] 'Amazon, Facebook and others in tech will commit $300 million to the White House's new computer science push', *Vox.com*, https://www.vox.com/2017/9/26/16364662/amazon-facebook-google-tech-300-million-donald-trump-ivanka-computer-science; 'Amazon, Google Poised for Race to Hire High-Tech Talent', *The Wall Street Journal*, https://www.wsj.com/articles/amazon-google-chase-software-developersbut-not-the-same-ones-1542133719; 'STEM education as a diversity driver in tech', *AboutAmazon.com*, https://www.aboutamazon.com/news/community/stem-education-as-a-diversity-driver-in-tech; 'Google, Microsoft, Apple, Amazon, and tech's battle for the hearts and classrooms of teachers', *GeekWire*, https://www.geekwire.com/2018/google-microsoft-apple-amazon-techs-battle-hearts-classrooms-teachers/ (last access: May 15th, 2021).

[8] 'Amazon patents wristband that tracks warehouse workers' movements', *The Guardian*, https://www.theguardian.com/technology/2018/jan/31/amazon-warehouse-wristband-tracking; 'If Workers Slack Off, the Wristband Will Know', *The New York Times*, https://www.nytimes.com/2018/02/01/technology/amazon-wristband-tracking-privacy.html; 'Amazon expands gamification program that encourages warehouse employees to work harder', *The Verge*, https://www.theverge.com/2021/3/15/22331502/amazon-warehouse-gamification-program-expand-fc-games (last access: May 30th, 2021).

[9] 'Big Tech spends over $20 million on lobbying in first half of 2020, including on coronavirus legislation', *CNBC*, https://www.cnbc.com/2020/07/31/big-tech-spends-20-million-on-lobbying-including-on-coronavirus-bills.html (last access: May 16th, 2021).

To sum up, the ability of digital platforms to leverage data to expand their dominance can be conceived as an updated and extended version of that 'power of control' described by Cowling and Sugden (1987, 1994). Nonetheless, platforms' power involves a multiplicity of dimensions, which may at least partially vary according to the specific digital platform investigated. Accordingly, in the next section we apply our framework to the analysis of the Amazon case.

4.2 The Amazon case

If digital platforms represent an evolution of the capitalist enterprise towards a greater concentration of power and control, Amazon can be considered their role model (Kenney and Zysman, 2020).[10] Established in 1994 as an e-commerce book retailer, it now operates in a wide array of sectors including retail (e-commerce and brick-and-mortar), logistics, video, music, entertainment (e.g., gaming platforms as Twitch), data storage and web-services, financial services for both consumers and firms (e.g., Amazon Pay), smart devices (e.g., Alexa, Amazon Halo), autonomous cars (e.g., Amazon Zoox). Likewise, few years after the start of its activities in the US, Amazon expanded geographically gaining massive market shares all over the world, excluding China (where similar national platforms operate). Such ubiquity is reflected in some of the Amazon's most popular nicknames: 'the everything' and 'the everywhere store' (Rikap, 2020).

Indeed, there is nothing strictly new in the Amazon case. Like other transnational corporations (Cowling and Sugden, 1987; Ietto-Gillies, 2002), Amazon expands geographically to find more demand; relies on innovation and outsourcing to reduce costs and extract more value from labor; invests on marketing and advertising to influence customers, trying to make the latter as dependent on its services as possible; lobbies to obtain favorable regulations from governments and elaborates strategies to reduce the amount of taxes to pay (Zingales, 2017).

What marks a discontinuity is the pervasiveness of the control that this platform exerts over the economy by means of a 'decentralized' concentration of power (Kenney et al., 2020; Culpepper and Thelen, 2020). In fact, in line with the idea of Cowling and Sugden (1998) that control is maintained on *strategic issues* by giant firms, Amazon expands its control over a multitude of markets investing exclusively on those assets and technologies allowing to maintain a tight control of its digital and physical networks. As for the other large digital platforms (e.g., Google, Facebook) extracting and harnessing data is the key to accumulate economic power and control (Zuboff, 2015, 2019). In this case, however, power goes beyond controlling data gateways.

On the one hand, by rapidly expanding the number of goods available on its marketplace (Kenney and Zysman, 2020), Amazon becomes the first option for an increasing number

[10] The Amazon case has been recently analyzed by Kenney et al. (2020). These authors propose an analytical framework composed of eight vectors of expansion, highlighting that once a platform like Amazon develops its technological, organizational, and financial advantage, 'it can not only quickly scale up in its original business, but leverages its assets in one industry to enter new industries' (p. 5). A similar study is provided by Aversa et al. (2020).

