

MARKET POWER AND INEQUALITY: THE REVENGE OF THE RENTIERS

Chapter 6

A. Introduction

The changing international division of labour, economic policy choices, political decisions and new technologies all help to explain persistently rising patterns of asset and income inequality under hyperglobalization since the early 1980s. However, achieving a more inclusive growth performance at the global level also requires an explicit understanding of how these inequalities have been nurtured by growing imbalances of economic power. The previous chapter has looked at such imbalances in relation to financialization dynamics; this chapter examines some systemic shifts in power relations between core economic actors in the non-financial corporate sector. It is based on the understanding that “institutions matter, a lot” (*The Economist*, 2013), and that “rebalancing power” (Atkinson, 2015: 99) is essential for achieving sustainable and inclusive prosperity at both national and international levels. In particular, it examines how the continuous deregulation of labour, product and financial markets has given rise to structural shifts in power relations between labour and capital in developed economies, and between States and large corporations at the global level.

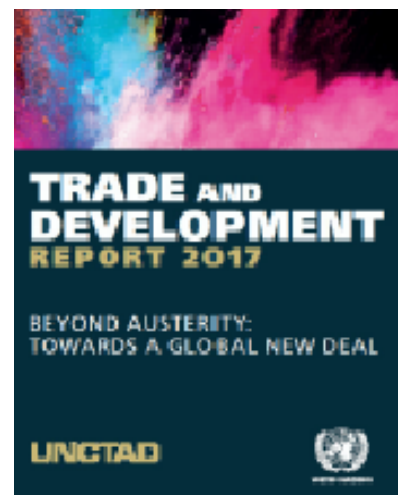
Concerns that economic analysis has not paid much attention to power relations, and specific concerns about the structural effects of the growing market domination and lobbying powers of large corporations, are not new. Raúl Prebisch, UNCTAD’s first Secretary-General, argued that such effects had hampered catching up in the South after the end of the Second World War, and had systemically tilted the gains from international trade and investment in favour of the North.¹ As Prebisch noted in 1986,

To the siphoning-off of income from the enterprises producing and exporting primary goods and importing manufactures, prior to industrialization, as well as from the public utility enterprises, was added the drainage of income through the

transnational corporations, as they came to play a more and more active part in industrialization, often sheltering behind an exaggerated degree of protection. I do not, of course, exclude banking and financial corporations. Thus a change took place in the composition of the dominant peripheral groups linked up with the centres and a web of relations favourable to their economic, political and strategic interests was woven (Prebisch, 1986: 198).

These concerns have been largely ignored in the single-minded pursuit of hyperglobalization, but they are now resurfacing. A focus on “the science of taming powerful firms” was evident in 2014, when the Swedish Central Bank Prize in Economic Sciences in Memory of Alfred Nobel was awarded to the French economist Jean Tirole “for his analysis of market power and regulation”, and his role in addressing concerns that highly concentrated markets, if “left unregulated ... often produce socially undesirable results – prices higher than those motivated by costs, or unproductive firms that survive by blocking the entry of new and more productive ones.”² What is new in this debate is not so much a preoccupation with “bad apples” or the use of potentially abusive practices by individual firms in isolation; rather, it is the concern that increasing market concentration in leading sectors of the global economy and the growing market and lobbying powers of dominant corporations are creating a new form of global rentier capitalism to the detriment of balanced and inclusive growth for the many.³

This chapter takes a closer look at these concerns. Section B discusses the intellectual and historical roots of contemporary debates about rents, rentiers and rentier capitalism. It highlights the fact that rents and rentier behaviour are not limited to the owners of financial assets and to financialized investment strategies;



they also extend to non-financial corporations that use their growing market domination and lobbying powers to engage in regulatory capture. This section also estimates the growth of non-financial rents in the form of “surplus” or “excess” profits since 1995. For this purpose, UNCTAD has constructed a database of consolidated financial statements of listed non-financial companies in 56 developed and developing countries (*CFS* database). Section C provides empirical evidence on trends in market power and concentration in

non-financial corporations. Section D explores some core mechanisms that underlie corporate rentierism, such as the strategic use of intellectual property rights (IPRs), tax evasion and the proliferation of public subsidies to large corporations, as well as stock market manipulation to boost compensation for firms’ chief executive officers (CEOs) and top management. Section E concludes with a brief discussion of the mechanisms that facilitate and reinforce the emergence of global rentier capitalism.

B. Rentier capitalism revisited

1. From the landlord to the corporate raider: The origins and impacts of economic rents

Broadly speaking, rents refer to income derived solely from the ownership and control of assets, rather than from innovative entrepreneurial activity and the productive use of labour. The origin of rents and their impact on wider economic performance have been the subject of some debate.

One source of economic rents is the natural scarcity of some economic assets or resources. The obvious example is land. Even though the application of technology to boost agricultural yields or to facilitate the extraction of mineral deposits will increase the market value of land, it is ultimately in fixed supply. This allows its owners to command rental income from its use by others. The argument for rents arising from the scarcity of an asset or economic resource is less convincing when these are reproducible. In this case, specific talents and skills may be temporarily scarce in specific locations and for specific markets, but there is no intrinsic scarcity to justify rental incomes. It is for this reason that Keynes characterized the modern financial rentier as a “functionless investor” who “presumably can obtain interest because capital is scarce, just as the owner of land can obtain rent because land is scarce. But whilst there may be intrinsic reasons for the scarcity of land, there are no intrinsic reasons for the scarcity of capital” (Keynes, 1936: 376).

In Keynes’ observation, rents derived from the ownership of capital are thus the result of artificial scarcity, imposed by “rules of the game” (i.e. property rights, regulations, institutional arrangements

and power relations between stakeholders), which determine who generates an income from privileged access to, and control of, specific assets, and who will have to make a living through traditional entrepreneurial activity or the provision of labour. More generally, “a person gets a rent if he or she earns an income higher than the minimum that person would have accepted, the minimum usually being defined as income in his or her next-best opportunity” (Khan and Jomo, 2000: 21). Standard economic textbooks define this “minimum” in terms of a zero-rent model of perfectly competitive markets in which there are no rents because there is neither market power nor political power. Other approaches, such as in classical and Keynesian economics, question the utility of such an abstract (zero-rent) model. Rents have existed throughout history, but their predominant forms and their weight relative to productive behaviour have changed over time alongside structural economic and socio-institutional change. The relevant benchmark is therefore not some fictitious notion of a world without rents or power, but earlier institutional and economic settings characterized by specific types of rents. In this view, the public face of the rentier has varied over the course of economic history, including landowners and landlords, shareholders, financiers and, eventually, top managers and CEOs of large corporations (box 6.1).

Economists mostly agree that, by and large, rents are unproductive. The exception is Schumpeterian rents (box 6.1), since these do not result from regulatory protection, and are, by definition, temporary. From a neoclassical point of view, other rents are unproductive, since they result from distortions to perfectly competitive, efficient markets. Monopolists, for example, are seen as not contributing to the

growth of the pie, but grabbing a larger share of it, in the process often also destroying wealth, for example through monopolistic restrictions on production (Stiglitz, 2016a). Moreover, the very act of seeking rents imposes additional costs on society in the form of the efforts and resources spent by rent-seekers on gaining access to the rents (Krueger, 1974).

Keynes famously advocated “the euthanasia of the rentier, and consequently, the euthanasia of the cumulative oppressive power of the capitalist to exploit the scarcity-value of capital” (Keynes, 1936: 376). He put his faith in a monetary policy of low long-term interest rates that, in combination with “a somewhat comprehensive socialisation of investment” (Keynes, 1936: 378), would create a large enough capital stock to make rental income from capital non-viable, as well as ensure full employment. Many of Keynes’ ideas to rein in financial rentierism were anticipated in the New Deal policies of the 1930s in the United States (discussed in the next chapter). Similar measures, covering regulations of the banking system, the stock market, labour relations as well as antitrust legislation, were adopted in most Western European economies in the period leading up to, during and after the Second World War. The result was a period of unprecedented growth (averaging almost 5 per cent annually) in these economies between 1960 and 1980, low – and often falling – inequality, and the virtual absence of financial crises. While there are a number of reasons for the strong performance of that period, the repression of rentierism was one of them.

The renewed rise of financial rentierism since then (*TDRs* 1997 and 2015) has been widely blamed on the reversal of regulations relating to the banking and financial sectors, such as the repeal of the Glass-Steagall Act in the United States in 1999. Until recently, less attention was paid to the pervasiveness of predatory rentier behaviour beyond the financial sector and financialized corporate investment strategies. A widely recognized consequence of these strategies has been the systematic favouring of short-term financial returns to institutional shareholders, which has biased investment patterns towards sectors and activities that promise quick returns at the expense of long-term commitments of financial resources to productive activities (*TDR 2016*, chap. V). In addition, these strategies have facilitated the expansion of market power and domination by allowing firms to leverage short-term financial success and high market valuation to engage, for example, in aggressive mergers and acquisitions

(M&As) (Lazonick, 2016). While financial rentierism undoubtedly continues to play a central role, the growing market power of large corporations more generally has led to a proliferation of non-financial corporate rent strategies and to the emergence of a new generation of rentiers (e.g. Standing, 2016; Baker, 2015).⁴

Fast-rising market power and concentration (discussed further in section C) is at least partly another result of the reversal of New Deal-type measures, such as antitrust policies, financial regulations and fiscal policies that were designed to achieve full employment and strengthen labour’s countervailing bargaining powers. New non-financial rent strategies, flourishing on and reinforcing vast market power, include the excessive and strategic use of IPRs to boost profits (see section D.1), as well as what Baumol (1990: 915) referred to as “unproductive entrepreneurship [that] takes many forms. Rent-seeking, often via activities such as litigation and takeovers, and tax evasion and avoidance efforts seem now to constitute the prime threat to productive entrepreneurship”. In addition, abuse of privatization schemes, excessive public subsidies for large private corporations, and the systematic use or abuse of management control over investment strategies to boost senior management remuneration schemes have also been mentioned in the literature (e.g. Lazonick, 2016; Philippon and Reshef, 2009) (section D.2). Furthermore, it has been noted that ground rent is making a significant comeback in the context of housing policies and the expansive debt-financing of mortgages, which have driven up land values and facilitated real asset price inflation (Ryan-Collins, 2017).

