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Big tech and platform-enabled multinational corporate capital(ism): the socialisation of capital, and the private appropriation of social value

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I explore the relationship between theory and prediction in political economy and organisational economics, employing the works of Keith Cowling and Stephen Hymer as case examples of prediction-aiding good theory. I develop the insights of the two scholars by leveraging key ideas from classical economics and applying the result to the platform-enabled, market-assisted organisational economy. Based on that I suggest that the emergence and rise of platform-enabled Big Tech, unicorns and the 'sharing economy' are both aligned with and partly predictable. I go on to hazard some further predictions about the future of the corporation and capitalism and discuss research opportunities.

Key words: Big Tech Platforms, Sharing Economy, Unicorns, Financialisation
JEL classifications: B12, L12, P12

1. Introduction

The past 30 years or so have witnessed the rise of platform-enabled Big Tech oligopolies like Facebook (now part of Meta), Amazon, Google (now part of Alphabet), Apple and Netflix, and their counterparts in other countries, notably in China, like Baidu, Alibaba, Tencent (aka BATs), and of the 'sharing or "gig" economy'. We have also experienced the emergence of 'unicorns' (US$1bn valued start-ups) such as Airbnb, decacorns (US$10bn start-ups) and even hectocorns (US$100bn start-ups, the first one ever being Byte Dance, the parent company of TikTok). Alongside these we have witnessed the outsourcing of labour by unicorns such as Uber and several new concepts and theories that seek to explicate these. In most cases, economics and management scholars sought to understand and explain the new developments without considering earlier contributions to the rise of big firms and monopolisation by so-called heterodox (or in my view, more accurately non-neoclassical, classical and/or post-classical) scholars and leveraging these contributions to help anticipate/predict these.

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In this context, this paper has two related objectives. First, I explore conceptually (whether and how) these developments are linked and might have been anticipated, hence predictable ex-ante. The second objective is to employ the perspective of two post-classical economics scholars who have made significant contributions towards understanding big firms and monopolisation and some bold predictions based on their conceptualisations. This is to understand whether and how their ideas and frameworks might be utilised to help explain what has already happened, whether we might be able to anticipate and hence predict what has now happened, and to also predict what might be expected to happen in the future. The two scholars are Stephen Hymer and Keith Cowling.

In terms of structure, the next section discusses the issue of the relationship between theory, prediction and method. Section 3 provides a critical evaluation and cross-fertilisation of the contribution of the two scholars. Section 4 develops these by embedding them within some broader important yet under-theorised insights from classical economics, notably the role of private appropriation of socially co-created value and the potential fusion between industrial and financial capital. Sub-section 4.2 looks at the platform-based Big Tech, the 'sharing economy', unicorns and other variously named highly valued start-ups. It submits that the said cross-fertilisation and development render the tendency towards these and other developments partly predictable. The final section, 5, hazards some predictions for the future of capitalism and the modern corporation and discusses limitations and opportunities for further research.

2. Definitions, theory, prediction and method

2.1 Definitions

In his landmark article on the nature of the firm, Coase (1937) made a plea to scholars to define their terms clearly at the outset. He went on to define the capitalist firm as a multi-person hierarchy distinguished from the market in terms of the employment contract that entailed a high degree of hierarchy and to explicate the nature (existence) of firms in terms of 'natural' (transaction costs-related) as opposed to market structure (oligopoly/monopoly)-related failures. Coase's major disciple, Oliver Williamson (1975, 1985) was meticulous in delving into some of Coase's more implicit assumptions, yet was rather cavalier in regards to some of his own definitions. For example, his book entitled 'The Economic Institutions of Capitalism' (Williamson, 1985) did not define the term 'capitalism'.

Definitions are important because they facilitate communication and shared understanding. They can also be the result of, and/or, incorporate theory such that, arguably, they are co-created with good theory. In the above context and going from the general to the more specific, the organisational market-based economy (Simon, 1991) or more conventionally 'capitalism', can be defined as a socio-economic system that entails the production of goods and services intended for exchange (aka commodities) by economic actors that aim to capture value (profit) from the sale, and in which the ability to work itself is a commodity. The key elements of this definition go back to the classical economists, notably Karl Marx. Its great advantage is that it implicates endogenously the differential socioeconomic positioning between those who buy and those who sell their (ability to) work, or labour power. Thus, by necessity, it also implies exchange-markets that, in turn, aid the realisation of socially co-created value in production and

its private appropriation or capture, which according to Marx is a defining characteristic of capitalism.

The market, in turn, is an institutional device that allows parties to a transaction to exchange at arm's length, namely without any of the parties directly imposing the transaction on the other. Markets facilitate exchange and hence the co-creation of value and its capture. Organisations (firms-hierarchies) involve decision-making by focal actors that have control over the allocation of resources within the organisation. This includes labour, albeit within limits prescribed by socially constructed law and convention (Coase, 1937; Simon, 1951, 1991).[1] The boundaries between markets, hierarchies, and hybrids (such as inter-firm and inter-institutional and inter-organisational collaborative arrangements) are predicated upon efficiency in transaction and production costs, effectiveness in terms of control potential, including the reach of communication and authoritative coordination (Penrose, 1959; Coase, 1990), and a comparative advantage-based division of labour between the three (Pitelis, 1991, 1993). In this view, the market-assisted organisational economy can facilitate intertemporal value creation and co-creation and capture in a sustained and comparatively more effective way than alternatives such as central planning (Coase, 1990; Rosenberg, 1992).

Value creation refers to transformations effected through ideas, artefacts and actions perceived by potential users or more generally beneficiaries as 'value-able' in terms of bettering their conditions of existence. Perceived value can come about from improvements in efficiency, such as cost reductions as well as from enhanced appeal-differentiation, from reduction of uncertainty, increased stability, security, perceived comfort and a wider sense of wellness. This is what ancient Greeks like Aristotle called ευδαμονία ('bliss' or, more etymologically, being on good terms with one's own and other demons).

In economic and management scholarship, the focus has been predominantly on value creation through improvements in allocative efficiency, cost reductions and improved differentiation-appeal. Historically, theories of value have been championed by classical economists who had attributed value to socially necessary labour-power of average skill and competence expended on a product (known as the labour theory of value) and the neoclassical, marginal utility-based subjective theory of value (or 'price theory'). The latter dispenses with cost of production/labour-power considerations and instead privilege subjective value reflected in a willingness/ability to pay. There are ongoing debates on the relationship between and comparative disadvantages of the two theories (Pitelis, 2009a).

Value capture refers to the part of co-created value appropriated by a focal economic agent. Historically, economic agents, notably firms, have employed several mechanisms to capture value, both efficiency-based - such as saving in transaction and production costs, as well as control/power-based, such as restrictive and collusive practices. Power and control motives can include influence upon governments (Penrose, 1959; Nelson and Winter, 1982; Zingales, 2017).

While the focus on value creation and value capture that are essential to classical economists have been displaced by modern neoclassical economists (save for the value created from the 'efficient allocation of scarce resources'), in organisational economics

[1] The public hierarchy (aka the state) is an organisation with a legal monopoly of force, and the potential to provide arbitration and conditions and services, such as 'public goods'. These facilitate the functioning of markets and organisations within its jurisdiction and protects them from internal and external threats. They also serve as a device for 'conflict resolution' and 'legitimisation' (Coase, 1990; North, 1991).

and management scholarship, these have gradually become a key focal area and driver of what markets, organisations and entrepreneurs are all about (their nature) and what they do (their essence) (Coase, 1990). Contrary to looking at organisations as the outcome of structural or transactional market failures, in the currently popular resource, capabilities and evolutionary perspective, firm creation and co-creation are predicated upon the pursuit of capture of co-created value by focal agents (Pitelis and Teece, 2009). This implicates inter- and intra-institutional/organisational complementarities, not just the substitutability between markets and firms expounded by neoclassical and transaction costs economists (Simon, 1991), as well as the coexistence of competition with cooperation, aka coopetition (Pitelis and Teece, 2010).

