

THE FINANCIALIZATION OF BIG PHARMA

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LA FINANCIARIZACIÓN DE LAS GRANDES EMPRESAS FARMACÉUTICAS

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ABSTRACT

In this article, we employ a Veblenian framework to analyze three dimensions of corporate financialization: the expansion of the balance sheet, the rising importance of intangible assets and the growing levels of financial payouts. Our focus is the pharmaceutical sector, which is strongly dominated by a handful of large corporations known as Big Pharma. In our empirical analysis of the financial accounts of 27 of the largest global pharmaceutical corporations for the years 2000–2018, we find evidence of a shift in Big Pharma's business model from one focused on productive capacity (reflected by fixed capital and R&D) to one focused on intangible assets (reflected by patents, brands and goodwill). The modus operandi of Big Pharma is one which increasingly resembles that of a private equity fund which generates returns for shareholders that are supported by monopolized knowledge through intellectual property rights, capitalized future earnings potential and rising debt burdens. Our framework facilitates the study of the different elements of financialization and how they do (or do not) co-evolve over time, within and between industries, and between countries or global regions.

KEYWORDS

Corporate finance; Intangible assets; Monopoly; Shareholder value; Thorstein Veblen.

RESUMEN

En este artículo, empleamos un marco Vebleniano para analizar tres dimensiones de la financiarización corporativa: la expansión del balance, la creciente importancia de los activos intangibles y los crecientes niveles de pagos financieros. Nuestro enfoque es el sector farmacéutico, que está fuertemente dominado por un puñado de grandes corporaciones conocidas como Big Pharma. En nuestro análisis empírico de las cuentas financieras de 27 de las mayores corporaciones farmacéuticas mundiales para los años 2000-2018, encontramos evidencia de un cambio en el modelo de negocio de uno centrado en la capacidad productiva (reflejado por capital fijo e I + D) a uno centrado en activos intangibles (reflejados en patentes, marcas y fondo de comercio). El modus operandi de las grandes farmacéuticas se asemeja cada vez más al de un fondo de capital privado que genera rendimientos para los accionistas respaldados por el conocimiento monopolizado a través de los derechos de propiedad intelectual, el potencial de ganancias futuras capitalizadas y el aumento de la carga de la deuda. Nuestro marco facilita el estudio de los diferentes elementos de la financiarización y cómo co-evolucionan (o no) a lo largo del tiempo, dentro y entre industrias, y entre países o regiones globales.

PALABRAS CLAVE

Finanzas corporativas; Activos intangibles; Monopolio; Valor del accionista; Thorstein Veblen.

1. INTRODUCTION

Financialization has become an increasingly popular yet fuzzy concept to frame and investigate a wide range of developments in society. Its growing scope has seen scholars note its ambiguity in application more than a decade ago (Lee et al. 2009) with subsequent reviews of the literature such as Van der Zwan's (2014) narrowing it down to three overarching themes: the emergence of a post-Fordist regime of accumulation propelled by the growth of finance, the rise of the shareholder value orientation and the financialization of everyday life. More recently, Aalbers (2019) provided a classification of financialization into seven themes: financialization as a historically recurring process signalling the autumn of hegemonic powers in the world system; the financial services revolution regarding the emergence of new financial institutions and changes in the behaviour of the existing ones; the increasing dominance of the financial sector in terms of size; financialization of non-financial firms around new financial narratives, practices and measurements; financialization as assetization of commodities; financialization of the state; and financialization of households.

In this article, we present the evidence for the financialization of non-financial firms, taking the global pharmaceutical sector as an example. Our interest is primarily in this sector as a possible field of corporate financialization rather than in pharmaceuticals per se. The reason to focus on this sector is two-fold. On one hand, pharmaceuticals have a strong social significance because of their life-sustaining functions and the modes of their production are hence vital to understand, especially given the fundamental role of publicly-funded research in developing medicine. On the other hand, the global pharmaceutical market is one of growing economic significance as it has seen more than a 200 percent rise in revenue between 2001 and 2018, which in 2018 amounted to more than USD1.2 trillion and is projected to grow (Statista 2019: 2). What is more, the sector has a track record as a harbinger for financialized corporate strategy (Andersson et al. 2010; Froud et al. 2006).

We dissect the financial accounts of the global pharmaceutical oligopoly or "Big Pharma" as represented by the sector's largest firms. Rather than focusing on one key element of corporate financialization as most of the previous empirical studies have done, we scrutinize the three main trends: the expansion of the balance sheet, the growing reliance on intangible assets and the increasing use of corporate funds as financial payouts. Only when combining these three dimensions can we come to a rigorous assessment of the level of corporate financialization in firms and sectors. On all three accounts, we find evidence of a Big Pharma business

model that generates returns for shareholders which are supported by monopolized knowledge through intellectual property rights, capitalized future earnings potential and rising debt burdens. In sum, we argue that the operating mode of Big Pharma increasingly resembles that of a private equity fund.

This operating mode builds on a Veblenian understanding of business dynamics, which underlines the tendency of corporations to obstruct competition and thus attain higher prices for their products. Intangible assets are one prime lever to do so and have become a crucial element of the pharmaceutical sector. They enable corporations to derive incomes—or borrow against these assets to get disposable cash—to pass on payouts to shareholders and corporate executives. At the same time, intangible assets represent capitalized future earnings that inflate the balance sheet and hence propel corporate strategies to pursue whatever operations seem the most profitable, sparking new rounds of intangible asset formation. Although corporate strategies vary, the degree to which corporations rely on intangible assets can be significant for multiple reasons. For example, if a corporation has a high degree of intangible assets, this may be a sign that it is prioritizing investment in expensive specialized medicine over cheap mass products, which may have important, broader distributional consequences (e.g. access to medicine by consumers).

The article is structured as follows. In section 2, we review corporate financialization trends more broadly and revisit the work of Veblen in order to provide a framework for analysis. In section 3.1, we present the methods that led us to the empirical results that are presented in section 3.2. In section 4, we discuss these results in their relation to the existing body of work and conclude in section 5.

2. WHAT IS CORPORATE FINANCIALIZATION?

The literature on corporate financialization tends to be inspired by different heterodox economics frameworks. Keynesian and, to a lesser extent, Marxian frameworks feature predominantly, but recently we can also witness the emergence of Veblenian analyses of financialization (Baranes and Hake 2018; Baranes 2017; 2016; Jo and Henry 2015). To us, Thorstein Veblen's institutionalist understanding of the business enterprise serves as a useful starting point to analyze the different components of corporate financialization, as they are, to some extent, already identified in Veblen's work. In this section, we will briefly summarize our reading of Veblen before relating it to ongoing debates in the financialization literature more widely.