Two final observations about debates on rents deserve brief mention, since they have important policy implications. From a neoclassical perspective, rents are mostly the direct or indirect result of State intervention in perfectly competitive markets. On this view, monopolists can only behave as such because States create the rules that allow them to restrict production or increase prices. From an institutional perspective, however, governments are only one of several actors in an economy. Rents result from the power relations between economic interest groups and governments, which determine whether States are able to regulate and negotiate those interests. Market power and lobbying power are therefore as much drivers of rents and rent-seeking as is State intervention. What matters is not that States intervene and regulate, but

BOX 6.1 A brief history of rentier capitalism

The French and British classical economists of the eighteenth and nineteenth centuries considered rent to be a share of the economic surplus product (defined as total or national income in excess of costs of production, including labour costs), alongside profits, interest payments and taxes (see, for example, Fratini, 2016). In the early stages of the Industrial Revolution in Europe, rents and rentiers were primarily associated with incomes derived from the historical ownership of land and mines – a legacy of feudal times. The French Physiocrats of the eighteenth century saw ground rent as income attributable only to the size and location of land – not its produce – and argued that it should be the main source of taxation, since changes to the locational value of land were the result of societal developments, rather than the efforts of individual landowners – a proposition also advocated by John Stuart Mill ([1848] 1884). The political economists of the early nineteenth century, most prominently David Ricardo, took into account the emergence of capitalist farming. Tenant farmers could obtain “differential rents” arising from natural differences in the fertility of farmed land, which nevertheless still represented unearned income, rather than entrepreneurial effort. But with wages assumed to be subsistence wages, it was contractual and institutional arrangements that determined which part of the differential rent went to the tenant farmer and which to the landowner (Ricardo, [1817] 1962: 67–92). At the height of the European Industrial Revolution, Karl Marx argued that agriculture had become commercialized to the extent of largely being subject to the same competitive pressures experienced in other sectors of the economy. Usually, competitive pressures ensure that any surplus or excess profits of individual firms in a sector are eventually eliminated, along with underperforming firms. But when competition is impeded through institutional obstacles or market power, temporary surplus profits can turn into lasting rents, and underperforming firms can carve out a parasitic existence.

Later, Schumpeter pointed out that temporary surplus profits, or rents, could play an important role in facilitating technical progress by compensating innovative entrepreneurs (as opposed to imitators) for risk-taking and initiative. Importantly, these entrepreneurial rents – now generally referred to as Schumpeterian rents – do not require protective regulation such as, for example, IPRs. They are the result of “thinking ahead of the curve”. According to Schumpeter (1942: 84–85), since imitators would eventually catch up, such rents or surplus profits would be only temporary.

Gradually, rents from land and mineral deposits that owed their existence to feudal legacies became less important, while rents resulting from conflicting interests between the main emerging stakeholders in modern market societies – workers, the growing middle classes, financiers and industrialists – became more significant. Whether or not temporary surplus profits would turn into lasting redistributive rents depended primarily on the ability of modern nation States and their elected governments to regulate and negotiate conflicting group interests in the wider public interest, so as to ensure that no particular interest group could prevail for long in its quest for rental incomes.

A pressing concern in the final phases of the European Industrial Revolution was the rise of market concentration and monopoly power as a source of rents – a danger Adam Smith had warned against much earlier. According to Smith ([1776] 1981: 267):

To widen the market and to narrow the competition is always the interest of the dealers. To widen the market may frequently be agreeable to the interest of the public; but to narrow the competition must always be against it, and can serve only to enable the dealers, by raising their profits above what they naturally would be, to levy, for their own benefit, an absurd tax on the rest of their fellow citizens. The proposal of any new law or regulation of commerce which comes from this order ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an

how they regulate, as well as the extent to which their regulation is captured by particular interests.

Moreover, whether or not rents are productive also depends on the wider institutional and macroeconomic setting in which they operate. For example, from a development perspective, temporary learning rents

for emerging industrialists to facilitate late development (Khan and Jomo, 2000) essentially mimic Schumpeterian rents, in that they are based on the recognition that entrepreneurial and technological learning in developing countries require State intervention to enable the emergence of an entrepreneurial class that can eventually compete with developed-country

order of men whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.

These concerns were exemplified a century later by the political battle around the modern shareholding corporation and its defining legal characteristic, namely corporate limited liability.^a Corporate limited liability is seen today as an indispensable requirement for the financing of private investment in the presence of risk (e.g. Hansmann and Kraakman, 2001). At the time, however, the shifting of risk (liabilities) away from shareholders to creditors, employees and society at large was greeted with scorn and widespread opposition. Its adoption in the United Kingdom was driven not by industrialists and large companies, but by rising middle-class rentiers and wealthy investors, who wanted their share of fast-growing industrial and financial wealth without having to shoulder the burdens of entrepreneurship (Ireland, 2010). Opponents like John Stuart Mill and Alfred Marshall shared the public fear that corporate limited liability would come at a high cost to society by making credit provision more difficult, but above all, by facilitating fraudulent investment schemes and generally encouraging excessive speculation. Anthony Trollope's *The Way We Live Now* (1873) is a portrayal of corporate fraud brought on by limited liability and insufficient financial disclosure. Economic scholars' ex post justification of corporate limited liability as an efficiency-enhancing device to facilitate raising capital for large-scale industrial development is certainly not borne out by history. As Deakin (2005) has stressed, the Industrial Revolution in the United Kingdom took place with only very few companies taking advantage of corporate limited liability. Similarly, in Europe and the United States, the use of incorporation and limited liability only became widespread during the very late phase of industrialization.

The rise of the modern corporation leading up to the turn of the twentieth century occurred alongside the vast expansion and deepening of developed countries' financial sectors. Money markets (credit and other financial companies) expanded rapidly, while older financial instruments, such as financiering (the debt-financed acquisition of securities) and call money (money lent to stockbrokers by banks "on call" to finance holdings of stock portfolios in expectation of asset price inflation) were refined (Kindleberger and Aliber, 2011) and new ones invented.^b This period also saw numerous severe financial crises in leading economies (e.g. in France in 1866 and 1882, in the United Kingdom in 1893 and 1896, and in the United States in 1907), culminating in the Great Crash of 1929 and the ensuing Great Depression. Rentiers became identified with the owners of financial assets and receivers of interest, and rentier capitalism with financial rentierism. This understanding of rentier capitalism was given a new lease of life with the growth of financialization under hyperglobalization and the global financial crisis of 2008–2009 (see, for example, Palma, 2009).

^a The legal concept of limited liability governs restrictions on the extent to which owners of economic resources can be held financially liable for damage caused to third parties through the use of these resources. Modern corporate limited liability is based on the legal doctrine of "separate corporate personality", according to which a company constitutes a separate legal entity from its owner-shareholders. If the company fails and/or causes harm, the liability of its owner-shareholders is limited to the nominal value of their shares. The legal principle of "separate personality" has also been extended to the relationship between parent and subsidiary companies, and the protection of limited liability is granted to parent companies with respect to claims against their subsidiaries, independently of the degree to which parent companies own and/or control subsidiary companies.

^b One example is the famous binder cut that established the sellable right to buy land at a stated price in Florida, thereby fuelling the Florida real estate boom that is often considered as having tipped the balance in the run-up to the Great Crash of 1929 (Galbraith, 1954).

rivals. Interventions that create such rents, such as import-substituting or export-promoting policies, were adopted at one time or another in most developing countries, including the successful East Asian economies during their phase of rapid industrialization. Whether or not such temporary State-created rents turn into unproductive distributive rents largely

depends on the ability of the State to rein in demands from interest groups to make such rents permanent (*TDR 2016*, chap. VI). From this perspective, if the corporate rent strategies described above are widely seen as unproductive, an important reason is that these result primarily from corporate regulatory capture in the wake of growing market power.

2. Size matters: How big is non-financial corporate rentier capitalism?

Growing concerns over the renewed rise of rentier capitalism have inspired various attempts to assess the size of such rentier income. In examining trends and cycles in rentier income in some OECD countries, Epstein and Power (2003) approximated such rentier income as deriving primarily from financial intermediation plus interest income for all non-financial non-government resident institutional units. They found that rentier income, thus defined, rose steadily in those countries between the end of the 1970s and 2000. Seccareccia and Lavoie (2016: 207) defined rentier income more narrowly as “the interest return to government long-term bond holders”. Tracing such income from the mid-1920s to 2011 in Canada and the United States, they found that this rose sharply from the late 1970s, followed by a pronounced decline in the second half of the 1990s, and then an upward trend until the global financial crisis of 2008–2009. Phillippon and Reshef (2009) looked at the rise of a financial managerial class in the United States. Analysing the dramatic rise of relative wages in that country’s financial sector from the mid-1980s, they argued that pay at the top end of the “salaried” class, earned mostly by financial managers, is rentier income that results more from dubious remuneration policies and management practices than from education or ability.

These contributions shed some light on increases in rentierism over recent decades, but their focus is essentially on financial rentier incomes (variously defined) in a few developed countries. While this largely reflects problems of data availability, it fails to capture a defining feature of hyperglobalization, namely the proliferation of rent-seeking strategies in the non-financial corporate sector.⁵ This chapter’s estimate of the size of rentier income in recent years, and its evolution, therefore focuses on the non-financial dimension of rentier capitalism, with a view to complementing, rather than replacing, existing estimates of financial rentierism. It also widens geographical coverage to include both developed and developing countries.

The conceptual approach is simple, building on the general approach in economics to define rents relative to some benchmark. Theoretical limitations aside, the zero-benchmark model of perfectly competitive markets is unsuitable for an empirical analysis of contemporary real-world markets, since these markets are

typically characterized by the presence of some degree of market power. Assuming a hypothetical zero-rent benchmark that does not exist in reality would heavily overstate the presence of rents. A more realistic alternative, then, is to define a benchmark that captures typical firm performance in given market conditions. The idea is to measure the gap between actually observed profits on the one hand, and typical or benchmark profits on the other. A positive gap between these two variables means that some firms are able to accumulate surplus or “excess” profits. If this gap persists and grows over time, the measure provides an indication of forces at work that may facilitate the transformation of temporary surplus profits into rents.⁶

Specifically, the analysis here uses the *CFS* database (mentioned in section A above),⁷ which covers non-financial companies listed in 56 developed, transition and developing economies⁸ that provided annual company balance sheet data for the period 1995–2015. The relevant variable for our purpose is non-financial firms’ operating profits.

To establish a benchmark for typical profitability, we use the median value of firms’ rate of return on assets (ROA), or the ratio of their operating profits (“profits” hereafter) to their total assets – a widely used accounting measure of profitability. Since this can depend on sectoral factors, such as sector-specific technologies, the benchmark ROA is defined separately for each sector, rather than for the total universe of firms in the database. In addition, since ROAs can be affected by macroeconomic shocks, the benchmark ROA is calculated separately for three sub-periods within the overall period of observation – 1995–2000, 2001–2008 and 2009–2015 – as these periods are separated by two major financial crises: the dotcom bubble of 2000–2001, and the global financial crisis of 2008–2009.⁹

Typical profits have been estimated for each year by applying the relevant sector- and period- specific benchmark ROA to each firm in the database in that year. Summing these firm-level typical profits provides the total of typical profits by year. These are the profits that would have resulted if all firms in the sample had recorded the benchmark ROA in that year. Surplus profits are the difference between this estimate of total typical profits and the total of actually observed profits of all firms in the sample in that year.

