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Rentiership and Intellectual Monopoly in Contemporary Capitalism: Conceptual Challenges and Empirical Possibilities

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Rentiership and Intellectual Monopoly in Contemporary Capitalism: Conceptual Challenges and Empirical Possibilities

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Abstract

The concepts of rentiership and intellectual monopoly have gained increased prominence in discussions about the transformation of global capitalism in recent years. However, there have been few if any attempts to construct measures for rentiership and intellectual monopoly using firm-level financial data. The absence of such work, we argue, is symptomatic of conceptual challenges in delineating what precisely qualifies as rent, intellectual or otherwise. In place of static conceptions of rent and intellectual monopoly, we develop a dynamic framework for analyzing the processes of rentierization and intellectual monopolization and apply this framework to the analysis of the transformation of non-financial firms in the United States since the 1950s. We find that the timing and intensity of rentierization and intellectual monopolization differs significantly across sector and firm size and is heavily mediated by the uneven ramifications of government policy across companies and industries. Overall, our framework illuminates the variegated landscape of corporate power in the US, and offers a useful guide for critically interrogating rentierization and intellectual monopolization in other contexts.

Introduction: Rent Redux

In the conceptual toolkit of heterodox political economy, a trio of terms has been widely deployed to capture transformations in contemporary capitalism over the past few decades: neoliberalism, globalization and financialization (Bellamy Foster 2007: 1; see also Duménil and Levy 2011: 35; Epstein 2005: 3). More recently, in the aftermath of the global financial crisis, a fourth term has entered the lexicon: rentiership, also commonly referred to as rentierization, rent-seeking or rentierism (Birch 2020; Christophers 2020; Mazzucato 2019).¹ Of course talk of rent is nothing new; it was an integral part of classical political economy in the nineteenth century and featured in the work of John Maynard Keynes (1953) in the early twentieth century before falling out of favour in the post-World War II period (Piketty 2014; Sayer 2020). What, then, accounts for this recent resurgence? One reason is that concepts of rent and rentiership foreground competition

¹ The concept of rent-seeking has loomed large in the mainstream development literature for a half century (see Congleton and Hillman 2015).

and monopoly power more systematically than the other three terms. Consider, for example, the following definitions of rent: “a return to the monopoly power of private ownership of some crucial asset” (Harvey 2012: 94); “payment in excess of competitive price” (Stratford 2022: 2); “income derived from the ownership, possession, or control of scarce assets and under conditions of limited or no competition” (Christophers 2020: xxiv).

According to the growing body of literature on rent, contemporary capitalism is dominated by increasingly powerful corporations that take rather than make, extract rather than create value, and predate rather than innovate. Although rentiership is considered widespread, it is seen most starkly in the knowledge economy, where intangible assets such as patents and other forms of intellectual property rights (IPRs) enable giant tech firms to generate information or knowledge rents from nothing other than the owner’s legal right to exclude others from using those assets (Durand and Milberg 2020). Some even suggest that the growing prominence of information rents has ushered in a new phase of “intellectual monopoly capitalism” whereby the means of knowledge production are monopolized by lead firms (Pagano 2014; Rikap 2021).

What is perhaps the most remarkable aspect of the resurgence of the concept of rent is that it has managed to unite people of different political persuasions (Christophers 2019: 304; see also Morozov 2022; Stratford 2022). Not only heterodox political economists, but also mainstream economists have started to invoke rent to diagnose the ills of contemporary capitalism (Furman and Orzag 2018; Stiglitz 2015). But with this widespread appeal has also come conceptual ambiguity. No matter how it is defined, rent does not seem to have clear conceptual boundaries and therefore cannot be measured with any confidence. Where exactly is the dividing line between crucial and non-crucial assets or scarce and non-scarce assets? How do we determine exactly when prices are competitive? Where does free competition end and limited competition begin? Ambiguities surrounding these questions mean that there have been surprisingly few attempts to construct measures for rentiership using firm-level financial data.

We claim that the general absence of analysis quantifying firm-level rents arises from untenable dualisms that lie at the heart of both heterodox and mainstream approaches: productive versus unproductive activities, scarce versus non-scarce assets, and competitive versus monopoly. These untenable dualisms, we contend, arise from rent theory’s at least partial mooring in a substantialist ontology that holds that value is generated or expressed in one domain of activity (production or perfect competition) and captured or distorted by others (predation or market

power). In place of such a perspective, we advocate an ontology of process. According to our alternative framework, there are no “pure” rents just as there are no “pure” profits. At best we can say that there is a process of rentierization and (intellectual) monopolization: tendencies within capitalism towards greater forms of exclusionary control over production, distribution and consumption.

Developing a heuristic framework, we argue that rentierization can be said to be in play when a company raises profit margins in service of investor returns rather than future growth, and that intellectual monopolization can be discerned when this process of rentierization is combined with growing market capitalization and expanding holdings of intangible assets relative to tangible assets. With this schema, we explore the uneven processes of rentierization and intellectual monopolization among non-financial firms in the US since the 1950s. We find that the timing and intensity of rentierization and intellectual monopolization differs significantly across sector and firm size and is heavily mediated by the international context and the uneven ramifications of government policy across companies and industries. Our analysis shows that the processes of rentierization and intellectual monopolization have been intensifying since the 1980s and are concentrated in favor of the largest corporations. Over the past few decades the largest corporations have experienced growing profit margins shareholder payouts, market capitalization and intangibles intensity, especially in the pharmaceuticals sector but also in apparel and footwear, defence and aerospace, food and beverage, heavy industry, and hotels and restaurants. In the technology sector, it is only in the past decade that the largest firms have registered increasing values across all four of these parameters. Further down the corporate hierarchy, processes of rentierization and intellectual monopolization are much less widespread but can be found in the footwear and apparel and defence and aerospace sectors. Overall, our measures illuminate the variegated landscape of corporate power in the US, and they offer useful pointers for critically interrogating processes of rentierization and intellectual monopolization in other contexts.

The rest of the paper is organized as follows. In the first section, we offer a critical review of heterodox and mainstream approaches to rent and explain why the three dualisms that underpin these approaches are untenable. In the second section, we outline our alternative approach based on process ontology. In the third section, we empirically map rentierization and intellectual monopolization in the US economy since the 1950s along three dimensions: for non-financial

corporations in the aggregate, and in the disaggregate, by sector and by firm size. Our concluding section briefly summarizes the key findings and identifies areas for future research.

Where's the Rent? A Critical Review

Within the growing literature on rent and intellectual monopoly, two main approaches have been identified (Christophers 2020; Mazzucato 2019; Stratford 2022). The first approach, described as “classical” or “heterodox,” conceives of rent as income derived from the monopoly control of scarce assets. The origins of this approach are often traced to David Ricardo (1911: 33), who defined rent as “that portion of the produce of the earth, which is paid to the landlord for the use of the original and indestructible powers of the soil.” Ricardo’s idea was that rent emerges from the differential fertility of land. As the population grows, increasingly inferior plots of land are brought into agricultural production. When this happens, tenant farmers are forced to pay rent to the landlords of the original, more fertile, plots of land to compensate them for their relatively more productive, and therefore profitable, asset. In other words, Ricardian rent is the difference in profit between the superior and inferior plots of land (Mazzucato 2019: 44). The landlord obtains this rent not through increases in their own productivity nor innovation but merely through ownership of a scarce asset. Subsequent thinkers, including Karl Marx (1991: 910; see also Purcell et al. 2020: 441), expanded the range of rent generating assets to include monopoly ownership of virtually anything subject to natural or artificial scarcity (Christophers 2020: xxii).

Those working within the classical/heterodox tradition agree that rent and intellectual monopoly are normal features of the capitalist economy. Where they disagree is on how to distinguish profits from rents (Baglioni et al. 2021; Christophers 2019; Mazzucato et al. 2023). The Ricardian view juxtaposes “good” profits generated in the “real” economy through production of goods and services with “bad” rents extracted from unproductive activities (i.e. making versus taking). Alongside “good” profits, the Schumpeterian view allows for “good” rents that emerge temporarily from successful innovations. And finally, the Marxist view conceives of both profits and rents as “bad” in the sense that both are rooted in the exploitation of productive workers. From a Marxist perspective, the key difference is that whereas profit is directly linked to the production and extraction of surplus value, rents are associated with its circulation and distribution.

In contrast to the heterodox approach, the “neoclassical” or “orthodox” approach theorizes rent as income in excess of opportunity cost. In her dissection of the history of economic thinking on rentiership, Beth Stratford (2022: 2) provides a useful example to illustrate the differences in the

orthodox and heterodox approaches. Under the heterodox definition, a worker earning a minimum wage in an area with high unemployment would extract no rent because they possess no scarce asset (there are plenty of unemployed people willing to do the job). Yet under the neoclassical definition that same worker, lacking other job opportunities, extracts a rent insofar as they would have likely accepted lower pay if the minimum wage law did not exist. In the neoclassical tradition, rent is also synonymous with income exceeding the competitive price (Stratford 2022: 9). This conception of rent divides the economy into two spheres. In one sphere, perfect competition reigns and all participants receive an income reflecting their marginal productivity. In the other sphere, participants have market power that allows them to command an income above their marginal productivity. The difference between the income generated from imperfect markets and the income generated from perfect competition constitutes rent. In contrast to the heterodox approach, the neoclassical approach therefore considers rent an abnormality or a barrier to the otherwise perfectly competitive dynamics of the capitalist economy (Mazzucato 2019: 73).

For the heterodox and neoclassical approaches alike, the distinction between rent and profits is rooted in value-theoretical assumptions. In the heterodox case, at least in the Ricardian and Marxist variants, whereas rents derive from unproductive labour (or activities) and scarce assets, profits derive from productive labour and non-scarce assets. In both the heterodox and neoclassical cases, rents exist only under conditions of monopoly rather than competition. Positing these demarcations is straightforward, but in our view, the difficult part comes in specifying where their boundaries lie.

Productive versus Unproductive

Consider first the distinction between productive and unproductive. As Jonathan Nitzan and Shimshon Bichler (2009: 115-116) point out, in feudal society it was easy to distinguish those who produced from those who did not. On the side of production were the peasants who tilled the soil and the artisans who produced and serviced the tools. On the side of unproductive appropriation, exchange and redistribution were the nobility, clergy, merchants, usurers, tax farmers, and so on. But in contemporary capitalist society, Nitzan and Bichler argue, this clear separation becomes blurred due to growing conglomeration, complex joint production techniques and product diversity, as well as the omnipresence of knowledge and services. To illustrate the difficulties, they give the example of product remodeling, an all-pervading aspect of consumer capitalism (Nitzan and Bichler 2009: 113). No matter how incremental the change may be, it seems difficult to deny that the activities associated with the remodeling of products involve some form of production and

innovation. Yet at the same time, the very purpose of remodeling is to persuade people to buy the new product, which, much like advertising, could just as easily be construed as unproductive circulation. Without any objective way of drawing a neat boundary around production, rent and profit become both conceptually and empirically indistinguishable.

Trying to separate productive from unproductive activity is, in Nitzan and Bichler's (2009: 115) words, "trying to give capitalist answers to pre-capitalist questions." And for some recent proponents of the concept of rent, this is precisely the point. Capitalism, in their view, is now giving way, if not to fully-fledged neo-feudalism, then at least to a tendency toward re-feudalization, in which the blurring of the boundary between the productive and unproductive is now being re-established in the digital economy (Dean 2020; Durand 2022). The gist of the argument is as follows: If the tech giants rely on IPRs and network effects to extract from the pool of surplus value, then, much like the feudal landlord, tech companies are lazy rentiers that "need not lift a finger or hire anyone else to lift a finger productively in order to share in the surplus value generated by productive wage labor" (see Foley 2013: 260; cited in Morozov 2022: 117).