The aim of businesses and their strategy in this resource and capabilities-based approach is the pursuit of (preferably) sustainable value capture, usually from value-creating advantages, aka sustainable competitive advantage (SCA), through the orchestration and management of the relation (including any trade-offs), between value capture and value creation and co-creation. Resources and capabilities, especially entrepreneurial and organisational dynamic capabilities, alongside good strategy and management are considered to be key to SCA (Chandler, 1992; Teece, 2007). Trade-offs can appear if, for example, too much emphasis on value capture (or 'exploitation') helps prejudice efforts to value co-creation through 'exploration' (March, 1991). Learning and experimentation undergird all that the market-assisted organisational economy is about (Chandler, 1992; Rosenberg, 1992).

2.2 Theory and prediction

For many scholars, a key attribute of a good theory is to aid analysis and understanding that informs prediction and prescription. For instance, in a famous debate about the role of assumptions in mainstream neoclassical (then called 'marginalist') theory, Fritz Machlup (1946) claimed that what mattered most was not the realism of the assumptions but the ability of the theory to predict changes in economic variables. Cyert and March (1963) argued that prediction was the key purpose of conventional ('neoclassical') microeconomics and also their own proposed behavioural theory of the firm. Nelson and Winter (1982) stated that much of economic analysis is concerned with explaining, evaluating, predicting and/or prescribing change. To these might be added that explaining, evaluating, predicting and/or prescribing are interrelated in that a good conceptual framework aids analysis, explanation and evaluation, with prediction following good theoretically derived analysis. In turn, prescription is informed by the analysis, the resultant predictions and the objectives of those who prescribe.

One can classify predictions as three different types, namely micro, meso and macro, each corresponding to a level of analysis. An example of the former micro-level prediction is that *ceteris paribus* a decrease in the price of a product will motivate consumers to buy more of the said product. A macro-level prediction refers to macro-economic and wider societal levels. A meso-level prediction lies in between and involves the organisational, such as firm, industry and regional levels. For instance, the argument that a decrease in transaction costs will *ceteris paribus* motivate externalisation/outsourcing by a firm, or the argument that high prices will attract more competitors in an industry are meso-level predictions. Some scholars especially those working on the theory of the firm, may consider firm-level predictions to belong to the micro category. In this sense, the classification depends on the desired or good for purpose level of aggregation.

What matters is that based on any classification, not all predictions can be said to be born equal. We make micro predictions daily. The same is true to a lesser extent with meso-level predictions. For instance, we predict that increased competition in an industry will lead to cost cuttings and/or innovation by firms in the industry. Macro-predictions are more ambitious, harder and rarer. This is not least as the *ceteris paribus* clauses involved are increasingly heroic at that level of analysis. But this does not imply that they have not been attempted, nor that they should not.

In his eleventh thesis on Feuerbach, Marx (1888) suggested that philosophers had only interpreted the world in various ways, whilst in his view, it was important not to merely understand, but to change the world for the better. In his economic analysis and historical materialist view of socio-economic evolution, capitalism was a stage in historical development that was destined to be replaced by what he thought to be a better system, namely a socialist one (in which resources are allocated to people in accordance to their contribution) and eventually a communist one (where resources are allocated according to needs). That destined future, however, should be brought forward through purposive action by those who desired the change.

Purposeful change requires a desired direction, a roadmap and the means of getting there. This raises the question of which direction. Before prescribing, one needs to first predict as best as one can, assess whether one is content with the direction of the predicted changes and take actions to ensure that these are either permitted to unfold, quickened or delayed and, if judged to be undesirable then thwarted when possible. Marx did not neglect to link his analysis with his prediction and prescription. For instance, his conceptual framework-derived analysis of capitalist evolution predicted a tendency towards concentration and centralisation of capital (what today is called the concentration of industry and financial capital respectively), with the accompanying relative immiseration of the working classes and eventually recurrent and increasingly more severe economic crises. Together these rendered the replacement of the capitalist system easier. Given that the tendency, the feasibility, and the perceived desirability on Marx's part were all in place, this served his clarion call to speed up the process of delivering a better system.

It is unclear how Marx's rather teleological view about the replacement of capitalism by socialism was derived from a solid conceptual framework. The feasibility and desirability of replacing capitalism do not necessarily point to socialism or communism. If anything, the very argument that historically all social systems involved some sort of exploitation between classes makes the argument that the next one will get rid of exploitation altogether, sound more like wishful thinking. This is especially the case as the key tenets of the nature and properties of the desired future socialist system were under-theorised, both by Marx and many a follower.

One concern of this paper derives from the observation that unlike Marx, and other classical scholars who have attempted macro-predictions, modern economics and management scholarship have been reluctant and rather poor in predicting and prescribing change in a way that considers the said theory-informed prediction. Management scholars prescribe (consult firms what to do) regularly, raising the question of where they base the prescriptions. The failure of economics on the other hand has been popularised by Queen Elizabeth II's bemusement relayed in a visit to the London School of Economics (LSE) in the UK, as to why so many good economists have failed to predict the Great Financial Crisis (GFC). In a letter by an LSE economics professor, an external member of the monetary policy committee of the Bank of England and a political

historian, the authors concluded that was a failure of the collective imagination of many bright people to appreciate systemic risks, alongside psychology of denial by many a financial wizard, convinced through wishful thinking and hubris that their actions were spreading and hence, mitigating risk. The Queen could not know that many a non-neoclassical economist had predicted the crisis (see Argitis and Pitelis, 2008; Strange, 2015; Minsky, 2016). The signatories to the letter should however have known better. They might also wish to entertain the possibility of wilful as opposed to wishful thinking as well as the issue of self-interest and conflicts of interest (Pitelis, 2017).

There are several reasons why economists are reticent to attempt macro- and even meso-level predictions. For one, many a grand macro-level prediction can fail, often spectacularly. Consider Joseph Schumpeter's (1942) prediction that capitalism will be replaced by socialism not for its failures (as in Marx) but because of its success: namely bureaucracy within successful large firms would eventually kill the entrepreneurial spirit. That Schumpeter could come up with such a prediction remains a bit of a mystery. He is often seen as a father-figure of the capabilities view of the firm (Nelson, 1991), as well as innovation, entrepreneurship, leadership scholarship (Penrose, 1959; Alvarez and Barney, 2007; Pitelis and Wagner, 2019), all of which point to the creativity of entrepreneurial managers. Unsurprisingly, subsequent works like Penrose (1959) have stressed the value adding role of entrepreneurial managers (also known as intrapreneurs). Like Marx, Schumpeter's predictions were not founded to his conceptual schema and proved to be elusive. Clearly, there was so much more in Marx and Schumpeter than the predictions of capitalist demise and replacement by socialism (Rosenberg, 1992), but that even the best can fail when trying macro-predicting stands and this may explicate a certain risk aversion on the part of economics and management scholars.

An important reason for failed macro-predictions in social science may be that, epistemologically such predictions are not possible. For instance, critical realism, an epistemological tradition associated with Oxford philosopher Roy Bhaskar (1978), championed in economics by Cambridge professor Tony Lawson (1997), posits that in 'open systems' (as modern capitalist economies arguably are) one can at best unearth *tendencies*. Unearthing a tendency is a weaker form of prediction. Causal tendencies inherent in socioeconomic phenomena or deeper structures may be difficult to document, because of counter forces but also because the very realisation of a potential tendency deemed to be undesirable may put in place reactions that can stem it. Marx's theory of a rising organic composition of capital (ROC)-based tendency of a declining profit rate (DPR) precipitating an economic crisis arguably belongs to this category. The theory attributes the tendency to labour-saving technological progress on the grounds that surplus-value is created by (exploited) labour-power. If somehow the labour-saving technological progress was to be stemmed, so would be the tendency towards crises arising from a rising ROC/DPR. In this context (and provided a theory is good for purpose), unearthing such theory-informed tendencies can be very useful for prediction and prescription[2].