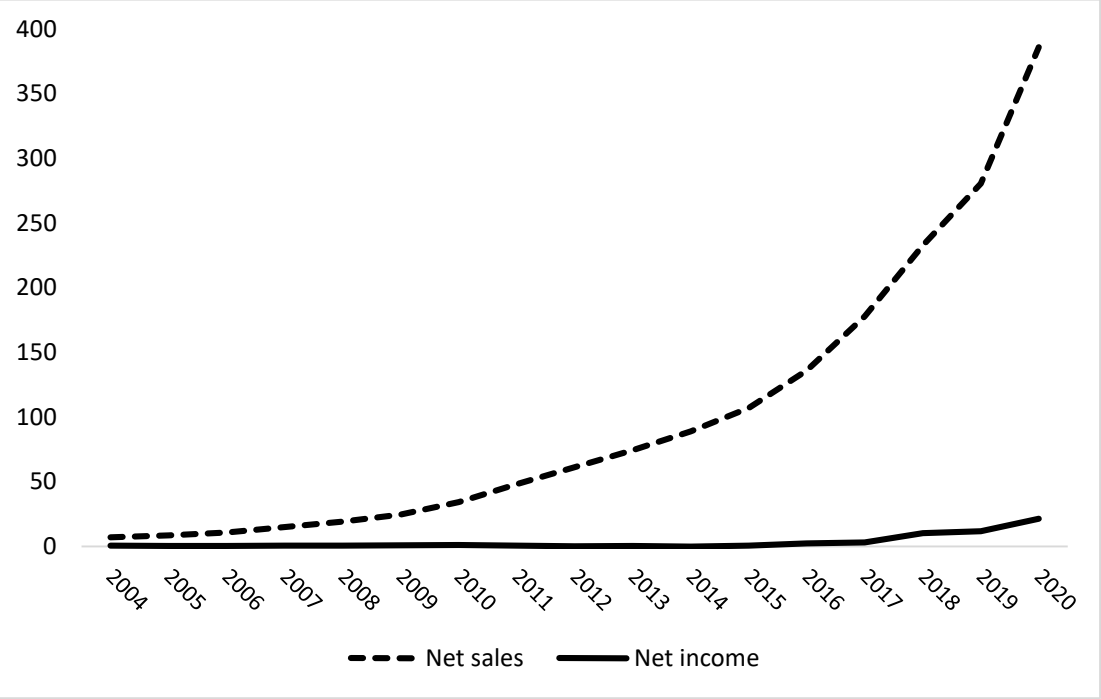
of customers, wholesale, and third-party sellers all over the world.[11] In turn, this opens the way to 'predatory' pricing strategies (Rikap, 2020), mainly based on discounts and markets subsidization, through which new markets and sectors are continuously penetrated. As a result, together with its reach, Amazon increases the amount of data usable to further refine market strategies as well as to empower the AI algorithms governing the platform. On the other hand, control strategies extend also to the 'physical world'. This can be firstly assessed by looking at the direct management of warehouse and logistics services, namely the physical counterpart of the Amazon's virtual marketplace. By maximizing efficiency and reducing bottlenecks, Amazon ensures that the goods customers may want to purchase are actually 'a click away' from their doorstep (Culpepper and Thelen, 2020). Secondly, the penetration into brick-and-mortar retail sectors should be emphasized. In this case, control assumes the form of the 'omnichannel' retailing. By leveraging the power and resources acquired thanks to its dominant position in the e-commerce industry, Amazon makes strategic investments to offer the widest possible range of products (e.g., books, grocery, but also autonomous – i.e., self-driving – electric vehicles), including those that are less easily manageable online such as perishable goods (e.g., fresh food). In this way, Amazon aims to gain prominent positions in high value-added industries and counter the actions of direct competitors such as Walmart.

This pervasiveness is rewarded by the financial market, with Amazon's share value registering a sharp rise in recent years. To illustrate, as of February 2021, Amazon's market capitalization was 1.557 trillion U.S. dollars, making it the most valuable U.S.-based internet company. As Figure 1 shows, this occurs despite Amazon accumulated relatively small profits compared to total revenues since its birth (see also Khan, 2016). Accordingly, this data points out that is the expectation of further expansion that drives Amazon's market value.[12] As previously mentioned, this circumstance could also lead to think that capital has become "patient", looking for rewards in the less near future than for very short-term profits. On closer inspection, however, this argument can be further articulated. As noted by Rikap (2020, pp. 20-21), "[a]s far as the stock price keeps rising, shareholders will still benefit in the short-term". Consequently, one should be cautious in concluding that investors' hunger for overnight profits has vanished with the advent of digital platforms.