But unfortunately this emphasis on re-feudalization does not solve the intractable problems of trying to distinguish productive from unproductive activities. To posit the return to feudalism as a tendency is to acknowledge that, even for the tech giants, the lines between productive and unproductive remain blurred. In his critique of the re-feudalization thesis, Evgeny Morozov (2022: 118) questions the idea that the production boundary is being neatly reestablished. If the tech giants are indeed lazy rentiers that "need not lift a finger," then why do they go through the trouble of spending billions of dollars on research and development (R&D)? Why does a company like Amazon employ more people than the entire US residential construction sector? Why do Google, Amazon and Facebook have fewer intangible assets than other large corporations, and fewer intangibles than they had ten to 15 years ago (see Birch et al. 2021)? How do we account for the enormous tangible infrastructures - physical networks and data centres - built up by these companies? As enticing as the tech tycoon-as-feudal baron analogy sounds it does not get us any closer to operationalizing the distinction between productive and unproductive activities.

Scarce versus Non-Scarce

What about scarce versus non-scarce assets? In the heterodox formulation, rent is generated only under conditions of scarcity. Thinking back to Ricardo, if an asset like fertile land is abundant (i.e. non-scarce), then landowners will have no differential advantage and will therefore extract no

rent. The same logic applies to all other assets, including intangibles. For example, without the legal protection that patents provide to make their products artificially scarce, the rents of pharmaceutical companies would quickly evaporate due to the availability of abundant, cheaper, generic alternatives.

Much like the productive/unproductive distinction, the precise boundary between scarce and non-scarce is impossible to discern. From its very origins in enclosure and colonization, capitalism has created artificial scarcity through the institution of private property, depriving people of access to common resources by fencing them off for the exclusive use of their capitalist owners (Federici 2004; Hickel 2020: 56). These institutionalized forms of exclusion are not confined to an earlier pre-capitalist phase of what Marx (1976) referred to as “primitive accumulation” nor do they apply to only certain types of assets. As private property, all capitalist assets, from plots of land and oil wells to factories and IPRs, are scarce insofar as they are anchored in the legal right of exclusion (Commons 1925: 371; Nitzan and Bichler 2009: 228). And if all assets are scarce in this fundamental sense, then there is no way in which we can delineate some income as void of institutionalized exclusion, and consequently no basis upon which we can confidently delineate rents.

To be sure, some assets are more abundant and readily obtainable than others, and in this sense, the relative “scarcity” of these assets must somehow bear on their relative price and relative profitability (think of a mine for rare and expensive palladium versus a mine for abundant and cheap iron). Yet those working in the heterodox tradition have not developed a method of empirically gaging the relative scarcity of assets. While some might be tempted to invoke the market dynamics of supply and demand to determine scarcity, this apparent solution faces two problems. First, supply and demand, as well as the equilibrium point at which they intersect, are the foundational concepts of neoclassical economics, making it difficult to identify anything distinctly heterodox in the claim that rents derive from scarce assets. Second, and most importantly, neoclassical economists have failed to objectively measure supply and demand curves, which are supposed to reflect the “desires-turned-intentions” of utility-maximizing consumers and producers (Bichler and Nitzan 2021). Without a measure of supply and demand there is no way to measure the (relative) scarcity that is supposed to generate rent.

Competition versus Monopoly

Finally, both heterodox and neoclassical approaches claim that rents are only generated in conditions of monopoly. Yet when it comes to the relationship between monopoly and competition, the two approaches differ in crucial respects. As mentioned earlier, on the side of neoclassical economics, rent is equated with “super-normal” profits, which are generated when some constraints on competition are imposed by an actor with market power. “Normal profits,” in contrast, should be equal to the marginal productivity of capital in a perfectly competitive environment (Mazzucato et al. 2023). But as the Cambridge Controversy showed over a half century ago, there is simply no way to determine the marginal productivity of capital since heterogenous capital goods cannot be aggregated independently of the prices they are meant to explain (Robinson 1971). Without a measure of capital’s productivity, the neoclassical approach descends into tautology, and is unable to determine what a normal profit level is nor the level of rents above normal profits (Hager and Baines 2020: 283-284).

In place of the neoclassical approach’s strict dualism between monopoly and (perfect) competition, the heterodox approach is more pragmatic, drawing inspiration from Michal Kalecki’s (1971) work on the “degree of monopoly”. Kalecki thought of the degree of monopoly in terms of pricing power at the level of production units, as expressed in the price markup (unit sale price - cost of unit sold). This pricing power was manifested at the firm level in profit margins and at the aggregate level in capital’s share of national income (Melmiès 2023: 4). Brett Christophers (2019), for example, argues that a rise in Kalecki’s degree of monopoly can be taken as evidence of the monopoly power inherent in rentierism. Andrew Sayer (2020: 3), another prominent heterodox advocate of the rent concept, also cites Kalecki approvingly in claiming: “Monopoly need not be an all-or-nothing matter: there can be degrees of monopoly.”

Unlike neoclassical marginal productivity, one of the advantages of using Kalecki to explore monopoly is that his ideas can be empirically operationalized at the firm level simply by tracking profit margins. However, as far as we are aware, no heterodox study has actually sought to map rent empirically with reference to this measure of the degree of monopoly.² Empirical issues

² The 2017 UNCTAD Trade and Development Report dedicated an entire chapter market power and rent, providing estimates for rentier income for the non-financial sector. “Surplus profits” (or rents) were defined as profits above typical (median) profits by sector. Drawing on UNCTAD’s database of consolidated financial statements, the report found an increasing share of surplus profits as a percentage of total profits in general and for the top 100 companies ranked by market capitalization from 1995 to 2015. Though an interesting way of

notwithstanding, the invocation of Kalecki's work raises uncomfortable conceptual questions for the heterodox approach. If there are degrees of monopoly, does that mean there are also "degrees of rents"? And if rent itself can be seen as a matter of degree, doesn't that make the concept untenable in its amorphousness? Sayer (2020: 3) ventures this possibility but is then quick to dismiss it:

There is inevitably often some uncertainty or fuzziness regarding "where to draw the line," because it may be difficult to estimate what prices would be in the absence of monopoly. Here, we must avoid the fallacy of continuum, according to which the absence of a clear dividing line must mean the absence of any difference, as if the existence of some unclear cases meant the absence of any clear cases. It is the most egregious forms that should concern us most.

The passage quoted gets to the heart of what is at stake in conceptualizing rent: Do we draw sharp lines or do we think in terms of a continuum? In our view, Sayer's arguments in favour of sharp lines are unconvincing. The line between rent and profit is not "uncertain" or "fuzzy"; it is impossible because of the untenable dualisms that underpin the bifurcation: productive versus unproductive, scarce versus non-scarce, competition versus monopoly. Similarly, it is not merely "difficult to estimate what prices would be in the absence of monopoly"; it is impossible because the competitive dynamics of capitalism are always entwined with power and politics.

From Substance to Process

In trying to wed the rent/profit dualism with the degree of monopoly, Sayer is forced to make a major concession. Since the boundaries between rent and profit are blurred, he argues that we should concern ourselves with the "most egregious cases" of rentiership. But if we must confine our analysis to only the most extreme cases of rentiership then what value is there in deploying the concept in the first place? A crucial reason why rent and rentiership have become so prominent is because they are meant to capture something general about the nature of contemporary capitalism (Baglioni et al. 2021; Christophers 2020). Limiting the study of rent to a few bad apples ("the most egregious forms") seems, in our view, unnecessarily restrictive, especially for a heterodox tradition that tends to privilege the analysis of the wider structural transformations in the capitalist economy.

exploring market concentration, this estimation technique does not reveal anything about unproductive nature of the surplus profits nor whether they derive from control of scarce assets.

Where, then, does this leave the concept of rent? Despite our misgivings about existing approaches, we argue that rent is a potentially useful analytical category as it points to the accentuation of exclusionary processes integral to capitalism. With that being said, making the category of rent analytically coherent requires a fundamental analytical shift. As we see it, the shortcomings of the current approaches to rent, both heterodox and neoclassical, stem from their adherence - often implicit and even disavowed - to an ontology of substance (Pitts 2021). Here the assumption is that we can peer beyond the veneer of prices to uncover the root substance - either productive labour in the heterodox approach or utility in the neoclassical approach - that determines whether capitalism is characterized by competitive profit-making or monopolistic rent-seeking. Yet the units in which these substances are denominated, socially necessary abstract labour time and the util, respectively, remain elusive (Nitzan and Bichler 2009). Heterogeneous labour and subjective utility have never been aggregated independent of prices, making any estimates of their magnitudes arbitrary and circular. Without these units, the sharp dualisms of the existing approaches to rent break down.

In our view, salvaging the concept of rent requires moving away from the implicit substantialism of existing approaches and instead embracing an ontology of process (Rescher 2000). This entails giving up the hope of drawing lines, sharp or otherwise. In current formulations, the category of rent implies that we must reify one form of income as the outcome of productive contribution under competitive conditions and the other as the outcome of market power. Our alternative framework makes no such demands. There are no “pure” rents just as there are no “pure” profits. At best we can say that there is a process of rentierization emergent in all capitalist relations as open-ended tendencies towards exclusionary control over production, distribution and consumption are continually evaded, contested and reversed, thereby never reaching a consummated end-state. Contrary to Sayer, therefore, we argue that the continuum thinking that underpins process ontology allows for richer understandings of variation (as modelled in this case by the concept of rentierization) than what binary thinking can provide (in this case “rents” versus “normal profits”). By doing away with binary classifications, we are in fact better positioned to map out variegation in the economy, charting the process of rentierization over time for firms of different sizes, as well as for different sectors and geographical contexts. In the next section, we present our alternative methodology for exploring the variegated dimensions of rentierization.

Measuring Rentierization

Our alternative approach to rentierization as a process eschews what we regard as the untenable dualisms of productive/unproductive, scarce/non-scarce and competitive/monopolistic. We do, however, build on the heterodox tradition insofar as we retain Kalecki's degree of monopoly as a starting point for our analysis. Yet in this section we show how the degree of monopoly on its own is insufficient to capture the complexities of the rentierization process. We also incorporate financialization, market capitalization and intangible asset intensity to develop a richer account of the variegated nature of rentierization in the US.

From the Degree of Monopoly to Investment Financing Theory

Kalecki thought of the degree of monopoly in terms of pricing power at the level of production units, as expressed in the price markup (unit sale price - cost of unit sold). Yet this definition of the price markup does not lend itself easily to empirical mapping as company financial statements do not report unit-level prices and costs. With these empirical limitations of the unit-level price markup in mind, we build on existing efforts to map out the firm-level manifestation of the degree of monopoly with reference to profit margins, often referred to as the profit markup. One common empirical strategy within the literature has been to estimate the degree of monopoly as the total cost of goods sold relative to revenues (Davis and Orhangazi 2021, p. 27).³ Our approach focuses on net profit margins (net profits as a percentage of sales) as a proxy for the degree of monopoly (Hager and Baines 2020; Nitzan and Bichler 2009). By moving our attention away from production units to the firm itself, we get a better sense of the corporation as a wider ensemble of power. And by moving attention away from cost of goods sold to net profit margins overall, we can get a better sense of a firm's capacity to not only reduce direct production costs (as proxied by cost of goods sold) and increase sales volume (as tracked by revenues), but also to control other key financial flows including interest expenses, administrative and marketing costs (i.e. selling, general and administrative expenses) and tax payments. In other words, by broadening the vista in this way (i.e. from unit to firm, and from production costs to all costs), we can get an insight in the firms' power not only vis-à-vis suppliers and labour, on the one hand, and consumers on the other, but its power over society at large through its relationship with tax authorities, creditors and much else besides.

³ Recent mainstream studies of aggregate markups take issue with this "accounting" approach because it assumes that average costs of production are equal to marginal costs (De Loecker et al. 2020). Setting aside the unrealistic assumptions that go into estimating them, it is worth noting that marginal costs have long been shown to be largely irrelevant to the pricing behaviour of "real world" companies (Hall and Hitch 1939).

This is our starting point for thinking about rentierization: the lower the competition between firms in an economy, the higher the average degree of monopoly as expressed in the net profit margin. It is, however, important to stress that using profit margins to gauge the degree of monopoly only gets us so far. Existing studies have found that profit margins often do not correlate with other measures of competition, including market share and concentration ratios, barriers to entry, trade openness as well as various regulatory changes (e.g. competition policy, product market regulation, entry into the European Single Market and the European Monetary Union) (Melmiès 2016: 161-164; see also Davis and Orhangazi 2021). These empirical results raise questions about whether profit margins on their own are sufficient to capture monopoly power.