Supposing that a good theory can help unearth tendencies, could it be leveraged to help predict phenomena such as the platform-based technology giants such as

[2] Marx's predicted tendency for labour saving technological change has been widely acknowledged to be sound (see e.g. Nelson and Winter, 1982; Rosenberg, 1992). The classical economics idea that only labour can add (surplus) value, underplays the role of other human actors such as managers and entrepreneurs, and the importance of ideas/innovation as co-determinants of value creation and co-creation (see Pitelis, 2009a and below).

Facebook, Google, Amazon, Apple and Netflix (Big Tech hereafter), the so-called 'sharing economy', and the rise of 'unicorns' (start-ups reaching a billion-dollar valuation *before* making a profit)? A theory of the firm that assumes profit maximisation at any point in time, as in introductory microeconomics neither should, nor could, be expected to predict unicorns that make losses for years on end. On the other hand, should one have these expectations from the neoclassical theory-inspired maximisation of the net present value of the firm and/or theories inspired by organisational economists and management scholars? Should one expect post-classical and other non-neoclassical economists to be in a better position to attempt that? Could good theory-informed predictions motivate actions that might have helped stem the undesired predicted outcomes? Can answers to these questions help us identify tendencies that might help us prescribe and predict what is already happening in today's capitalist economies, and by extension, what may happen in future?

I believe the answer is positive. I share the view of critical realists, that social entities are open systems, yet, as I will suggest below, in economics and management the case for predicting that meso- and even macro-level tendencies will actualise in some form or another, is quite robust. If so, then the key question is whether we have enough good economic and management theory and method, that might have allowed us to predict developments such as the Big Tech, the platform-based 'sharing economy' and the emergence of unicorns.

2.3. Method

Method is important in that it is often informed by, and it informs theory. The idea that the two are orthogonal, sometimes propounded by neoclassical economics, misses the point that a decision to treat a method as separable from theory is an epistemological statement and usually a decision in favour of an extant method (Lawson, 1997). In this paper, I propose that agency and structure/context help co-engender tendencies that can offer predictions when there exist localised closures within otherwise open systems. This is aligned with critical realism and related epistemological traditions (Martins, 2015). I also submit that such closures are predicated upon the balance of power of context-mediated purposeful action. *Ceteris paribus* tendencies that are aligned to systemic logic and dynamics and serve empowered agents can be ultimately expected to be actualised, Pitelis (2017). Good prediction-supporting theory is a theory capable of conceptualising the most prescient factors, local closures, systemic logic, agencies and dynamics that can afford a better understanding of what is extant and the direction of travel.

Despite not having dealt directly with methodological issues, the works of the two scholars of my focus in this paper, namely Keith Cowling (1982) and Stephen Hymer (1960, 1971, 1976), entailed a similar methodological focus and other similarities. They both started as mainstream economists and utilised as a starting point its focus on profit maximising firms, under conditions of risk (as opposed to fundamental uncertainty, see Knight, 1921). They then questioned neoclassical economics, proclaimed to be Marxist, and went on to adopt to varying degrees a more dynamic approach that emphasised intertemporal resource allocation and creation. That involved firms motivated by the pursuit of profit, operating in a context of limited information, uncertainty and learning, which also sought to purposefully shape the context within which they operate. The pursuit of profit alongside their relative ability to shape their environment, afforded these firms a degree of predictability of their actions, and hence

of anticipated economic change. Based on these, both scholars went on to make bold and generally prescient, albeit not always accurate, predictions and prescriptions, both at the meso- and the macro-levels.

In the remainder of this paper, I employ the contribution of the two scholars as case examples of prediction-affording theory development that has helped, and in principle could have helped even more, explain subsequent economic developments. My intended advances consist of taking stock, assessing, cross-fertilising and integrating their main insights, and addressing some of their limitations by embedding their said insights within a wider classical economics perspective/framework. I then leverage the explanatory and predictive power of the outcome to explore opportunities for political economy and organisational economics and management theory development. Finally, I hazard some additional speculative predictions.

3. Stephen Hymer, Keith Cowling and (multinational) monopoly corporate capital(ism)

As already noted, the selection of the two post-classical scholars as focus in this paper is predicated upon the development and use of theory about big firms and monopolisation that was used to attempt meso- and macro-level predictions. These predictions were related and complementary and have proven to be overall prescient. In addition, their conceptual frameworks can be important in explaining recent developments; they could have helped predict these and can help us hazard more predictions. This is especially pertinent when their ideas are developed with insights and contributions by classical economists, notably Marx and Hilferding, as well as organisational economics and management scholars.

3.1. Hymer and multinational corporate capital

The contribution of Stephen Hymer has drawn upon both neoclassical and later classical economics. Early on in his PhD thesis, Hymer (1960, 1976) analysed the international operations of national firms and proposed the theory of the multinational enterprise (MNE) that relied on extant theories of the firm and industry organisation. This contrasted with neoclassical theory at the time that relied on international macroeconomics, and it considered MNEs to be part of international capital movements, in particular the search for higher interest rates overseas. Hymer observed that MNEs were often borrowing in the foreign countries they operated, that investments were often taking place in specific capital intensive, high technology sectors and that MNEs tended to move together at similar times. All these questioned extant theories. Hymer went on to observe that internationalisation of the firms' activities could entail different modalities, such as portfolio investments, exports, licencing and franchising. In this context, he claimed that an explanation of the empirically observed prevalence of foreign direct investment (FDI) that involved control of cross-border production operations by a foreign firm, required a comparative modality-based calculus of their costs and benefits, much like that of Coase (1937). By so doing and providing an answer, Hymer founded the field of International Business (IB) scholarship (Dunning and Pitelis, 2008).

In his conceptual framework, Hymer claimed that when fixed costs were high, the more firms sell, the higher the profit margin will be. This provided them with the

incentive to grow first nationally (become nation-wide oligopolies), and eventually to cross borders and become multinationals. However, there were costs and constraints related to cross-border expansion and multinationality. These include language, the need to learn about local conditions, institutions, customs and networks etc. Hymer called these a liability of foreignness. To offset this liability firms required certain advantages. Such advantages included retained profits, superior internal organisation, resources, learning capabilities and, eventually, being multinational *per-se*. Hymer (1970a, 1970b) called these advantages monopolistic because they were acquired in the context of firms becoming national oligopolies/monopolies.

Throughout his analysis, the key to Hymer's approach was the notion of control at the organisational level and of market power and collusion at the inter-organisational levels. He stated that when considering expanding abroad, national firms (mostly US-based at the time) chose FDI because it conferred superior control over their operations. International presence through exports or licencing did not confer such a degree of control. In case firms chose to licence their advantages to foreign firms, moreover, they would run the risk of creating their own competitors. FDI also conferred MNEs control over local industries, hence market power. Cross-border control and market power could also come about through actual or potential inter-penetration of cross-border investments, namely through the sharing of international markets. That could bring about an inter-national reduction of rivalry.

Building upon this earlier contribution, Hymer had subsequently declared to have become a Marxist and went on to develop a theory of multinational corporate capital (Pitelis, 2002). Hymer (1970a, 1970b, 1979) suggested that cross-border expansion, interpenetration of investments and collusion would over time help engender global collusive oligopoly. While in the early phases of entering new markets, new entry could lead to intensified competition, MNEs would gradually reach a collusive arrangement to share the global monopoly surplus between themselves and the elites of the host countries. Accordingly, in Hymer's control-motivated and engendered international monopolisation were the reasons for and the outcome of the activities of MNEs.