[11] Amazon operates both as first-party seller by setting the price and selling directly the goods provided by wholesale suppliers; and as third-party seller, allowing third parties to retail goods using, according to specific terms and conditions, its marketplace.

[12] On June 16, 2017, Amazon announced it was buying the upscale grocery food chain Whole Foods for $ 13.7 billion. An hour later, Amazon's shares were up 3 percent, pushing the company's value up by $ 14 billion. Basically, Amazon bought the sixth US supermarket chain without shelling out a penny (Eisen, 2017).

Figure 1. Annual net sales and net income of Amazon, 2004-2020



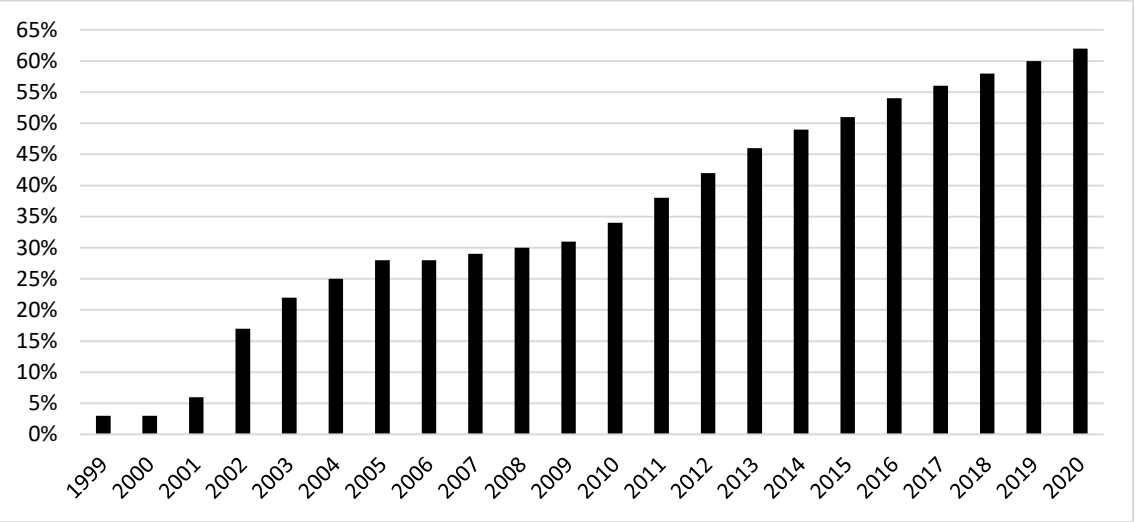
Source: authors' elaboration on data sources from *Statista.com*
Note: Data are expressed in billion U.S. dollars.

Overall, Amazon's strategies to enforce and expand its control over the economic system are complex and heterogeneous and recall elements typical of the 1990s' transnational corporations while introducing brand new ones (Rehman and Thelen, 2020; Kenney et al., 2020). Below, a first comprehensive assessment of these elements is provided.

Growth and diversification of the digital marketplace

The number of markets and sectors included in the Amazon's marketplace increases constantly (Kahn, 2016; Kenney et al., 2020; Rikap, 2020). As countries and subscribers grow, so does the number of vendors and sellers relying on Amazon to enlarge their market. By using cross-subsidization techniques – i.e., using the resources accumulated in a certain market or sector to offer below-cost prices and penetrate new ones (Rochet and Tirole, 2003) –, Amazon thus further expand and diversify its marketplace (Haucap and Heimeshoff, 2014). In this regard, Figure 2 reports the evolution over the last twenty years of the third-party sellers' share of gross merchandise sold on Amazon. Notably, this magnitude experienced a rapid growth after the Great Financial Crisis, reaching 62% in 2020, meaning that just over a third of products sold on Amazon's marketplace are Amazon-branded. The only way to combine this apparently negative data for Amazon with the consolidation of its economic and financial dominance is by interpreting the former as a rough indicator of Amazon's growing power to expand its network by subordinating an increasing number of independent actors to its own benefit.

