Article:

Pitelis, C orcid.org/0000-0001-9033-6357 (2024) Why unicorns exist? On Penrose, Hymer, and prediction. Strategic Management Review, 5 (1). ISSN 2688-2612

WHY UNICORNS EXIST?
ON PENROSE, HYMER AND PREDICTION

Christos Pitelis
Centre for International Business University of Leeds
Leeds University Business School

March 2020

Abstract

We critically assess and cross-fertilise key ideas by Edith Penrose and Stephen Hymer on the theory of the growth of the firm and the Multinational Enterprise. We integrate and develop these by addressing limitations regarding in particular intra-organisational conflict, context (market and ecosystem) co-creation and the role of finance. We explore whether the updated theory is aligned to and helps explain and predict the 'sharing economy' and 'unicorns'. We then assess the overall contribution of the two scholars and their relevance to understanding, helping predict and shape the evolution of today's corporation and the organisational market-aided economy.

Acknowledgements

I am grateful to two anonymous referees, as well as to Thomas Clarke, Stewart Clegg, Mario Kafouros and Anita McGahan and to the editors of this special issue Peter Buckley and José R. de la Torre, for insightful comments and suggestions in earlier drafts. Errors are mine.

INTRODUCTION

Aim

My aim in this paper is to cross-fertilise and critically assess key ideas by Edith Penrose (1959) and Stephen Hymer (1960) on the theory of the growth of the firm and the Multinational Enterprise (MNE) on occasion of the 60^{th} anniversary of Penrose's (1959) book 'The theory of the Growth of the Firm' and Hymer's (1960) PhD thesis. I also aim to synthesise in a discerning fashion and develop their ideas and address limitations regarding in particular to intra-firm organisational conflict, context (market and ecosystem) creation and co-creation and the role of finance. I then apply the updated theory to the case of the so-called 'sharing economy' and 'unicorns' and explore whether this is aligned to and helps better understand and predict it. In concluding I assess the relevance of the two scholars in understanding and helping predict the evolution of the modern corporation and the market-aided organisational economy and point to a wealth of opportunities for further research.

The importance of theory and more broadly ideas, is hard to overestimate. In the case of economics, Nelson and Winter (1982) noted that 'much of economic analysis is concerned with predicting, explaining, evaluating, or prescribing change.' (p 24). For Keynes (1936) 'The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else'. (p.383). For Rumelt, Schendel and Teece (1991), in the case of strategic management, moreover, 'its advancement as a field increasingly depends upon building theory that helps explain and predict organisational success and failure' (p.7).

Such insights and admonitions notwithstanding, management scholarship on the theory of the (growth of the) firm has paid limited attention to predicting and hence prescribing in ways aligned to such predictions. An example is the currently ubiquitous 'sharing economy' and the rise of 'unicorns' (start-ups reaching a billion dollar *valuations* before making a profit). There are currently in excess of two hundred such firms worldwide, including household names such as Uber and Airbnb. Many a 'sharing economy' firm typically employ a business model involving a 'platform' and a network of 'peers' who co-create value through collaboration and resource sharing. The platform architecture often entails a set of core components with low variety alongside a complementary set of more peripheral higher variety ones. The focal firms function as 'network orchestrators'. These are business model innovations that might or should be predictable and predicted by strategic management theory and scholars. While numerous articles and books in management have tried to explicate these phenomena ex post (see for example Parker et al, 2016, Gerwe and Silva, 2018), however, we are not aware of any that have (tried to) predict hem. This raises the question why, and whether and how can we improve upon this.

For sure, many a prediction, can fail alongside one's reputation, and this may help explain a certain risk aversion on the part of scholars. Another reason is that prediction is not the aim of management scholars to start with. This however raises the question whether it should be. For instance, management scholars do normally prescribe to business, while scholarly journals require an account of the managerial implications of research. How reliable is prescription likely to be if not supported by solid analytical foundations? Prescribing without predicting seems in many ways to be little more than a shot in the dark.

Supposing that good theory should and could afford making predictions, how could we leverage it to help predict modern day business phenomena like the 'sharing economy' and the 'unicorns'? A theory based on short term profit maximisation, such as in introductory microeconomics, should not be expected to predict loss-making unicorns. What about, however, the neoclassical theory-inspired maximisation of the net present value of the firm and/or management-inspired theories? Can an answer to this question help us identify such and other tendencies which in turn might help us predict and prescribe better? Could good (strategic) management theory properly employed allow us to predict the aforementioned and other developments?

In order to address these questions, we look at the canonical contributions to the theory of the (growth of the) firm and international strategic management by Edith Penrose (1959) and Stephen Hymer (1960) on occasion of the 60 years' anniversary of publication of their classic works.

Why Penrose and Hymer

The choice of Penrose and Hymer is predicated upon them being founders of a new field of the economics of the firm and strategic management enquiry and that taken together and placed on the shoulders of other giants, their work informed three major theories of the firm-namely (market) power, resource and capabilities and (to a lesser extent) transaction costs/'internalisation'. In particular, Penrose (1959) is widely regarded as a founder of the resources and capabilities and the endogenous inducements to firm growth view (Kor & Mahoney, 2000; Pitelis, 2009), while

Hymer (1960/1976) was key proponent of a market power-exogenous-inducements-based explanation of the multinational enterprises (MNEs) and is widely seen as the founder of the field of International Business (Dunning & Pitelis, 2008).

Method

I employ the two scholars as case examples of theory development, looking both upstream and downstream to deconstruct, synthesise and build upon their contributions. My key claim is that the combined insights by the two scholars provide a solid basis to help better understand and predict the developments cited above, once they are appropriately integrated, assisted by being placed on the shoulders of other giants in related and adjacent fields and developed, not least by identifying and addressing their key limitations.