Hymer extended his ideas about MNEs to the 'macrocosm' of international political economy or what he called 'multinational corporate capital' (Hymer, 1970a). He proposed the twin laws of 'increasing firm size' and of 'uneven development' between developed and developing countries, or in his terms a 'core' and a 'hinterland'. Hymer claimed that while the first 'law' would tend to engender conditions of global collusive oligopoly, the second law ensured that through a 'correspondence' principle, the vertical power structures of MNEs would be transplanted to the world economy. That would help create a vertical division of power between 'superior and inferior' states, cities and peoples and bring about dependent and uneven development of the hinterland (Pitelis, 2002).

Both of Hymer's 'laws' were in fact more like predicted tendencies. Based on those, he then went on to also predict that the need of MNEs for expansion of finance and for international protection would eventually lead to global capital markets and global governance (Hymer, 1979). These were prescient macro-level predictions and were mostly actualised (see below). At the meso-level, Hymer's focus on control led him to predict that when firms could maintain control without ownership, they would outsource activities. This too was a prescient prediction that came to pass.

Hymer saw the actions and predicted tendencies as serving the interests of an elite, not people at large, hence in his view, unsatisfactory. He went on to suggest and

prescribe a form of 'central planning' that in his view would be preferable to private planning by the MNEs. Like Marx, that prediction had only a tenuous link to his theory (Dunning and Pitelis, 2008).

3.2. Cowling and monopoly capitalism

Following Hymer's thesis in 1960, there emerged a major contribution in contemporary Marxist thinking of the time, by Baran and Sweezy (1966). In their book 'Monopoly Capital', Baran and Sweezy claimed that modern large corporations were monopolising markets and were turning most industries in developed countries into a variant of the neoclassical micro-economics model of monopoly. Through their monopoly power, firms exploited workers in a dual sense, as labourers at the production process and as consumers through monopoly prices. However, in so doing, they were also undermining consumption and effective demand, hence inducing stagnationist tendencies. These could only be stemmed through wasteful expenditures such as in advertising that sought to persuade rather than inform, and in armaments.

Baran and Sweezy's thesis was akin to that of Hymer. However, it went further by exploring the implications of monopolisation for declining aggregate demand that would engender stagnationist tendencies. That was a macro-level prediction. Alongside Hymer, Baran and Sweezy provided background and inspiration behind the 'Monopoly Capitalism' contribution of Keith Cowling.

Like Hymer, Cowling engaged both neoclassical and Marxist ideas. Early on, he drew on the mainstream Industrial Organisation (IO) literature on models of oligopoly and barriers to entry. Alongside his then PhD student Michael Waterson, they showed mathematically that the industry price cost margin (the price minus the marginal cost divided by the price) would be related negatively to the income elasticity of demand and positively to the degree of collusion and the Herfindahl index of concentration (Cowling and Waterson, 1976). Later, Cowling (1982) scaled up this relationship to the macro-economy with the price cost margin morphing to the aggregate profit share. In a paper with Roger Sugden (1989), the authors have expanded the relationship to include the role of MNEs.

Cowling's other major Marxist and post-classical influences were Steindl (1952) and Kalecki (1971). Kalecki (1971) independently held many of Keynes (1936) key ideas and had placed the Keynesian contribution in an oligopolistic setting, defined the degree of monopoly as the price cost margin of an industry. Cowling's work helped formalise its key determinants and scale them up to the macro level. Steindl (1952) linked monopolisation to depression. He viewed planned excess capacity by firms as a strategy for entry deterrence and unplanned economy-wide excess capacity (sometimes latent) as a manifestation of depression. That anticipated a key insight of Baran and Sweezy (1966) that the surplus engendered by monopolistic prices could not be absorbed through productive investments alone, with some absorbed through wasteful expenditures, and some taking the form of idle capacity-depression.

Cowling (1982) provided micro-foundations to the Hymer, Baran and Sweezy views by building upon the neoclassical IO contributions by Spence (1977) who had shown how investments in excess capacity could serve as an entry deterrence strategy. That allowed him to explicate why firms should be able to keep prices high even in the presence of potential entry. He also drew on Steindl's (1952) analysis of the link between monopolisation and excess capacity, linked excess capacity to the degree of monopoly

and the degree of collusion in industries and claimed that in addition to keeping prices high, the presence of excess capacity would serve as an incentive to incumbents facing potential entry to bolster their degree of collusion. This would give rise to a positive link between the threat of entry and the degree of monopoly. In turn that helped invert the usual assumption that potential entry will lead to lower prices.

Cowling went on to argue that a rise in the economy-wide degree of monopoly, would lead to a decline in the relative income share of labour, undermine effective demand and help precipitate stagnation. That would be bolstered by a decline in saving resulting from the control of corporate retentions and pension fund surpluses by a controlling group of corporations and institutional investors (Pitelis, 1987). In line with Kalecki (1971), Cowling saw unemployment as both an outcome and manifestation of depression and a disciplinary device of labour.

Like Baran and Sweezy, Cowling (1982) saw a very important role on advertising expenditures. He viewed advertising as a means of product differentiation, a barrier to entry, and a boost to effective demand and to profitability. These served as a means to consolidate producers' as opposed to consumer sovereignty (Galbraith, 1967) and had transformative effects on the macro-economy. These included changing patterns of consumption and increasing hours of work. In turn, these helped in part foster the tendency towards stagnation.

With Roger Sugden, Cowling extended the 'Monopoly Capitalism' thesis to the international context (Cowling and Sugden, 1989). The authors saw the activities of MNEs as both internationalising and exacerbating stagnationist tendencies. That was in part because of their mobility and the concomitant power over labour and governments, which helped increase the aggregate profit share. They argued that the consequence would be de-industrialisation, deficient demand, and the undermining of democracy and local development.

Cowling has also sought to revisit and reappraise the Coasean theory of the firm. According to Coase (1937) and Williamson (1975), firms both aimed at, and were, the outcome of economising on transaction and production costs. Their boundaries with the market lay where an additional internal transaction would not lead to further reductions in market transaction costs. Drawing on Pitelis and Sugden (1986)Cowling and Sugden (1998) defined the firm in terms of control, specifically as a means of co-ordinating production from one centre of strategic decision-making. In this sense, they considered the boundaries of a firm as determined by locus and reach of strategic decision-making and hence of control - much like in Hymer (1960/1976) and in Penrose (1959). Unlike conventional approaches, this definition would incorporate the activities of subcontractors who were highly dependent on the focal firm within the remit of that firm.

Cowling and Sugden (1998) also looked at challenges posed by the hierarchical nature of modern corporations, whereby strategic decisions are often taken by elites and in their own interests as opposed to wider societal interests. They thought that the two need not coincide. and went on to argue that this would bring about a 'strategic failure' to serve the wider public interest (Branston *et al.*, 2006).

Cowling's focus on increased monopolisation and its deleterious effects has led him to also consider public policy. He believed that the deindustrialisation of the UK's manufacturing base in the 1980s and 1990s was exacerbated by the activities of MNEs and went on to advocate active anti-trust, industrial, regional and trade policy. In terms of anti-trust, he favoured a tighter control of mergers and acquisitions (Cowling *et al.*,

1980). In terms of trade policy, Cowling and Sugden (1998) revisited the debate of free versus strategic trade and argued that in the context of MNEs, 'free trade' was in fact a form of strategic trade favouring stronger actors like MNEs and more powerful states. With colleagues such as Philip Tomlinson, Cowling emphasised the importance of industrial strategy underpinned by more democratic and inclusive governance structures and aiming at fostering the wider public interest (Cowling and Tomlinson, 2011). Cowling also explored alternative, more democratic options for industrial and regional development, such as industrial districts and clusters of small and medium-sized enterprises (Cowling and Tomlinson, 2011). Additionally, Cowling and Sugden (1999) advocated the nurturing of multinational webs of smaller firms to facilitate cross-border co-operation.