Anticipating these ambiguities in recent empirical findings, a branch of Post Keynesianism known as “investment financing” theory has developed a more nuanced view of profit margins and their relationship to competition (Wood 1975; Eichner 1976). According to investment financing theory, high profit margins might not reflect monopoly power per se, but instead the firm’s need to internally finance its growth, which could very well be due to heightened competitive pressures. This may be particularly the case with capital-intensive firms given that capital expenditure is, by definition, capitalized rather than deducted as an operating expense, and therefore does not drag net profit margins downward. From this perspective, profit margins can pull in two different directions. On the one hand they may be a sign of monopoly power, on the other, they may be a sign of competition-induced internal financing needs. To adequately capture the monopoly power at the heart of rentierization, investment financing theory thus compels us not only to consider profit margins but also investment patterns. Specifically, in this study, we focus on a metric developed earlier in our research on corporate taxation: the ratio of stock buybacks and dividends to capital expenditures (Hager and Baines 2020). We find this metric instructive precisely because it gages the balance of a firm’s priorities when it comes to increasing shareholder payouts versus investing in future growth.⁴

Increasing dividend payments and stock buybacks relative to capital expenditures has been identified as a key facet of financialization (Lazonick 2010; Palladino 2021). Yet it also captures the process of rentierization in two important respects (Durand and Gueuder 2018; see also

⁴ R&D can also be considered as a form of investment in future growth. However, as it is generally expensed rather than capitalized, it already figures in the computation of a company’s net profits. This obviates the need to consider it in our triangulation of net profit margin and investment pattern data.

Mazzucato et al. 2023). First, a decline in capital expenditures (the denominator) can be used as a proxy for the slowdown in investment and excess capacity that typifies growing monopoly power. Second, an increase in financial payments to shareholders (the numerator) is commonly associated with the power of a resurgent rentier class. That said, it is crucial to note that we do not treat financialization and rentierization as synonymous. Not all companies that are highly financialized have high profit margins. And not all companies that have high profit margins are highly financialized. In accordance with these two parameters, we can formulate a dynamic schema of firm-level change as shown in Figure 1 to underscore the specificity of rentierization as we have defined it.

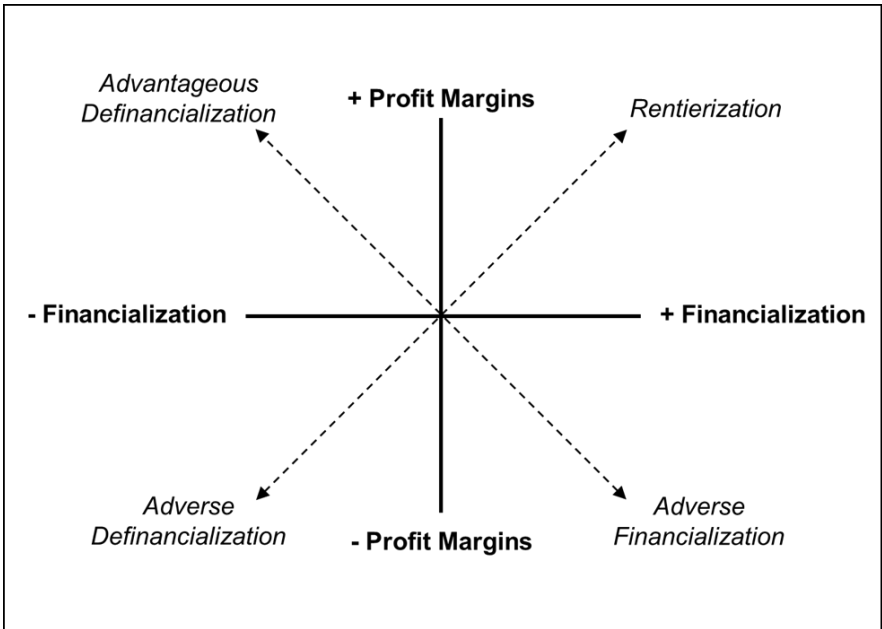


Figure 1. A Dynamic Model of Firm-Level Change: Degrees of Monopoly and Financialization

Source: Authors' elaboration

In line with the Chandlerian model of post-war lead firm, companies engaged in advantageous definancialization are likely reinvesting high profit margins into expansions of physical stock to maintain economies of scale and competitive advantage over rival companies. In contrast, companies set on a trajectory of adverse definancialization are either becoming increasingly peripheral in the capitalist economy, or in the best scenario qualify as 'growth stock' companies that sacrifice short-term margins and shareholder payouts for long-term market expansion. Firms on a course of adverse financialization tend to be those that succumb to financial pressures even

as the basis for long-term profitability may be eroding (so-called 'yield stock' firms). Lastly, according to our model, it is those companies that simultaneously raise their revenues relative to their overall costs and their financial payouts relative to capital expenditures that can be most readily identified as undergoing a process of rentierization.

Factoring in Intellectual Monopoly

Conceptualizing rentierization as a process draws our attention to its potential fluctuations across time and space. How do we account for these variegated dynamics? Christophers (2016) argues that tendencies towards monopoly in capitalism are periodically countered by anti-trust law, and that tendencies towards competition in capitalism are militated by intellectual property law. Together this double-movement of anti-trust and intellectual property shapes profit dynamics in a way that allows capital to avoid both complete stagnation and intense profit-destroying competition. Such a narrative reminds us of the importance of intangible assets, and indeed intellectual monopoly, in spurring rentierization in recent decades, a theme which has become increasingly prominent in the heterodox political economy literature (e.g. Pagano 2014; Durand and Milberg 2020; Rikap 2021; Schwartz 2022).

The relationship between intellectual property and rentierization has been explored in many interesting ways. Some scholars highlight the importance of network effects in digital platforms that spur monopolizing dynamics (Tepper and Hearn 2018). Others pay particularly close attention to how intellectual property allows firms to centralize control over intangible assets, while outsourcing less profitable tangible activities to suppliers that – in this process – become subject to intensified competition (Baglioni et al. 2022). Baglioni et al. emphasize the dialectical interplay of intangible assets with standardization to explain the strategies of lead firms in global value chains. Lead firms use standards to control how and what their suppliers produce and exchange, bringing homogeneity to products and markets, and they use intangibles to differentiate products and markets, allowing them to erect barriers to entry that reinforce their dominance within the value chain. The consequence of this dominance is an exaggerated “smile curve” (Durand and Miliband 2020: 409). On each end of the value chain are the intangible-heavy activities of lead firms that capture large amounts of value (e.g. R&D on one end, marketing and after-sales on the other end), and in the middle of the chain, the tangible-heavy manufacturing activities of subordinate firms subject to globally competitive pressures that push down their share of value.

However, one important observation made by Paul Baran and Paul Sweezy (1966: 49; cited in Rikap 2022a) is that firms with high-levels of R&D-spending will not necessarily be any more

profitable than those involved in tangible operations. In fact, they may be much less profitable, given the huge risks entailed in early-stage R&D-intensive activities. Cecilia Rikap (2021) offers important insights here on how intellectual monopolists create the conditions for outsourcing some of the riskiest R&D-intensive activities to smaller and more innovative firms, while internalizing the resulting innovations into their own portfolio of intangible assets. Given these considerations, there is a clear need to not only examine the relative weight of intangible versus tangible assets in a company's asset structure, but to also how successfully they are able to *capitalize* these assets in the form of improved market value.

For the purposes of our analysis, therefore, we understand intangible accumulation to arise when the value of a firm's intangible assets rises relative to tangible assets and when the firm's market capitalization rises relative to GDP. We measure market capitalization relative to GDP because we are interested in gaging a company's capacity to convince investors that its expected future profits (discounted to present value and adjusted for risk) will grow at a faster rate than current economic activity in the country in which it is headquartered. In some respects, the indicator may seem incongruous. On the one hand, economic growth is bound to the past (it presents GDP this year compared to the previous year) and it is usually circumscribed to a particular jurisdiction (it pertains to economic activity within the borders of a particular country or region). On the other hand, market capitalization is not bound to the past but is instead future-oriented, and it is not limited to a company's capacity to generate profits in just one jurisdiction but rather in every geographical area in which it operates. However, the incongruity here is more apparent than real. It is precisely through combining the two metrics of market capitalization and GDP in one indicator that we can gage a company's capacity to grow both beyond the limits of the present and to extend its power beyond the confines of its country of domicile.⁶ We take these twin capacities to surpass the limits of the present and the strictures of place to be vital to comprehending the scope of intangible accumulation. Such a framework for the analysis of intellectual intangible yields another dynamic and stylized model of firm-level change presented in Figure 2. Much like those corporations on a path of advantageous definancialization described above, companies on a long-

⁶ There are precedents for this measure. Famously, the Buffet Indicator divides a country's overall stock market capitalization by its GDP to determine whether its stock markets are over- or under-valued (Berg 2015). In contrast, our indicator has a different scope and a different objective. Rather than summing up all firms' market values, we examine the market capitalization of specific cohorts of firms. And rather than seeking to determine whether the stock market to which these firms belong is over or under-valued, we are interested in gaging specific cohorts of firms' financial performance on a disaggregate level (see Nitzan and Bichler 2009). More akin to our analysis is the exploration by Mark Schwartz (2019) of the financial performance of corporates in the Forbes Global 2000 relative to the GDP of the country in which they are headquartered to gage the prominence of major firms from different countries to the global economy. However, unlike Schwartz's analysis we measure financial performance in terms of market value rather than net profits.

term trajectory of tangible accumulation exhibit the traits of a post-war Chandlerian lead firm. They are likely to preside over vertically integrated, producer-driven value chains, and generate profits via control of asset-specific physical capital (Schwartz 2022). Companies on a trajectory of tangible decumulation are likely to be succumbing to the fates of laggard or complier firms (Rikap 2021: 34-37). Even as they invest in more fixed assets, they become more subordinate to lead firms' demands and in the worst case become suppliers of generic, easily substitutable products. Similarly, companies entrained on a pathway of intangible decumulation likely exhibit the subordinate traits of laggard or complier firms, but unlike these companies, take on risky R&D projects that lead firms avoid. Finally, those companies on a long-term trajectory of intangible accumulation will likely become intangible-intensive lead firms that preside over the buyer-driven value chains that have predominated in much of the global economy in the past three decades. Crucially, these companies concentrate control over core intangible assets, while outsourcing riskier R&D activities to smaller innovators and less profitable tangible activities to capital-intensive firms (Rikap 2021).