PENROSE, HYMER AND THE EVOLUTION OF THE THEORY OF THE (GROWTH OF) THE (MULTINATIONAL) FIRM

Key Ideas and Contributions of Penrose and Hymer

In her classic 1959 book, Penrose saw firms as bundles of human and non-human resources under authoritative and effective coordination and communication. She posited that firm growth was an endogenous process based on learning and innovation. Intra-organisational learning through specialisation, division of labour and team work helped increase innovation and productivity and release resources (defined as ‘excess resources’) that could be put into profitable use at almost zero marginal cost, as they had already been paid for by entrepreneurs to start with

(Penrose, 1959/2009; Pitelis, 2009). Organizations leveraged their efficiency advantages in order to profit from them, by employing purpose-built ‘Relatively Impregnable Bases’ and acquiring and maintaining monopolistic advantages. Such ‘impregnable bases’ could be technological, but could also involve the full raft of firm specific resources, positions, skills and capabilities (Pitelis, 2004).While profits made through monopolistic restrictions were not likely to be as durable as those bestowed upon firms through efficiency, monopolistic power and positions attained through such monopolistic restrictions could however persist, sometimes for long periods .Accordingly, for Penrose, restrictive practices, barriers to mobility of resources, and differential efficiency and innovativeness, went hand in hand and could all lead to sustained higher profitability, or in today’s terms Sustainable Competitive Advantage (SCA),

In Penrose, managerial time and capabilities were the key inducement and constraint to firm growth. As managerial talent was mostly firm-specific, firms could try to shift this so called ‘managerial constraint’ by developing managerial capabilities in house. In Penrose’s view, acquiring and integrating outside talent was more time consuming and less efficient. Penrose was dismissive of market size, demand and finance-related exogenous constrains to growth, stating that entrepreneurial managers could shift such constraints. She saw both efficiency and market power as inducements to firm growth and saw competition as ‘god and the devil’ in that it spurred innovation yet it was through its reduction that firms could increase security and profitability. She added that large firms could not be interested or able to take advantage of all opportunities available in a growing economy leaving space for smaller firms (the ‘interstices’ of the economy) to appear and grow.

Later Penrose (2009) saw inter-firm cooperation as motivated by resource acquisition, sharing, developing and leveraging considerations. Initially she saw subsidiaries of MNEs as essentially different entities, whose growth would be explicated on the basis of her proposed endogenous growth dynamic, but later acknowledged that MNEs could be worthy of separate exploration, notably because of country-specific differences such as regulatory regimes and laws and/as their impact on firm behaviour (Pitelis, 2009).

Stephen Hymer (1960/1976) paid attention to growth through cross border expansion and hence Foreign Direct Investment (FDI) and the multinational enterprise (MNE). For Hymer, firms grow for control, market and economic (and political) power-related reasons. Scale increases profit margins and overall control and power. Key constraints to growth are the market size and competition with other firms. Firms try to shift these by expanding cross-border and through international collusive oligopolistic practices. Despite temporary busts of competition, the end outcome was international collusive oligopoly and control by multinational corporate capital. The boundaries of the multinational in Hymer were determined mostly by rivalry and collusion considerations, as opposed to any internal to the firm constraints (Dunning and Pitelis, 2008).

Hymer stated that when considering expanding abroad, national (mostly US-based at the time) firms faced a choice of options that ranged from exporting from home to undertaking greenfield and/or brownfield FDI, and include arrangements like licensing and/or franchising a firm's assets, such as brand name, technology, business model etc. In his view firms faced with these options would tend to choose FDI because of the superior degree of control that it provided over their foreign operations. Such control was hard to get through arm's length alternatives such as exports, while in the case of licencing firms also ran the risk of creating their own competitors. FDI-enabled control, also afforded to MNEs greater sway over competitors, hence market power. Cross-border control and market power was also afforded to MNEs through actual or potential sharing of overseas markets between them, namely agreements not to compete against each other in particular markets. This resulted in the inter-national reduction of rivalry. Hymer believed that the resultant reduction of rivalry and increase in market power was one of three reasons why national firms considering cross-border expansion would choose FDI[1].

The second reason-benefit of FDI, was the control afforded to firms when they transferred their advantages (or in his words certain 'skills and abilities') in-house, as opposed to transferring these through the market. Building on Chandler (1962), Hymer (1971) claimed that during the process of growth within a nation firms acquired a number of monopolistic advantages, which were best leveraged within the confines of the MNE so as to maintain control over them. The cross-border use of monopolistic advantages, helped outcompete local firms who did not possess such advantages, hence reduce the forces of rivalry in host countries. Accordingly, a process of monopoly creation at home and its associated monopolistic advantages helped engender monopoly cross-border.

A third reason for FDI and the MNE, according to Hymer, was the diversification of risk that arose from MNEs not putting all their eggs in a (national) basket. However, he regarded this as the least important reason of the three because it involved a lower degree of control by MNEs.

Standing on the shoulders of giants

The works of Penrose and Hymer drew upon, were independently co-invented and/or can be developed further by being placed on the shoulders of some other giants. Key among them is Ronald Coase (1937, 1960, 1990). Coase observed that the nature and evolution of economic organisation implicates more than production costs and that the costs of transacting in markets, in particular those related to searching and information, negotiating, contracting, policing and enforcing agreements, are important. His suggestion that unlike the case of markets, firms or

[1] For recent empirical support of market power in MNEs, see Clougherty et al (2016).

hierarchies involve planning that needs to be explicated when seen in the context of an otherwise unplanned ‘market economy’ has given rise to a huge literature on markets and hierarchies and led to a number of Nobel prizes in economics, including his own in 1991. In addition to the nature of the firm, transaction cost theorizing was applied to the growth, boundary and strategy of firms, to the boundary between firms, markets and states, (Williamson, 1975; Coase, 1960, 1990; Pitelis, 1991), to economic development (North, 1990) and numerous other areas. It remains a leading explanation of the vertical integration of production (Monteverde & Teece, 1982) and the MNE (Buckley & Casson, 1976). Coase’s work had a direct influence on Hymer, particularly in Hymer, (1968).

Another giant whose work is closely linked to both Penrose and Hymer was the founder of business history (including comparative international business history), Alfred Chandler (Wilkins, 2008). Chandler (1992) stated that his aim was to understand how the evolutionary theory of the firm, which emphasized continuous learning and rendered a firm's assets dynamic, offered an understanding of why firms integrated production and distribution and why and how they grew further by expanding into new markets.

Chandler suggested that such growth was more important than vertical integration and it was driven more by a wish to leverage production-side related competitive advantages created by the coordinated learned routines, distribution, marketing and improvements of existing products and processes, than by a desire to reduce transaction and agency-related costs. For Chandler, intra-national expansion into related industries and cross border expansion became a learning experience about how to capture new markets and manage large multi-market enterprises. Chandler’s work was quite similar to that of Penrose, albeit it was independently developed. It supports and adds nuance and historical evidence to Penrose. It has also informed directly Hymer's focus on advantages, albeit in Chandler's case these were mostly efficiency ones.