2.1. Veblenian conceptualizations of assets and differential advantage

Veblen's institutionalist theory of the business enterprise positions industry and business as opposite and antagonistic poles. While industry represents the side of the material production of goods and is concerned with the perpetual improvement of the interplay between different production stages, business is its modern "pecuniary" (i.e. profit-driven) counterpart, subordinating the industrial process to its imperatives and thereby both intentionally and unintentionally disrupting or enhancing it according to the specific circumstances (Veblen 1958 [1904]).

Veblen's conceptualization of assets is closely related to the distinction between industry and business.¹ Through the development of a non-individualistic theory of production, he emphasized that societies develop according to accumulated knowledge that increasingly outgrows any individual's capacity. As soon as this occurs and the accumulated knowledge is materialized in the form of machinery and technology, it can be enclosed and withheld from society for pecuniary gain, secured by nothing but legal entitlements and the state power which ensures them. For Veblen, such enclosure—privatized social knowledge—is the defining trait of capitalism (Veblen 1908a).

In this context, a business enterprise's investment becomes first and foremost a pecuniary transaction, designed to facilitate the "extensive engrossing of the community's industrial efficiency" (Veblen 1908b: 105), either by seizing materialized or immaterial knowledge. Only under such circumstances does Veblen speak of "assets" as such. To the owner of these assets, they become a means of exerting a differential advantage over competitors insofar as they serve to enhance the price of the final product. The capacity to increase earnings is capitalized and revalued on a recurring basis, constantly imputing the value of assets anew. Therefore, assets only exist under a set of social relations, namely general commodity production and wage labour. As tangible assets, they "owe their productivity and their value to the immaterial industrial expedients which they embody or which their ownership enables their owner to engross" (Veblen 1908a: 539). As intangible assets, the theoretical "immaterial industrial expedients" are legally formalized and serve to obstruct competition through growing market power and to maintain enhanced prices by "locking out" society from its "stock of knowledge" (Veblen 1908a: 519). To gain access to this stock of knowledge, monetary returns are demanded by the proprietors. Less exposed to competitive pressures, intangible assets can thus be utilized to generate rent incomes (Baranes and Hake 2018; Veblen 1908a). However, the power to do so is not only reflected in the imputed value of these assets but also of "goodwill" (Veblen 1958 [1904]).

Crucially, when credit systems are well-developed, the relation runs in both directions. Business enterprises that attain a level of market power and differential advantage through intangible assets are likely to have easy access to credit due to their asset-base, while easy credit also facilitates the investment in or the acquisition of intangibles to enlarge their market power (Veblen 1958 [1904]). This is precisely what Baranes and Hake (2018: 434; emphasis in original) describe: "[t]he ability for managers to generate returns for their shareholders depends on their ability to increase not the *productive* capacity of the enterprise, but the *earning* capacity of the enterprise – more specifically, the *perceived* earning capacity".

Finally, the aims of the business enterprise (i.e. pecuniary gain) and Veblen's "community" at large (i.e. serviceable output) usually diverge from each other but clash even stronger when business ownership and the enterprise's operations are steered towards short-term financial gains. Here again, as credit systems grow more sophisticated, so do the opportunities to utilize their channels and means to obtain these gains (Jo and Henry 2015).

2.2. Veblen meets 21st century financialization

Veblen's theoretical framework, as briefly introduced above, helps us to read some of the recent trends in the financialization of the economy. In a more structural sense, financialization can be defined "as a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production" (Krippner 2005: 174). Broken down further, it is constituted by "the increasing dominance of financial actors, markets, practices, measurements, and narratives, at various scales, resulting in a structural transformation of economies, firms (including financial institutions), states, and households" (Aalbers 2019: 4). In other words, financialization can be understood as a number of interdependent processes connecting several economic agents and objects, which entail transformations in their relations (Durand 2017; Lapavistas 2013). Strongly bound up with neoliberal restructuring policies following the collapse of the post-war Bretton Woods framework, financialization processes—such as the rising importance of the FIRE (finance, insurance and real estate) sectors, growing global debt levels and the powerful discourse about the importance of shareholder value for firms—have placed financial actors and financial logics at the heart of economic activity (Hofman and Aalbers 2019; Hudson 2015).

Corporate financialization developments can accordingly be defined as "traditionally nonfinancial firms becoming dominated by financial narratives, practices, and measurements, and increasingly partaking in practices that have been the domain of the financial sector" (Aalbers 2019: 3). The outcomes of

these developments have been quantified in a wide range of studies but can roughly be grouped in three sets of trends: the expansion of the balance sheet, the growing reliance on intangible assets and the rise in financial payouts. It is worth discussing each of these trends in turn.

First, both the asset and liability sides of corporate balance sheets grow. On the asset side, firms grant or receive greater levels of credit (through receivables, various current assets or payable accounts), increase their holdings of cash and short-term investments (stocks or other commercial paper) or even move towards investing in long-term investments (bonds). As a result, liquid assets grow in relative importance to fixed assets, representing one of corporate financialization's most widely noted trends (Davis 2018; Tori and Onaran 2018b; Davis 2016; Tomaskovic-Devey, Lin, and Meyers 2015; Lapavistas and Powell 2013; Bates, Kahle, and Stulz 2009; Orhangazi 2008; International Monetary Fund 2006). While influential early contributions (Orhangazi 2008; Krippner 2005) underscored the importance of financial incomes derived from these liquid assets for nonfinancial firms, more recent work (Rabinovich 2019; Fiebiger 2016) has called this into question. Nevertheless, rising shares of *liquid*—though not necessarily *financial* assets—have been generally documented. At the same time, fixed capital shares have often fallen (Tori and Onaran 2018b; Stockhammer 2004) although the causal relationship is still contested and might not be universally valid (Kliman and Williams 2015).

On the liability side, the 1990s and early 2000s saw the corporate sector in the Global North deleveraging and decreasing its debt levels (International Monetary Fund 2006). However, since the global financial crisis and subsequent years of unprecedented loose monetary policy (Fernandez, Bortz and Zeolla 2018), corporate indebtedness has again been on the rise, in particular in countries of the Global South (International Monetary Fund 2019; Kaltenbrunner 2018; Karwowski and Stockhammer 2017; Durand 2017; Davis 2016). Large firms in the Global North have also taken on more debt, mostly to sustain high financial payouts to shareholders without having to repatriate profits stashed away in offshore accounts (Fernandez and Hendrikse 2015; Lazonick 2013). Hence, we find rising debt levels for different reasons.