As figure 6.1 shows, the share of surplus profits in total profits grew significantly for all firms in the

database until the global financial crisis, from 4 per cent during the period 1995–2000 to 19 per cent in 2001–2008. It increased again to 23 per cent in the subsequent period, but the increase was much more muted, suggesting that many firms’ ability to generate surplus profits may have been dented by the global financial crisis. The top 100 firms, ranked by market capitalization,¹⁰ also saw the growth of their surplus profits decelerate somewhat after 2008, but even so, by the latest period, 40 per cent of total profits in this group were surplus profits, and these firms had widened their lead over all other firms. This suggests an ongoing process of bipolarization in the distribution of firms in the database into a few high-performing firms and a growing number of low-performing firms, which is confirmed by our analysis of market concentration and productivity trends in section C below.

Clearly, these results need to be interpreted with caution. More important than the absolute size of surplus profits for firms in the database in any given sub-period, is their increase over time, in particular the surplus profits of the top 100 firms. Of course, not all surplus profits may be attributable to corporate rent-seeking strategies in these non-financial sectors,

FIGURE 6.1 Share of surplus profits in total profits, 1995–2015 (Per cent)



Source: UNCTAD secretariat calculations, based on CFS database, derived from Thomson Reuters *Worldscope Database*.

rather than, for example, “Schumpeterian” innovative firm performance. One way of gaining added insight into this question is by looking more closely at market concentration trends and their core drivers.

C. “The winner takes most”: Market concentration on the rise

1. General trends in non-financial sectors

Growing market concentration has attracted renewed attention in recent years. Most studies focus on the United States economy, where many of the largest corporations operating worldwide are based and relevant data are more readily available. Foster et al. (2011) show that the proportion of manufacturing industries in which the four largest firms accounted for 50 per cent or more of the total shipment value of their industries increased significantly, from below 20 per cent in 1980 to over 35 per cent in 2007. In retail, the top four firms operating in general merchandise saw their share in total sales increase from 47 per cent to 73 per cent between 1992 and 2007. Similarly high increases were recorded for information goods. The Economic Innovation Group (EIG) reports that market concentration in terms of revenues increased in two thirds of United States industries between 1997 and 2012. In nearly half of all industries (manufacturing and other), the four largest firms accounted for at least 25 per cent of all industry revenues by 2012,

and in 14 per cent of all industries, the four largest firms captured over 50 per cent of the total revenues (EIG, 2017: 25). Grullon et al. (2017) find that 75 per cent of United States industries experienced greater concentration over the past two decades, and firms in industries with the largest increases in product market concentration also showed higher profit margins, abnormally high returns on stocks and more profitable M&A deals. Furthermore, the increased profit margins were mainly driven by higher operating margins, rather than by increases in operational efficiency, which suggests that market power is becoming an important source of value for companies.

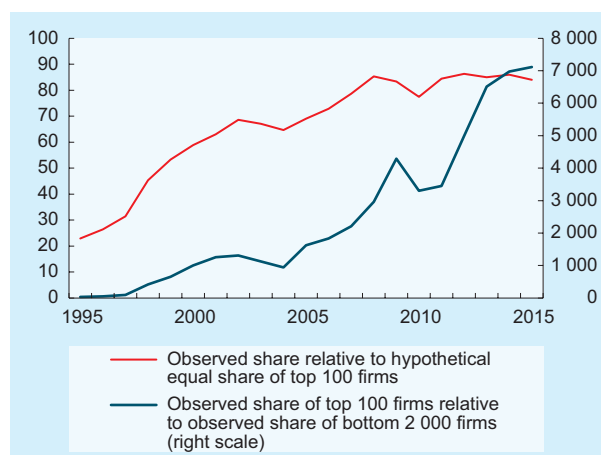
In many instances, large corporations operate across several industries, resulting in the formation of big conglomerates,¹¹ which necessitates the measurement of aggregate concentration. Foster et al. (2011: 6) show that the top 200 United States companies increased their share of total business revenue in the country from 21 per cent in 1950 to 30 per cent in 2008, and their share of total business profits from

13 per cent to 30 per cent between 1950 and 2007. A study of listed non-financial firms in the United States shows that in 2014, returns on capital investment for the 90th percentile of firms were over five times the median, compared with just two times 25 years earlier (Council of Economic Advisers, 2016: 5). This trend towards high market concentration has been accompanied by fast-growing M&A activities, which reached \$4.3 trillion worldwide in 2015 (Dealogic, 2017), up from \$156 billion in 1992 (Nolan, 2002: 133). And since 2008, United States firms alone have gone through several rounds of mergers totalling \$10 trillion (*The Economist*, 2016: 25).

At the global level, the McKinsey Global Institute (2015), using a large database of 28,000 companies, each with annual revenues of more than \$200 million,¹² found that firms with annual revenues of \$1 billion or more accounted for nearly 60 per cent of global corporate revenues in 2013, while only 10 per cent of the world's publicly listed companies accounted for 80 per cent of total profits.

Since the early 2000s, corporations from emerging economies have benefited from fast-growing home markets and associated economies of scale. As a result, several of them feature among the world's largest firms. In 2013, emerging market firms accounted for 26 per cent of the Fortune Global 500, with Chinese firms alone accounting for 20 per cent (McKinsey Global Institute, 2015: 41). The 50 largest emerging market firms significantly expanded their share of revenues from overseas, from 19 per cent in 2000 to 40 per cent in 2013. Meanwhile, global firms headquartered in the United States and Western Europe saw their share in the Fortune Global 500 decline from 76 per cent in 1980 to 54 per cent in 2013 (McKinsey Global Institute 2015:10, 14). Nevertheless, developed-country firms remain the dominant global players in industries that have the highest profit margins, such as pharmaceuticals, media and information technologies (ITs). Their profit margins are bolstered by patents, brands and copyrights, as well as by size, with the most profitable firms also being the larger ones.¹³ In contrast, the focus of emerging market corporations has been less on returns on capital and more on revenue growth and scale. Moreover, they have grown rapidly, and have gained substantial market shares in commodity-based, capital-intensive industries, such as minerals, steel and chemicals, where profit margins have been squeezed since the early 2000s as a result of a rapid expansion

FIGURE 6.2 Ratios of market capitalization of the top 100 non-financial firms, 1995–2015



Source: UNCTAD secretariat calculations, based on CFS database, derived from Thomson Reuters *Worldscope Database*.

of supply. Thus, while the corporate landscape has changed in recent years, multinational enterprises (MNEs) from developed countries still account for most of the transfer of profits across borders. That said, a growing number of emerging market companies are now expanding internationally through M&As by targeting higher technology firms, with the goal of acquiring capabilities, brands and technologies (McKinsey Global Institute, 2015: 6–10, 56).

An analysis of the CFS database yields results consistent with these observations, confirming a sharp increase in market concentration of the top 100 non-financial firms in that database in each year. Figure 6.2 presents market concentration in terms of firms' market capitalization between 1995 and 2015. The red line shows the actual share of the top 100 firms in the database relative to their hypothetical equal share, assuming that total market capitalization was distributed equally over all firms. The blue line shows the observed share of the top 100 firms relative to the observed share of the bottom 2,000 firms in the sample.¹⁴

Both measures in figure 6.2 indicate that the market power of the top companies, as measured by their (relative) shares in market capitalization, increased substantially over the period 1995–2015. For example, in 1995, the combined share of market capitalization of the top 100 firms in the database was 23 times higher than the share these firms would have held had market capitalization been distributed equally across all firms. By 2015, this gap had increased

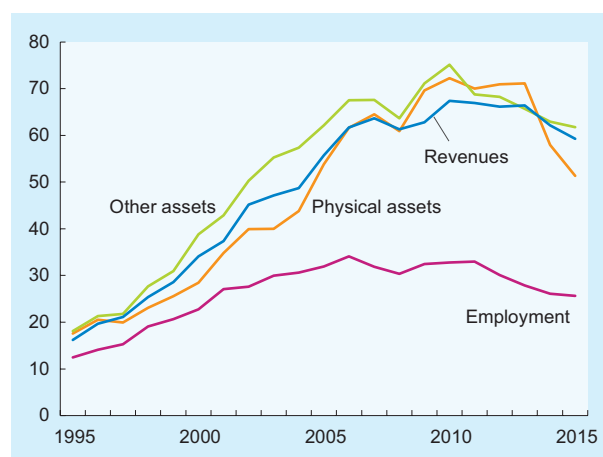
nearly fourfold, to 84 times. This overall upward surge in concentration, measured by market capitalization since 1995, experienced brief interruptions in 2002–2003 after the bursting of the dotcom bubble, and in 2009–2010 in the aftermath of the global financial crisis, and it stabilized at high levels thereafter.

This trend highlights the growing domination of stock market valuation by a few leading firms. While there were many more publicly listed non-financial firms on global markets in 2015 than in 1995, the relative weight and ability of the bottom firms to pose a credible competitive threat to the top 100 firms, as measured by market capitalization, seems to have waned over time. While the market capitalization of the top 100 firms amounted to around 31 times that of the bottom 2,000 firms in 1995, by 2015 the “winner-takes-most” firms were worth 7,000 times more than their smaller rivals. The two main episodes of financial turmoil during the observation period (the dotcom bubble and the global financial crisis) also seem to have accelerated this trend of a growing “market power” gap between the top and the bottom firms.¹⁵

Figure 6.3 breaks down the analysis of market concentration by looking at different aspects of company performance, such as revenues, physical assets, other assets and employment performance, with firms ranked by market capitalization year by year.¹⁶ Revenues refer to firms’ net income in an accounting period, or their “bottom line” (after deducting all operating and non-operating income and expenses, reserves, income taxes, minority interests and extraordinary items). Physical assets refer to net property, plant and equipment; other assets represent total assets minus physical assets, such as financial and other intangible assets, and employment refers to the total number of employees (excluding seasonal or emergency employees). As in figure 6.2 (red line), these concentration indices are simple ratios that measure the observed firms’ shares for these variables relative to their (hypothetical) equal shares. For example, the concentration index for revenues is the ratio of the observed revenue shares of the top 100 firms relative to their equal shares had total revenues been distributed equally among all firms. An increase in this ratio (and equivalent ratios for other variables) signals an increase in market concentration.

It is evident that over the two decades, 1995 to 2015, market concentration increased steeply in terms of revenues, physical assets and other assets. At their peaks in around 2011, observed shares reached 67, 72

FIGURE 6.3 Concentration indices for revenues, physical and other assets, and employment, top 100 non-financial firms, 1995–2015



Source: UNCTAD secretariat calculations based on *CFS* database, derived from Thomson Reuters *Worldscope Database*.

Note: Concentration indices here measure the top 100 firms’ observed share in the specified variable (revenues, employment, physical and other assets) relative to their hypothetical equal share assuming equal distribution of the specified variable among firms. An increase in the indices indicates an increase in market concentration.

and 75 times the respective equal shares, assuming equal distribution of revenues, physical assets and other assets respectively.¹⁷ In contrast, while market concentration also rose in terms of employment, this increase was much less pronounced, flattening considerably following the dotcom bubble of the early 2000s. This widening gap between indicators of market concentration in terms of revenues and assets, on the one hand, and employment on the other, highlights the wider distributional impacts of market concentration. It supports the view that the era of hyperglobalization is one of “profits without prosperity” (Lazonick, 2013; *TDR 2016*, chap. V), and that rising market power and concentration are strong contributory factors to the long-term trend of falling labour shares in global incomes (Autor et al., 2017a; Barkai, 2016).