Herbert Simon's (1951, 1991) work on the employment contract shared with Coase a focus on the efficiency (in Simon's case flexibility and coordination) advantages of the employment contract and predated Penrose and Hymer, as well as the incomplete contracting approach (see Klein et al, 2012). His views on bounded and procedural rationality have influenced the post-Coase Transaction Costs Economics (TCE) project through the work of Williamson (1975) and also the classic contribution of Cyert and March (1963). In their now classic book, the latter have advanced an alternative behavioural, theory of the firm that besides bounded rationality, recognised the importance of 'satisficing' behaviour' and intra-firm conflict. Bounded and procedural rationality is implicit and in cases explicit in both Penrose and Hymer, who both stated that firms cannot maximise in strict neoclassical sense, but instead seek maximum feasible profit. However intra-organisational conflict eluded both Penrose and Hymer and we submit below that this is a key limitation in their work that needs to be addressed.

The Penrose-inspired modern Resource-based View, led by Wernerfelt (1984), Barney (1991), Mahoney and Pandian (1992), Peteraf (1993) and others, complemented and developed Penrose by focusing on value capture and creation through resources which are Valuable, Rare, Inimitable and Non-substitutable. Post Hymer literature on the MNE and FDI built upon and developed his insights by focusing on the reasons for the internalisation of advantages. In particular, Buckley and Casson (1976) focused on the transaction cost savings arising from intra-firm cross-border transfer of intangible assets/advantages, Teece (1977) emphasised the lower transfer cost of technology intra-firm, Hennart (1982) looked at the advantages of intra-firm coordination and Kogut and Zander (1992) at the superior speed of intra-firm transfer of technology. Dunning (1980, 2001) proposed an 'eclectic' at first, and later an ownership-location-internalisation paradigm that focused on the efficiency advantages of the coincidence of internalisation of ownership advantages (more efficiency-based as opposed to monopolistic in Hymer), in the right location (host country). Rugman and Verbeke's (2003) firm-specific advantages (FSAs)/country-specific advantages (CSAs) perspective, explicated cross-border expansion through the interaction of such FSAs and CSAs and shared a similar focus on the efficiency of cross-border operations.

Nelson and Winter (1982) had the wider aim to provide a novel evolutionary theory of economic change as a whole, including public policy. Their evolutionary approach and focus on 'routines' is well aligned, supports and adds insight and nuance, not least in terms of the concept of 'routines' to both Penrose and Hymer. Building upon Penrose and much of the above, the dynamic capabilities approach emphasized the capabilities of organizations to sense, seize and reconfigure resources so as to acquire and maintain SCA. These add to Penrose and Hymer through a closer focus on entrepreneurship and strategic leadership (Teece, 2007; Pitelis & Wagner, 2018).

DISCERNING INTEGRATION, LIMITATIONS AND THEORY DEVELOPMENT

Key Differences and a Discerning Integration

Key Differences

Penrose wrote about growth of firms without looking at the why (Coase's 'nature') of firms, to start with. Hymer wrote about why the firm (MNE) existed as such. Penrose (1959) did not consider explicitly transaction costs, although such costs are implicit in the very concept of inimitable and specific resources, not least managerial ones. Hymer employed transaction costs ideas explicitly (Hymer, (1968). Penrose's 'endogenous growth' approach was in apparent stark contrast to the 'exogenous growth' approach of Hymer (1976). For Hymer integration and internalisation were mostly because of monopoly and power-related reasons, for Penrose they were mostly because of production-related efficiencies. Coasean TCE-related efficiencies were seen by Hymer as factors that helped increase market power, as opposed to being alternatives to market power.

Despite her focus on internal factors, Penrose recognised the role of external factors too. Her key construct of 'productive opportunity' that she defined as the dynamic interaction between internal and external environment as perceived by managers, is an integrative one while also recognising the role of cognition (Pitelis and Wagner, 2019). In addition, firm superiority in terms of resources, capabilities and innovation could be seen as a reason for the nature of the firm (Pitelis, 2009).

A Discerning Integration of Key Insights

Despite differences, key insights by Penrose and Hymer can be placed on the shoulders of the other giants we have cited and integrated.

According to this integration, firms are purposeful agents, motivated by the broadly defined pursuit of profit, operating under limited information and uncertainty, possessing bounded and procedural rationality, learning and seeking to varying degrees to shape their environment. Learning in particular aids knowledge, appreciation, interpretation and conceptualisation of the underlying context, as well as its partial shaping (Penrose, 1952; Hymer, 1970; Johanson & Vahlne (1977);

Pitelis, 2007a; Pitelis & Verbeke, 2007; Jones & Pitelis, 2016). Firms exist (are created) because/when they are superior to markets and/or other firms in terms of production and/or transaction costs and advantages. They grow because of internal and external inducements through internalisation and externalisation, by leveraging the benefits from both exchange and production and by reducing both transaction and production costs. Efficiency and market power help firms obtain SCA. Resources, capabilities, notably entrepreneurial and organisational, alongside strategy and management are key to SCA. 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 authoritative communication and coordination) and a comparative advantage-based division of labour between them (Pitelis, 1991).

The above analysis leads us to

Proposition 1. SCA is predicated upon power, resources and capabilities, transaction and production costs and advantages, and their interactions

It follows that

Lemma 1. The internalisation/externalisation (make/buy/ally) decisions of firms depend upon power, resources and capabilities, transaction and production costs and advantages, and their interactions.

In terms of the direction of the effect, the relation between power and inimitable resources and capabilities is positive, and that of transaction and production costs negative. From the point of view of their relative strength, and building upon McGahan and Porter (1997) and Monteverde and Teece (1982), we would expect a comparable impact of the three factors on performance. The quantitative outcomes will depend in both cases on the context (sector, activity, life cycle etc) and other factors (such as luck, serendipity and exogenous public policy). In the case of make-buy-ally, the impact of the three key factors will differ depending also on the particular modality, for instance one would anticipate higher role of transaction costs in explicating vertical than horizontal integration (Monteverde & Teece, 1982). Precise quantitative effects however can be obtained through meticulous empirical analysis[2].