3.3. Cross-fertilisation

Hymer and Cowling wrote about why the firm and the MNE existed as distinct categories from markets and the reasons domestic firms and MNEs were motivated and able to monopolise industries. Both scholars drew extensively on the works of neoclassical IO, on the transaction costs economics approach of Coase and later Marxist and other post-classical scholarship. Hymer also drew extensively on business historian Alfred Chandler (1962). As already noted, Cowling (1982) drew upon and developed Hymer (1960,1970a, 1970b, 1976). Besides focusing on monopolisation through the 'internalisation' activities of firms, both scholars also looked at externalisation. The focus of Hymer (1971) on control allowed him to predict that if and when firms could maintain control through externalisation, they would do so in order to be rid of the problems (costs) of ownership and reduce production costs (Dunning and Pitelis, 2008). Cowling extended this view by suggesting that in his definition of the firm, based on control of strategic decisions as opposed to ownership alone, many subcontractors could be seen as part of a wider (definition of the) firm.

Both scholars made important, prescient and often complementary meso and macro predictions. Besides outsourcing, and his twin laws of 'increasing firm size' and 'uneven and dependent development', Hymer predicted the emergence of international capital markets and global governance. Cowling explored the role of excess capacity, predicted deindustrialisation and stagnation, and analysed and stressed the increasingly important role of advertising. These predictions were predicated upon solid conceptual foundations and their respective prescriptions followed from their conviction that their predictions of undesired change had to be thwarted. From these, Hymer's prescription for central planning was not linked closely to his conceptual framework nor did it come to pass. On the other hand, Cowling's emphasis on anti-trust, industrial strategy, trade policy and more democratic governance structures such as clusters, acquired major interest and significance in more recent years. The formerly dirty word 'industrial strategy' is now part of a Government Department in the UK. On the whole, the two scholars are model cases for this paper's focus on sound, theory-informed prediction and prediction-informed prescription (the agreement or otherwise of their own prescriptions notwithstanding).

Today the issues of outsourcing, monopolisation, internationalisation, deindustrialisation, depression, international capital markets, (strategic) trade, global governance and sustainable economic development are at the pinnacle of the economic agenda worldwide (Pitelis, 1993; Kudina and Pitelis, 2014; Stiglitz, 2019). The GFC, the

current depression and protectionist tendencies and debates on sustainable development attest to that. As I detail below, advertising has acquired an unprecedented interest in the context of new business models adopted by platform-based Big Tech companies, with economy-wide implications.

In what follows, I claim that the contribution of the two scholars can help enrich extant neoclassical and post-classical explanations of the emergence of platform-based Big Tech, the sharing economy and unicorns. This is especially the case when they are developed through the incorporation of key under-theorised classical economic insights, namely that capitalism entails social production with private appropriation and that there exist potential tendencies for the fusion between industrial and financial capital. In this more developed form, it can also provide the means that would have allowed us to predict the tendency for them to emerge in one form or another and help us anticipate and predict further developments.

4. The socialisation of capital, financialisation and the rise of platform-based monopoly (finance) capital(ism)

As already noted, for Marx a key attribute of capitalism was the coincidence of social production with private appropriation. Related to, and a prerequisite for that, is the need for cooperation and compliance by labour and the populace at large so that the process of private appropriation of socially co-created value was as smooth and uninterrupted as possible. Both Hymer and Cowling explored the role of compliance by labour but paid limited attention to the role of, and implications from, the apparently paradoxical nature of social production with private appropriation on value creation and capture. This limitation I seek to address below.

4.1. The socialisation of capital and financialisation

Hymer and Cowling emphasised value capture in the form of profits by firms, as opposed to value creation and co-creation. This is a limitation that also pervades much of Marxist and post-classical thinking. The original idea (one might say sin) of Marxist scholars was and (often remains) that one can replace capitalism with central planning without any substantive change in the structure of incentives to innovate, create and co-create value. In the context of the analyses by Hymer and Cowling, an important question concerns the efficiency of the process of becoming an MNE, as compared to alternatives to start with. If in the process of growing, firms acquire advantages through efficiency, then these advantages should become part of the equation. Differently put, a critical question is whether an eventual global collusive oligopoly that has resulted from efficiency-derived advantages, for instance through innovation, is as good/bad as a social structure without private global collusive oligopoly and without such efficiency advantages derived in the process?

The above also poses the question of whether advantages are purely monopolistic and/or efficiency based. Hymer did not question the efficiency advantages of MNEs but chose to focus on the disadvantages of the eventual collusive oligopolistic state. In contrast, scholars such as Penrose (1959) had claimed that advantages are by definition initially efficiency-related in that they result from a process of endogenous growth engendered from knowledge and innovation within firms. She went on to claim however that once firms had acquired dominant positions, they would also employ restrictive/

monopolistic practices. Accordingly, advantages were both efficiency-related and monopolistic. In addition to that, an eventual collusive oligopoly equilibrium is by no means a foregone conclusion (Dunning and Pitelis, 2008). Such a view underplays the argument that firms can help create and co-create value by extending, creating, and co-creating markets and business ecosystems and that in so doing, they often also help create their competitors. Once these are factored in, the eventual outcome becomes much harder to predict.

Today, many firms focus as much on value creation and co-creation as on value capture. More accurately, they focus on capturing as much as possible of co-created value. This is based on the appreciation that even a lower share of an expanded pie may be preferable to a high share of a small (and shrinking or non-increasing) pie (Pitelis and Teece, 2010). Increasing the pie while also maintaining a position (value capture apparatus) that helps capture sustainably as much of it as possible tends to become the norm. Value co-creation takes the form of practices such as inter-firm collaboration, market extension, creation and co-creation, business ecosystems, open innovation, coopetition (competition with cooperation), orchestration of global value chains and local production systems (Pitelis, 2012a; Pitelis and Teece, 2018), and more generally 'open team production' (Berti and Pitelis, 2022).

The focus on value capture through the monopolisation of extant markets by Hymer and Cowling helps divert attention from a fundamental aspect of capitalism, namely that private appropriation requires continuous and increasing co-creation of social value. That requires leveraging all social capital, defined broadly to include all tangible and intangible resources and capabilities, to co-create appropriable value. Alongside the need for harmonious relations, notably between capital and labour (or compliance), this feature of capitalism, helps to explicate and predict a tendency towards the socialisation of capital and by extension key aspects of the so-called sharing economy.

The socialisation of capital is part of a wider tendency towards the socialisation of the means of production (SOMP) (Pitelis, 1987). SOMP entails the leveraging of all resources, including those owned by the populace at large towards the co-creation of value, with an eye to its private appropriation. SOMP was boosted through the emergence of the stock market and share ownership and subsequently through occupational pension funds and their surpluses. Occupational pension funds are owned by workers but controlled through institutional investors. Over time they have engendered huge surpluses that are invested in the economy at large, importantly in the stock market, hence owing substantial chunks of assets. The so-called pension funds revolution was hailed by some as de facto socialism. The investment of pension fund surpluses helped finance the expansion of firms and *ceteris paribus* increased their retained profits. In their interrelationship, occupational pension fund surpluses and retained profits helped fund investment, and in so doing co-create appropriable value (Pitelis, 1987). As I detail below, in more recent years, SOMP has been extended through the leveraging by enfranchised actors of third-party resources in the context of the so-called 'sharing economy'. This involves the sharing of resources, albeit in the context of an exchange, where a focal party retains a disproportionate share of control and hence the benefits.