Figure 2. Share (%) of physical gross merchandise sales sold on Amazon by independent third-party sellers as opposed to Amazon's own first-party retail sales



Source: authors' elaboration on data sources from *Statista.com*

This also increases the amount of data to be used for targeted marketing strategies aimed at binding existing customers and attracting additional ones. The tools used to extract value from suppliers and vendors are, in turn, commission, advertising and fulfillment fees (those that Amazon charges when it directly manages packaging and delivery). Although vendors can choose whether or not to rely on Amazon's fulfillment services, those who want to take advantage of frontline services such as Amazon Prime are obliged to pay such fees.[13] Similarly, advertising fees become *de facto* mandatory under penalty of loss of visibility (and customers) on the marketplace. Overall, as the size of the marketplace has grown in size, Amazon's fee share has grown substantially, reaching roughly 30% according of recent estimates (Mitchell et al., 2020). No less relevantly, the product sectors wherein Amazon relies on its own branded goods to directly compete with sellers using the same marketplace has also increased. This strategy is put in place both as a deterrent, to ensure suppliers and vendors compliance to the platform' strategy, as well as a traditional way of expanding market shares (Zhu and Liu, 2018). The main purpose is twofold: destroying the attractiveness of digital and physical alternatives to the Amazon's marketplace; increasing control over the platform's users. Notably, as control increases, the autonomy of customers (affected by data harnessing, targeted marketing and induced consumption behavior; Culpepper and Thelen, 2020) and of suppliers and sellers (informally forced to follow Amazon' pricing strategies and discount policies; Mitchell et al., 2020) decreases. From this point of view, cost-cutting strategies – based on job reduction and low wages and aimed at avoiding the exit from the marketplace (under the conditions set by Amazon though) – are the same as those used by industrial subcontractors in the 1980s and 1990s: at the bottom of "pyramidal structures of subcontracting relations […] a large number of highly substitutable small sweatshops

[13] Amazon Prime is a paid service offered by Amazon, which allows customers to take advantage of the possibility of receiving their purchased products in a short delivery time, as well as several other services (e.g., Prime Music, Prime Video, Prima Reading).

compete in order to obtain their place in the network" (Sacchetti and Sugden, 2003, pp. 683-684).

Data and technology

Amazon investments and innovations are mostly directed at assets and technologies related to data extraction, storage, and analysis. Among the key technologies there are: cloud computing, machine learning and AI (Fanti et al., 2020; Rikap, 2020). Besides, investments and patenting are directed at technologies linked to surveillance practices and smart objects. Regarding surveillance (Zuboff, 2015), technologies such as facial and motion recognition are of special relevance to Amazon. These are at the basis of a set of devices allowing to maximize the control, and thus the value extracted, from workers employed in its warehouses (Hanley and Hubbard, 2020; Delfanti, 2021). The development and implementation of such devices is aimed both at direct surveillance of labor; and, through data mining, at the design of labor-saving process innovations. Similarly, investments in robotics are aimed at increasing efficiency and at reducing the share of human labor involved in the packaging and shipping processes (Delfanti and Frey, 2021). Geo-localization technologies are in turn developed to monitor and increase productivity of drivers and delivery staff. R&D on autonomous guided vehicles (AGV), drones and related technologies are also directed at improving logistics and surveillance practices. Concerning smart objects, R&D investments on AI and natural language recognition led to disruptive product innovations as Alexa (Kenney and Zysman, 2020). The latter is a digital personal assistant designed to create a 'smarter' environment allowing the assisted individual to purchase a good from the marketplace or Amazon Prime Video with a simple voice command. As in the case of the Kindle e book reader, introduced by Amazon's research labs in 2007 (Kenney et al., 2020), a product innovation like Alexa increases users' dependence on the company' services providing more room for data harnessing and control. Finally, investments in cloud computing and data storage technologies are crucial to the growth of one of the Amazon's key branches: Web Services (AWS).[14] Of course, increasing size and technological capabilities in terms of cloud computing and storage is important *per se*, in order to manage the overall Amazon's digital infrastructure. Building on such capabilities, however, Amazon manage to become one of the major suppliers of cloud and web-services in the world. This has added a relevant source of revenue further enhancing the platform's ability to capture and analyze data (Kenney et al., 2020).