Limitations and Theory Development

Despite the impressive contributions and record, there exist three key common limitations in both scholars. These refer to the lack of intra-organisational conflict, the failure to deal adequately with context (market and ecosystem) creation and co-creation, and the role of finance and the financial ecosystem.

Intra-organisational conflict. Intra-organisational conflict was central in Cyert and March's (1963) behavioural theory. Penrose made almost no reference to it (Pitelis, 2002). Hymer looked at the inherent conflict between capital and labour within firms and its impact on the direction and efficiency of innovation, in particular Schumpeter's 'creative destruction', but did not explore the implications of intra-organisational conflict on cross-border expansion and the choice of modality. Intra organisational conflict can be very consequential on many counts. For example, from Coase through to Alchian and Demsetz (1972) and to agency theory (Klein et al, 2012), intra organisational conflict can incentivise governance structures. It can also incentivise (labour saving) technological progress, Rosenberg (1992), organisational change and business model

[2] We note that in the work of Penrose and Hymer, as well as in our synthesis, capabilities are mostly stock variables, and could be seen as-subsumed into resources. This is unlike dynamic capabilities which we explore below.

innovations, including the outsourcing of labour (Pitelis, 2007b). The latter involves turning previous and/or potential employees into self-employed small scale contractors. Below we submit that the outsourcing of labour, alongside labour saving technologies are an important part of the explanation of 'sharing' or 'gig economy' and the 'unicorns', hence valuable additions upon our synthesis.

We may account for behavioural and intra-organisational conflict, either by viewing the latter as a new variable-theory and/or as a moderating variable acting upon all other three. For example, intra-organisational conflict would increase intra organisational transaction costs hence impact negatively on SCA and positively on externalisation. The latter in turn will impact on SCA. High intra-organisational conflict will also have negative effects on power and the potency of resources and capabilities.

Accordingly,

Proposition 2. The impact of power, resources and capabilities, transaction and production costs/advantages and their interactions on SCA is mediated by intra-organisational conflict

Lemma 2. The impact power, resources and capabilities, transaction and production costs/advantages and their interactions on the choice of the make/buy/ally mix is mediated by intra-organisational conflict

.

Context (Market and Ecosystem) Creation and Co-creation.

Despite their recognition of purposeful agency aimed to shape their environment, both Penrose and Hymer have taken the market-hierarchy dichotomy as given. This failed to entertain the possibility of firms existing precisely because from an evolutionary entrepreneurial perspective organisation can aid market creation and co-creation (Pitelis & Teece, 2009). Market and business ecosystem creation, co-creation and orchestration have more recently been seen as an important vehicle through which firms can co-create value and capture co-created value (Pitelis & Teece, 2010, 2018).

The aforementioned failure in turn has pre-empted the two scholars from looking upstream to the role of (aspiring) entrepreneurs in creating organisations so as to co-create markets and supporting business and wider ecosystems such as 'clusters' (Pitelis, 2012), and hence to the overall context within which they can co-create and capture co-created value (Jones & Pitelis, 2016). In this more entrepreneurially micro-founded view of the firm, the pursuit of sustainable value capture by aspiring entrepreneurs, motivates organisational creation and context (market and ecosystem) co-creation hence value co-creation. Organisations are created and co-created by (teams of) aspiring entrepreneurs precisely because of their differential advantages and capabilities in terms of market, business ecosystem and value creation, co-creation and capture. These differential organisational capabilities in terms of market and business ecosystem co-creation and orchestration moreover, are arguably the mother of all dynamic capabilities (Pitelis & Teece, 2010, 2018).

In summary, while our two Propositions and lemmas 1 and 2 describe the factors that impact on SCA at any given point in time and given the extant context, a key and arguably the key determinant of SCA from an evolutionary-process point of view is the way in which firms co-create the context in a way that suits their objectives. Context co-creation in turn is based largely on superior and intertemporal, or more commonly known as 'dynamic capabilities' (DCs) (Pitelis & Wang, 2019).

We can incorporate this into our analysis by adding DCs as another variable. DCs are both a direct determinant of SCA in that they help co-create context, and an additional important moderating variable of power, resources and capabilities, transaction costs and intra-organisational conflict. By influencing context, DCs impact upon the potency of all the other key variables. For instance, possessing market power in the context of a declining activity, may be worth less than possessing less power in an emerging growing one-DCs help an organisation be in the latter. Based on the above,

Proposition 3. The impact on SCA of power, resources and capabilities, transaction and production costs/advantages and their interactions as moderated by intra-organisational conflict depends upon DC-induced changes in the context within firms operate

Accordingly

Lemma 3. The impact on the make/buy/ally decision of power, resources and capabilities, transaction and production costs/advantages and their interactions as moderated by intra-organisational conflict, depends upon DC-induced changes in the context within firms operate.

Finance, and the (Growth of the) Valuation of the Modern Corporation. Money and finance are a critical aspect of the market assisted organisational economy (see among others Keynes, 1936; Minsky, 1986; Argitis & Pitelis, 2008, for accounts and references). Penrose and Hymer paid limited attention to finance as a sector or even as a constraint to firm growth (Pitelis, 1991). Importantly both scholars failed to anticipate the role of finance as a means of fostering the growth of (the valuation of) firms. In many ways this is not surprising as both scholars had adopted a production-focused perspective. However, understanding today's modern corporation without considering the role of money and finance is Hamlet without the Prince of Denmark.

The past circa forty years, have witnessed a shift from production to finance-related activities of such a magnitude that has among others led to the term 'financialisation' (Epstein, 2001). The term usually refers to an increasing role of financial markets, institutions and motives in the economy, but it also often involves more qualitative aspects, like a culture of debt. A number of scholars suggested that in more recent years (notably post 1980), finance has effectively gradually de-coupled from production and emerged as a key method of value capture for financial and industrial corporations alike, notably in Anglo-Saxon countries, aided and abetted by an emphasis on the focus of many a corporation on the pursuit of 'shareholder value' (Lazonick, 2010).

A key aspect or consequence of financialisation includes a dramatic decline in retained earnings (the key source of funding for Penrose and Hymer) as a source of investment funding by corporations and a similarly dramatic increase in availability of external funding (Clarke et al, 2019). Such funding in turn relates to the development in countries such as the so called BRICS (Brazil, Russia, India, China, South Africa) and others and the saving generated by their growing middle classes, corporations and governments. These have boosted the availability of external capital in attractive terms. Additionally, it provided an opportunity for financial and industrial corporations alike to profit faster and potentially easier through financial engineering as opposed to production-related activities. Together cheap finance and profits through financial activities helped facilitate external growth through take overs. It also facilitated share buy-backs as opposed to long term investment, at the detriment of innovation and sustainable economic performance (Lazonick, 2014).