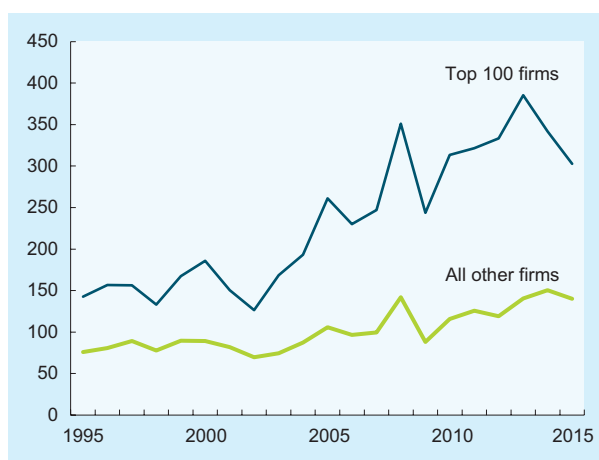
2. Drivers of rising market power and concentration

The degree of competition (or market power) in any one industry largely depends on the barriers to entry for new arrivals, rather than on the incumbent firm’s size per se (Sylos-Labini, 1969). Two basic types of barriers to entry are those that arise from the intrinsic

features of the dominant technology in a sector or industry, and those that arise from institutional factors. A simple example of the first type of barrier is the existence of sizeable economies of scale, typical of almost all modern technology. Contrary to the standard textbook model of perfectly competitive markets, this means that the costs of production do not rise proportionally to the quantities produced. Instead, firms investing in, say, information and communication technology (ICT) or in pharmaceuticals, initially experience high sunk costs (for example in the form of expenditures on research and development (R&D)), after which the variable costs of producing additional units of output are negligible. Since sunk (fixed) costs arise independently of the number of sales by a firm: the higher the firm's sales, the lower its average per unit production costs. Thus, the firm's expansion becomes increasingly profitable. This typically does not lead to pure monopolies, but either to oligopolies (i.e. a few large firms) or monopolistically competitive markets (i.e. a larger number of firms each of which has some degree of market power). The main reason is that a firm's expansion does not take place in a static environment. As firms produce and create jobs, demand for their products changes, both in quantity as well as in terms of specific quality specifications, thus widening existing markets and opening up new related markets. Similarly, their investment activity can have positive learning and network spillover effects to the wider industry, from which potentially new entrants can benefit.¹⁸ The second category of barriers to entry that creates market power is of an organizational, institutional and political nature. This includes firms' control structures, regulatory measures (or the lack thereof) that affect an industry, as well as wider socioeconomic dynamics, such as shifts in the relative bargaining and lobbying powers of core stakeholders in the economy.

A recent example of a technology-driven analysis of rising market power and concentration is the so-called "superstar firm" model (Autor et al., 2017a and 2017b). In contrast to the "trade-cum-technology" explanation of a falling share of labour income in functional income distribution (see chapter II of this *Report*), Autor et al. attribute this trend to a rise in market concentration, enabling a "winner takes most" outcome, "where one firm (or a small number of firms) can gain a very large share of the market" (Autor et al., 2017b: 2). Higher sales concentrations in the industries in their sample were associated with higher productivity performance as well as lower labour shares. They suggest that

FIGURE 6.4 Average labour productivity of the top 100 firms compared with all other firms, 1995–2015
(Ratio of value added to employees)



Source: UNCTAD secretariat calculations, based on CFS database, derived from Thomson Reuters *Worldscope Database*.

Note: A significant number of firms included in the CFS database do not reveal their labour (staff) costs, and have therefore been excluded from calculations for this figure. This is particularly the case for firms in the top 100 category, including new entrants from the health and technology sectors.

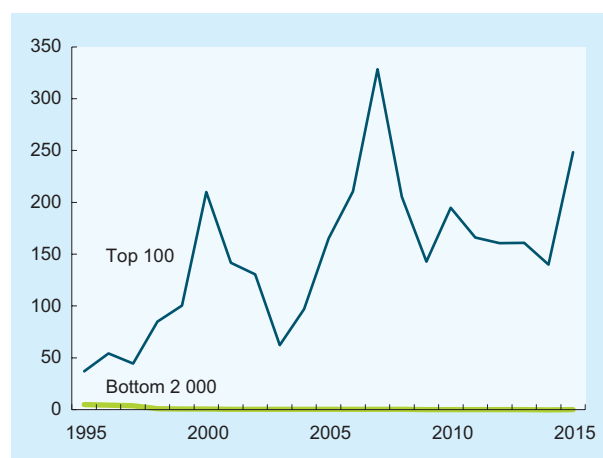
the emergence of such superstar firms is due more to their technological nature than to institutional or regulatory factors. Indeed, high-productivity superstar firms are mostly located in high-technology industries (Autor et al., 2017a: 23), suggesting that large economies of scale (for example in online services and software platforms) and large network effects of information-intensive goods and services (e.g. high switching-over costs for consumers between service providers, the accumulation of large user databases, and thus informational advantages) make it difficult for newcomers to compete with few and fast-growing incumbents (Autor et al., 2017b: 2; Council of Economic Advisers, 2016). On this basis, the decline in the overall labour share in the United States is explained by sectoral shifts towards a few, more capital-intensive superstar firms, and away from a larger number of firms with higher labour shares, rather than firm-level substitutions of capital for labour.

Figure 6.4 provides some support for the idea that the emergence of high-productivity superstar firms, combined with technological barriers to entry, may have played a role in rising market concentration. In particular, after 2002, the productivity performance (here measured by the ratio of value added to number of employees)¹⁹ of the top 100 non-financial firms was

much higher than that of all other firms in the sample, which experienced largely stagnating productivity performance. While the number of software and IT firms in the top 100 firms more than doubled between 1995 and 2015, from 5 to 11,²⁰ reflecting both the dynamism of this sector and its high degree of market concentration, superstar firms are not limited to this sector.²¹

It would, however, be premature to attribute market concentration or the “winner takes most” feature of high-tech markets solely to technological developments and related barriers to entry that produce “natural monopolies” (Katz and Shapiro, 1999). In reality, both types of barriers to entry described above – technological and institutional – interact over time. Large firms can use patent protection (both through in-house research and by acquisition) to raise barriers to entry in an industry and bolster their own market power. Thus, superstar firms benefiting from erecting initial technological barriers to entry can use this advantage to further expand their market power in other ways, for example through pricing strategies that make new entrants non-viable, by systematically buying start-ups with new ideas, and by using their growing lobbying power to prevent regulatory authorities from intervening (see box 6.2). More generally, technological progress can facilitate institutional and organizational changes that enhance firms’ market power, such as with advances in ICTs as well as transportation technologies that have facilitated the emergence of global value chains (GVCs) and the formation of global control networks.²² Both of these have become core mechanisms that have weakened the regulatory powers of nation States and caused the workplace to become more “fissured” (Weil, 2014), along with an erosion of the bargaining power of labour in the era of hyperglobalization. Conversely, regulatory measures (or their absence) and macroeconomic policies can affect the way firms make use of technical progress to reinforce their market power. For example, extensive labour market deregulation in developed countries has facilitated the use of new technologies to “casualize” and monitor labour input, thereby further weakening labour’s bargaining power (Glyn, 2006: 104). In the case of superstar firms, there is, in principle, nothing to stop regulatory authorities from using antitrust legislation and competition policy tools to rein in such “natural monopolies” in the interest of a more balanced and inclusive evolution of high-tech markets, and in the process facilitating faster technological diffusion. The failure to devise and implement such comprehensive

FIGURE 6.5 Mergers and acquisitions, total net assets, 1995–2015
(Billions of constant 2010 dollars)



Source: UNCTAD secretariat calculations, based on CFS database, derived from Thomson Reuters *Worldscope Database*.

regulation constitutes as much of an institutional or political barrier to entry, as does regulation designed to increase protection for industry.

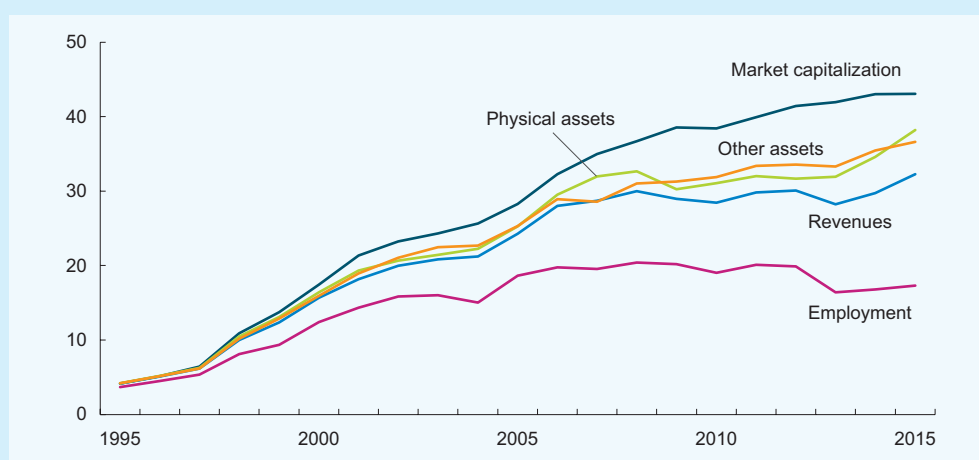
Many commentators (e.g. Kwoka, 2015) have pointed to the weakness of antitrust legislation in the United States and, with some minor differences, in the European Union (EU) since the early 1980s, as a major institutional factor facilitating the accumulation of market power in the hands of a few large firms. The post-1982 approach to antitrust legislation in the United States, inspired by the so-called “Chicago School of antitrust”, essentially limits regulatory challenges to M&A activities, and to instances of increased market power in which it can be proven, on a case-by-case basis, that such activities will unequivocally harm consumer welfare, primarily through higher prices (Stiglitz, 2016a). This has effectively opened the floodgates to heightened M&A activity, but confines such activity to the largest firms (figure 6.5).

Thus, while some of the observed steep increase in market concentration in recent years can be attributed to technical progress and concomitant technological or structural barriers to entry, institutional, political and strategic factors have played a significant role in enhancing lead firms’ market powers, and consequent lobbying powers. This has further tilted the balance of power in their favour, and helped to turn what might appear to be temporary surplus profits driving innovation into rents.

BOX 6.2 The drivers of market concentration in software and IT services

Software and IT services are considered the powerhouse of economic growth, generating large spillover effects on other manufacturing and high-skill service industries. It is, however, also one of the most concentrated industries. Indeed, concentration in this sector increased sharply over the two decades from 1995 to 2015, in terms of revenues and assets (figure 6.B2.1), in line with results for all sectors (see figure 6.3 above). The much lower relative increase in employment concentration also confirms the general trend. Contrary to the all-sample analysis depicted in figure 6.3, this gap between market concentration indices in terms of market capitalization, revenues and assets, on the one hand, and employment on the other, has continued to widen since 2013, indicating support for the hypothesis of a growing predominance of “winner takes most” superstar firms, particularly in this sector.