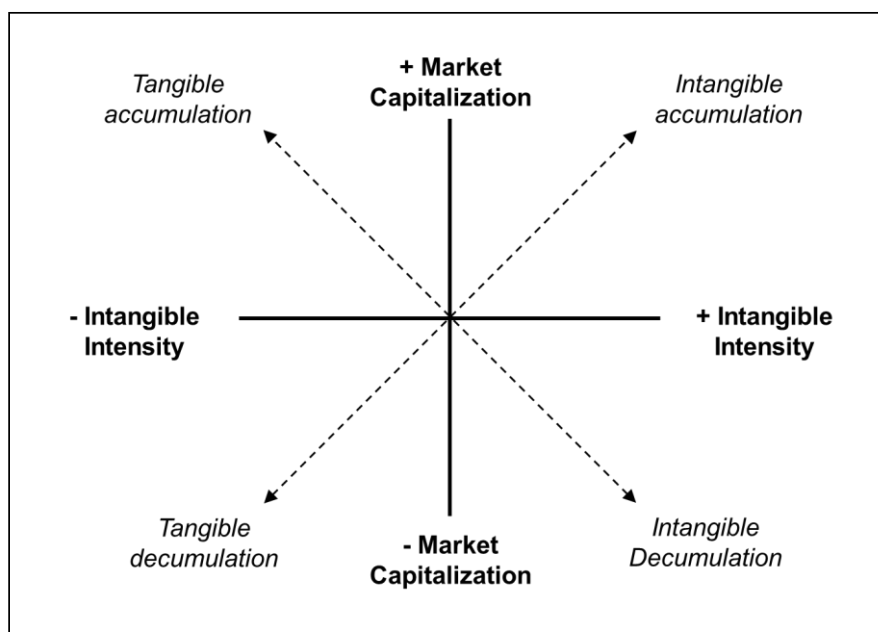


Figure 2. A Dynamic Model of Firm-Level Change: Market Capitalization and Intangible Intensity

Source: Authors' elaboration

Combining these dynamic schemas of rentierization and intangible accumulation, our analysis is built on the conceptual model depicted in Figure 3. The main definitional points in the figure can be summarized as follows. Rentierization occurs when firms successfully raise profit margins in

service of a shareholder returns rather than in service of financing future growth. In other words, rentierization occurs when firms raise revenues relative to costs, and increase dividends and shareholder buybacks relative to capital investment. Intangible accumulation occurs when firms successfully increase the significance of intangible assets in their balance sheets in service of increased market capitalization. In other words, intangible accumulation occurs when firms expand their intangible assets relative to their tangible assets, and when their market capitalization grows faster than underlying economy activity. Intellectual monopolization occurs when firms successfully combine rentierization with intangible accumulation. In other words, it occurs when firms raise revenues relative to costs, shareholder payouts relative to capital investment, intangible asset values relative to fixed tangible assets, and market capitalization relative to economic growth.

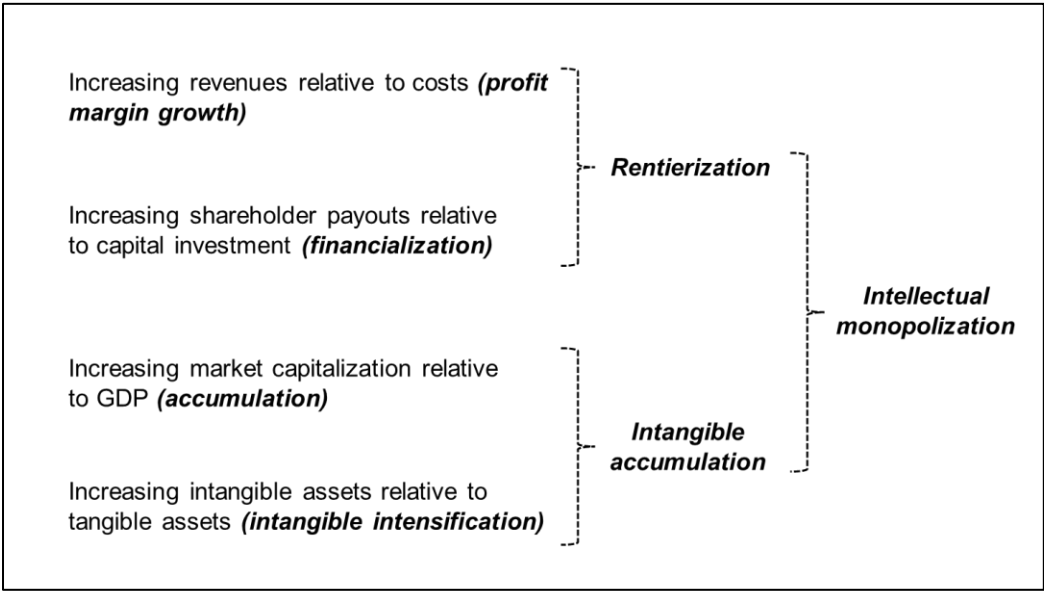


Figure 3. A Heuristic Framework for Mapping Rentierization, Intangible Accumulation and Intellectual Monopolization

Source: Authors' elaboration

Note that we are only offering *heuristic* tools to analyze rentierization, intangible accumulation and intellectual monopolization. We are not saying that rentierization *only* occurs when firms are raising their profit margins and their shareholder payouts relative to capital investment. There may be other situations in which rentierization takes place (e.g. Amazon clearly has leveraged in highly sophisticated and often predatory ways its proprietorial control over data across its many

platforms to rapidly expand the scope of its operations, even as its net profit margins and shareholder payouts remains low) (Rikap 2022b). And we are not claiming that intellectual monopolization *only* occurs when firms are raising their intangible intensity or market capitalization (e.g. the aforementioned decline in recent years of the intangible intensity of major tech companies because they have increased the physical infrastructure to facilitate the expanded capture and control of information for their businesses, e.g. the installation of subsea internet cables and establishment of data centers) (Birch et al. 2021).

Given these caveats, within the context of our heuristic framework, we claim that the raising of profit margins and shareholder payouts relative to capital investment from already high levels are *jointly sufficient conditions* for rentierization, but not necessary conditions. Similarly, we claim that increased market capitalization and intangible intensity are *jointly sufficient but not necessary conditions* for intangible accumulation. And the conjugation of all four conditions - high and growing profit margins, payouts to capital investment ratios, intangible intensity and market value - are sufficient to describe a company as undertaking a process of *intellectual monopolization* but are not a necessary threshold for intellectual monopolization to take place. The invocation of these jointly sufficient conditions within our heuristic framework underlines that the phenomena we seek to understand are not reducible to the sets of metrics we have developed, and that our conceptual model is not identical to what we are modelling. Ultimately, there is no substitute for in-depth case-study analysis of individual companies themselves. Our model nonetheless serves as a useful analytical abstraction because it allows us to render the immensely complex processes of rentierization, intangible accumulation and intellectual monopolization coherent and meaningful through identifying key tendencies that are widely associated with these intertwined phenomena. In this respect, we are advancing a “first-cut” analysis of the transformation of corporate power in the US that may provide some foundations for more granular firm-level studies or analysis of corporate power in other contexts.

Data and Methods

Our empirical analysis draws primarily on Compustat, a financial database for publicly listed companies (see Baines and Hager 2021; Hager and Baines 2020). Our analysis focuses on all publicly-listed non-financial corporations headquartered in the US from 1950 to 2019. Table A1 in the appendix contains information on the key Compustat variables used in the study and the filtering procedures for dealing with missing observations, Table A2 lists the Standard Industrial

Classification (SIC) codes used for sector construction, and Table A3 shows the decennial average sample size of firms for each sector.

In compiling our dataset, we faced a dilemma as to whether to include zero-revenue companies. These firms were up until the 1970s entirely absent from Compustat universe, but from the 1980s they increased in number and now comprise 9% of the companies included in the dataset. Zero-revenue companies are usually early-stage enterprises engaged in research and development that have yet to launch their products or services. They have proliferated in recent years due to regulatory changes which have made it easier for firms to become listed on stock exchanges, and the expansion of funding from venture capital and other sources of start-up financing (Orsi and Coriat 2006). Since these firms can often play a key, but nonetheless often subordinate, part in corporate innovation systems we deemed them worthy of inclusion. Additionally, through comparing the data for the bottom 50% of companies with and without these firms, we found that across all four parameters in our study, there was little difference in the results (see Table 1 and for a sector breakdown of the results Table A4 in the appendix). Therefore, the inferences we draw from our data would remain unchanged even if we elected to omit these zero-revenue firms.

	Average annual number (percentage) zero-revenue firms	Bottom 50% average market value with (and without) zero-revenue firms (USD millions)	Bottom 50% percentage net profit margins with (and without) zero-revenue firms	Bottom 50% financialization ratio with (and without) zero-revenue firms	Bottom 50% intangible intensity with (and without) zero-revenue firms
1980s	50 (1.1)	25.5 (25.7)	-2.0 (-1.9)	0.18 (0.18)	0.93 (0.92)
1990s	117 (2.1)	67.2 (68.4)	-13.1 (-12.2)	0.21 (0.21)	1.56 (1.53)
2000s	269 (5.4)	103.2 (108.1)	-33.6 (-31.2)	0.36 (0.35)	3.17 (3.12)
2010s	339 (9.0)	277.0 (301.6)	-30.9 (-24.8)	0.41 (0.38)	2.58 (2.44)

Table 1. The Number and Percentage of Zero-Revenue Firms in the Dataset and Results With and Without their Inclusion

Source: Compustat (2022) and Peters and Taylor (2019).

Another dilemma we faced concerns the measurement of intangible assets. Some intangible assets are recorded on company balance sheets, but not by all companies (for example, Apple Inc. hasn't recorded any intangible assets in its accounts since 2017). Furthermore, other intangible assets are not recorded on the balance sheet at all by any firm because they are developed in-house and are thus not subject to arms-length market transactions. All that can be recorded with any deal of confidence are the intangibles that are purchased by a firm directly from the market (e.g. license, trademark, copyright etc.) and the "goodwill" generated from a merger

(i.e. the difference between an acquired firm's book value, and the price at which it was actually bought). All else remains something of a mystery (Haskel and Westlake 2018: 8; Nitzan and Bichler 2009: 175-176). While the difference between a firm's market capitalization and a firm's tangible assets is conventionally taken to constitute a firm's true intangible value, the problem with this is that market capitalization can shift radically from day-to-day in ways that don't appear to have any bearing on its intangible asset base. That said, Ryan Peters and Lucian Taylor (2017) have reconstructed values for intangible assets for firms by using data on their total R&D spending and a fraction (30%) of their selling, general and administrative expenses (to capture marketing/branding efforts) and by capitalizing them by industry-specific R&D depreciation rates. Following other researchers (e.g. Auvray et al. 2021; Rabinovich 2023), we use the Peters and Taylor dataset offered by Wharton Research Data Services to estimate intangible assets.

Mapping Rentierization and Intellectual Monopoly in the United States

We begin our empirical analysis in broad terms, charting the processes of rentierization and intellectual monopolization for all publicly-listed non-financial firms headquartered in the US. Starting with the left chart in Figure 4, we see that in the 1950s these firms approximate the Chandlerian ideal-type of a lead firm: they were highly profitable, but much of these profits appear to be channeled in internal financing as revealed in the low levels of dividends and stock buybacks relative to capital investment (Chandler Jr. 1990).⁷ However, throughout the 1950s, 1960s and 1970s, the firms overall experience what we term *adverse definancialization* (see also Dutta 2022): while their capital investment grows relative to their shareholder payouts, cost growth exceeds revenue growth, leading to a profit margin squeeze. In much of the 1980s and 1990s, the firms on average undergo a process of *adverse financialization*: while dividends and stock buybacks begin to grow at a faster rate than capital investment, net profit margins continue to

⁷ One wrinkle in the Compustat data is the absence of values for share repurchases until 1971. This matter is often discounted in the existing literature on the assumption that stock buybacks were negligible and perhaps even non-existent in the 1950s and 1960s. Such a view was informed by William Lazonick's (2014) narrative that stock buybacks were essentially legalized in the early 1980s, and it was only then that the floodgates of financialization opened. This narrative is disabused by Joseph von Zanten (2022; see also Guthart (1967)). However, stock buybacks in the 1950s and 1960s were not the key driver of shareholder returns in the US that they are today. According to the figures cited by Von Zanten, stock buybacks amounted to \$300 million for all US-listed firms in 1954, but that's just roughly 6% of the \$4.9 billion spent on dividends by non-financial firms in our dataset for that year. Similarly, while Von Zanten reports that \$1.3 billion was spent on stock buybacks in the US in 1963, this is just 13% of the \$10.4 billion spent on dividends by non-financial firms in our dataset for that year. Finally, by 1971, the first year for which we have data for both dividends and stock buybacks in our dataset, we find that share repurchases amounted to just \$1.3 billion – just 7% of the \$18 billion spent on dividends. The lack of data on stock buybacks prior to 1971, therefore, do not grossly exaggerate the overall high levels of definancialization that our figures generally present for the 1950s and 1960s.

decline. A turnaround in the profitability of the average non-financial firm only really occurs in the early 2000s in the wake of the end of the dotcom bubble. After that point, even the global financial crisis only causes a minor setback in the upward profit trajectory of the average non-financial firm. And by the end of 2010s, non-financial corporations registered profit margins that were last reached by the average firm in the 1950s. But unlike the 1950s, in the 2010s these firms remarkably spent as much on shareholder payouts as they did on capital investment: signifying the prominence of rentierization in the US economy.