Finance and the financial ecosystem are sine qua non for many a modern corporation, notably the so called unicorns. These 1bn USD valued start-ups can sustain losses for many years by relying upon the availability of finance by venture capitalists, sovereign wealth funds and other sources, in addition to the more conventional banking system. This permits speedy growth unconstrained by the need to generate short term profits. It is arguable that the aim of many such firms is no longer profit maximisation, as such, or even growth in the conventional way, such as of output, employment or assets, except to the extent they foster growth of their valuations. Growth of share valuation instead becomes the objective. The latter is based on anticipations about fast firm growth and eventual long term profits, predicated upon projections about scale, scope and related market dominance at unprecedented speed (the latter reflected in Mark Zuckerberg's famed alleged say to move fast and break things')[1].

Besides such expectations, fast growth is assisted by the exit route provided to investors through Initial Public Offerings (IPOs). Importantly, as none of these can shield many a unicorn from competition, the bigger investors tend to invest in entire emerging activities-ecosystems (hordes of Unicorns). For instance, Japan Softbank's Vision Fund (the bigger shareholder of Uber) has invested in virtually all major emerging players in the ride hailing business. In this case high rates of return on investment can result under the rather more plausible scenario, that in an emergent 'winner takes all' situation, the profits of the winner will more than offset the losses. Even in the case of investments in eventual losers, well informed investors should be able to exit before the losses-to-be become realised losses[2]. Last but not least such investors can borrow against their holdings in unicorns to return capital to investors bypassing 'lock up' periods that typically apply to shares of new-listed companies. This helps fuel more funds to unicorns to further increase the growth of their valuations and the incentive to them to seek SCA by so doing[3].

The often stratospheric valuations achieved by some unicorns is outside the lens of the work of Penrose and Hymer. Despite the prominence of finance-related thinking in the corporate governance and shareholder value literature (Clarke et al, 2019), the role of finance is underexplored in the theory of the growth of the firm, the MNE and the key strategic management theories. A focus on growth of valuations, alongside the outsourcing of labour, moreover questions

Penrose's endogenous growth dynamic. While fundamental in the second part of the 20th century, this dynamic is much less potent in the current juncture for an important part of the economy of the 21st century, which seems more informed by Hymer's exogenous growth, power-based motives aided and abetted by the growth of financial markets.

The above lead to

Proposition 4. Today's modern corporation objective is the pursuit of the fastest feasible growth of its valuation

The aforementioned four Propositions can be tested with appropriate data and proxies for the key explanatory variables as well as the requisite control variables (eg for sector, firm life cycle, degree of internationality etc). Based on our synthesis and empirical findings by McGahan and Porter and Monteverde and Teece, we surmise that on average these could explain circa three quarters of the variation of SCA, the remainder being a matter of luck, serendipity, government policy and other exogenous (such as wars and pandemics) and endogenous factors[4]. More precise estimates can be obtained through meticulous empirical analysis. Among others this entails challenges such as identifying and using the most appropriate proxies for the key variables and in a way that these are clearly separable from proxies employed to test for competing theories. This poses data collection and methodological challenges (not least as some concepts like inimitability, asset specificity, resource dependency etc bear close similarities), and it also provides an exciting future research opportunity and collaborations of qualitative and quantitative scholars.

PREDICTING THE 'UNICORN', DISCUSSION AND OPPORTUNITIES FOR FURTHER RESEARCH

Predicting Unicorns and the 'Sharing Economy'

As we have already noted, the failure to incorporate intra-organisational conflict, context creation and the role of finance have limited the ability of Penrose, Hymer and other giants to anticipate key aspects of the modern corporation. Our integration and development helps do this and engenders huge potential for further research..

A key such opportunity relates to an understanding of today's apparently ubiquitous 'sharing economy' firms and the rise of 'unicorns'. While the platform and ecosystem-based 'sharing' approach appears at first sight alien to the contributions of Penrose and Hymer, the business models employed by unicorns are characterised by scale (Hymer, Penrose), fungible resources and capabilities that take advantage of economies of scope (Penrose), proprietary resources and capabilities (Hymer, Penrose) such as transaction and/or technology platforms, reduction in transaction costs through the transformation of market relationships between firms and individuals to firm-firm (or B2B), all sought at a very high speed.

Our integration and development of Penrose and Hymer can help explicate and indeed predict the platform-based sharing economy and unicorns, as follows. Platforms co-create value through leveraging complementary resources and capabilities of ecosystem players that they themselves help orchestrate and cultivate. The pursuit of sustained value capture by firms requires that firms have to capture already existing value and/or create value that they can then (try to) capture. The former case is possible through sheer luck and/or through state granted monopoly of resources. These cases are more the exception than the rule. As a rule, in a reasonably well functioning market-assisted organisational economy, in order to capture value one has to create value to start with. Creating value facilitates in part its capture by virtue of the fact that the very creation process affords to the value creator proprietary knowledge that can be useful by at least providing a first mover advantage (Lieberman and Montgomery, 1998). The above incentivise potentially appropriable value creation and co-creation[5].

The very process of trying to capture co-created value exposes firms to important challenges. Key among these are competition and value leakage, co-creation and/through complementarities and the devising mechanisms to best capture the co-created value. Value can be co-created through the leverage of complementarities between all economic and business actors-buyers, suppliers and even competitors (Pitelis and Teece, 2018). Co-creation helps increase the overall value, allowing firms well posited to capture more value than the total value they have helped co-create. This happens when leakages towards them from value created by competitors exceed those of value created by them and leaked to competitors. Accordingly value co-creation becomes sine qua non. But value co-creation without value capture is for not-for-profit organisations-the key to for-profits firms is to identify ways through which they build a proprietary appropriability apparatus that helps them capture as much possible of the total co-created value. Key aspects of the said apparatus include Penrose's' 'impregnable bases', the, the RBVs inimitable resources, Porter's 'generic strategies', and an organisation's overall identity and -branding (Pitelis, 2009).