FIGURE 6.B2.1 Concentration indices of market capitalization, revenues, physical and other assets, and employment, top 30 software and IT firms, 1995–2015

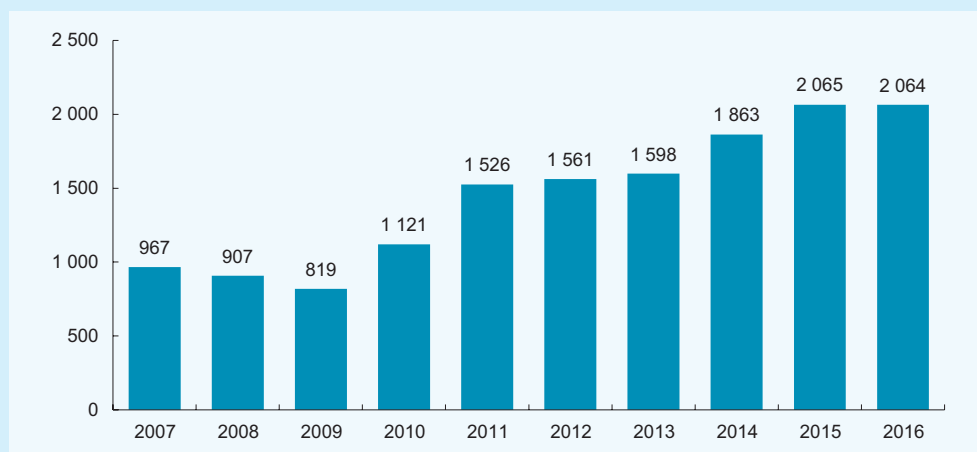


Source: UNCTAD secretariat calculations, based on *CFS* database, derived from Thomson Reuters *Worldscope Database*.

Note: Concentration indices as for figure 6.3.

Apart from primarily technological barriers to entry such as economies of scale, the growing market power of superstar firms has also been driven by institutional or regulatory factors. For example, “other assets” include IPRs, which are an institutional barrier to entry crucial to this information- and knowledge-intensive sector. Furthermore, at least since 2010, the high pace of market concentration in this sector has been driven as much by M&As as by organic corporate growth (see figure 6.B2.2).

This wave of M&As has targeted promising new technology start-ups operating in areas such as cloud computing, open source software and artificial intelligence (Cusumano, 2010). It has also aimed at tightening industry leaders’ grip on online retailing and consumer data. The acquisition by Amazon of the United States chain, Whole Foods Markets, in June 2017 for \$13.7 billion is the most recent example of a superstar firm’s bid to consolidate its already far-reaching domination of online markets and delivery, as well as its access to consumer data (Khan, 2017). There are also acquisitions of new technological developments, such as cloud computing, by only a few lead companies – Amazon’s Web Service, Microsoft’s Azure and Alphabet (Google’s parent company). “Clouds” or server networks increasingly provide the technological and informational infrastructure essential for the delivery of public services (Mahdawi, 2017).

FIGURE 6.B2.2 Number of mergers and acquisitions in the software and IT industry, 2007–2016

Source: Compilation from Berkery Noyes, Mergers and Acquisitions (several trend reports).

Such domination by very few private companies dealing in data and technological gateways poses obvious dangers to the future provision of both public services and a growing number of private services, with online retailing being only the start. Yet antitrust laws in the EU^a and the United States have proved too weak to curb such unprecedented market power. In addition to a general shift in the focus of antitrust legislation since the 1970s – from an integrated view of the various dimensions and impacts of market power on the wider economy and society, to a relatively stunted policy tool to keep prices low for consumers – antitrust authorities have been inclined to adopt a lenient “wait-and-see” approach, particularly with respect to the software and IT services sector. Regulators appear to have assumed that Schumpeterian dynamics of creative destruction would do their job for them. Their hope is that market power, which is initially required to compensate high-risk innovators for their large R&D outlays, will eventually be eroded by later imitators flooding standardized markets (e.g. Barnett, 2008).^b While the fast pace of technological developments in the sector undoubtedly poses a challenge to regulators, “Big Tech” has not hesitated in using its growing market powers to lobby lawmakers. The Internet and electronics industry is now one of the largest corporate lobbyists in the United States, in addition to funding an array of non-governmental organizations with differing agendas to help argue their case, or at least not oppose it (Feroohar, 2017). The overall lax enforcement of antitrust legislation stands in stark contrast to the stringent implementation of intellectual property laws (Walsh, 2013).

^a This is notwithstanding EU regulators’ imposition of a record €2.4 billion fine on Google in June 2017 for abusing its dominant position as a search engine to promote its own comparison shopping over that of competitors.

^b For example, Barnett (2008: 1200), the then Assistant Attorney General for the United States Department of Justice Antitrust Division, argued that “since dynamic efficiency is crucial, preserving innovation incentives is one of the most important concerns of U.S. antitrust law. This can mean bringing an action to prevent conduct that reduces innovation or it can mean declining to act where overly aggressive antitrust enforcement risks chilling the type of vigorous, innovative competition that brings long-term benefits to consumers. In this regard, we recognize that when innovation leads to dynamic efficiency improvements and a period of market power, it is not a departure from competition, but it is a particular type of competition, and one that we should be careful not to mistake for a violation of the antitrust laws.”

However, lax antitrust legislation is far from the only, or even the main, source of such rentierism in non-financial firms. Subsequent sections take a

closer look at other major institutional and regulatory mechanisms that have fuelled the rise of rent strategies in non-financial private investment activities.

D. Corporate non-financial rent strategies

1. *Making knowledge scarce: Strategic use of patent rights*²³

There is evidence in evolving IPR frameworks of a growing bias towards the excessive protection of private investor interests, often at the expense of wider public interests. The use (and abuse) of IPRs (patents, copyrights and trademarks) has become one of the main means of enhancing market power, and thereby generating and appropriating more and higher rents. The practices, policies and regulations relating to the granting of IPRs have become the subject of intense scrutiny and debate in recent years (Standing, 2016; Patterson, 2012). This debate touches upon the fundamental question of whether, in the context of the growing importance of knowledge- and information-intensive production and exchange, “the knowledge factor” continues to provide the basis for the granting of IPRs, particularly patents.

(a) *Intellectual property right rents and the abuse of market power*

It is now widely known that substantial lobbying by the patent community has been a primary force in the steady privatization of IPR rents since the 1990s.²⁴ Some authors (e.g. Drahos, 2003; Bessen and Meurer, 2008) have gone so far as to argue that IPRs have become subject to regulatory capture by large companies dominating the knowledge-intensive industries with a view to raising institutional barriers to entry, and thus defending or expanding their market power. Two regulatory developments in the area of IPRs have played an important role in promoting this trend towards their strategic, rather than productive, use: the excessive strengthening of patent protection (i.e. broadening the scope of patents, allowing discoveries to be patented and extending the lives of patents), and the expansion of intellectual property (IP) protection to cover newer areas (Patterson, 2012). Obvious examples of the first development are “evergreening” strategies adopted by global pharmaceutical firms, which seek to lengthen the patent lives of drugs on questionable economic grounds.²⁵ Examples of

the expansion of IP protection to new areas include the rise of financial and business method patents (box 6.3), as well as patents on life forms and on developments in software (Lerner et al., 2015).

As a result of reforms favouring IPRs in these new areas, patent filings that stood at one million in 1995 had more than doubled by 2011, with applications for utility models (see box 6.3) increasing more than fourfold, and industrial design and trademark applications more than doubling (Fink, 2013: 41, based on data from the World Intellectual Property Organization). Globally, around 10 million patents were in force in 2014, worth (on one estimate) around \$15 trillion (Standing, 2016: 52). But since global R&D productivity has been declining over the same period (Fink, 2013), these trends suggest that IPRs, particularly patents, are being used disproportionately to benefit incumbent firms in core and secondary markets (Bessen and Meurer, 2014). According to the OECD (2015a: 32), the “average technological and economic value of inventions protected by patents has eroded over time”, and the legal right to exclude others has become broad and susceptible to abuse (Drexler, 2008).

Two particular practices are worth highlighting in this context: patent thickets (the acquisition of overlapping patents to cover a wide area of economic activity and potential downstream inventions) and patent fencing (excessive patenting with the intention of cordoning off areas of future research). Both of these lead to expanded patent protection over entire technological domains, and guarantee continuing economic advantages to incumbent firms in technology sectors. In a well-known case, Google bought Motorola solely for its patent portfolio. Although it incurred a hefty loss from the resale of parts of the Motorola business, Google clearly thought that a cost of an estimated \$2.5 billion–\$3.5 billion for Motorola’s collection of patents was a worthwhile investment (OECD, 2015a: 30). As noted by one observer, “The vast bulk of patents are not only useless, they don’t represent innovation at all. They are

BOX 6.3 Changing standards of patentability and the rise of financial and business method patents

Financial and business method patents loosely refer to utility models^a granted to inventors in finance, e-commerce, marketing and the computer sciences industry (Locke and Schmidt, 2008). They concern methods that are not tied to any particular technological product or process, but involve steps to process data and information purely in the electronic medium.

Since 1998, when the United States patent regime opened IPR protection to financial and business services, there has been a remarkable surge in the patenting of financial innovation. Studies estimate that over 600 patents in this category have been successfully filed annually in the United States since 2000 (Locke and Schmidt, 2008). While the main beneficiaries of a financial or business patent are financial institutions, insurance companies and e-commerce, such patents are increasingly popular in the wider service and marketing industries and distribution networks.

Business and financial method patents are not clearly defined and cover a broad range of firms' organizational activities, including: financial processes (i.e. credit and loan processing, point-of-sales systems, billing, funds transfer, banking clearing houses, tax processing and investment planning); financial instruments and techniques (derivatives, valuation, index-linking); marketing (advertising management, cataloguing systems, incentive programmes, including coupon redemption); information acquisition, human resource management, accounting and inventory monitoring; e-commerce tools and infrastructure (i.e. user interface arrangements, auctions, electronic shopping carts, transactions, and affiliate programs); and voting systems, games, gambling, education and training (Hall, 2009).

The rise of these kinds of patents has spurred a number of outcomes of doubtful public interest. An infamous example is Amazon's 1-click checkout patent, granted in 1997 by the United States Patent and Trademark Office and due to expire soon, but recently refused by the European Patent Convention authorities on the grounds that patents for business methods are not permissible unless an innovative technological component is clearly identifiable. Financial sector firms have added in-house patenting offices, and United States financial patents have increased their licensing revenues from overseas markets (Hunt, 2007). Most of the largest global financial institutions, including commercial banks, investment banks, insurance companies and financial exchanges, are the main beneficiaries of financial/business method patents. Banks were the last to jump on the bandwagon, starting only in 2008, but the Bank of America, for instance, filed for 235 patents in 2011, putting it in the list of the top 300 companies granted patents in 2012 in the United States (Cumming, 2015).