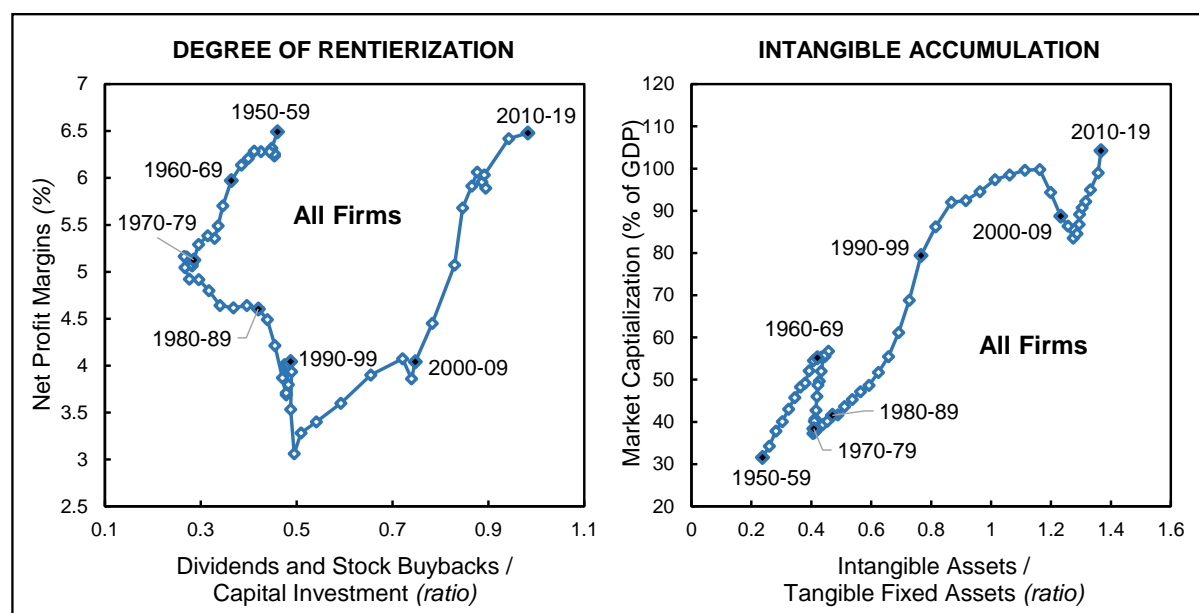


Figure 4. Rentierization and Intangible Accumulation for All US Non-Financial Firms, 1950-2019

Source: Compustat and Peters and Taylor Total Q Series through WRDS

Note: Each data point captures the average value in a ten-year window.

The right chart in Figure 4 shows that throughout the 1950s and 1960s, growth in the market value of non-financial firms exceeded growth in the US economy as a whole. Moreover, intangible asset intensity was also slowly rising. However, during this period the average firm adopted a tangible asset intensive model. In the 1970s, the accumulation boom and incipient rise in intangible asset intensity were both reversed, and the average firm experienced a process of *tangible decumulation*. In the 1980s, both the accumulation of non-financial companies and their degree of intangible asset intensity recovered. The rapid rise in intangible asset values relative to tangible fixed assets coincides with the entrenchment of intellectual property within the US and subsequently abroad through the 1995 TRIPS agreement and other trade agreements (Orsia and

Coriat 2006; Durand and Milberg 2020). During this period, growth in market capitalization outpaced growth in economic activity, a process which was halted for several years around the same time as the global financial crisis. However, in the 2010s, there was a significant recovery in accumulation, and total firm market capitalization relative to GDP reached unprecedented heights. Overall, then, we have seen a process of *intangible accumulation* over the past seven decades, which was only temporarily halted by accumulation crises in the 1970s and 2000s. We now turn from this highly aggregated view to examine the disaggregated dynamics of rentierization and intellectual monopolization first by sector, and then by size.

Disaggregating by Sector

The analysis has organized firms according to ten different sectors that account for 70% of the market capitalization of all firms in our entire dataset from 1950-2019: apparel and footwear; automotive manufacturers; defence and aerospace; food and beverage; heavy industry; hotels and restaurants; fossil fuels and mining; pharmaceuticals; retail and tech. Figure 5 offers comparisons of our ten sectoral groups according to the four main parameters of this study: net profit margins, the financialization ratio, the intangibles ratio, and market capitalization. To trace changes in these parameters over the post-World War II period the figure shows snapshots for the 1950s (the top two quadrants) and the 1970s (the bottom two quadrants). What we see is that tech firms enjoy the highest profit margins in the 1950s, followed closely by fossil fuels and mining, and then pharmaceutical companies. In terms of levels of financialization, automotive firms just edge in front of pharmaceutical companies along this parameter, followed by food and beverage companies. In terms of intangibles, unsurprisingly pharmaceuticals are the most advanced according to this parameter in the 1950s, followed by apparel and footwear, food and beverage, and retail. That apparel and footwear, food and beverage, and retail firms have such a high level of intangibles relative to tangible fixed assets indicates the importance of branding and marketing to these sectors even in the 1950s (see Schwartz 2021). Perhaps most surprising is the technology sector's low levels of intangible asset intensity in the period. This is arguably testament to the large stock of fixed tangible assets that leaders in this group – such as AT&T, Eastman Kodak, and IBM – had during this period, in the context of high levels of vertical integration and conglomeration. Another noteworthy observation contains the towering position that fossil fuels and mining companies have in terms of market capitalization: testament to the highly privileged role that the US participants within the “Seven Sisters” played in the political economy of the US and the wider world during the early post-war period before the wave of OPEC nationalizations in the 1970s (Stevens 2016).

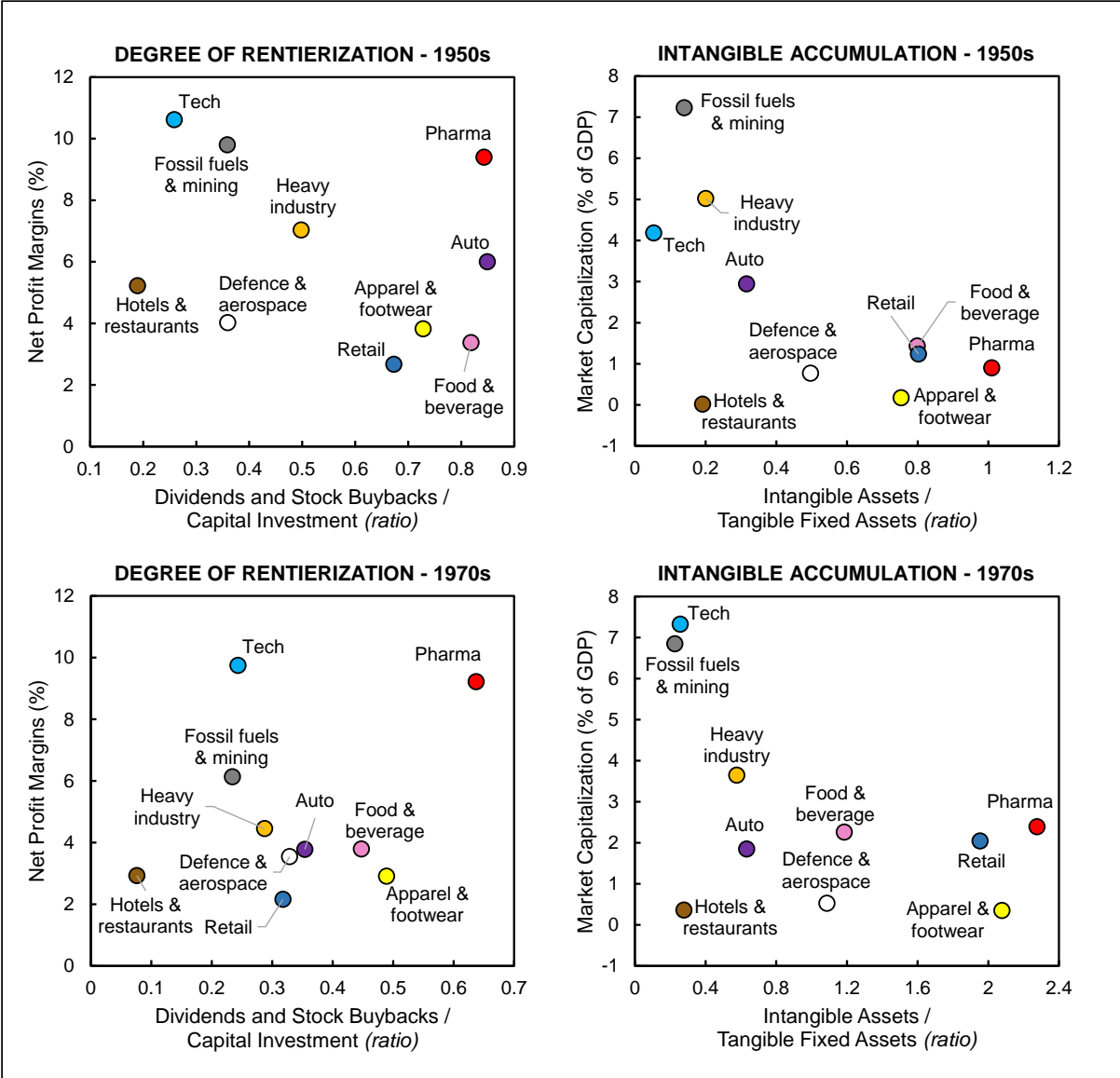


Figure 5. Degree of Rentierization and Intangible Accumulation by Sector, 1950s and 1970s

Source: Compustat and Peters and Taylor Total Q Series through WRDS

The 1970s brought significant changes. Fossil fuel and mining company profit margins were considerably lower than they were in the 1950s in part because of the end of the posted price regime in oil markets, and the wave of nationalizations that took place over oilfields in the Middle East and mining resources in the Caribbean and South America (Rodrick 1982; Stevens 2008; c.f. Nitzan and Bichler 2002). A similar decline in profit margins can be seen in the auto sector and heavy industry, potentially as a consequence of intensified international competition, not least

from Germany and Japan, and the mounting pressures on the prevailing conglomerate model (Lazonick and O'Sullivan 2000). Levels of financialization either stagnated or declined for most sector groups compared to the 1950s. In terms of accumulation, tech firms supersede fossil fuel and mining firms as the number one sectoral group along lines of market capitalization in the 1970s, and overall we see a general uptick in intangible intensity for all companies.