Labor fragmentation and surveillance

Amazon's workforce can be broken down into two main components. A limited group of high-skilled workers, mostly concentrated in the STEM area. These are employed in knowledge-intensive activities related to the management of Amazon's digital infrastructures and the development of new products and processes. These workers are primarily located in Silicon Valley and are a key resource in the pursuit of the company's

[14] Amazon's AWS segment - a cloud computing platform that allows businesses to rent space on a server network – generated net sales of $ 45.4 billion and operating income of $ 13.5 billion in fiscal 2020. This is Amazon segment reporting the highest operating income (it accounts for approximately 59% of total operating income). Amazon controls about a third of the global cloud market, nearly double its next closest competitor.

technology and growth strategies (O' Mara, 2020). The largest portion of the global workforce employed by Amazon, however, is made up of those in logistics warehouses and fleets engaged in deliveries. In addition, there are the so-called 'crowd workers' (Berg et al., 2018), managed by the Amazon Mechanical Turk (AMT) labor platform (De Stefano and Aloisi, 2019). These workers perform online micro-tasks related to the maintenance and 'cleaning' of Amazon's digital interfaces (e.g., checking image layout, reporting and correcting typos – on this point, see Tubaro et al., 2020). Workers employed in logistics, delivery as well as AMT crowd workers are exposed to very high levels of fragmentation, which in turn is mainly dictated by technological, organizational, and institutional factors. First, as outlined above and documented by Delfanti and Frey (2021), Amazon makes significant technological investments aimed at supervising workers, transmitting orders as effectively as possible, evaluating performance in real time, and imposing sanctions. Second, organizational practices – e.g., intense work rhythms, frequent shift changes, gamification – contribute to worker isolation and fragmentation (Prassl, 2018). Third, Amazon openly contrasts unionization.[15] This combination of elements contributes to high levels of workers' alienation allowing Amazon to extract a large amount of value from its workforce. Finally, the practice of outsourcing also greatly contributes to weakening the bargaining power of workers. In fact, alongside those directly employed by Amazon in logistics and delivery, a large share of workers is hired by external companies to carry out auxiliary tasks to the logistics and shipping process. These workers often earn lower wages and are exposed to worse working conditions, thereby generating downward competition within Amazon's overall workforce.

Governments and retaliatory power

For digital platforms, the most opposed regulations are those that would restrict the ability to extract and use personal data. Hindering their key strategic tool for exercising control, these regulations are vigorously opposed (Houser and Voss, 2018). Moreover, Amazon implements strategies aimed at warding off hostile regulations – especially those related to worker protection – and reducing the tax amount. With regard to the latter aspect, Amazon takes advantage of its international dimension by locating warehouses where it can benefit from local tax credits (Kenney et al., 2020); and headquarters in countries with relatively low corporate taxes.[16] Regarding the countermeasures put forth to fight hostile regulations, a non-negligible portion of the resources accumulated through its core activities are invested in lobbying activities (Public Citizen, 2021). Furthermore, as the 1990s' corporations, Amazon relies on its 'retaliatory power' to neutralize undesired

[15] In April 2021, Amazon warehouse workers in Alabama (US) failed to unionize. Amazon's aggressive anti-union campaign has been extensively documented in the press; see, inter alia, Greene, 2021; Greenhouse, 2021; Sainato, 2021. In Europe, the ability of unions to organize Amazon workers is not that difficult. For example, the largest share of workers employed in logistics functions in Italy have joined in the past years a class union called Si Cobas; moreover, in March 2021, a first national strike along the entire Amazon supply chain occurred in Italy. Major strikes by Amazon workers also occurred in Germany in 2013, in France in 2014, in Italy in 2017 and in Spain in 2018 (Massimo, 2021).

[16] The headquarter of Amazon EU is in Luxembourg. This year, out of record sales of €44bn (£38bn) Amazon did not have to pay any corporation tax to the Grand Duchy (see 'Amazon had sales income of €44bn in Europe in 2020 but paid no corporation tax', *The Guardian*, https://www.theguardian.com/technology/2021/may/04/amazon-sales-income-europe-corporation-tax-luxembourg; last access: May 16th, 2021).

regulation and influence governments. In advanced economies characterized by an inexorable downsizing of manufacturing employment and a widespread precariety in services, the thousands employed in an Amazon warehouse represent a strong attractive to national and local governments. This represents both a bargaining instrument and a blackmail weapon: Amazon can threaten to move a plant if regulatory and fiscal conditions become unfavorable. According to Culpepper and Thelen (2020, p. 290), however, the ability of platforms like Amazon to influence governments has additional and distinguishing features. In fact, "[u]nlike previous generations of large companies on which the broader economy came to depend, such as railways or utility companies, today's largest platforms enjoy a tight, even intimate, connection to their users…platform firms that achieve a certain economic scale—which need not reach monopoly proportions—benefit from the direct relationship they enjoy with a large number of consumers who rely on the platform as it becomes integrated into the fabric of their daily lives." In other terms, dominant platforms "cultivate and benefit from a privileged alliance with consumers" providing a formidable source of opposition to regulation that threatens these corporations' strategies.