Several countries, including Australia and Japan, now allow some forms of financial and business method patents.

^a Utility models are similar to patents, but grant a more limited exclusive right. They are sometimes referred to as "short-term patents", "utility innovations" or "innovation patents".

part of an arms race" (Boldrin and Levine, 2012, quoted in Standing, 2016: 57). Given the obvious economic advantages of owning patent portfolios, patent trolling (i.e. the buying up of unexploited or undervalued patents by non-innovator firms for their anticipated value) has also been on the rise, and there is evidence linking increased litigation in software and chemical sectors in the United States to the presence of patent trolls (Miller, 2013). In another well-known case, Qualcomm Inc., a firm in the wireless telephony sector, is defending itself in a United States Federal Trade Commission (FTC) antitrust suit against claims that it leveraged its position as the owner of essential patents for wireless phones and related electronic devices to impose unfair licensing terms on customers and drive out

competing manufacturers. The ongoing case provides a glimpse into the potential for abuse through trolling in the United States market. It also underscores how such anti-competitive effects can be devastating when firms enjoy similar IPR privileges in many countries: Qualcomm was already fined \$853 million by the Korean Fair Trade Commission in 2017, and complaints against the company are pending in China and Taiwan Province of China (Fildes, 2017).

These concerns about the growing strategic use of IPRs also extend to the superstar firms discussed in section C. Doubts have been raised about the nature of the "blockbuster" inventions to which these firms often owe their reputation. This would suggest that, rather than representing genuine technological

breakthroughs, these inventions may only turn into “blockbusters” because they cover broad and patent-protected technological uses on which other firms depend to survive and invent in core and secondary markets (Lemley, 2015).

(b) Patent power at work in developing countries

The aggressive expansion of patent rights by multinational enterprises (MNEs) to fend off rivals abroad and establish market shares has been facilitated by the proliferation of free trade agreements (FTAs). A range of regulatory reforms are often contained in these agreements, which aim to bring the patent regimes of signatory countries broadly in line with United States standards in terms of scope and coverage, including IPRs, investment regulations and rules regarding the digital economy (Gehl Sampath and Roffe, forthcoming).²⁶ While some of these treaties incorporate exceptions on grounds of public interest and innovation, often these are not clearly specified and are difficult to utilize in practice.

One way of gaining a broad insight into the role played by patent reforms in developing countries is to look at their impact on the economic performance of MNEs in developing-country markets. If patents confer an unfair market advantage, the effects can normally be captured by examining growth in sales, rates of return, or other such variables at the firm level, after controlling for country- and sector-level effects. A study undertaken for this *Report* used data for United States MNEs and their foreign affiliates in Brazil, China and India covering three sectors (ICT, chemicals and pharmaceuticals) that are perceived to be both patent-intensive and highly concentrated.²⁷ The results show that in the United States market (including United States MNEs and foreign affiliates operating in United States markets), a growing concentration of patent ownership (rather than the number of patents per se) contributed significantly to product market concentration. In Brazil, China and India, the study reveals that increasing patent protection was associated with increases in sales per worker in United States MNE affiliates,²⁸ but not in listed local companies (box 6.4).

Econometric analysis shows that the ROA (here calculated as net income to total assets) of United States MNE affiliates operating in these markets responded strongly to the strengthening of patent rights:²⁹ a 1-per cent increase in the index of patent protection across sectors and countries was associated

with a 1.14-per cent overall increase in the ROA of these MNE affiliates. The increase in those affiliates’ profitability rose to 2.1 per cent after controlling for firm-level labour productivity effects, but it did not significantly affect their R&D expenditure in the local markets. This suggests that patent protection for these firms may be excessive; a decrease in patent protection would lower the profitability of the affiliates but would have no effect on their R&D activity in local markets (see also *TDR 2005*).

In the absence of data on market concentration for these three countries, the analysis used market ratio as a proxy, calculated as the total sales of United States MNE affiliates relative to the total sales of local publicly listed companies in that sector. This market ratio helps to measure the slice of the local market captured by the MNE affiliates relative to local firms. The larger the ratio, the more dominant are the affiliates in the local market. The study finds that in all the three sectors of interest, profitability rises with relative market size. The net impact of a firm’s relative market size on its rate of return is positive and highest for the chemicals sector and lowest for the pharmaceutical sector, as the MNE affiliates face greater competition from the local drug industries of China and India, and to a lesser extent, Brazil.

This provides evidence of the interplay between incumbent advantages for United States MNE affiliates in terms of relative market share, and their profitability increases due to greater patent protection.

The effect of a 1-per cent increase in IPR protection on MNE affiliates’ ROAs is highest in the Indian ICT market, where it leads to a 2.1-per cent increase in the rate of return. This shows that in the software sector, despite the short technology cycles, patents help to cement the incumbent advantages that the MNE affiliates would not otherwise have enjoyed in the context of relatively strong local competition. A strengthening of patent rights also has a positive effect on those affiliates’ ROAs in the chemicals industry, but the response is less elastic, and once again highest in India, with a 1.1-per cent rate of return. In the pharmaceuticals industry, patent rights had the lowest effect in Brazil, where MNE affiliates have had long-term leads over increasingly weakened local competitors. In contrast, in China and India, where there is competition from local firms, a rise in patent protection has clearly been more instrumental in protecting the returns of the United States MNE affiliates.

BOX 6.4 Patent reforms and sales per worker of United States MNE affiliates and listed local companies in the chemical and pharmaceutical sectors in Brazil, China and India

Brazil, China and India have well-established local production in the chemical and pharmaceutical sectors, which therefore serve as good examples of the impact of patent protection on the relative performance of local and foreign firms. Figures 6.B4.1A–C show the sales per worker of United States MNE foreign affiliates and companies with local headquarters that are listed in the BEA database.^a It is evident that sales per worker of United States MNE affiliates (hereafter referred to as MNE affiliates) showed a clear overall increase following greater patent protection in all three countries, as measured by the Park index.^b This was not the case for listed local companies: in both Brazil and India, sales per worker in these companies were lower in 2016 than in 1996, and in China initial increases petered out after 2012.

In Brazil, the two domestic IPR reforms of 1997 and 2001 are captured in the patent index measured on the axis of figure A. Following these reforms, sales per worker of the MNE affiliates outperformed those of local companies, where sales per worker declined with stronger IPR protection, and remained flat thereafter.

India had a strong industrial policy stance and had limited IPRs for process patents (rather than product patents) in the pharmaceutical sector, and these only for seven years, until 2005. However, even before the full implementation of the provisions of the WTO Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) in 2005, the sales of MNE affiliates grew rapidly from 1998, largely due to the TRIPS “mailbox” provision.^c After 2005, when product patents for drugs were introduced, sales per worker of the MNE affiliates more than doubled, whereas sales per worker in local companies were stagnant throughout the period, and declined after 2010, despite a resilient local pharmaceutical sector.

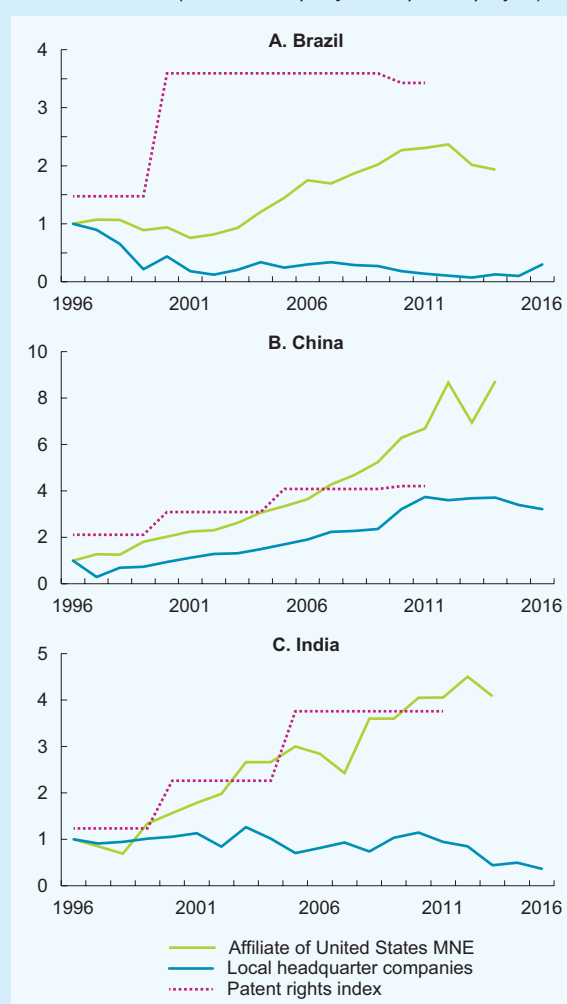
In China, increases in the median sales per worker of MNE affiliates in the chemical and pharmaceutical sector clearly followed the strengthening of the country’s patent regime. There was greater volatility in sales per worker for these affiliates after 2012, when the sales per worker of local firms also stagnated.

^a Given the relatively small number of United States pharmaceutical companies’ affiliates in developing countries, pharmaceutical firms were pooled with non-pharmaceutical chemical firms. These broad trends in local company performance are confirmed by other studies on Brazil (Caliari and Ruiz, 2014), China (Deloitte, 2011) and India (Joseph, 2015).

^b Patent reforms were captured using an updated version of the comprehensive patent rights index detailed in Park (2008). This patent index is the unweighted sum of five separate scores for: coverage (inventions that are patentable), membership in international treaties, duration of protection, enforcement mechanisms and restrictions (e.g. compulsory licensing in the event that a patented invention is not sufficiently exploited).

^c This refers to the provision in the TRIPS Agreement that allows firms to file for patents in developing countries that have not already implemented patent protection for pharmaceutical product inventions that are “in the pipeline”; those patents are to be granted by the country when it becomes fully TRIPS-compliant. The least developed countries (LDCs) can now benefit from the transition period until 2033 without providing mailbox provisions (Least Developed Country Members – Obligations under Art. 70(8) and Art. 70(9) of the TRIPS Agreement with respect to Pharmaceutical Products, Decision of 30 November 2015, General Council Document WT/L/971).

FIGURE 6.B4.1 Patent reforms and sales growth of United States MNE affiliates and listed local companies, 1996–2016
(Median company sales per employee)



Source: UNCTAD secretariat calculations, based on BEA, Thomson Reuters Eikon (TRE) databases; and Park, 2008.

Note: Sales are median sales per worker in real 2009 dollars. The sales per worker series are normalized, setting these to a value of one for the initial year of the period of observation computed for each host country and industry pair. The local companies considered here are only the publicly listed companies in the TRE database.