Second, intangible assets have become more relevant to many—and especially large—firms' business models, signifying a shift in firms' capital stock from fixed capital to intangible capital. The obvious question then arises how firms generate their returns (Crotty 2003). Part of the answer might be found in intangible assets including intellectual property rights (IPRs), such as patents and brands, market rights or customer relations which constrain competition and facilitate monopolization (Serfati 2008; Zeller 2007). These enable firms to exert more power over value

chains and hence capture greater shares of the total value generated, as demonstrated by Orhangazi (2018) and Durand and Milberg (2020). As such, the massive growth of intangible assets is very much related to one of the longest-standing debates in political economy between “earned” and “unearned” income, i.e. between profit and rent (Serfati 2011; 2008; Zeller 2007). Such themes have recently resurfaced in both academic and policy circles (Christophers 2019; UNCTAD 2018; 2017). Another important type of intangible assets is goodwill, which is an “accounting artefact” (Leaver 2018) on a firm's balance sheet reflecting the difference between what an acquiring firm pays for another firm on top of the latter's book price. As capitalized earnings capacity purely generated by financial markets, goodwill is a representation of what a firm is considered to yield in the future according to its assessment in financial markets, in accordance with “fair value” accounting principles (Serfati 2011; Perry and Nölke 2006). By inflating the balance sheet further, the future prospects impact upon a firm's strategy by lowering key financial indicators of performance (Andersson, Haslam, and Lee 2006).

Third, firms have channelled a growing share of their cash flow—or even newly acquired debt—to shareholders and corporate executives in the form of dividends or share operations (together known as payouts), in line with the shift towards shareholder value orientation from the 1980s onwards (Ireland 2009; Froud et al. 2000). Through dividends, firms hand cash directly to shareholders; through share operations such as share repurchases, shareholders and corporate executives potentially benefit at the same time. In the case of share repurchases, active shareholders receive higher dividends per share due to the reduced number of outstanding shares while exiting shareholders realize capital gains by selling their shares at boosted prices. In addition, corporate executives who receive performance-related pay or stock options also benefit from increased prices (Froud et al. 2006). The staggering extent of these practices has been well documented for US firms in particular (Lazonick and O'Sullivan 2000). As corollaries, firms that engage in large-scale financial payouts are observed to neglect crucial long-term goals such as investment in fixed capital, research and development (R&D) or employment relations (Lazonick 2013; 2014).

By combining Veblen's theoretical framework with the trends of corporate financialization, key relations become more visible. The noted trend towards intangible assets helps to “lock out” society from its products, and keeps competition at bay. The contribution of intangible assets to a firm's earning capacity can then be capitalized on the balance sheet, in the form of clear elements such as patents or more ambiguous categories such as goodwill. To some extent,

replacing tangible, fixed assets with intangibles can free up financial resources which can then either be hoarded as financial resources (e.g. to engage in further expansion through mergers and acquisitions (M&As), invested elsewhere, or—and this appears to have become the preferred mode—distributed to shareholders and corporate executives.

3. EMPIRICAL ANALYSIS

Having developed a basic understanding of corporate financialization processes, this section presents our data and methods which we use to evaluate whether we find instances of it in the pharmaceutical industry.

3.1. Data and methods

In order to complement the existing literature, we offer a multi-faceted view on Big Pharma's past

financial dynamics. In particular, we have delved into the annual financial accounts of 27 of the largest pharmaceuticals and biotech corporations worldwide, based on 2018 market capitalization, for the years 2000 to 2018 (Table 1). Initially we selected the 30 largest ones but needed to drop three (Abbvie, China Resources Pharmaceutical Group and Otsuka Holdings), as they have only existed in their current form since 2010 or later. Furthermore, we expand the geographical scope of studies into Big Pharma, which tend to focus on the US and, to a lesser extent, the UK (Baranes 2017; Lazonick and Tulum 2011; Andersson et al. 2010; but see Montalban and Sakinç 2013 for a larger sample). Still, US corporations (10) dominate the dataset and are only equalled in number by all European—EU and non-EU—corporations combined (10). Beyond these two blocs, only one country (Japan) is represented in the dataset with more than one corporation (3).

Table 1.
List of corporations

Rank	Name	Domicile	Group	Revenue (USD billion), 2018	Market capitalization (USD billion), 2018
1	Johnson & Johnson	United States	US	81.58	347.51
2	Roche	Switzerland	Europe	57.92	258.46
3	Pfizer	United States	US	53.65	212.23
4	Novartis	Switzerland	Europe	53.17	219.96
5	Bayer	Germany	Europe	45.40	72.34
6	Merck & Co	United States	US	42.29	221.88
7	Sanofi	France	Europe	40.92	115.40
8	GlaxoSmithKline	United Kingdom	Europe	39.32	113.83
9	Eli Lilly & Co	United States	US	24.56	109.41
10	Amgen	United States	US	23.75	126.71
11	Bristol-Myers Squibb	United States	US	22.56	93.84
12	Gilead Sciences	United States	US	22.13	80.69
13	AstraZeneca	United Kingdom	Europe	22.09	126.95
14	Takeda Pharmaceutical Co	Japan	Other	18.92	58.37
15	Teva Pharmaceutical Industries	Israel	Other	18.85	8.92
16	Novo Nordisk	Denmark	Europe	17.18	101.71
17	Merck	Germany	Europe	17.02	15.40
18	Allergan	Ireland	Europe	15.79	57.78
19	Celgene	United States	US	15.28	76.57
20	Biogen	United States	US	13.45	53.90
21	Astellas Pharma	Japan	Other	11.79	32.18
22	Mylan	Netherlands	Europe	11.43	9.88
23	CSL	Australia	Other	8.54	80.92
24	Daiichi Sankyo Co	Japan	Other	8.39	45.03
25	Bausch Health Companies	Canada	Other	8.38	8.76
26	Regeneron Pharmaceuticals	United States	US	6.71	33.07
27	Guangzhou Baiyun-shan Pharmaceutica	China	Other	6.39	8.09

Source: Worldscope

We contribute to the existing literature by expanding the list of examined indicators and provide an update on the years following the global financial crisis (GFC). Selected data (Table 2) were obtained from the Worldscope database operated by Refinitiv, which is used widely in the literature (e.g. Tori and Onaran 2018a; 2018b). Where possible, individual missing values for some variables were retrieved from corporations' annual reports. However, for total intangible assets and, more importantly, goodwill as a separate variable, some missing values remained (Table 2). In addition, the standardized data² contained values of zeros for several variables. While for some variables (e.g. common dividends and share operations), actual values of zero are perfectly possible and logical, for others (e.g. short- and long-term debt) they are probably inaccurate. Selective cross-checking with published annual reports revealed that in such cases, the reports lacked more granular data categories, thus explaining the zeros in the standardized Worldscope database. We are aware of the resulting data limitations but do not consider them significant enough to considerably limit its explorative findings. Unless stated otherwise, all calculations included zeros but excluded missing values. It should be noted that because our goal was to picture the sector as a whole, both the nominal values as well as the ratios were calculated by summing up all values rather than calculating mean or median values.