Value co-creation in turn can be effected through the mobilisation of all possible socioeconomic resources-that is capital, land, labour and knowledge (Marshall, 1910), but also the wider natural capital, capabilities and social capital. Firms learn to gradually mobilise as many as they can while at the same time improving upon their appropriability apparatus, including ecosystems and the leverage of network effects (Inpen & Tsang, 2005). This also implicates the need to lower both production and transaction costs, including intra-firm transaction or in

Demsetz's (1988) definition, management costs, in that reduced costs ceteris paribus aid value capture.

In the above context, the 'sharing' economy can be seen as being about profiting from value co-creation that leverages the resources and capabilities of third parties, that is a process of gradually socialising the value co-creation potential of socio-economic resources (Pitelis, 1987), while maintaining control through the orchestrating function and proprietary control over a platform that ideally satisfies the inimitability condition. Assisted by a supporting financial ecosystem these lead to a maximum feasible growth of the valuations of these very modern corporations. It follows that based on our synthesis and development, the sharing economy and unicorns can be better understood and be predicted.

Summary, Discussion and Opportunities for Further Research

We summarise by pointing out that Penrose's approach has fared very well in terms of predating scholarship on resources and capabilities, as well as complementarities, inter-firm cooperation, coopetition (firms competing and cooperating at the same time) and business ecosystems, all of which rely heavily on resource complementarities, co-specialisation and related views that have emanated at least in part from Penrose's book. That said, in many of today's developments the control and power-based exogenous growth dynamic seems to endure. The exogenous control-based focus of Hymer allowed him to predict that if and when firms could maintain control through outsourcing (externalisation), they would do so in order to get rid of the dis-advantages of ownership (Hymer, 1971). This is a key insight and prediction that is not consistent with the Penrosean view, which is of the essence in understanding the sharing economy. At the same time, however, the fungible, scalable and often intangible characteristics of proprietary platforms diminish the need for internationalisation in stages that is implicit in Hymer. Platform-based firms can readily be-come and indeed designed from the start as 'born global' firms so as to leverage maximum scalability and cross-border resource and capability co-specialisation (Jones and Pitelis, 2015). The absence of the role of finance is a key limitation of both scholars.

In conclusion, good for purpose theory and method can help foster understanding, analysis, prediction and prescription. In our synthesis and development, firms exist because of their perceived advantages in terms of value capture potential by aspiring entrepreneurs. They grow because of external and internal inducements by internalising and externalising, by reducing transaction and production costs and importantly by employing differential organisational capabilities to create co-create and orchestrate the very context within which they operate. They gain SCA by pursuing the above while/and by managing the relation (including any trade-offs), between value capture and value creation. Perennial learning and experimentation undergirds all the above, in fact all that the market lubricated organisational economy (Simon, 1991) is about (Rosenberg, 1992). The acquisition, possession and development of ordinary and dynamic capabilities are critical vehicles through which all the above are effectuated. A supporting, partly endogenous ecosystem can facilitate and incentivise the growth of firms and their valuation. Technology, business model innovations and platforms can help achieve-create and capture value in novel and unprecedented ways not foreseen by Penrose and Hymer. An integrated theory that combines and builds upon their insights however, helps better understand and predict the tendency towards the emergence of the sharing economy, the unicorns and related developments.

That few scholars in strategic management pay more attention to prediction, can in part be attributed to a sometimes static content-oriented approach to theory development. It is arguable that a focus on content favours differences as opposed to similarities by presenting ideas as competing alternatives-for instance production versus transaction costs as opposed to production and transaction costs. A process-oriented approach instead that leverages the ideas of the content-based theories within an evolutionary setting, is more problem-issue based and hence less incentivised to see things in opposing terms.

A related reason is that scholars tend to view and to market their ideas as alternatives to a prevailing one at the time, even when the complementarities are quite obvious. Consider Teece's DC view. In various papers and presentations, Teece presents DCs as an alternative to Hymer, and to Porter (Teece, 2010), despite that the two serve different purposes. Hymer and Porter are about strategies to capture value by reducing competitive forces. DCs are about the requisite ordinary and individual and organisational capabilities to create, co-create and capture value (Katkalo et al., 2010) in every chosen way, hence including through the Hymer/Porter reduction of the forces of competition (as well as of course through selecting and/or creating new sectors and activities). The two are clear complements. While a focus on differences is explicable and up to a point sensible in the context of well-meant (Porter-like) academic differentiation and positioning, it is arguable that our tendency to divide rather than integrate hinders scholarly progress.

Another key reason is disciplinary silos. A better understanding of complex realities requires accounting for among others, political economy, finance and other considerations such as the role of the state, public policy and the financial ecosystem. Despite Coase's (1960) original contribution, Penrose's (1959) insightful last chapter on public policy and Hymer's (1972) extensive accounts of market-firm-state interactions, the role of the state and public policy has since been underplayed in strategic management theory. This is notwithstanding relevant contributions in the resource dependency theory of Pfeffer and Salancik, (1978), the institutional theory (Oliver, 1990) and neo-institutional transaction costs-based views (North, 1990). Similarly, the wider role of the financial sector has been underexplored, despite its influence in corporate governance and Bill Lazonick's (2014) pioneering efforts.

Another major research opportunity, especially for younger quantitatively minded scholars presents itself in terms of the empirical-econometric testing of the relative strength of the theories, in a common econometric framework. By way of highlighting the importance of this, it is arguable that the transaction costs economics framework, gained more credibility after Monteverde and Teece (1982) were able to operationalised and test for asset specificity, while the current challenges faced by the DCV are partly related to its failure to provide a convincing proxy for DCs and their impact on SCA (Pitelis and Wang, 2018).

We close in an optimistic note, by submitting that by virtue of their interdisciplinary focus, conceptual frameworks, methods and understanding of the key economic player that is today's very modern corporation strategic management scholars are arguably better posited than other social scientists to drive good for purpose theory, prediction and prescription for sustainable business and socio-economic performance.

REFERENCES

Bain, J. S. (1956). *Barriers to new competition: their character and consequences in manufacturing industries* (Vol. 329). Cambridge, MA: Harvard University Press.

Barney J. (1991). Firm resources and sustained competitive advantage. *Journal of Management 17(1),* 99–120.

Buckley, P. J., & Casson, M. C. (1976). *The future of the multinational enterprise*. London: Macmillan.

Casson, M. (ed.) (1990). Multinational Corporations. Hants: Edward Elgar.