Overall, changes in patent protection regimes have had a positive impact on the affiliates' relative sales and profitability performance in these emerging markets. It is not just patent activity that matters, since local companies in Brazil, China and India have also increased patenting across the three sectors surveyed in recent years. What also matters is the concentration of patent ownership in the hands of MNE affiliates, as shown by the analysis using the example of United States MNE affiliates. This, above all, helps to raise their profitability by strengthening incumbent advantages. Therefore, the case for curbing patent reach and scope cannot be emphasized enough. In all three countries – Brazil, China and India – despite relatively competitive markets, patent grants have cemented the affiliates' incumbent advantages in different ways, depending on country-specific factors. In less competitive developing countries or sectors, future outcomes could be devastating if these trends are allowed to continue unchecked.

2. *Raiding public sectors and manipulating markets: The "looting" business*

In a seminal paper on "Looting" in the context of financial crises in the 1980s, and in particular, the Savings and Loan episode in the United States, Akerlof and Romer (1993: 2) argued that deliberate "bankruptcy for profit will occur if poor accounting, lax regulation, or low penalties for abuse give owners an incentive to pay themselves more than their firms are worth and then default on their debt obligations". However, under such conditions, "looting can spread symbiotically to other markets, bringing to life a whole economic underworld with perverse incentives" (ibid: 3). A core concern of those arguing that a new form of rentier capitalism is on the rise under hyperglobalization is precisely that this "economic underworld" has been allowed not only to creep to the surface, but also to drain public resources directly – rather than only indirectly – by relying on the guarantor role of governments to pick up the tab from bad investments.

(a) *Privatization and subsidies*

Privatization, or the transfer of State-owned enterprises (SOEs) to private ownership, gained prominence with the United Kingdom's privatization programmes of the early 1980s, and soon after it was widely adopted throughout the world, including in many developing and transition economies. Strongly encouraged by

many international organizations, privatization was expected to improve management practices, increase efficiency and break monopolies, thereby generating net welfare gains. However, instead, many privatization programmes became highly effective vehicles to boost corporate monopoly rents. In some cases, the privatization of SOEs in monopoly industries such as oil, gas and public utilities was preceded by corporate debt restructuring and cost-cutting, and involved strong undervaluation of the assets put up for sale in order to attract buyers (Harvey, 2005). Initially, many such privatization schemes produced new industry players and reduced market concentration by breaking up large State monopolies (Rocha and Kupfer, 2002). However, the widespread lack of a concomitant strengthening of industry oversight enabled the newly privatized companies to retain and grow monopoly power, at times generating exorbitant rents for their new owners. In some cases, this contributed to the growing internationalization of corporate ownership, with foreign investors taking control of major local beneficiary companies of privatization (Ferraz and Hamaguchi, 2002) and transferring rents back home. A well-known example is the privatization in 1990 of the Mexican telecommunications company, Telmex. In addition to tax benefits, Telmex was granted a six-year exclusivity contract over the entire sector. It took more than five years for a regulatory framework and watchdog to be established in Mexico. Meanwhile, monopoly rents secured in the Mexican market allowed the new private owner to finance the expansion of its telecommunications group, America Movil, to an extent that it is now the largest provider of wireless communication services in Latin America (MarketLine, 2016) and the largest non-financial Latin American MNE (Perez-Ludeña, 2016). However, this process has brought few benefits to Mexico, whose consumers were estimated by the OECD to have been overcharged \$25.8 billion annually between 2005 and 2009, equivalent to 1.8 per cent of Mexico's average annual GDP during this period (Stryszowska, 2012).

Privatization, broadly defined, may take other forms than the full transfer of ownership from the State to private actors, such as contractual and intermediate forms of public-private partnerships (PPPs),³⁰ including private finance initiatives (PFI), whereby the private sector provides the capital for investment in a given project and then manages it (Titolo, 2013). Cash-strapped governments, in both developed and developing countries, have promoted such initiatives, rather than trying to increase tax revenues to finance

public capital expenditure. Across the world, PFIs now cover a wide range of social service delivery, such as health facilities and schools. However, the consequence has been the creation of streams of annual rental charges that imply future increases in public expenditure, which might weaken the State's capacity to provide social welfare in the future (*TDR 2014*; Shapiro, 2017). Other forms of PPPs, such as leases and concessions, have been employed primarily in the context of a de facto privatization of physical infrastructure. In the case of lease agreements, contract arrangements generally include compensation clauses, or non-compete and adverse action clauses, committing governments to pay up in the case of unexpected events, and prohibiting them from investing in competing infrastructure projects. In addition, such clauses give contractors the right to oppose any government policy that may affect their profitability (Titolo, 2013).

Benefits for the wider public in terms of efficiency from such arrangements have been scarce. A recent study of the water industry in the United Kingdom (Bayliss and Hall, 2017), for example, found that end-users of water and sewage services were paying around 2.3 billion pounds sterling more a year to the private owners of water companies than they would have, had the companies been under State ownership. Similarly, in France, it was estimated that in 2004, the price of water provided through PPPs was 16.6 per cent higher than that provided to communities by public municipalities (Chong et al., 2006). And there is evidence that PPPs engaged in road projects across Europe are, on average, 24 per cent more expensive than similar projects run by public agencies (Blanc-Brude et al., 2006).

Beyond privatization programmes, large corporations have also increasingly benefited from various forms of public subsidies, such as selective tax rates, tax breaks of various kinds, bailouts and direct subsidies, without obvious benefits for taxpayers. Direct subsidies to support specific sectors in difficulty or to promote specific types of activities can end up being extremely regressive transfers. For example, agricultural subsidies are one of the largest per capita transfer programmes in the United States. It has been estimated that around 75 per cent of total subsidies go to 10 per cent of farming companies, including Riceland Foods Inc., Tyler Farms and Pilgrims' Pride

Corp., as well as to MNEs such as Archer Daniels Midland, Cargill and Monsanto (*The Week*, 2013), and just the top three recipients (all agribusiness companies) received more than \$1 billion in United States government subsidies between 1995 and 2014.³¹ Similarly, almost all of the subsidies still paid to the United Kingdom under the EU's Common Agricultural Policy – around 3.6 billion pounds sterling annually – go to the 10 per cent richest farmers (Standing, 2016: 104).

As the case of the United States oil and gas industry illustrates, such subsidies have a habit of persisting beyond their original purpose. Most subsidies in this sector originated in the early twentieth century, when they were designed to attract capital to a sector with high risks of technological failures and accidents. But they have persisted to the present, long after technology has greatly reduced such risks (Hsu, 2015). G-20 countries spent, on average, \$70 billion annually in subsidies for fossil fuel production in 2013 and 2014, with the United States being the biggest spender, at around \$20 billion (Bast et al., 2015). Despite clear evidence that the elimination of tax subsidies in this sector in the United States would have only a negligible, if any, impact on fossil fuel production (Allaire and Brown, 2009), those subsidies remain intact thanks to lobbying efforts and campaign contributions by corporate stakeholders.

There is a long list of recent subsidy deals for large corporations across a large number of sectors and developed countries, without obvious benefit to taxpayers (Young, 2016). In addition, tax breaks reduce companies' tax bills for certain types of spending, and are equivalent to direct transfers, but are less visible than increases in public spending. In practice, these tax breaks are often captured by powerful corporations, but have not induced significant changes in investment. For example, in 2010, tax breaks in the United States reduced the statutory corporate tax rate of 35 per cent to an average effective rate of 12.6 per cent, allowing corporations to capture more than \$180 billion annually (United States Government Accountability Office, 2013). This needs to be seen against the background of steadily falling corporate tax rates under hyperglobalization, from roughly 40 per cent in 1980 to below 25 per cent in 2013 (IMF, 2014), even as investment rates have declined (*TDR 2016*, chap. V).

(b) Tax avoidance: Base erosion and profit shifting (BEPS) practices

Another example of the misuse of corporate power, while not strictly classified as rent-seeking, also shows how large companies can slip through regulatory cracks and exploit differences in national laws to deny resources to public authorities, and thereby to citizens. The growing ability of MNEs to avoid taxation (as opposed to outright tax evasion, which would be illegal) has been a public concern for some time. BEPS practices include profit shifting – primarily through transfer pricing – along global production chains controlled by MNEs, and the exploitation of gaps and mismatches in national tax rules and regulations (*TDR 2014*, chap. VI; OECD, 2015b). There are no precise and comprehensive global estimates of the extent of BEPS practices, in part because MNEs as well as many governments, particularly in developed countries, have successfully resisted attempts to make country-by-country reporting (CBCR) of core financial company data, including taxes paid, publicly available (Cobham and Jansky, 2017). In the absence of adequate CBCR data that would enable comparisons across countries, and thus allow systematic detection of mismatches, establishing a global baseline for the extent of profit misalignment and tax avoidance is not possible.

Nevertheless, rough estimates of revenue losses due to BEPS practices can be attempted. One recent study suggests that, globally, such losses amounted to 4–10 per cent of corporate income tax revenues (OECD, 2015b: 136–181), corresponding to an accumulated revenue loss of \$0.9–\$2.1 trillion between 2005 and 2014. Of these, about two thirds are estimated to have been due to profit shifting, and the remaining third to mismatches between tax systems and preferential tax treatment. Crivelli et al. (2015) suggest that global revenue losses due to profit shifting by MNEs may have amounted to around \$600 billion in 2013 alone, taking account of the fact that the impact of profit-shifting on public revenues may be felt only with some delay. Zucman (2014) found that the proportion of the profits made by United States firms domestically and abroad that were held in tax havens rose tenfold between the early 1980s and 2013. UNCTAD (2015) has estimated that developing countries are losing \$100 billion annually in tax revenues owed by MNEs, solely from their use of offshore hubs as an investment conduit. Given developing countries' greater reliance on corporate tax revenues, as well as their weaker enforcement capabilities, it is likely

that their loss of public revenues from such practices is proportionately larger than that of developed countries.³²

(c) The value-extracting CEO

With market concentration levels as high as described above, CEOs and top managers of large corporations have considerable power over the allocation of economic resources. Misuse of this power, for example to artificially drive up shareholder value in the short term through stock market speculation, rather than to promote productive longer term investment, can have adverse consequences for the economy as a whole (*TDR 2016*, chap. V). It has been argued that such stock market manipulation for rent-seeking purposes increasingly serves to line the pockets of not only rentier shareholders, but also, above all, of the “value-extracting CEOs” themselves (Lazonick, 2016). The main vehicle of this form of managerial rentierism is the practice of stock buybacks that boost the compensation packages of CEOs (a large part of which is usually in the form of stock options and awards), but do little or nothing to improve innovation and, more generally, companies' productivity. Using the Standard & Poor's Executive Compensation database, Lazonick found that highly paid corporate executives from financial as well as non-financial sectors were “very well represented” among the top 0.1 per cent of United States income receivers, with an average income of \$7.5 million in 2012. Of this, 64 per cent consisted of realized gains from stock-based compensation (Lazonick, 2016: 22). Other research also shows that such exorbitant rents, and their steep growth over time, were unrelated to talent or to the expansion of a company's production and market shares, thus contributing to growing income inequalities (Keller and Olney, 2017).