3.2. Results

We constructed indicators which allow us to validate the three financialization trends identified in

the literature. First, we examine financial reserves and liabilities to see how strongly the balance sheet has grown and what broad fragilities might exist as a consequence. Second, we consider financial payouts (i.e. dividends and share operations) to understand the level to which shareholders have been benefitting from Big Pharma's current financialized business model. Third, we track the rising importance of intangible assets in general and goodwill in particular to assess potential shifts towards a financialized business model.

Expanding the balance sheet

Both sides of the balance sheets have grown over recent years for the 27 corporations as a whole. Cash and short-term investments, representing the most liquid of corporate assets, have increased nominally by more than 160 percent from USD83 billion to 219 billion during the years 2000 to 2018 (Figure 1). When measured as share of net fixed capital, we see a general rise from 0.87 to 1.09 in the same period, peaking as high as 1.29 in 2014 (Figure 2).

However, these aggregate numbers conceal important differences. If we compare US- and European corporations (Table 1)³, only the former exhibit a strongly rising ratio of cash and short-term investments as share of net fixed capital and mainly since 2009. European corporations, on the other hand, have maintained a largely stable ratio (Figure 2). The fact that the aggregate numbers show an upward trend merely indicates the heavy weight of the US corporations' financial reserves. In nominal terms,

Table 2.
List of variables

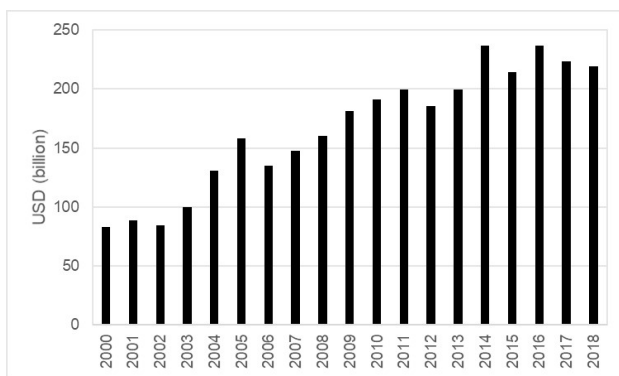
Variable code	Description	Missing values (%)	Zeros (%)
WC02001	Cash and Short-Term Investments	0	0
WC02501	Property and Plant Equipment Net	0	0
WC02649	Total Intangible Other Assets Net	3.5	3.3
WC18280	Goodwill/Cost in Excess of Assets Purchased	11.5	1.8
WC02999	Total Assets	0	0
WC03051	Short-Term Debt and Current Portion of Long-Term Debt	0.2	6.6
WC03251	Long-Term Debt	0	5.3
WC03501	Common Equity	0	0
WC01001	Net Sales or Revenue	0	0
WC04001	Net Income – Starting Line	0	0
WC04601	Capital Expenditures – Additions to Fixed Assets	0	0
WC01201	Research and Development Expenses	0	0.6
WC05376	Common Dividends (Cash)	0	24.2
WC04751	Com. Pfd. Purchased, Retired, Converted, Redeemed	0	36.1

Source: Worldscope.

these ten corporations have expanded their cash and short-term investment holdings by some 380 percent, from USD28 billion in 2000 to 137 billion in 2018, while their European counterparts only recorded an increase of 53 percent from USD42 billion to 64 billion in the same period. Further differences can be made visible if the corporations are subset by size into three groups of nine each (Table 1). Over the course of the period studied, both the top and bottom nine corporations have not grown their reserves, unlike the middle ones (Figure 3).

Figure 1.

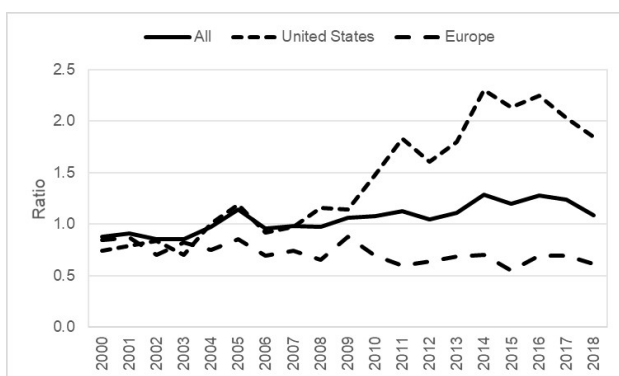
Cash and short-term investments for all 27 corporations combined



Source: own calculations based on Worldscope data.

Figure 2.

Cash and short-term investments as share of net fixed capital for all (n = 27), US (n = 10) and European (n = 10) corporations

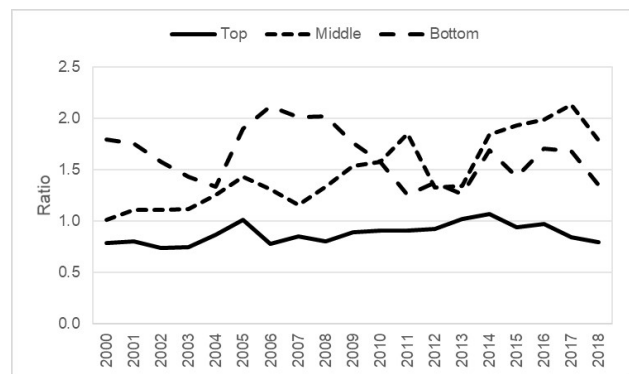


Source: own calculations based on Worldscope data.

These results suggest a shift towards a business model less rooted in expanding physically productive capacity for some (and especially US) corporations, providing support to scholarly claims that changes in corporate operating modes entail sluggish fixed investment dynamics. Generalizations, however, need to be made cautiously. Our results for corporations' liquid asset ratios are in line with trends known from other sectors such as Big Tech (Bryan, Rafferty, and Wigan 2017; Fernandez and Hendrikse 2015) and—

Figure 3.

Cash and short-term investments as share of net fixed capital for three groups of nine corporations by size



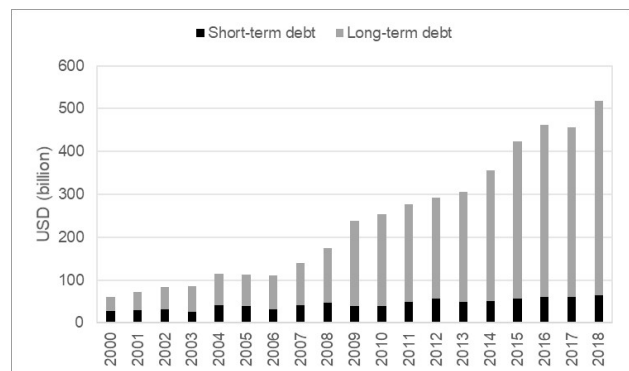
Source: own calculations based on Worldscope data.

although on a much lower level—machinery (Orhan-gazi 2018). It should be noted, however, that these studies focus exclusively on the US.