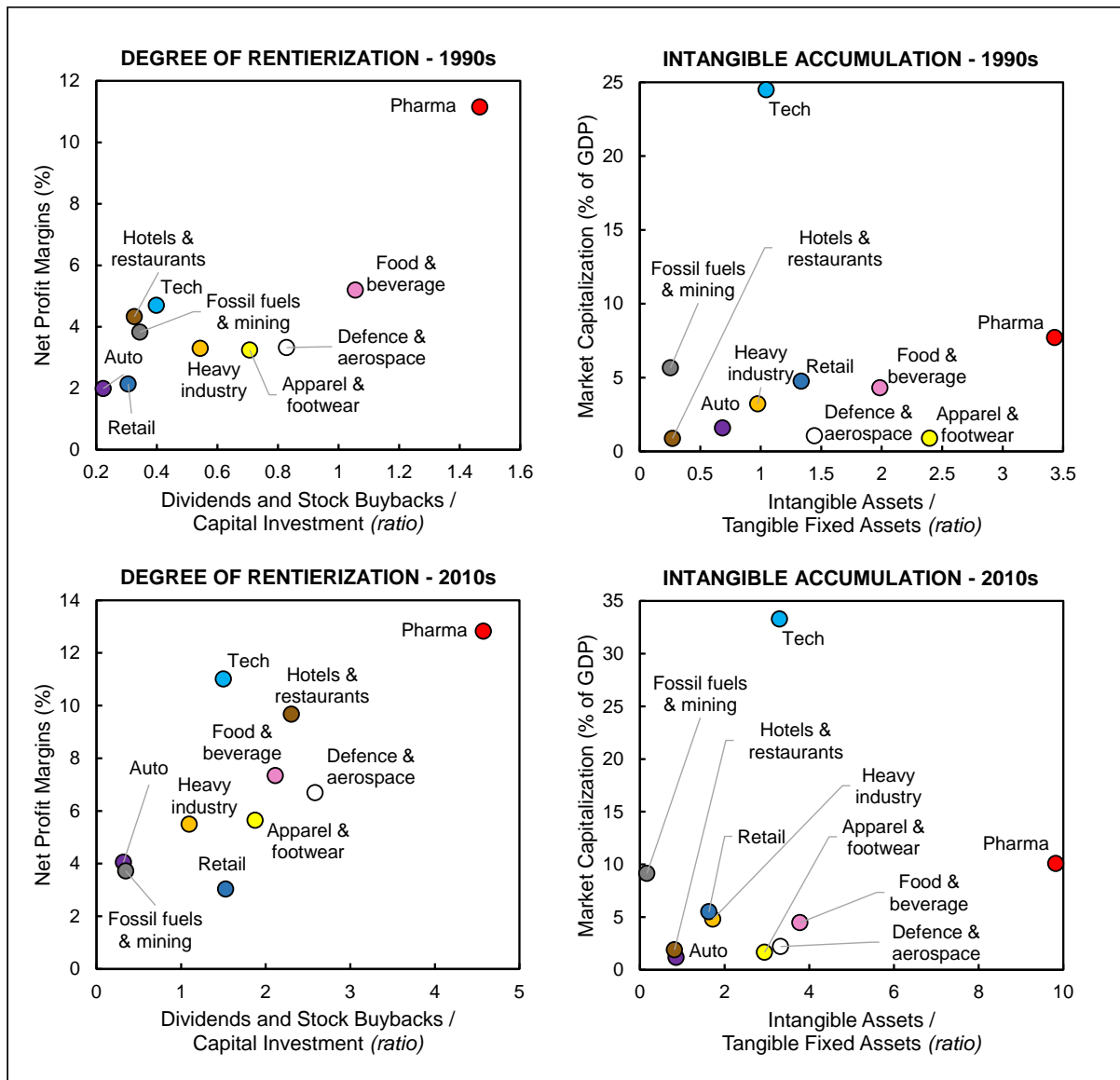


Figure 6. Degree of Rentierization and Intangible Accumulation by Sector, 1990s and 2010s

Source: Compustat (2022) and Peters and Taylor Total Q Series through WRDS

Turning our attention to the data on the 1990s, as presented in the top two charts in Figure 6, we can see that at the twentieth century's end, rentierization became most pronounced among pharmaceutical firms. In fact, there is no other sectoral grouping that comes close in terms of profitability or commitment to shareholder returns relative to fixed investment. Interestingly, and somewhat surprisingly, food and beverage firms come in second position in terms of this parameter, and automotive firms show the lowest levels of rentierization. In terms of our first parameter of intangible accumulation, tech firms collectively account for by far the highest levels of market capitalization, they are followed by pharma companies and then fossil fuels and mining firms which overall experienced a dramatic decline in the pecuniary heights reached in previous decades. But in terms of intangible asset intensity, pharmaceutical firms are well in front, owing not only to R&D intensive nature of the business, but also due to the importance of marketing and branding (Gagnon and Lexchin 2008). Consumer non-durable firms, namely food and beverage companies and apparel and footwear firms, registered relatively high levels of intangible intensity, evidencing not only the importance of branding and marketing for consumer-facing firms, but also in the case of apparel and footwear firms the hugely significant role that the outsourcing of tangible production to foreign locales with lower labour costs plays in their business models (Gereffi 1999; Milberg and Winkler 2013; Soener 2015).

In the 2010s, we see our sectoral groups more neatly arrayed than ever before. The higher the profit margins, generally the higher the shareholder payouts relative to capital investment. This certainly helps validate the rentierization hypothesis developed in this research: namely that through time, elevated profit margins have become more closely associated with elevated shareholder payouts as opposed to internal financing. While pharmaceutical companies maintain their number one position as the most rentierized firms, hotels and restaurants also begin to show exceedingly high levels of rentierization (see Schwartz 2022). But more generally, as the massively expanded scale of the x-axis indicates, most sectoral groups seem to experience a considerable increase in their degree of rentierization relative to the 1990s. The only clear exceptions to this are the automotive firms and fossil fuel and mining companies. There is not much change in the relative market capitalization of the different sectoral groups. The intangible asset intensity of sectoral groups can be classified into four different strata: those with relatively low levels of intangible intensity (fossil fuels and mining), those which are moderately intangible intensive (hotels and restaurants, automotives, retail, and heavy industry), those which are highly intangible intensive (tech, defence and aerospace, food and beverage, and apparel and footwear), and then pharmaceutical firms which are completely set apart from the rest in terms of

intangible intensity. Overall, and unsurprisingly, there are two pre-eminent sectors in terms of intellectual monopolization: tech and pharmaceuticals. But while the former is distinguished by its outsized levels of market capitalization, the latter is distinguished by its extraordinary intangible intensity.

Disaggregating by Size

Next we parse the data by firm size. First we look at the firms throughout our entire dataset, ranked by revenues, and stratified by top 10%, fifth to ninth deciles, and bottom 50%. And then we look at the top 10%, top fifth to ninth deciles and bottom 50% of firms by revenues within each sectoral group. Starting with all non-financial firms, Figure 7 enriches our understanding of rentierization by showing that it is a process which is most pronounced at the top of the corporate hierarchy. While companies in the fifth to ninth decile also exhibit rentierizing tendencies from the 1990s onwards (the black diamonds in the series demarcate decade intervals), firms in the bottom 50% have experienced huge losses in recent decades even as they have become somewhat more oriented towards shareholder payouts over capital investment (see Baines and Hager 2021). In fact, such is the extent of their losses, we created an insert in the figure to show their overall pecuniary trajectory without obscuring the pecuniary trajectories of the top and intermediate companies.

We see that intellectual monopolization is most pronounced at the top of the corporate hierarchy (note the logarithmic scale). Overall, both the intangible intensity and relative market capitalization have grown without much interruption from the 1950s to the 2010s for the top 10%. Interestingly, the *tangible decumulation* that was first observed with reference to the 1970s data presented in Figure 4 appears to be driven by the intermediate-sized firms in our dataset. In fact, it is only from the early 1990s to the global financial crisis that we see a sustained period of *intangible accumulation* for these companies. Since the 2010s firms become more tangible intensive as they recover from the global financial crisis. The firms in the bottom 50% have a markedly different trajectory. Although, like firms in the top 10% and the fifth to ninth deciles, they experience *intangible accumulation* in the 1950s, this gives way to two decades of *intangible decumulation*. The process of *intangible accumulation* resumes in the 1980s, but this gives way to a process of decumulation throughout the 2000s. While there is some recovery in market capitalization relative to GDP over the past decade this has generally been accompanied by a reduction rather than an increase in intangible intensity. However, perhaps what is most notable is that while firms in the bottom 50% have seen very little in the way of relative accumulation over the entire period, they

have significantly higher levels of intangible intensity than corporations in the top 10% and the fifth to ninth deciles. This provides evidence for Rikap's (2021) claims regarding the outsourcing of certain intangible activities to subordinate firms operating within hierarchically organized corporate innovation systems.

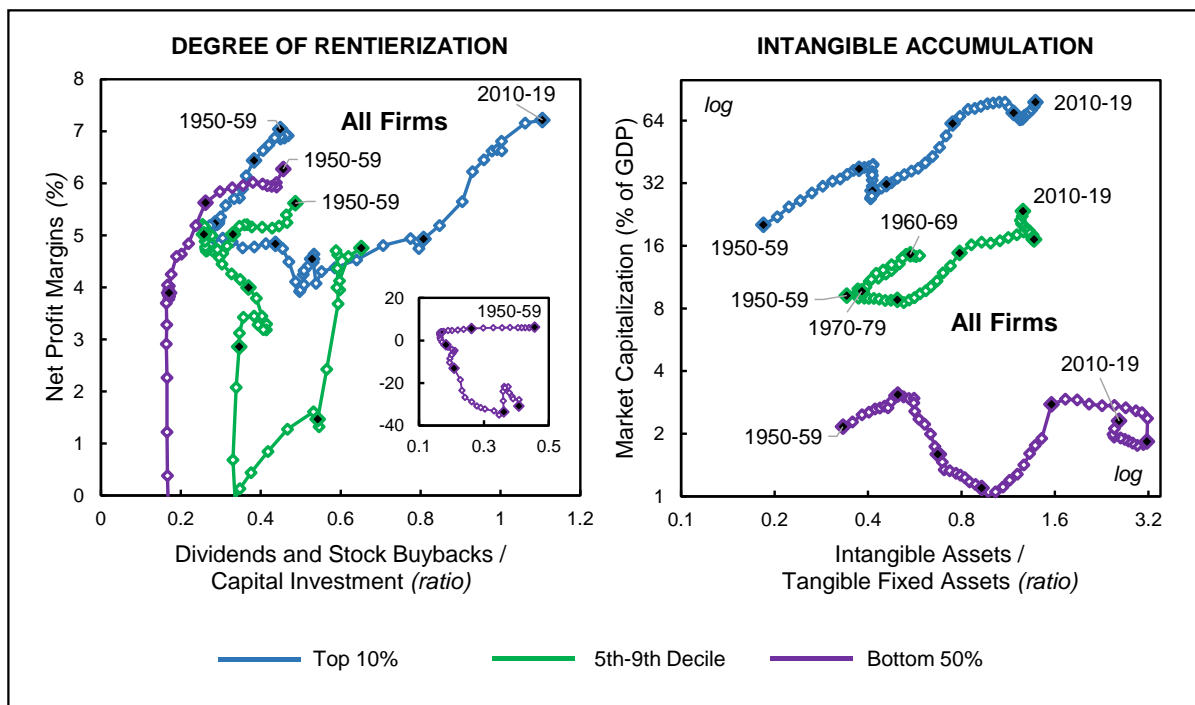


Figure 7. Rentierization and Intangible Accumulation for All US Firms, 1950-2019

Source: Compustat (2022) and Peters and Taylor Total Q Series through WRDS

Note: Each data point captures the average value in a ten-year window.