To conclude, we argue that the elements listed so far (i.e., expansion and diversification, technological investment and data harnessing, labor fragmentation and surveillance, and countering actions to stop hostile government activities) can be interpreted as part of a single strategy aimed at increasing control over the economy. In other words, the main strategic objective of modern giant platforms is to extend their hierarchical power beyond the boundaries of the enterprise by controlling all relevant physical and digital gateways as to condition the decisions taken by consumers, suppliers, governments and other stakeholders. In this context, the ultimate goal is to extract as much value as possible from both the work directly employed and connected to the operation of the platform (digital and physical); and, indirectly, from that employed by those who depend on the platform to carry out their economic activities (e.g., locked-in suppliers, vendors, self-employed; see Kim, 2017; Weise, 2019). In this regard, Amazon proved to be a paradigmatic combination of 'old and new'. One face, the one appearing on televisions, smartphones, and devices, is that of continuous innovations, unbeatable prices, and cutting-edge entertainment content. The old face, which Amazon shows only inside its warehouses, resembles a new form of Taylorism characterized by high levels of surveillance, alienation and exploitation of labour.

5. Concluding remarks

This work sought to provide an analysis of the dominant role assumed by giant digital platforms in contemporary capitalism by following the radical perspective put forward by Monopoly Capitalism scholars. In particular, we offered a framework aimed at highlighting how Hymer and Cowling's theoretical heritage may prove crucial to understand current monopoly power in the digital platform economy. Most notably, we argued that leading digital platforms should be conceived as planning actors whose objective is to extend their control on other actors involved in their production and innovation network. Accordingly, we contended that the needs and scopes of the latter

came to be subordinated to the needs and scopes defined by giant corporations' strategic decision-makers. Furthermore, we applied our framework to the analysis of Amazon, being the latter one of the most powerful and at the same time more peculiar digital platform of our times. This allowed us to highlight the multiplicity of aspects that, in our opinion, provide support for our reconstruction. More precisely, we identified four dimensions along which Amazon exerts its power of control, namely the growth and diversification of its digital marketplace; the monopolization of commodified data and the leverage on technology; the fragmentation and surveillance of the workforce; and its strong bargaining power vis-à-vis governments.

We conclude this work with two final observations. The former deals with some policy aspects that can be derived from our analysis. In particular, we suggest that a progressive strategy aimed at both economic and political democracy should put efforts towards to the decommodification of personal data through socialization of data and platform infrastructures. Following the Marxian tradition, we contend that any market-based antitrust policy would in fact risk being short-sighted since it does not tackle the private property of the crucial asset of XXI capitalism. Alike, as stressed by Rikap (2021), more stringent privacy protection policies risk to further strength the privatization of data, as by fostering private ownership of the latter they contribute to the privatization of knowledge. Conversely, as a public good, data could be effectively managed for the benefit of society as a whole; the reason lies on the fact that, since data feed the algorithms that we all use, they are crucial to improve the services we all need. Although this discussion goes far beyond the scope of this work, we suggest that the dialectical challenge should therefore concern the struggle to democratically manage data for society as a whole without giving up the opportunities they can provide for shared prosperity. Accordingly, an "overthrown" of the modern Monopoly Capitalism – pursued through a socialization of data and their definition as digital global public goods – might give room to a renewed technological and social feasibility of democratic social planning, also allowing new forms of democracy.

As a final remark, we suggest that the approach we have followed could be worthy of being extended to further investigate the historical evolution of Monopoly Capital to date. In fact, by neglecting the powerful explanations of capitalist control as provided by Hymer and Cowling's contributions, economic theory is still lacking behind the fast pace of contemporary capitalism. What we see today appears to be largely a manifestation of what Hymer and Cowling foresaw, namely the outcome of a tendency towards the concentration of monopoly power in the hands of a few giant corporations. "As John Powers, President of Charles Pfizer Corporation, has put it, 'Practise is ahead of theory and policy'" (Hymer, 1972, p. 115). Looking at the names of the major profit makers after more than a year of pandemic makes it easy to recognize how much the theories of Monopoly Capitalism can still teach us.

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