Beyond financial reserves, the 27 pharmaceutical corporations have recorded surging liabilities. These have escalated by more than 750 percent from USD61 billion to 518 billion (Figure 4). Most of this growth can be attributed to long-term debt. The recent levels are thus in line with rising corporate debt burdens globally in the wake of quantitative easing policies. Such levels would not have to be a source of concern by themselves if it were not for the rising debt burden in relation to corporate performance. However, we see a sharp hike here with debt growing from 20 percent of sales to 72 percent between 2000 and 2018 (Figure 5). Generally, the decade following the GFC has seen Big Pharma progressively drifting towards higher levels of indebtedness. By and large, this trend holds across groups of corporations. US and European corporations only show the slightest differences in their ratio of total debt as share of net sales. At the same time, the largest nine corporations have incurred less debt than the corporations below them (Figure 6).

Figure 4.

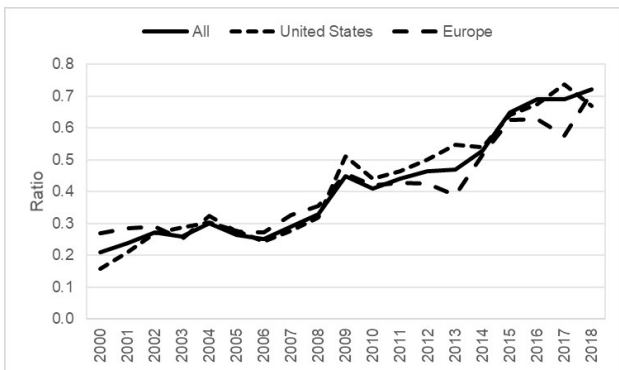
Short- and long-term debt for all 27 corporations combined



Source: own calculations based on Worldscope data; n = 26 in 2010, otherwise n = 27.

Figure 5.

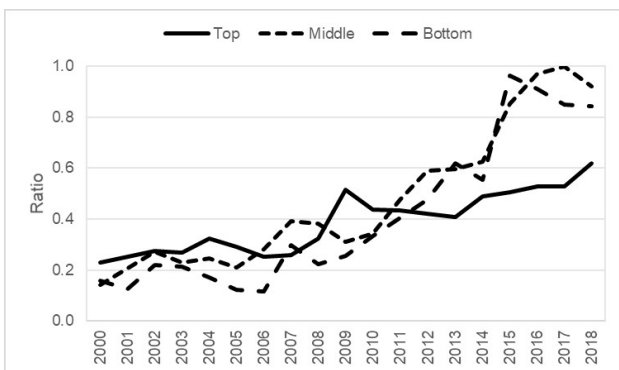
Short- and long-term debt as share of net sales for all (n = 27), US (n = 10) and European (n = 10) corporations



Source: own calculations based on Worldscope data.

Figure 6.

Short- and long-term debt as share of net sales for three groups of nine corporations by size



Source: own calculations based on Worldscope data.

Offloading profits to shareholders

Big Pharma has had more funds at its disposal over time, either through financial reserves, or newly-incurred debt. While these funds could have been used to primarily expand both physically and intellectually productive capacity, what we also see is concomitant growth in financial payouts. Through both dividends and so-called “share operations” (which include purchases, retirements, conversions and redemptions of shared and preferred stock), pharmaceutical corporations have channelled large amounts of funds out of corporate coffers. In 2000, USD30 billion were paid out to shareholders through dividends and share operations. By 2018, however, this had risen to USD146 billion (Figure 7). To be sure, there has been some fluctuation but this can almost exclusively be attributed to the waves of share operations that most corporations do not conduct annually. In addition, it took just four years for payouts to regrow to pre-GFC levels. Following the crisis, there has been a steady rise.

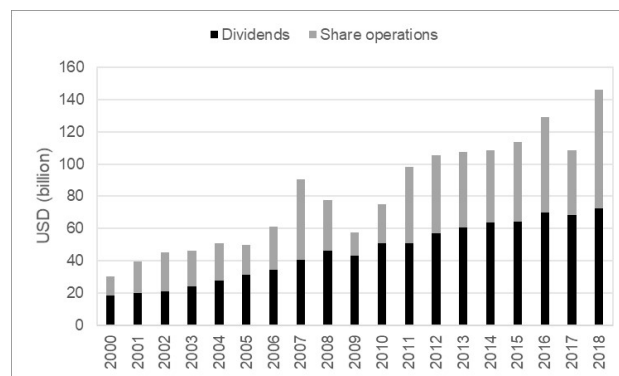
To contextualize the level of payouts, we examine them against capital expenditures (representing physically productive capacity) and R&D expenses (representing intellectually productive capacity). What we see

is that there has been a general upward development, peaking at a ratio of 0.94 in 2018 (Figure 8). Again, up and down trends exist but, generally, the post-crisis decade has seen the pharmaceutical corporations conduct payouts at a higher level than before. Big Pharma has used an increasing portion of its financial resources to line the pockets of shareholders rather than increasing its investments into productive capacity. Especially for share operations, the growing debt we noted above is likely to have played some part in benefitting shareholders.

Throughout this period US corporations have exceeded the payout levels of their European counterparts, but the movement has largely occurred in parallel. Importantly, we see that post-GFC payout levels are even higher than before the crisis (Figure 8). European pharmaceutical corporations have been especially generous in terms of dividends. Starting from a ratio of 0.31 in 2000, they paid out a share of 0.49 in 2018 to their shareholders. Generally, dividends have increased in tandem for the top and middle corporations and stagnated for those at the bottom of the cohort (Figure 9). The other channel, share operations, has remained relatively stable over time across sizes.

Figure 7.

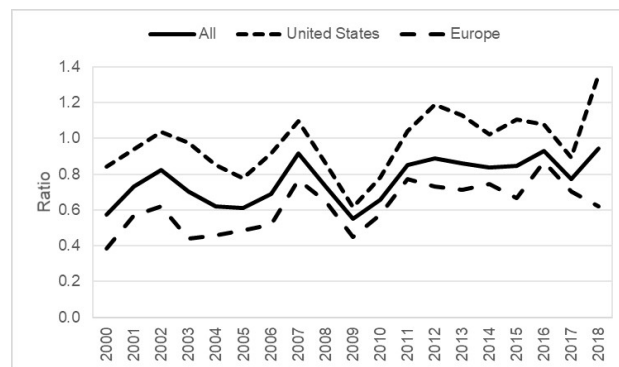
Dividends and share operations for all 27 corporations combined



Source: own calculations based on Worldscope data.

Figure 8.