The tendency to socialise capital through shareholdings and hence retained profits and occupational person funds increasingly invested in shares have also contributed towards a process of financialisation.

Money and finance are widely recognised to be critical aspects of the market assisted organisational economy, and it is seen as such by scholars from Marx and Hiferding

(1910), to Keynes (1936), Polanyi (1944), and Minsky (1986), and others, see Argitis and Pitelis (2008). Despite Hymer's prediction of international capital markets and global governance, the role of financial capital played a limited role in Hymer and in Cowling.[3] In particular, the two scholars did not envisage the possibility of interpenetration of the two spheres, nor did they anticipate the potential role of finance as a value capture model for financial and non-financial corporations. This is not surprising as they both adopted a production-focused theory of the firm and industry perspective. This contrasts with the preceding analysis of Hilferding (1910). Hilferding, whose 1910 book 'Finance Capital' was hailed by several scholars at the time as the fourth volume of Marx's Capital, discussed the emerging rise of financial capital and went on to make the bold claim that over time industrial and financial capital would merge into a new category he termed finance capital (Pitelis, 1993). It is arguable that circa a century later, Hilferding's prediction is gradually being realised first through financialisation and more recently through platform-based Big Tech entering the financial sector.

The past forty years or so have witnessed a gradual shift from production to finance-related activities notably in more developed economies, of such a magnitude that has, among others, led to the term 'financialisation' (Epstein, 2001). The term describes an increasing role of financial markets, institutions, and economic motives, both quantitatively and qualitatively. Early aspects of financialisation go as far back as the mere issuance of debt. Skidelsky (2021) describes that and the conflictual interests between creditors and borrowers and under capitalism between industrial and financial capitalists as the original class struggle, that had preceded Marx's struggle between capital and labour. This is extended to the conflict between countries with current account surpluses and deficits and the gradual dependence of the latter on the former.

Following the emergence and widespread adoption of mortgages for the purchase of real estate and then of occupational pension funds alongside the investment of pension fund surpluses in the stock market (Pitelis, 1987), financialisation has gradually taken off. It seems to have reached its apogee post-1980 when the finance sector has appeared to have effectively decoupled from domestic production and emerged as a key method of value capture for financial and industrial corporations alike in advanced economies. That was notably the case in Anglo-Saxon countries and was aided and abetted by an emphasis on shareholder value, namely a focus on shareholder returns, whether though creating/making or through financial activities (Lazonick, 2010). The continuance, namely the shift including the outsourcing, of production in countries such as China has permitted and facilitated this apparent decoupling (Argitis and Pitelis, 2008).

A cause and important consequence of financialisation was a dramatic increase in the availability of global surpluses (Clarke *et al.*, 2019). Over time, the availability of such surpluses, alongside financial wizardry in the form of securitisation (the bundling and selling of debts as assets) has helped depress interest and inflation rates, drive a boom in mortgage and housing markets and precipitate the GFC. It has also led to the availability of financial capital in very attractive terms, hence a decline in the reliance of corporations on their internal retained earnings that were formerly a key source of internal firm funding and the focus of both Hymer and Cowling. Additionally, they have

[3] While Hymer advocated the hypothesis that domestic and international capitalists have converging interest in sharing the surplus, he focused on production, not the role of finance.

provided an opportunity for financial and industrial corporations to profit through financial as opposed to production-related activities. In some cases, old economy firms have used their funds for share buy-backs, often to the detriment of innovation and sustainable economic performance (Lazonick, 2010). They have also helped fund mergers and acquisitions, including the so-called 'shoot out' ones (notably acquisitions aiming to thwart potential competitors and/or the potential complementors of extant competitors) that facilitated the amassing of formidable resources and power by a handful of giant corporations. Besides rendering these companies too big to fail, such acquisitions can deter innovation, and hence eventually make the acquirers too big to succeed too (Zingales *et al.*, 2020). Alongside the rise and entry into financial services by the new economy firms, these have helped incentivise an interpenetration of investments that helps throw in sharp relief Hilferding's early predictions.

An important aspect of financialisation concerns its role in establishing cooperation and compliance by labour and the populace at large. The investment of pension funds surpluses to the stock market helped ensure that labourers and pension fund members are invested in the very interests of corporate profitability, which depends on their retirement savings and hence survival. A similar role was played through mortgage and other private debt. Such debt helps ensure both compliance and investment in the performance of the property market, hence the organisational market economy. Debt by governments in turn helps ensure an inter-national investment and the dependence on financial institutions and the systemic interest that was also thrown in sharp relief during the GFC (Pitelis, 2012b).

Drawing upon the above, below I submit that the ideas of Hymer and Cowling when developed to include the role of socialisation of capital, financialisation and the fusion between industrial and financial capital, can help explicate key aspects of the new economic landscape of Big Tech, unicorns, and the sharing economy. They also highlight what one may view as a new stage of capital(ism) that is Platform-enabled Finance capital(ism).

4.2. The new landscape and the rise of platform-enabled finance capital(ism)

As noted, the past 30 years or so have witnessed the emergence and gradual rise of platform-enabled Big Tech giants. These are large companies whose primary activity is digital services, enabled using a technological and/or a transaction platform. The services they provide range widely and include e-commerce, internet search, social media, mobile phones, ride hailing, digitally-enabled delivery and telecommunications etc. (Feyen *et al.*, 2021).

We have also observed the emergence of so called 'unicorns', decacorns and hectocorns (start-ups valued at over US$1bn, US$10bn and US$100bn, respectively), and the so-called 'sharing or "gig" economy'. There are currently circa a thousand unicorns worldwide and include household names such as Uber and Airbnb. There are also several dozens of decacorns and a few hectocorns.

An extensive literature in economics and management has sought to explicate the nature and implications of these developments (Görög, 2018; Giovanini, 2021). Despite earlier important contributions in neoclassical thinking by, for instance, Shapiro *et al.* (1998) on information and the networked economy and by Rochet and Tirole (2003) on two-sided markets, and Benkler (2012) on the sharing economy, the subsequent literature has been mostly concerned with *ex post* sense-making and explanation (Sanasi

et al., 2020). It has also mostly failed to leverage ideas from post-classical scholars such as Hymer and Cowling, and many an organisational economics scholar on the nature and growth of firms such as Edith Penrose (Pitelis, 2022a)

This is unfortunate as platform-based Big Tech companies typically employ a business model with a network of actors, who engage in value co-creation through exchange, collaboration and/or resource sharing (Kenney and Zysman, 2016; Pitelis, 2022a). A focal firm usually functions as a 'network orchestrator', building and leveraging an ecosystem around a transaction and/or a technological platform. The platforms themselves have multiple possible applications (are fungible) and hence they have high potential to take advantage of both scale and scope. They are proprietary, in that they are controlled by the focal firm. The business model of the focal firm entails the capture of value that is co-created by engaging actors such as buyers and by leveraging complementary resources and capabilities of ecosystem players that the focal firm help orchestrate and cultivate. The fungibility of the platform helps explain apparently unrelated diversifications like Amazon's expansion from books to organic foods, delivery, postal services and many other products and services. Importantly it helps explain in part the penetration by Big Tech into the financial sector (see below).

In the above context Big Tech, unicorns and the platform-based sharing economy could be argued to be closely aligned to the ideas Hymer and Cowling developed to account for the socialisation of capital, of financialisation and the emergent fusion between industrial and financial capital. In particular, the pursuit of value capture by firms (advocated by Hymer and Cowling) implies that firms need to capture the already existing value and/or create new value that they can then try to capture. The need for increased appropriable value incentivises the involvement in the production process of everyone who owns complementary assets and capabilities, for instance, of drivers who own their cars and households who own their properties.