But how do these dynamics across firm-size play out specifically with respect to different sectors? Figure 8 reveals the uneven patterns of rentierization and intellectual monopolization in our ten sectors, according to the four parameters of concern. In terms of profit margins, we see that by the 2010s the top 10% secured higher profit margins than firms in both the fifth to ninth decile and the bottom 50% in every sector, and that generally by the 2010s the gap between the profit margins of the top 10% and the bottom 50% for every sector was higher than in any of the six previous decades. In fact, in the 1950s, the difference in the profit margins of the largest and smallest firms was relatively minor. The sample for that decade is admittedly smaller than in the following decades (see Table A3 in the appendix). Nonetheless, it is noteworthy that in half our

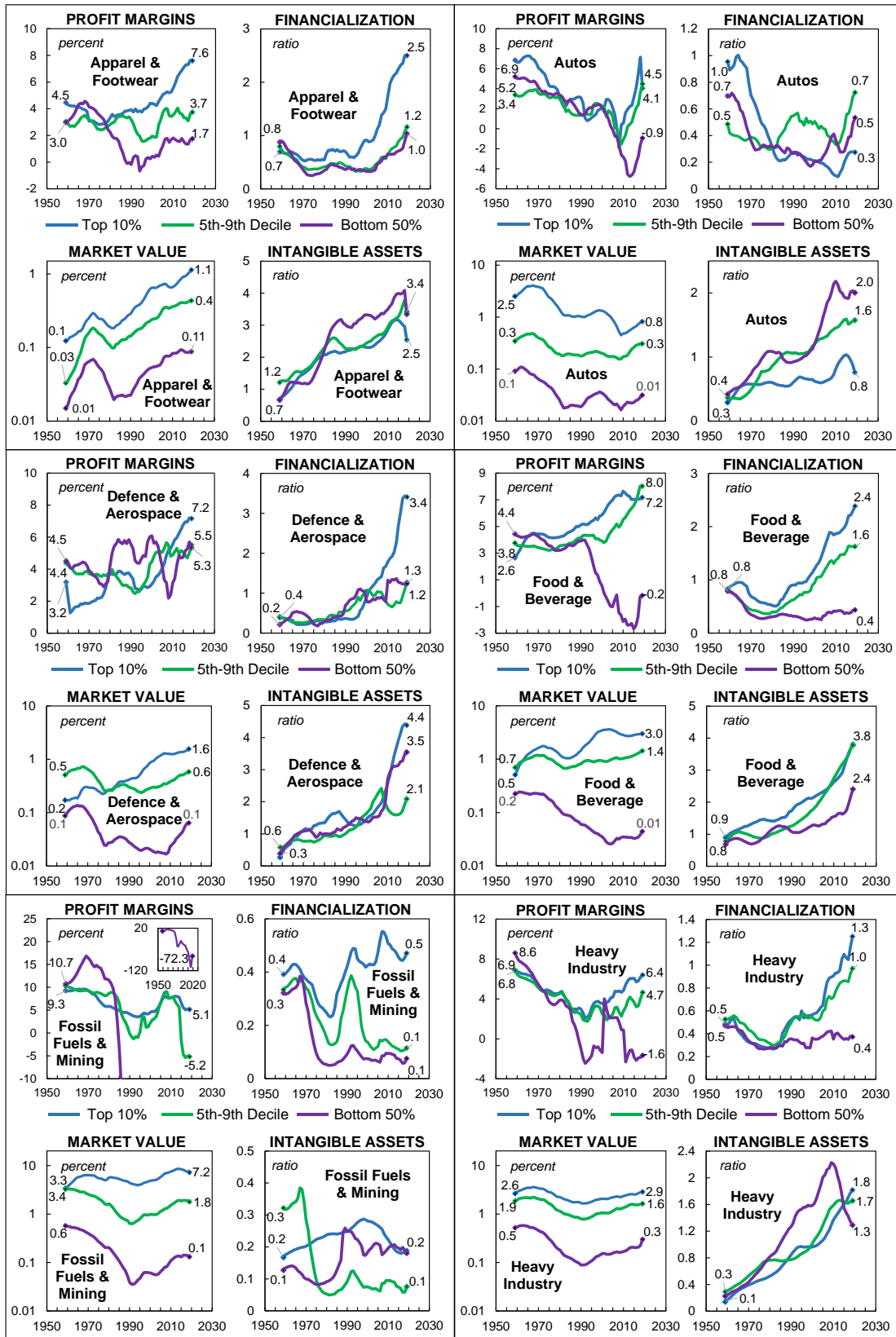


Figure 8. Rentierization and Intangible Accumulation for US Firms by Sector (continued...)

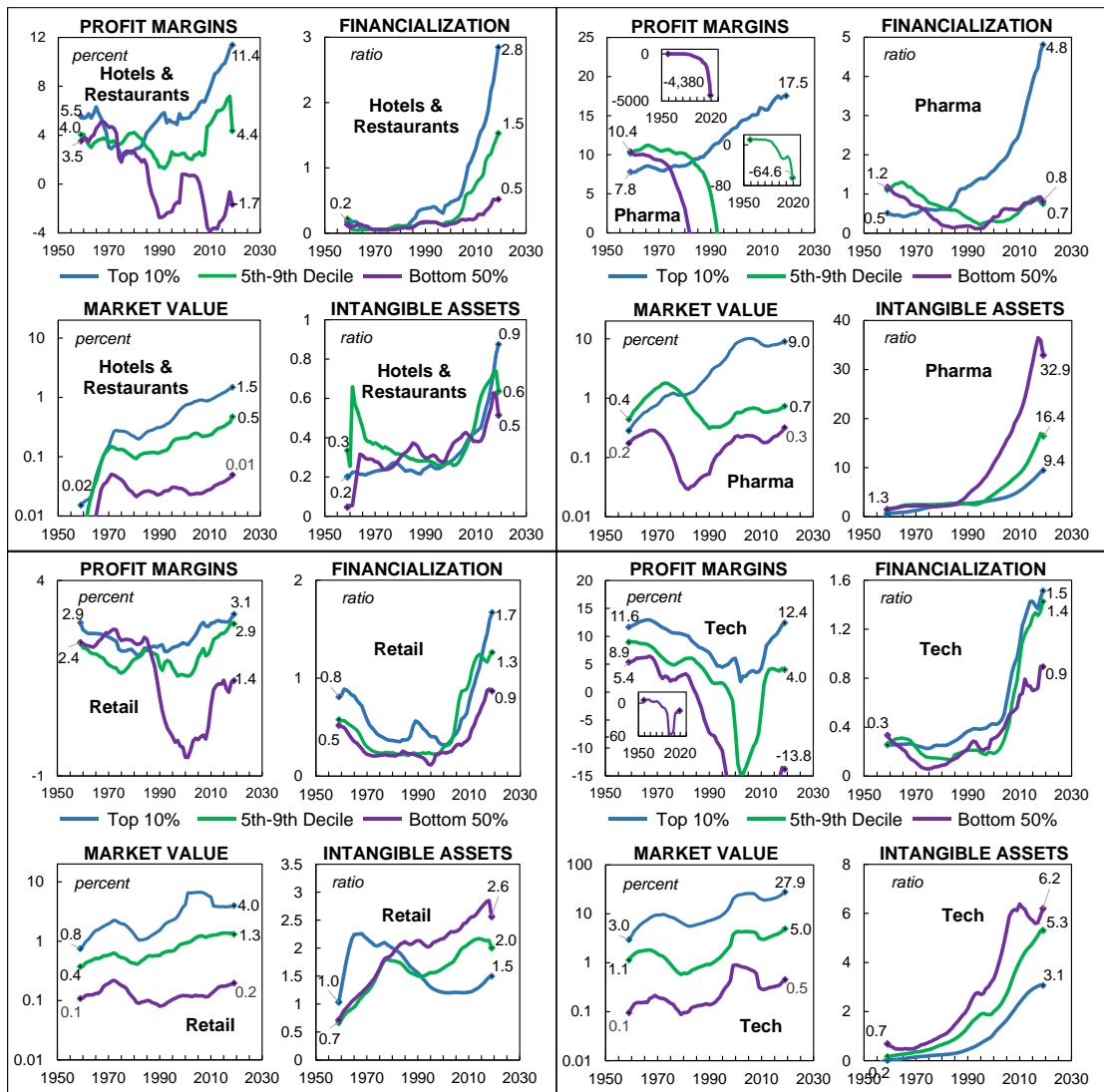


Figure 8. Rentierization and Intangible Accumulation for US Firms by Sector

Source: Compustat and Peters and Taylor Total Q Series through WRDS

Note: Each data point captures the average value in a ten-year window.

sectors – namely food and beverage, defence and aerospace, fossil fuels and mining, heavy industry and pharmaceuticals – the firms in the top 10% did not register the highest profit margins in the 1950s as the very largest firms tended to pursue expansion via diversification and horizontal integration rather than profit maximization (Chandler Jr. 1990).

One of the starkest aspects of these charts is the massive drop in profit margins for the bottom 50% firms in three specific sectors: fossil fuels and mining, tech, and most significantly of all, pharmaceuticals. Given the scale of these profit margin declines, we created inserts so that the declines could be captured at the appropriate axis scale. Astoundingly, the net profit margins of the bottom 50% pharmaceutical companies in the 2010s plunged to -4380%. In fact, of the \$268 billion of the net losses incurred by the bottom 50% non-financial firms in the 2010s, \$173 billion of these losses came from the pharmaceutical sector. That's 64% of the overall losses. The divergence in pecuniary fortunes in the pharmaceutical sector cannot be overstated: not only do the top 10% of the pharmaceuticals firms record the highest profit margins of any company grouping in this study, the bottom 50% pharmaceuticals firms record by far the lowest profit margins of any company grouping. The fifth to ninth decile of pharma firms come in third place overall in terms of the worst performing company grouping in terms of profit margins. But beyond pharmaceutical firms, another \$37 billion of the net losses of the bottom 50% of all firms originate in the fossil fuel and mining sector (14% of the overall losses). And another \$33 billion of these losses came from the technology sector (12% overall). Accordingly, these three sectors alone account for 90% of the net losses of *all* non-financial companies in the bottom 50% in the 2010s.

The profit margins of the top 10% have generally risen over the entire period, but this cannot be said for every sector. Automotive firms have generally been on a downward pecuniary trajectory notwithstanding the increase in their profit margins in the 2010s. Similarly, the profit margins of the top 10% firms within heavy industry and fossil fuel and mining were lower in the 2010s than they were in the mid-twentieth century. This indicates that legacy sectors that tend to be more capital-intensive have suffered the most from international competition in recent decades (Murray and Schwartz 2019). In terms of financialization, generally the top 10% pay out more to shareholders in dividends and stock buybacks relative to underlying capital investment than smaller firms. Only one sector bucks this trend: automotives. Thus, not only are profit margins generally concentrated at the top of the corporate hierarchy, financialization is also most pronounced among this cohort. We see general upward trends in market capitalization relative to underlying economic activity for the largest firms in most sectors. The exception once again is the auto sector, with firms within each size grouping registering lower relative market capitalization figures in the 2010s than the 1950s.

We have seen general increases in intangible intensity over the entire period of analysis for every sector. Additionally, in five of the ten sectors in the analysis (apparel and footwear; automotives;

pharmaceuticals; tech; and retail) the smaller and intermediate companies are more intangible intensive than the largest companies. The combination of comparatively high intangible asset intensity but generally low profit margins, market values and financial payouts relative to capital investment certainly suggests that subordinate intangible decumulation is a key characteristic of the US economy. While the smile curve certainly captures important dimensions across supply chains that link lead firms in the US to low-cost suppliers engaged in tangible activities abroad, in some sectors it has less analytical purchase on what is happening in the US itself.

Piecing the Findings Together

But how do we piece all the data together, and reconstruct our findings along the lines of our conceptual framework regarding rentierization and intellectual monopolization? Tables 2-4 do precisely this. They display in color-coded fashion whether firms within each sector and size grouping rose or fell along the parameters of interest - profit margins, financial payouts relative to capital investment, market capitalization relative to GDP, and intangible intensity - for each decade compared to the last. Where the cell is blue, they registered an increase in terms of the parameter in question, and where the cell is a light coral red, they registered a fall in terms of the parameter.⁸ For ease of identification, where companies on average exhibit an increase in both profit margins and financial payouts relative to capital investment they are colored in bright cerulean, where they exhibit increased intangible intensity and market value relative to GDP, the two cells for these parameters are coloured in cyan to indicate intangible accumulation, and where they exhibit increases in all four parameters, all four cells are colored in a darker shade of blue to indicate intellectual monopolization.

So what do the tables show? Firstly, that intellectual monopolization - as a process rather than a consummated end-state - is relatively widespread in the US economy, but that unsurprisingly it is concentrated among the top 10% of companies. Secondly, that intellectual monopolization has become increasingly common from the 1980s onwards. The tables also starkly show how widespread de-financialization and falling profit margins were prior to the 1980s and how most firm groupings experienced an acute profit squeeze, decumulation and falling shareholder returns relative to capital investment in the 1970s. The sector with the longest-running history of intellectual monopolization is pharmaceuticals, with the top 10% of firms within this sector

⁸ For the profit margin parameter, it is slightly more complicated. The cell is coded red whenever there are net losses (even that is when net losses for one decade are less significant than they were in the previous decade).