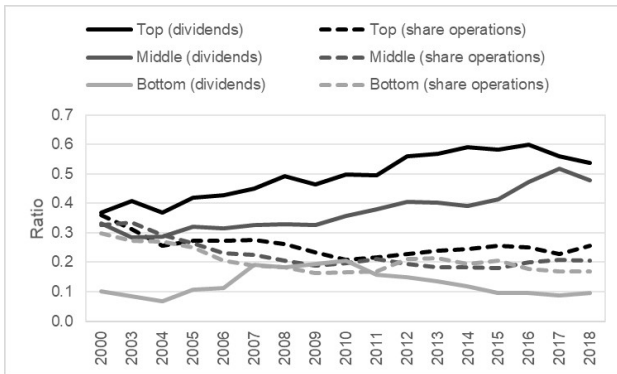
Dividends and share operations as share of capital expenditures and R&D expenses for all (n = 27), US (n = 10) and European (n = 10) corporations



Source: own calculations based on Worldscope data.

Figure 9.

Dividends and share operations as share of capital expenditures and R&D expenses for three groups of nine corporations by size



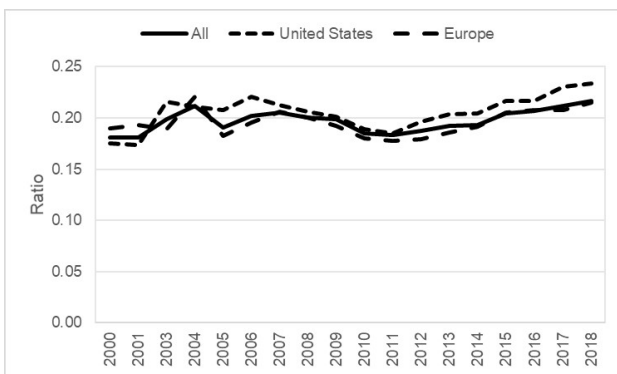
Source: own calculations based on Worldscope data.

Monetizing market power: the rise of intangibles

While payouts have grown in relation to productive investments, the latter have not fallen as could be expected from much of the literature. Instead, they have fallen between 2006 and 2011 for both US and European corporations and have only recently slightly surpassed their pre-GFC levels (Figure 10). This suggests that a significant part of the incurred debt has been used to retire equity and pay shareholders rather than to invest in productive capacity. What has this meant for Big Pharma’s business model?

Figure 10.

Capital expenditures and R&D expenses as share of net sales for all (n = 27), US (n = 10) and European (n = 10) corporations



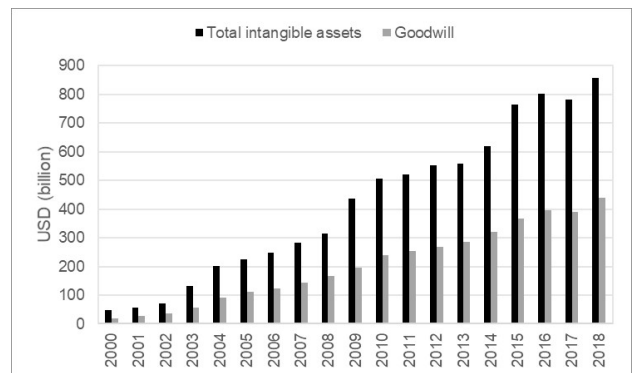
Source: own calculations based on Worldscope data.

Falling, stagnant or only moderately rising investment in physical and intellectual productive capacity has been linked to the concomitant growth of intangible assets across industries (Orhangazi 2018). “Intangible assets” is an ambiguous residual category that may represent anything from codified and uncodified market power (i.e. brands, patents, licenses or customer relations) to the differences between ac-

counted assets and share prices (i.e. goodwill). As detailed data on the distinct elements of intangible assets are hard to obtain even for large corporations like those analyzed here, the best approximation is arguably the balance sheet item of total intangible assets. While coverage is incomplete (Table 2), the existing data suggest tremendous growth. With 23 corporations reporting total intangible assets of USD48 billion in 2000, this number has grown to USD857 billion for all 27 corporations in 2018 (Figure 11). Some of this growth can presumably be explained by better reporting and data coverage, but there is no reason to believe it could explain most, let alone all, of it. Despite these limits, the data highlights the prominent role of goodwill in particular. In 2000, 18 corporations reported goodwill of USD18 billion; in 2018, 25 of them reported USD438 billion. Bearing in mind the incomplete data, the actual share of goodwill of total intangibles is likely higher than 50 percent. On the whole, the rising share of intangible assets to the whole corporate asset base signifies changes in Big Pharma’s business model. While 23 corporations’ intangible assets only stood at a ratio of 0.13 to total assets, they have skyrocketed to a ratio of 0.51 for all 27 corporations (Figure 12). In sum, Big Pharma’s asset base is now dominated by intangible assets and goodwill.

Figure 11.

Total intangible assets and goodwill for all 27 corporations combined



Source: own calculations based on Worldscope data.

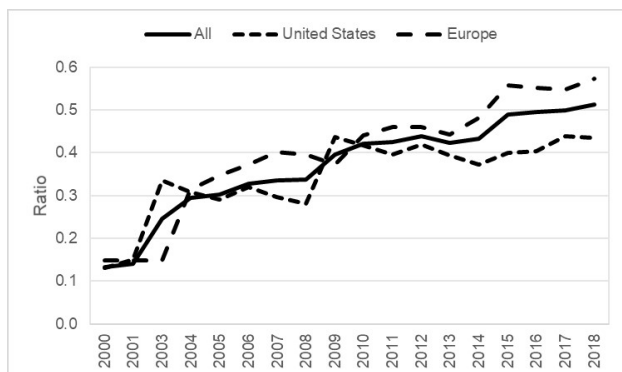
Total intangibles 2000: n = 23; 2001-2002: n = 25 ; 2003-2012: n = 26; 2013-2018: n = 27; goodwill 2000: n = 18; 2001-2002: n = 21; 2003/2005 n = 23; 2004/2006-2007/2013: n = 24; 2011-2012/2015-2018: n = 25; 2008-2010: n = 26.

This assessment does not change if the corporations are grouped by region (Figure 12) or size (Figure 13). The fact that US corporations report a lower ratio of intangible assets, including goodwill, than their European peers must be considered in the light of their higher shares of cash and short-term investments presumably diluting the intangible ratio (Figure 2).

The heavier weight of intangible assets on corporate balance sheets has important ramifications. Since corporate performance is often measured in

Figure 12.