Chandler, A. D. (1962). *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. Boston: MIT Press.

Chandler, A. D. (1990). *Scale and Scope*. Cambridge, Ma.: Harvard University Press.

Chandler, A. (1992). Organizational Capabilities and the Economic History of the Industrial Enterprise. *The Journal of Economic Perspectives, 6*(3), 79-100.

Coase, R. H. (1937). The Nature of the Firm. *Economica, 4(16),* 386-405.

Coase, R. H. (1960). The Problem of Social Cost. *The Journal of Law & Economics, 3,* 1-44.

Coase, R. H. (1972). Durability and Monopoly. *The Journal of Law and Economics, 15(1),* 143-149.

Coase, R. (1990). *The Firm, the Market, and the Law*. Chicago: University of Chicago Press.

Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm.* Englewood Cliffs, N.J: Prentice-Hall.

Clarke, T., O'Brien, J., & O'Kelley, C. (Eds.). (2019). *The Oxford Handbook of the Corporation*. Oxford: Oxford University Press.

Clougherty, J. A., Kim, J. U., Skousen, B. R., & Szücs, F. (2016). The Foundations of International Business: Cross-Border Investment Activity and the Balance between Market-Power and Efficiency Effects. *Journal of Management Studies, 54(3),* 340–365.

Demsetz, H. (1988). The theory of the firm revisited. *Journal of Law, Economics, & Organization*, *4*(1), 141-161.

Dunning, J. H. (1980). *Toward an eclectic theory of international production. The International Executive, 22(3), 1–3.*

Dunning, J. H. (2001). The eclectic (OLI) paradigm of international production: past, present and future. *International Journal of the Economics of Business*, *8*(2), 173-190.

Dunning, J. H., & Pitelis, C. N. (2008). Stephen Hymer's contribution to international business scholarship: an assessment and extension. *Journal of International Business Studies, 39(1*), 167-176.

Epstein, G. (2001). Financialization, Rentier Interests, And Central Bank Policy. *Manuscript, Department of Economics, University of Massachusetts, Amherst, MA, December*.

Gerwe, O. and Silva, R. (2018). Clarifying the sharing economy: Conceptualization, typology, antecedents, and effects. *Academy of Management Perspectives*, (ja)

Hennart, J.F. (1982). *A Theory of Multinational Enterprise*. University of Michigan Press, Ann Arbor, Michigan.

Hymer, S. H. (1960/ 1976). *The international operations of national firms: A study of direct foreign investment*. Cambridge, Ma: MIT press.

Hymer S (1968) 'The Large Multinational 'Corporation''. In M Casson (1990) (ed), *Multinational Corporations*, pp 6-31, Hants: Edward Elgar.

Hymer, S. H. (1970). The Efficiency (Contradictions) of Multinational Corporations. *The American Economic Review, 60*(2), 441-448.

Hymer, S.H. (1971). The Multinational Corporation and The International Division of Labour. In: Cohen et al. (1979) Eds. *The Multinational Corporation: A Radical Approach.* Cambridge: Cambridge University Press.

Hymer, S. H. (1972). *The multinational corporation and the law of uneven development*. In: Bhagwati, J.N. (Ed.), Economics and World Order. Macmillan, London, pp. 113–140.

Johanson, J. and Vahlne, J.E. (1977). The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments. Journal of international business studies, 8(1), pp.23-32.

Jones, G., & Pitelis, C. (2015). Entrepreneurial Imagination and a Demand and Supply-side Perspective on the MNE and Cross-border Organization. *Journal of International Management, 21(4),* 309–321.

Inkpen, A.C., Tsang, E.W.K., 2005. Social Capital, networks, and knowledge transfer. *Academy of Management Review*. 30, 146–165.

Katkalo, V. S., Pitelis, C. N. and Teece, D. J. (2010). Introduction: On the nature and scope of dynamic capabilities. *Industrial and Corporate Change, 19(4)*, 1175–86.

Keynes, J. M. (1936). *The general theory of employment, interest and money.* London: Macmillan

Klein, P. G., Mahoney, J. T., McGahan, A. M., & Pitelis, C. N. (2012). Who is in charge? A property rights perspective on stakeholder governance. *Strategic Organization, 10*(3), 304–315.

Klein, P. G., Mahoney, J. T., McGahan, A. M., & Pitelis, C. N. (2019). Organizational Governance Adaptation: Who Is In, Who Is Out, and Who Gets What. *Academy of Management Review, 44*(1), n-n

Kogut, B., & Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organization Science, 3*(3), 383-397.

Kor, Y. Y. and Mahoney, J. T. (2000), Penrose's Resource-Based Approach: The Process and Product of Research Creativity. *Journal of Management Studies, 37(1),* no-no

Lazonick, W. (2010). Innovative Business Models and Varieties of Capitalism: Financialization of the U.S. Corporation. *The Business History Review, 84*(4), 675-702.

Lazonick, W. (2014). *Profits Without Prosperity*. Retrieved from Harvard Business Review: https://hbr.org/2014/09/profits-without-prosperity

Lieberman M. B and D. B. Montgomery (1998) First mover (dis) advantages: Retrospective and Link with the Resource Based View, *Strategic Management Journal,* 19: 1111–1125

McGahan, A., & Porter, M. (1997). How Much Does Industry Matter, Really? *Strategic Management Journal, 18*, 15-30.

Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal, 13(5)*, 363–380.

Marshall, A. (1910). *Principles of Economics.* Hampshire, UK: Palgrave Classics in Economics

Marx, K., (1887). *Capital: A critique of political economy*. Moscow: Progress Publishers

Minsky, H. P. (1986). *Stabilizing an unstable economy*. New Haven: Yale University Press.

Monteverde, K., & Teece, D. (1982). Supplier Switching Costs and Vertical Integration in the Automobile Industry. *The Bell Journal of Economics, 13*(1), 206-213.

Nelson, R.R., Winter, S.G. (1982). *An Evolutionary Theory of Economic Change.* Belknap Press, Cambridge, MA.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, UK: Cambridge University Press.

Oliver, C. (1990). Determinants of interorganizational relationships: Integration and future directions. *Academy of Management Review*, 15: 241-265.

Parker, G., Van Alstyne, M. and Choudary, S. (2016). *Platform Revolution: How networked markets are transforming the economy – and how to make them work for you*. 1st ed. New York: W. W. Norton & Company, Inc.