Value can be co-created through the leverage of complementarities between economic and business actors, buyers, suppliers and even competitors (Pitelis and Teece, 2018), namely through 'open team production' (Berti and Pitelis, 2022). Co-creation helps increase the overall value and allows well-positioned firms to capture more value than the total value they have helped co-create. Success with value capture (high profits), however, also exposes firms to competition and hence potential value leakage. In turn, this motivates the devising of appropriability mechanisms to capture a higher share of the co-created value. This is achieved when leakages towards them from the value created by competitors exceed those of value created by them but leaked to competitors. The key for firms is to identify ways through which to build a proprietary appropriability apparatus that helps them capture as much as possible of the total co-created value. Key aspects include barriers to entry and strategies discussed by Hymer and Cowling and the extensive array of other actions that are highlighted in strategic management literature. These include building inimitable resources and capabilities, branding (Pitelis, 2009b), as well as value capture-oriented business model innovations (Pitelis, 2022b). These can have positive but also negative effects, as considered below.

Co-creating value can facilitate value capture in that the very process can provide the value creator with proprietary knowledge, capabilities and first-mover advantages (Chandler, 1992). Moreover, the existence of a platform entails intrinsic excess capacity due to its extensive potential scope of application (Benkler, 2012). This is despite platform-based firms' aim to reduce latent excess capacity of underemployed resources.

This leads to further socialisation of capital due to network effects and enhanced co-operation and compliance through the co-investment of more economic agents into the system. These are all linked to scale and scope and hence to potential monopolisation and are key to explaining the rise of Big Tech.

As value co-creation can be effected through the leveraging of all socioeconomic and other resources such as capital, land, labour and knowledge (Marshall, 1910), firms gradually learn to mobilise as many of these as they can while at the same time improving upon their appropriability apparatus. In the above context, the platform-enabled 'sharing economy' is about profiting from value co-creation that leverages the resources and capabilities of third parties. This gradually socialises the value co-creation potential of socio-economic resources (Pitelis, 1987), while maintaining control by focal players through the orchestrating function and proprietary control over the platform and potentially other inimitable assets and capabilities that help turn them into obligatory passage points (Clegg, 1989) or gatekeepers.

The co-creation and the capture of co-created value in the above context is key to another defining attribute of many a Big Tech. This is the harvesting and leveraging of data that help them provide targeted promotion and influencing services. Like all information and knowledge, data is a key valuable resource that can confer advantages to whoever possesses it. Its use to help target, influence and manipulate provides a service to producers who wish to sell their products and services and are willing to pay for the service. In turn, the revenues from advertising help keep prices low and keep regulators at bay, since they are often informed by outdated antitrust ideas that advocate public policy intervention in cases of high consumer prices only (Petit and Teece, 2021).

The control of data has two more important implications. First, it motivates non-finance firms to enter the financial sector. Data was, and in part, remains a key barrier to entry in financial services such as banking. The amassing of data by Big Tech firms helps erode this barrier to entry. Importantly the ability and need to amass more data incentivises the entry into financial services. The entry of Big Tech into financial services is already substantial and it gathers speed (Feyen *et al.*, 2021). Big Tech can also leverage big data and machine learning to add advantage. This has been seen as a move from the FinTech to TechFin (Zetsche *et al.*, 2017). Data acquisition and leverage is an additional reasons to more conventional reasons for the interpenetration of sectors discussed by Hiferding (1910) and Hymer.

Another key role of data is that it helps increase surveillance and hence compliance (Zuboff, 2019). In this context, Big Tech and the sharing economy become the epitome of Marx's social compliance-facilitated social production with private appropriation. They confirm Hymer's and Cowling's views on control (as opposed to just ownership), increasing firm size, monopolisation and uneven development and Cowling's focus on excess capacity and depression. They support Cowling's instinct about the importance of advertising, while also placing it in an entirely different light. They also provide an incentive for the emergent fusion between financial and industrial capital in platform-based finance capital that was predicted by Hilferding.

Analysis of Hymer and Cowling on control and externalisation is key to also understanding another major recent development adopted by some sharing economy firms, namely the outsourcing of labour. From Marx to Rosenberg (1992), the conflict between capital and labour helped incentivise labour-saving technological progress. More recently, it also has organisational change and business model innovations that involve the outsourcing of labour (Pitelis, 2022a). The outsourcing of labour is arguably one

of the most significant business model innovations of the twenty-first century. It alters the status of previous and/or potential employees, into self-employed small-scale contractors or partners. It represents a return to the 'putting out' system of the past but no longer with the control of production-related challenges that entailed (Pitelis, 1993).

Labour saving technological change alongside the outsourcing of labour are key aspects of the business models of the new platform-based economy and unicorns. For example, in the case of Uber's car-riding business, drivers are defined as self-employed entrepreneurs or 'valuable partners'. This strikes at the heart of the Coasean firm that was defined in terms of an employment contract. It shrinks the core firm to sometimes a handful of employees that are strictly required to run the platform and key activities of the focal business. It questions Penrose's (1959) idea of an endogenous growth dynamic that is attributed to learning and the excess resources this engenders. These support Hymer's focus on control, Cowling's definition of the firm in terms of control, the monopolisation they had both predicted, and the tendency to outsource that Hymer foresaw.

Another important implication of platform-enabled investments is that they permit cross-border operations with more market-based modalities and often with little, if any, FDI (ownership and control of productive facilities and labour) because the platform is not locationally bound. This has important implications about the nature, modality and speed of internationalisation and the distribution of the co-created value. Non FDI-based expansion is faster as it does not entail building major new facilities. It can help erode the regulatory powers of nations and regions and bolster inequities in distribution between localities, and engender nations and peoples (Pitelis and Piteli, 2022). It also creates pressures for protectionist and for national champions policies by strong states, and places challenges on the ability of governments to pursue effective demand boosting fiscal policies (Skidelsky, 2021).

The globalisation of capital markets that Hymer foresaw, is *sine qua non* in the emergence of the unicorns and the platform-based Big Tech and the sharing economy in that it provides a source of finance that helps them ignore short term losses. Over time the key aim of such firms moves away from profit maximisation at any given point in time, or even from the conventional expansion and growth of productive activities discussed in economics and management theory. Rather their focus becomes the growth of the valuations of their shares supported by speedy acquisition of market share enabled by the creation and leveraging of network effects. The feasibility of doing this is predicated upon anticipations about projected firm growth and eventual long-term, as opposed to current, profits. This is predicated upon projections about scale, scope and potentially worldwide market dominance that can be achieved at a high speed of expansion. The said speed of expansion entails short and medium-term losses. For instance, in 2019, ten-year-old Uber lost three billion dollars yet was valued at over US$60 billion at its Initial Public Offering (IPO).

The success of platform-enabled firms motivates the entry of competitors, sometimes with the support of their governments which can involve resources and/or other forms of protectionism. In this context, the bigger and smarter investors can sometimes choose to invest in whole emerging sectors and activities. This and other practices help shield astute investors and ensure the continuing supply of funds to potential unicorns (Pitelis, 2022a).

To summarise, the Cowling/Hymer focus on control, value capture and monopolisation by a focal group of firms has been successful in predicting tendencies such

as internationalisation, and/through outsourcing, as well as in the case of Hymer of international capital markets and global governance, and in the case of Cowling of excess capacity and depression. Their contribution can be bolstered through fuller incorporation of the Marxian-inspired notion of the socialisation capital, in particular the idea that appropriable value co-creation incentivises leveraging all social capital for the purpose of private appropriation and Hilferding's notion of the fusion of capitals into finance capital. Thus developed, the ideas of Cowling and Hymer can help both explain recent organisational developments and can in turn help us to anticipate and predict some tendencies of what may be to come.