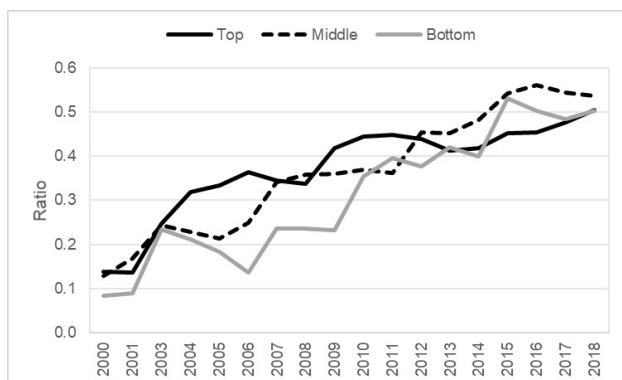
Total intangible assets as share of total assets for all (2000: $n = 23$; 2001-2002: $n = 25$; 2003-2012: $n = 26$; 2013-2018: $n = 27$), US (2000: $n = 6$; 2001-2002: $n = 8$; 2003-2012: $n = 9$; 2013-2018: $n = 10$), and European ($n = 10$) corporations



Source: own calculations based on Worldscope data.

Figure 13.

Total intangible assets as share of total assets for three groups of nine corporations by size (top: $n = 9$; middle: $n = 8$ (2000), otherwise $n = 9$; bottom $n = 6$ (2000), $n = 7$ (2001-2002), $n = 8$ (2003-2012), $n = 9$ (2013-2018))



Source: own calculations based on Worldscope data.

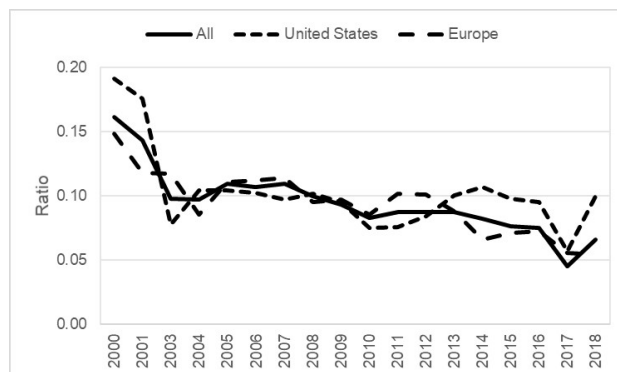
terms of its total return on assets (ROA), an expanded asset base runs the risk of driving down profitability. We find rough evidence for such trends in our data: the ROA ratio of all corporations has fallen from 0.16 in 2000 to 0.07 in 2018, dipping as low as 0.04 in 2017 (Figure 14). However, it also becomes clear that the ROA ratio has not fallen at the same rate as the intangible asset ratio has risen. Possible reasons for this could include the growth of net income and the substitution of fixed assets by intangible assets, thus slowing the expansion of total assets and the deterioration of the ROA ratio.

4. DISCUSSION

Having investigated Big Pharma's financial accounts in relation to three key dimensions of corporate financialization, we can now relate our findings

Figure 14.

Net income as share of total assets for all ($n = 27$), US ($n = 10$) and European ($n = 10$) corporations



Source: own calculations based on Worldscope data.

to the existing literature on the pharmaceutical sector. Fundamentally, this sector is comprised of an unbalanced market structure in which a small number of large pharmaceutical corporations dominate the value chain (Baranes 2016). This enables them to increasingly generate rent incomes at the expense of firms located at the bottom of the value chain by utilizing their market power, as we demonstrated, by providing evidence of a surging intangible asset ratio among Big Pharma firms. These rent incomes can then be passed on in growing measure to shareholders, the latter of which are dominated by institutional investors (Montalban and Sakinç 2013). As a result, an overabundance of financial resources at the top coexists with a shortage at the bottom (i.e. small- and medium-sized biotech firms). At the bottom of the value chain, public investments, public guarantees and publicly funded research in universities dominate R&D (Lazonick and Tulum 2011). This collective and incremental knowledge production in the foundational stage is then enclosed, commodified and valorized in later stages of the value chain through IPRs by Big Pharma, as Zeller (2007: 102) has observed:

“The markets created by the extension of the intellectual property monopolies connect the academic research institutes, the biotech companies often set up by university researchers, and the large pharmaceutical companies. The firms pursue different strategies to extract rents. In principle, monopolistic property rights can be established along the whole value-added chain. This market structure is important for the type of financialization that evolved in this sector.”

The unequal distribution of market power in the pharmaceutical value chain, whereby collectively produced and publicly financed fundamental knowledge is monopolized and acquired by corporations, with the ability to generate rent incomes, is a key characteristic of the contemporary pharmaceutical sector (Baranes 2017). By comparing the scientific co-publication and patent co-ownership of Roche, Pfizer and Novartis, Rikap (2019: 1006–7) identified

“a subordination of the universities, public research organizations and start-ups that have a fundamental role in the former, but an almost negligible participation in the latter”. In contrast to the fundamental R&D carried out by actors at the bottom of the value chain, the pharmaceutical corporations’ internal R&D mainly covers clinical testing and regulatory approval (Baranes 2016: 201; Froud et al. 2006: 173). Essentially, Big Pharma operates akin to private equity funds with special abilities to acquire, develop, market and extract value out of enclosed knowledge, as Baranes (2016) argued for the case of Pfizer. The unique abilities of large pharmaceutical corporations to transform ideas into monopolized commodities lie at the heart of their rent-seeking and financialization strategies.

Big Pharma corporations moreover compete in the acquisition of monopolized knowledge through the commodification of IPRs. Firms that possess IPRs—or merely exhibit the potential to create them—therefore become commodities on a marketplace. The value of these firms in the market for M&As is related to their portfolio of IPRs. As new potentially successful drugs are scarce and there is a constant pressure to replace patents that are approaching the end of their cycle, the price of firms increases with the stages of pharmaceutical development. In addition to the demand for IPRs, Big Pharma is equipped with financial reserves and access to easy credit, thereby driving up the price of firms in their competition to monopolize innovations. This intensifies risks in the sector, as future success is a “known unknown”. Yet Big Pharma depends on future rent income from IPRs, increasing the prices of firms at different stages of development. Or, in the words of Andersson et al. (2010: 362):

“In this financialized business model, the investor is not participating in a marathon but instead, competing in a relay where handing the baton on to the next investor secures a (possible) realised gain on invested equity funds. Bio-pharma investment is a speculative bet on scientific discoveries and is similar, in this respect to oil, gas and mineral exploration where Federal Drug Administration (FDA) regulatory approval is like striking oil or finding the seam.”

The Veblenian theory of the firm resonates in fundamental ways with these empirical findings. The Veblenian firm’s bifurcation according to the logic of industry and business is central to understanding the financialization processes in the pharmaceutical sector. As Big Pharma has begun to operate increasingly like a private equity fund, the business logic is clearly in the driving seat of industry. The subordination of industry by business means that the economic triage—that is, the decision about what is allowed to proceed from the stage of concepts and fundamental research to be developed into marketable products—has come to be determined by a limited set of financial metrics.