	1960s		1970s		1980s		1990s		2000s		2010s	
All	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Apparel & footwear	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Auto	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Defence & aerospace	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Food & beverage	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Fossil fuels & mining	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Heavy industry	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Hotels & restaurants	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Pharma	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Retail	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles
Tech	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials	Margins	Financials
	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles	Value	Intangibles

Table 4. Summary of Changes of Firms in the Bottom 50% over the Last Six Decades

Source: Authors' elaboration

registering increased values across all four parameters in five consecutive decades from the 1970s onwards. Following the largest pharmaceutical companies, the firms in the top 10% of apparel and footwear, defence and aerospace, food and beverage, heavy industry, and hotels and restaurants have undergone three decades of intellectual monopolization. Perhaps surprisingly, intellectual monopolization is only evidence for the top 10% of tech firms in the 2010s - this is largely the consequence of the secular decline in profit margins of these firms up until that decade.

If we look lower down the corporate hierarchy we see that intellectual monopolization and indeed rentierization is much less widespread. For firms in the fifth to ninth decile groupings, we see that firms in the apparel sector have experienced three decades of intellectual monopolization, more than any other company within this size-group. This is perhaps testament to the outsized role that branding and international outsourcing has played in the history of the apparel industry (Soener 2015). Interestingly, firms in the fifth to ninth decile of the pharma sector only underwent a process of intellectual monopolization in the 1960s and have since then endured significant challenges. We could argue on the basis of the summary tables that it is defence and aerospace in which intellectual monopolization runs deepest, characterizing firms of all sizes in this sector in at least one period or another. The military industrial complex appears to be a highly remunerative sector in which to operate, and it bears all the hallmarks of a sector in which rentierization and intellectual

monopolization is rife: close and stable relations with government, an relenting emphasis on research and development, and output which seldom improves the human condition.

Conclusion

Alongside neoliberalism, globalization and financialization, political economists have invoked rent and intellectual monopoly to diagnose the ills of contemporary capitalism. But it has been our contention in this paper that empirical advancement has been limited by conceptual challenges, specifically the untenable dualisms of productive and unproductive activities, scarce and non-scarce assets, and competition versus monopoly, that underpin both heterodox and mainstream approaches. In attempting to build a framework around firm-level financial data which can be generative of empirical insights, we advocate abandoning the substantialism of existing approaches in favour of an ontology of process, one that conceptualizes rentierization and (intellectual) monopolization as tendencies within capitalism towards greater and lesser forms of exclusionary control over production, distribution and consumption.

Our analysis finds that the rentierization and intellectual monopolization are widespread processes in the US. In contrast to claims in some of the literature, we find that rentiership is not confined to only the most egregious cases. For US non-financial corporations, we see a sharp increase in rentierization from the 1980s onwards. Intangible accumulation for US non-financial corporations has steadily increased over the entire period. Though widespread, a disaggregate analysis shows that the timing and intensity of rentierization and intellectual monopolization varies by sector and by size.

As we have been careful to stress, the research we have presented here should be treated as a “first-cut” analysis, an effort to develop novel heuristic tools to analyze and map rentierization, intangible accumulation and intellectual monopolization with available data from company financial statements. The set of metrics we have developed and employed here should be regarded as *jointly sufficient but not necessary conditions* for the identification of these intertwined processes. Our aim has been to cut through some of the complexity and messiness by developing a relatively parsimonious framework that may guide more granular investigations of corporate power, within and outside the US context.

A more fine-grained analysis will require more attention than space constraints allow us here to the role of government policy in mediating processes of rentierization, intangible accumulation and intellectual monopolization. Whether it is changes to international property laws under the auspices of preferential trade agreements, oil nationalization in the context of the rise of OPEC, or the stubborn persistence of the military-industrial complex, our analysis highlights the importance of the politico-legal dimension in accounting for patterns of continuity and change in the distribution of corporate power. Further exploration of this dimension for production networks within and beyond the US will lead to a richer understanding of the complexities of rentierization and intellectual monopolization and how they might be challenged with the aim of fostering of a more humane and ecologically sustainable society.

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Appendix

To filter out the financial sector, we have excluded all firms with a Standard Industrial Classification (SIC) code starting with '6'. Furthermore, to filter out all foreign corporations we have only included firms with an ISO country code for their headquarters (LOC) of 'USA' and with a company currency code (CURCD) of 'USD'. As shown in Table A1, to remove problematic entries, we have excised all observations for a firm in any given year that records negative values for revenues, and we have dropped all firm-year observations with missing data for any of our variables other than intangibles, dividends and share repurchases as shown in Table A1.

Data item (mnemonic)	Exclude firm from a given year if variable observation missing, or impute zero to the variable?
Dividends – Total (dvt)	Impute Zero
Purchase of Common and Preferred Stock (prstk)	Impute Zero
K_int	Impute Zero
Net Income (ni)	Exclude
Revenue – Total (revt)	Exclude
Capital Expenditures (capx)	Exclude
Common Shares Outstanding (csho)	Exclude
Price Close Annual (prcl_c)	Exclude
Ppent	Exclude

Table A1. Filtering Procedures

Sector Name	SIC codes
Apparel and footwear	2250-2254, 2300-2389, 3021, 3131-3151, 5600, 5621, 5651, 5661
Autos	3711-3716
Defence and aerospace	3480, 3720-3728, 3760-3769
Food and beverage	3480, 3720-3728, 3760-3769
Fossil fuels and mining	1000-1400, 2911, 2990
Heavy industry	2800, 2810, 2860, 2870, 1520-1731, 3241-3412, 3443-3448, 3490-3569, 3612-3621
Hotels and restaurants	5810, 5812, 7000, 7011
Pharma	2833-2836, 3845
Retail	5200-5990 (except 5810, 5812, 5961)
Tech	3570-3579, 3661-3679, 5961, 4812-4822, 4841-4899, 7370-7377, 7841

Table A2. Sector Construction

	1950s	1960s	1970s	1980s	1990s	2000s	2010s
All	512	1430	3345	4579	5532	4979	3760
Apparel	13	53	149	123	141	115	70
Autos	17	38	66	61	75	57	50
Defense and aerospace	17	32	49	42	36	41	32
Food and beverage	55	105	159	118	130	111	96
Fossil fuels and mining	34	80	192	384	300	300	322
Heavy industry	113	261	470	478	507	394	311
Hotels and restaurants	3	18	74	117	137	98	70
Pharma	16	28	55	167	387	503	572
Retail	33	98	227	223	235	163	116
Tech	23	89	285	695	1162	1239	776

Table A3. Average Annual Sample Size (Number of Firms)

	Average annual number (percentage) of zero-revenue firms	Bottom 50% average market value with (and without) zero-revenue firms (USD millions)	Bottom 50% percentage net profit margins with (and without) zero-revenue firms	Bottom 50% financialization ratio with (and without) zero-revenue firms	Bottom 50% intangible intensity with (and without) zero-revenue firms
Apparel & footwear					
1980s	1 (0.2)	15.8 (15.9)	0.0 (0.0)	0.38 (0.38)	3.07 (3.06)
1990s	1 (0.4)	55.6 (54.3)	0.2 (0.9)	0.33 (0.34)	3.32 (3.25)
2000s	1 (0.9)	179.3 (182.5)	1.7 (1.7)	0.60 (0.60)	3.43 (3.43)
2010s	1 (0.1)	478.5 (480.3)	1.7 (1.8)	1.04 (1.04)	3.35 (3.34)
Automotive					
1980s	1 (0.1)	28.2 (28.1)	1.6 (1.6)	0.27 (0.27)	0.90 (0.90)
1990s	0 (0)	77.7 (77.7)	2.6 (2.6)	0.18 (0.18)	1.07 (1.07)
2000s	1 (0.9)	77.8 (77.8)	-2.6 (-2.5)	0.42 (0.42)	2.16 (2.13)
2010s	2 (3.8)	250.7 (264.1)	-0.6 (-0.4)	0.52 (0.51)	1.97 (1.96)
Defence & aerospace					
1980s	0 (0)	67.6 (67.6)	6.0 (6.0)	0.46 (0.46)	1.19 (1.19)
1990s	1 (2.2)	94.4 (96.9)	5.8 (6.6)	1.00 (1.00)	1.38 (1.37)
2000s	2 (4.2)	117.9 (128.0)	2.7 (3.1)	0.76 (0.75)	2.09 (2.06)
2010s	1 (0.9)	775.6 (782.6)	5.3 (5.3)	1.18 (1.18)	3.48 (3.48)
Food & beverage					
1980s	2 (0.8)	49.9 (49.4)	3.9 (3.9)	0.33 (0.33)	1.14 (1.14)
1990s	1 (0.8)	46.0 (46.8)	0.9 (1.1)	0.26 (0.26)	1.22 (1.22)
2000s	3 (2.4)	82.8 (85.7)	-1.6 (-1.5)	0.39 (0.39)	1.52 (1.51)
2010s	5 (4.8)	191.7 (205.0)	0.2 (0.5)	0.46 (0.46)	2.37 (2.37)
Fossil fuels & mining					
1980s	11 (2.8)	12.5 (12.5)	-40.0 (-36.5)	0.08 (0.08)	0.26 (0.26)
1990s	14 (4.8)	31.7 (31.6)	-31.4 (-28.6)	0.08 (0.08)	0.17 (0.17)
2000s	38 (12.6)	79.5 (84.3)	-55.7 (-44.0)	0.10 (0.10)	0.19 (0.17)
2010s	56 (17.4)	152.0 (160.5)	-71.2 (-59.2)	0.07 (0.08)	0.18 (0.17)
Heavy industry					
1980s	4 (0.9)	17.6 (17.8)	-0.2 (-0.1)	0.35 (0.35)	1.24 (1.23)
1990s	9 (1.7)	42.6 (43.2)	-1.1 (-1.1)	0.27 (0.26)	1.57 (1.55)
2000s	15 (3.7)	110.8 (113.8)	0.9 (1.4)	0.43 (0.44)	2.24 (2.23)
2010s	11 (3.5)	369.8 (392.2)	-1.5 (-1.3)	0.38 (0.38)	1.30 (1.30)
Hotels & restaurants					
1980s	1 (0.4)	17.0 (17.1)	-1.2 (-1.2)	0.17 (0.17)	0.31 (0.31)
1990s	1 (0.8)	31.6 (31.7)	-1.4 (-1.7)	0.13 (0.12)	0.32 (0.32)
2000s	2 (1.8)	72.4 (74.6)	-2.1 (-2.0)	0.21 (0.21)	0.38 (0.38)
2010s	2 (2.4)	221.7 (232.2)	-0.8 (-0.8)	0.52 (0.52)	0.52 (0.52)
Pharma					
1980s	10 (4.0)	26.5 (25.2)	-62.1 (-55.2)	0.18 (0.19)	4.48 (4.22)
1990s	30 (7.8)	76.0 (74.9)	-336.4 (-278.4)	0.33 (0.31)	10.85 (10.27)
2000s	59 (11.8)	105.3 (107.0)	-915.4 (-752.9)	0.61 (0.50)	21.14 (19.81)
2010s	146 (25.5)	193.8 (166.8)	-4317 (-1995)	0.81 (0.73)	23.43 (21.87)
Retail					
1980s	0 (0.4%)	33.0 (33.1)	1.4 (1.4)	0.22 (0.22)	2.14 (2.14)
1990s	1 (0.7%)	78.1 (77.9)	-0.3 (-0.2)	0.24 (0.24)	2.17 (2.17)
2000s	1 (1.7%)	192.6 (196.3)	0.3 (0.3)	0.36 (0.36)	2.52 (2.52)
2010s	2 (2.9%)	623.6 (643.1)	1.4 (1.5)	0.87 (0.87)	2.01 (2.01)
Tech					
1980s	7 (0.8)	18.1 (18.2)	-6.0 (-6.1)	0.21 (0.20)	1.94 (1.87)
1990s	17 (1.5)	94.9 (97.3)	-26.5 (-26.0)	0.30 (0.30)	3.19 (3.19)
2000s	35 (2.8)	66.7 (69.3)	-46.0 (-43.9)	0.56 (0.58)	6.12 (6.30)
2010s	29 (3.8)	222.4 (236.0)	-13.8 (-13.5)	0.89 (0.70)	6.21 (6.16)

Table A4. The Number and Percentage of Zero-Revenue Firms in the Dataset and Results With and Without their Inclusion (By Sector)

Source: Compustat (2022) and Peters and Taylor Total Q Series through WRDS