Penrose, E. (1959/2009). *The theory of the growth of the firm.* 4th edition. Oxford: Oxford University Press (with an introduction by C. Pitelis)

Peteraf, M. A. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic management journal, 14(3)*, 179-191.

Pfeffer, J., & Salancik, G. R. (1978). The external control of organizations: A resource dependence perspective. New York: Harper & Row.

Pitelis, C.N. (1987). *Corporate Capital: Control, Ownership, Saving and Crisis*. Cambridge, UK: University of Cambridge Press.

Pitelis, C. N. (1991). *Market and Non-Market Hierarchies: Theory of Institutional Failure*. Oxford: Blackwell

Pitelis, C. N. (2002) ed. *The Growth of the Firm; the legacy of Edith Penrose*. Oxford: Oxford University Press.

Pitelis, C.N. (2004). Edith Penrose and the resource-based view of (international) business strategy. International business review, 13(4), pp.523-532.

Pitelis, C. (2007a). Edith Penrose and a learning-based perspective on the MNE and OLI. Management International Review, 47(2), pp.207-219.

Pitelis, C. N. (2007b). A behavioural resource-based view of the firm: the synergy of Cyert and March (1963) and Penrose (1959). *Organization Science 18(3),* 478–490

Pitelis, C. N. (2009). The co-evolution of organizational value capture, value creation and sustainable advantage. *Organization Studies, 30(10),* 1115–39

Pitelis, C. N (2012) Clusters, Entrepreneurial Ecosystem Co-Creation, and Appropriability: A Conceptual Framework, *Industrial and Corporate Change*, 21(6), pp. 1359-1388

Pitelis, C. N., & Teece, D. J. (2009). The (new) nature and essence of the firm. *European Management Review, 6(1), 5–15.*

Pitelis, C. N. & Teece, D. (2010). Cross-border market co-creation, dynamic capabilities and the entrepreneurial theory of the multinational enterprise. *Industrial and Corporate Change, 19(4),* 1247-1270.

Pitelis, C., & Teece D. J. (2018). The New MNE: 'Orchestration' Theory as Envelope of 'Internalisation' Theory. *Management International Review, 58,* 523–539.

Pitelis, C. and Verbeke, A. (2007). Edith Penrose and the future of the multinational enterprise: New research directions. *Management International Review*, *47*(2), pp.139-149.

Pitelis, C. N., & Wagner, J. D. (2018). Strategic Shared Leadership and Organizational Dynamic Capabilities. *The Leadership Quarterly, 30(2),* 233-242.

Pitelis, C. N., & Wang, C. L. (2019). Dynamic Capabilities: What are they and what are they for? *British Journal of Management*: https://wol-prod-cdn.literatumonline.com/pb-assets/assets/14678551/Dynamic_Capabilities_Editorial_-1559038771153.pdf

Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: Free Press.

Ramamurti and J.V. Singh (eds.). (2009). *Emerging Multinationals from Emerging Markets*. Cambridge, UK: Cambridge University Press.

Rosenberg, N. (1992). Economic Experiments. *Industrial and Corporate Change, 1(1),* 181–203.

Rugman, A. M., & Verbeke, A. (2003). Extending the theory of the multinational enterprise: Internalization and strategic management perspectives. *Journal of International Business Studies* 34(2), 125–137.

Rumelt, R.P, P. D. Schendel & D.J Teece (1991)

Strategic Management and Economics, *Strategic Management Journal*, Winter, pp 5-29

Schumpeter, J. (1942) Capitalism, Socialism and Democracy, 5th edn, 1987, London, Unwin Hyman.

Simon H. A. (1951). A Formal Theory of the Employment Relationship. *Econometrica*, 19(3), 293-305.

Simon, H. A. (1991). Organizations and Markets. *Journal of Economic Perspectives, 5(2),* 25-44.

Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations* (Cannan ed.), in 2 vols.

Teece, D. J. (1977). Technology Transfer by Multinational Firms: The Resource Cost of Transferring Technological Know-how, *Economic Journal*, *87(346),* 242-261.

Teece, D. J. (1982). Towards an economic theory of the multiproduct firm. *Journal of Economic Behavior & Organization, 3(1), 39–63.*

Teece, D. J. (2006). Reflections on the Hymer thesis and the multinational enterprise. *International Business Review, 15(2),* 124–139.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350.

Teece, D. J. (2010). Business models, business strategy and innovation. *Long range planning*, *43*(2-3), 172-194.

Wernerfelt, B (1984) A Resource Based Theory of the Firm, Strategic Management Journal, 5, pp.171-180

Wilkins, M. (2008). Chandler and Global Business History. *The Business History Review, 82*(2), 251-266.

Williamson, O. E. (1971). The Vertical Integration of Production: Market Failure Considerations. *American Economic Review*, 112-123.

Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*, New York, Free Press.

ENDNOTES

[1] The speed of expansion entails medium or even long term losses that are not aligned to conventional microeconomic profit maximisation logic. For example, ten years old Uber has last year lost three billion dollars yet it was valued at circa 65 billion (down from an originally rather over-optimistic circa 100) at its recent Initial Public Offering (IPO).

[2] In a paradoxical almost way, this leads to the nearer one can hope to get of the neoclassical hypothesis about long term firm value. While still unrealistic in supposing future knowledge of interest rates and all future occurrences (as opposed to the more realistic idea that opportunities are co-created and emerge during the very process of growth, Nelson and Winter, 1982, Rosenberg, 1992), the enhanced knowledge of major players alongside their placing of bets in whole emerging sectors, render their investment strategy and valuations as near as feasible to the neoclassical ideal, in terms of their relative predictability.

[3] All that said, nothing can shield an investor from a bad investment. The recent aborted IPO of the office renting company WeWork and its impact on its founder, and its backers, notably Softbank, is testament to that. That even such acknowledged failures can end up bestowing billions to players such as the founder of WeWork, suggest that the potential individual benefits to insiders are likely to exceed societal ones, hence questioning traditional performance measures and calling for requisite regulation.

[4] Note that identifying and using the right proxies can be a challenge, not least as the various theories can overlap. A characteristic example is asset specificity. It has been employed as a proxy for transaction costs, yet it is also a proxy for inimitable resources in the RBV, and power in the context of the resource dependency theory.