The examination of 27 of the world’s largest pharmaceutical firms displays how a combination of elements produced a particular demotion of industry by business, although the precise causal channels cannot be determined without in-depth study of management considerations (Froud et al. 2006). Growing financial reserves and mounting debt provided fuel for M&A cycles while investments in productive capacity have not kept pace. Compounded by the pressure of expiring patents, these developments led to a sector-wide drive towards acquiring ‘blockbuster’ biotech firms which themselves became desirable commodities. The competition for the assets of such firms, big and small, has propelled prices upward and produced a large goodwill bubble in the sector.

As described above, goodwill reflects the premium paid in an M&A process between corporations and is an intangible asset, formally justified by potential future income that the underlying asset may generate. If this income is not generated, the value of the goodwill needs to be adjusted. A downward adjustment of goodwill is recorded as a loss in the income statement (i.e. a loss in the value of the assets of the firm). This means that the growing premium that corporations pay for the acquisition of others results in direct pressures to generate higher profit margins. Goodwill becomes a self-fulfilling prophecy: its outlook on potential future income shapes the actual business model (Andersson, Haslam, and Lee 2006). Large M&As during the 1990s and 2000s, as documented by Montalban and Sakiç (2013: 1010) have thus left their imprint on the balance sheets of Big Pharma. The ensuing drive to maintain stable corporate performance metrics might thus entail changes in the productive model (such as outsourcing) as well as higher charges for consumers.

It is important to understand the corporations’ predicament here: while growing intangibles, including goodwill, have the potential to adversely affect general profitability, corporations might hesitate to write them off. This is because writing off intangible assets would need to be balanced by writing off liabilities on the other side of the corporate balance sheet. Since debt cannot be written off, the burden would fall on equity, meaning retained earnings would be reduced. These earnings, however, are crucial to justify payouts, and reducing them would hinder corporations’ shareholder value policies. As a consequence, potentially disruptive volumes of intangible assets might be kept on the books to protect the benefits of shareholders.

Aimed at taking advantage of contextual monetary opportunities, this business logic is fundamentally unstable and severely undermines the logic of industry. This instability revolves around the levels of corporate debt that were not used productively but for payouts to shareholders and for excessive premiums in the acquisition of firms instead.

As the world stopped spinning in March 2020, when the Covid-19 pandemic found its way into financial markets and immobilized the daily life of billions of people around the planet, the underlying vulnerabilities of the model of corporate financialization have become increasingly evident. After a decade of cheap credit combined with high payouts and lower levels of investment, firms struggle to repay their debt. The subordination of industry by business has led to the primacy of short-term financial engineering over long-term stability, hollowing out the physical asset base of corporations in favour of intangible assets whose viability is jeopardized in times of receding market liquidity.

5. CONCLUSION

In this article, we have employed a Veblenian framework to analyze three dimensions of corporate financialization that provide a clearer assessment of the level of financialization in firms and sectors of the economy than existing analyses which pertain to merely one dimension. These three dimensions include the expansion of the balance sheet, the growing levels of financial payouts and the rising importance of intangible assets.

We examined these trends against the financial accounts of 27 of the largest pharmaceutical corporations, which enabled a new scale and scope of comparative analysis (e.g. US versus European firm dynamics). We note that some Big Pharma corporations have grown their balance sheets by turning towards higher shares of liquid assets and, more recently, significantly higher shares of debt. However, the trend towards liquid assets, and cash in particular, is much more pronounced for US corporations, which likely underscores the importance of tax avoidance on unrepatriated profits. In other ways, Big Pharma corporations from the US and from Europe exhibit similar dynamics, especially in terms of their shift from a business model focused on productive capacity (reflected by fixed capital and research and development (R&D)) to one focused on intangible assets (reflected by patents, brands and in particular goodwill). Here, intangible assets both reflect established patterns of market power and the capacity to extract rent incomes as well as the capitalized anticipated capacity to do so. Against this capacity, Big Pharma can then borrow to gather the financial resources that are needed to acquire new monopolizable knowledge or increase financial payouts to shareholders. The latter have increased drastically during the past two decades, in ways which erode Big Pharma's funds and profitability metrics. Furthermore, more money is increasingly spent on shareholder enrichment relative to that which is invested in the development of pharmaceuticals, as seen by a deteriorating ratio of payouts to capital expenditures and R&D

expenses. In its current state, access to debt strongly facilitates this business model.

In the pharmaceutical sector, revenue crucially depends on the acquisition of knowledge which can be monopolized in the form of intellectual property rights (IPRs), where the holder can demand rent payments for its use. While an important share of this knowledge is primarily generated outside of Big Pharma in the realm of publicly funded research and related operations, the corporations nevertheless act as conduits to acquire, enclose and valorize knowledge for shareholder gain. The enhanced market power of Big Pharma is reflected in the rise of intangible assets on the balance sheet of firms, both in general and in specific terms (e.g. goodwill).

This rentier aspect is related to the state-capture machinery of the pharmaceutical sector (UNCTAD 2017). It reflects the structural power of Big Pharma over decision-making in the largest economies. Public institutions depend on pharmaceutical firms to guarantee access to medicine, while pharmaceutical corporations depend on state institutions to approve medicine and allocate public financial resources to fundamental research. This mutual dependency, combined with relatively high public expenditure on the purchase of medicine—often comparable to other major state expenses such as defence—has resulted in excessive influence on state-run bodies that regulate the market, approve medicine and allocate public funds for fundamental research. The exceptional degree of structural power is a vital political economic feature we need to consider if we are to assess the modern-day importance of the Veblenian understanding of privatized social knowledge and how it propels corporate financialization.

Our paper not only contributes to the literature on Big Pharma, but also to the debate on how to study corporate financialization. We have proposed a Veblenian analytical framework that allows investigations into a range of sectors and industries. Rather than focusing on one key measure of financialization, we have presented an integrated analysis of three main indicators of corporate financialization: the expansion of the balance sheet, the growing reliance on intangible assets and the increasing use of corporate funds for financial payouts. This framework allows future studies to be more balanced and conclusive regarding not only the extent but also the nature of corporate financialization. Or, in other words, it enables us to lift the lid of the black box by disentangling how various elements of financialization do (not) co-evolve over time, throughout and between industries, and between countries or global regions. Accordingly, the framework presented here suggests opportunities for sectoral as well as cross-sectoral and comparative analyses of corporate financialization across a broader geography.

NOTES

- [1] At first glance, Veblen's "sharpest kind of separation between business and industry" (Sweezy 1958: 21) is, of course, questionable from both theoretical and historical perspectives of socio-economic dynamics. However, as Waller (1982) explains in more detail, and Jo and Henry (2015) illustrate, this supposedly superficial dichotomy is ultimately based on a more complex understanding of technology and institutions and has been updated by later institutionalist work.
- [2] For comparability reasons, all numeric variables (Table 2) were automatically transformed into US dollars based on Thomson Reuters' historical exchange rates.
- [3] We do not analyze the corporations here grouped as "other" because they do not share any characteristics aside from being non-US/European.

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