5. Discussion, some speculative predictions and limitations and future research

I have argued that good for purpose theory and method can help facilitate understanding, analysis, prediction and prescription. My cross-fertilisation and development of the works of Hymer and Cowling saw the platform-based Big Tech, sharing economy and the unicorns as solutions to long-standing challenges to profit-seeking firms, hence in principle, predictable. While both scholars helped develop key ideas and predict many a tendency, they could not foresee the precise direction and form of such changes and, arguably, such fine-grained prediction at the meso and macro-levels may not be possible. That said, it is arguable that the Cowling-Hymer framework as developed here could have been leveraged to predict tendencies and the direction of travel—albeit still within limits: the future happens through action and not all action can be predictable. That *some* of their predicted trends have come to pass, points to the power of good theory and suggests that more could have been attempted to be predicted. It is arguable that economics and management scholars should consider making more of an effort.

Failure to put more effort to predict may be related in part to a lack of debate between neoclassical and post-classical scholars alongside a related existence of interdisciplinary silos. Starting from the former, for reasons that vary from their method to that they tend to be more critical, post-classical scholars are more amenable to making longer-term macro-level predictions. The neoclassical focus on equilibrium and market perfection is less amenable to making such an effort. For instance, it is rather paradoxical that the very scholars who wrote about increasing firm size, monopolisation and multinational corporate capital, do not feature in many modern debates about the Big Tech oligopolies. Concerning interdisciplinary thinking, incorporating political economy and financialisation-informed considerations are key to understanding and predicting behaviours and phenomena that rely heavily on matters of social production with private appropriation, of value capture through finance-related activities and of the potential interpenetration of industrial and financial capitals.

Similar considerations apply to the role of the state and public policy. In this context, the global surpluses that helped fund the emergence of platform-based sharing economy and unicorns, for example, would be hard to achieve without accommodating policies by governments and related institutional and regulatory developments. For instance, the restrictive monetary policies of the 1980s helped shift power from production to finance (Argitis and Pitelis, 2008). The more recent post GFC, less conventional and lax monetary policies, such as quantitative easing and negative real interest rates, have in turn helped to consolidate the importance and power of financial

capital. In its own way, this helped facilitate the funding of Big Tech, unicorns, and the platform-based sharing economy. This in turn has started moving into the financial sector, precipitating the emergence of finance capital. Governments of big states like China and Russia that are wary of the impact of such firms on their economy have endeavoured to protect and nurture their own champions fuelling the process of competition and further fusion. The ability of some states to do so also confirmed Hymer's analysis of strong versus weak states and the potential for uneven development.

Based on the above, some speculative predictions can be hazarded about the future of the corporation and platform-enabled finance capital(ism). First, the leveraging of the value co-creation potential requires continuing outsourcing of all but the most inimitable and valuable resources. These are basically limited to orchestration capabilities, tacit knowledge, and other so-called 'bottleneck' assets that focal firms will be keen to retain control and become gatekeepers. Outsourcing could apply to commodified labour, capital, land and codifiable knowledge. The need to take advantage of highly dispersed knowledge, skills and capabilities would support this trend. In some cases, focal corporations with a strong appropriability apparatus can benefit from outsourced labour, even when this involves knowledge workers and key employees who set up their own apparently competing businesses. This is because in so doing they help expand the market, co-create the business ecosystem and foster the scope for the externalisation of innovation ('open innovation') and production ('open team production') through knowledge sharing.

Together these observations point to a tendency-prediction that absent public policy intervention, the already emergent outsourcing of labour and hence 'self-employment' that have become popularised through companies such as Uber, are likely to keep increasing over time. They also point to the need to develop institutional settings that facilitate the sharing and exploitation of ideas, while addressing the key problem of appropriability and market failures that are often inherent in such sharing. Despite some efforts and progress, 'markets for ideas' remain rudimentary. This is not surprising given the pervasive market failures entailed in knowledge exchange. Hence, they offer scope for improvement and the prediction of significant innovations in this direction. These are more likely to succeed if they involve institutional arrangements that implicate multiple actors such as Universities, the public and so-called 'third' sectors to foster mutual monitoring and reduce market failure.

It also feels rather safe to predict that without regulatory impediments, there will be a further rise in platform-based finance capital(ism). This is because the platform and the data make the entry of Big Tech to financial services and the tendency towards the fusion between industrial and financial capital into finance capital easier, while the acquisition of valuable data provides an added incentive that also fuels the process. While data can also be purchased and it often is, data also available to competitors fail to offer a sustained competitive advantage. The fear of interpenetration of investments on the other hand is likely to operate as a check to the growth of platform finance capital.

The need to tap collective knowledge will also help incentivise innovations that expand life expectancy for those able to afford it (hence decoupling from the ultimate equaliser—death) and eventually the so-called 'singularity' that seeks to marry Artificial Intelligence (AI) and Human Intelligence. Standing on the shoulders of giants is so much easier if the information in the giant's brain is somehow stored and preferably capable of continuous development through AI. The huge, anticipated benefits to health to humans from the current emergency approved medications to help fight

COVID are likely to turbocharge advances towards increased life span, which is currently also a huge emergent business opportunity.

Over time, the control of key inputs and bottleneck assets, such as food, water, air, rare commodities, and money is likely to incentivise new business models, apparatuses and firms that seek to secure their control. Many corporations have either tried and/or are exploring opportunities on longevity (Google), space exploration (Amazon), digital currencies (Apple) etc. A fair degree of control over food has already been partly achieved through the patenting and proprietary control of seeds. The search for resources will motivate the continuing exploration of space that is already funded by a few billionaires. More is likely to come with dramatic implications for the capitalist corporation and for capitalism.

A fuller analysis of the contributions of Hymer and Cowling would require also addressing in depth the role of the state in its relationship to multinational corporate capital, hence international relations and geopolitics, as well as issues of distribution and crises-depressions. For instance, while Cowling remained optimistic about antitrust and alternative governance forms within capitalism Hymer advocated central planning instead. Both predicted increasingly unequal distribution of income and economic crises and depression. While these ideas closely resonate with today's reality and discussions, a proper discussion would take us much further than the scope of this paper (see Konzelmann *et al.*, 2021). Alternatives to the capitalist corporation, such as new cooperatives and hybrid forms, should also receive a fair hearing, not least because of some inherent advantages that they have in the context of 'open team production' (Berti and Pitelis, 2022).

In conclusion, I submit that assessing critically, and developing the work of Hymer and Cowling, by incorporating key ideas from Marx and Hilferding, and from organisational economics and management, can help inform important recent developments in economic and business theory and practice, and assist theory-informed prediction and prescription. It is arguable that post-classical political economists and organisational economics scholars are best posited to drive such a development. This is partly because of their more encompassing frameworks, methods and interdisciplinary interests and focuses can provide them with a more holistic understanding of the bigger picture.

A key limitation of the analysis is that the organisational changes and more macro-predictions discussed presuppose more than just local closures. They often require endogenous technological change of a particular direction that serves the interests of enfranchised actors. In addition, they require a degree of endogeneity of a similar type of government policy and national and global governance. In this sense besides the impossibility of predicting precise forms of the eventual manifestation of anticipated changes, predicted changes are not nomothetic. They depend on human action and can be changed through appropriate human action. One thing for sure is that the said action itself, presupposes good theory-based predictions and prescriptions that are based on those and seek to change them.

Future research can focus on developing further key post-classical ideas into a unified framework that can include neoclassical and other extant perspectives as special cases that can be derived by modifying the assumptions. Pitelis (2016) and Pitelis and Runde (2017) discuss such ideas. That could allow us to better predict tendencies and prescribe requisite action based on the desirability of the predicted tendencies. Evidently, the said prescriptions would differ depending on the different perceptions

about their desirability. It is perhaps for this reason that the emphasis on strong competition and anti-trust policy seems to have united scholars from the full range of the political spectrum (Pitelis and Piteli, 2022). We should take stock and leverage this rare, if uncommon, consensus.

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