As Lazonick (2016: 15–16) points out, this turn to (managerial) rentierism is anything but insignificant: “Over the years 2006–2015, the 459 companies in the S&P 500 Index in January 2016 that were publicly listed over the ten-year period expended \$3.9 trillion on stock buybacks, representing 53.6 percent of net income, plus another 36.7 percent of net income on dividends. Much of the remaining 9.7 percent of profits was held abroad, sheltered from U.S. taxes.”

The explosion of share buy-backs as the core strategy to boost a company's market valuation (as opposed to financing productive investment from retained earnings and paying dividends to shareholders),

particularly in the United States, has pernicious effects, in addition to the impact of absurdly high CEO compensation, on overall income distribution. The short-term financial success of companies engaging in this strategy often forces firms that began with a more productive approach to investment planning, to

follow suit in order to compete on the stock markets. It also strongly reinforces more general financialized investment strategies by which companies distribute more than their total income to shareholders, and use debt and the sale of assets to refinance their investments (Lazonick, 2016).³³

E. Conclusions

This chapter has highlighted the emergence of a new form of rentier capitalism as a result of some recent trends: highly pronounced increases in market concentration and the consequent market power of large global corporations, the inadequacy and waning reach of the regulatory powers of nation States, and the growing influence of corporate lobbying to defend unproductive rents (Drutman, 2015; George, 2015). These factors are closely related, creating a vicious cycle of underregulation and regulatory capture, on the one hand, and further rampant growth of corporate market power on the other. Panic (2011) has described this self-reinforcing dynamic of the interplay between lobbying and market power as one between the institutionally determined integration of the global economy and its spontaneous integration. Institutional integration has been led by nation States advocating and adopting both national and international policy frameworks to govern the global economy and economic integration. Spontaneous integration refers to the international division of labour “achieved mainly through the actions of multinational corporations in pursuit of their corporate interests and objectives” (ibid: 4). As spontaneous integration progresses, its main protagonists begin to shape institutional integration to further their own interests and objectives. As the chapter argues, once institutional countervailing powers – such as those of nation States, civil society and labour organizations – have been weakened, corporate rentierism has flourished. More generally, this raises the possibility

of a “Medici vicious circle, where money is used to get political power and political power is used to make money” (Zingales, 2017).

A major arena in which the rising tension between the powers of corporations and nation States is being played out, is in bilateral and regional trade and investment agreements. In the absence of decisive multilateral action to redress the growing economic and power imbalances at the heart of the global economy, supranational regulatory frameworks covering a wide range of economic policies – IPR regimes, industrial policy and public procurement policies foremost amongst these – are being shaped by corporate rentier interests, rather than by considerations of wider public interests.

In a context in which the “revolving doors” of economic and political power keep turning frantically (LaPira et al., 2017), it will not be easy to rein in corporate rentierism and cut through regulatory capture in order to promote inclusive growth. As a general starting point, there is growing recognition that both knowledge and competition are public goods (Stiglitz, 2016b), and that policies designed for their use need to take into account distributional objectives and impacts.³⁴ But, as discussed in the next chapter, it will require the countervailing power of a well-functioning intergovernmental machinery to eradicate the “economic underworld” of global corporate rent-seeking. ■

Notes

- 1 For a more detailed discussion of Prebisch's contribution, see Toye and Toye, 2004.
- 2 Royal Swedish Academy of Sciences, The Science of Taming Powerful Firms, 13 October 2014 (see: http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2014/press.html).
- 3 See, for example, Baker, 2015; *The Economist*, 2016; Standing, 2016; Stiglitz, 2016a; Zingales, 2017.
- 4 Thus, Piketty, for example, suggests that we may have gone from a "society of rentiers", by which he means the Keynesian financial rentier, to a "society of managers" (i.e. highly paid top managers and CEOs of large corporations) (Piketty, 2014: 276).
- 5 A recent exception is Keller and Olney (2017), who examined executive pay in firms in the United States between 1993 and 2013 and found that globalization had enhanced their ability (particularly that of the larger firms) to capture rents.
- 6 For a detailed technical discussion of the construction of this measure and comparisons with alternative measures using company level data, see the online annex to this chapter at: <http://unctad.org/tdr2017/Annex>.
- 7 The data are extracted from Thomson Reuters *Worldscope Database* that takes into consideration a variety of accounting conventions, and is designed to facilitate comparisons between companies and industries, within and across national boundaries. The recorded number of quoted companies increased from 5,600 in 1995 to 30,100 in 2015. The scope of the analysis is restricted to publicly listed companies. These represent a homogeneous and coherent group to the extent that they are generally large corporations operating across national borders; they face similar opportunities and constraints with regard to financing, and their profitability relies less on national contexts than on the state of the world economy (Artus, 2007). We assume that the weight of non-publicly quoted multinational enterprises (MNEs) is not important enough to significantly alter our results for the top of the distribution.
- 8 **Developed economies (30):** Australia, Austria, Belgium, Bulgaria, Canada, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.
Developing and transition economies (26): Argentina, Bahrain, Brazil, Chile, China, Colombia, Hong Kong (China), India, Indonesia, Jordan, Kuwait, Lebanon, Malaysia, Mexico, Oman, the Philippines, Qatar, the Russian Federation, Singapore, South Africa, the Republic of Korea, Taiwan Province of China, Thailand, Turkey, the United Arab Emirates and Viet Nam.
- 9 The historical series for sector-adjusted benchmark ROAs were in fact stable for the entire period of observation (1995 to 2015), with the exception of breaks during the two major financial crises mentioned.
- 10 Market capitalization refers to the total market value of publicly listed firms, calculated as the year-end share price times the number of shares outstanding.
- 11 It should be noted, nonetheless, that a strategy of vertical disintegration to refocus on core business was pursued in the 1980s and 1990s partly in response to demands for increased shareholder value in the short term. This somewhat slowed down the expansion of large conglomerates, in some instances even reversing the process (*TDR 2016*, chap. V).
- 12 The database includes 17,000 publicly listed firms and 11,400 privately held firms from 42 countries (McKinsey Global Institute, 2015).
- 13 According to McKinsey Global Institute (2015: 6), the most profitable firms operating in industries such as pharmaceuticals, medical devices and IT are between 40 and 110 per cent larger than their median-sized counterparts. See also Starrs (2014), who arrives at a similar result using the Forbes Global 2000 annual list of the world's top publicly traded companies.
- 14 Results using either the top 200 firms and/or the bottom 1,000 firms show very similar trends. More generally, adjustment of this concentration index, by referencing this to the hypothetical equal share of market capitalization of the top 100 firms (assuming an equal distribution of market shares) as well as to the observed share of the bottom 2,000 firms, ensures that the trend analysis remains meaningful despite absolute changes in the denominator of these ratios, with the total number of publicly listed non-financial firms in the database rising from 5,600 in 1995 to 30,100 in 2015. What is measured is evolving market capitalization concentration, or its trend, rather than absolute magnitudes.
- 15 Decker et al. (2016) ascribe this trend to declining business dynamics and entrepreneurship in the case of the United States.
- 16 The general advantage of a unique ranking criterion is that it allows a direct comparison of these various concentration measures. Market capitalization is the most comprehensive of such ranking criteria, behaving like a summary index of revenues and assets, since it is closely correlated with these two variables. For this reason, using any of the above criteria for ranking a firm's performance yields the same trend results. Market capitalization, however, best captures interrelated aspects of a firm's performance: a high stock price facilitates acquisitions, and conversely, protects against (hostile) takeovers. It also helps raise capital in the capital markets and may, in addition,

- bring diverse, less tangible benefits through reputational effects and lobbying powers.
- 17 The subsequent slight decline, especially in the ratio of the observed share of the top 100 firms in physical assets relative to their hypothetical equal shares, largely reflects a shift in the composition of those firms after 2013 and following the oil price slump since 2014. This shift was away from energy firms with extensive ownership of physical assets, to firms in the health-care and technology sectors that have higher market capitalization but much lower levels of ownership of physical assets. The number of energy firms in the top 100 fell from 18 in 2013 to only 8 by 2015. Even so, the average ratio of physical assets to market capitalization for energy firms was 1.4, compared to 0.6 for other industries.
- 18 The first type of economies of scale (sunk fixed costs) are often also referred to as static returns to scale, whereas the latter type of economies of scale – the gradual widening and differentiation of markets and positive (learning and network) spillover effects on industry supply – are generally referred to as dynamic returns to scale.
- 19 Note that while Autor et al. (2017b) measure productivity in a number of ways, including value added per worker, output per worker, patents per worker and total factor productivity, no significant changes to their results are observed.
- 20 The scope of the software and IT services industry is based on Thomson Reuters Business Classification.
- 21 The decline in the productivity performance of the top 100 firms after 2013 mirrors that of market concentration indicators in figure 6.3 above; that is the exit of many firms in the energy sector in the wake of the price slump in 2014, and to a lesser extent, also of firms in the telecommunication services sector, in favour of the health-care and technology sectors.
- 22 Global control networks are loose alliances between firms operating in the same industry, held together primarily through common ownership stakes by a few large institutional investors in the firms constituting these networks (Vitali et al., 2011). These institutional investors therefore wield substantial control over the strategic decision-making by network firms, including their strategies for expansion through pricing policies and the use of barriers to entry, such as network effects, information asymmetries, patents, branding and access to new markets. Global value chains are usually described as the fragmentation of the production process into discrete activities – the transformation of primary products, the supply of intermediate products and services, technological design, branding, advertising and delivery – that are spread across different geographical locations (e.g. Davis et al., 2017). A variety of business models combining horizontal with vertical integration and direct ownership with arm’s-length control of outsourced and subcontracted suppliers give lead firms a high degree of overall control over the rules and conditions of participation in these production chains, and thus also considerable market power.
- 23 The statistical analysis of firm level data on United States multinational enterprises and their foreign affiliates was conducted at the Bureau of Economic Analysis (BEA), United States Department of Commerce, under arrangements that maintain legal confidentiality requirements. Views expressed in this report do not necessarily reflect those of the United States Department of Commerce.
- 24 Buckman (2005: 94), for instance, quotes an interview with a Chief Executive of Pfizer, who stated: “Our combined strength allowed us to establish a global private sector/ government network to lay the ground for what became TRIPS.”
- 25 Glasgow (2001) identifies five evergreening strategies: (i) using legislative provisions and loopholes to apply for a patent extension; (ii) suing generic manufacturers for patent infringement; (iii) merging with direct competitors as patent rights expire in an effort to continue the monopoly; (iv) recombining drugs in slightly different ways to secure new patents, and layering several patents on different aspects of the drug to secure perennial monopoly rights; and (v) using advertising and brand name development to increase the barrier to entry of generic drug manufacturers.
- 26 The WTO Marrakesh Agreement included no so-called regulatory issues with the exception of IP protection, the inclusion of which was hotly debated at the time. In contrast, the first generation of FTAs covered investment as well as a wider range of provisions that stipulated, at least in part, stronger IPRs (i.e. TRIPS plus). With the second generation of FTAs, such as the Free Trade Agreement between the United States and the Republic of Korea, there is a full blown expansion of regulatory issues, attempts to promote sector-specific harmonization of such issues (e.g. for the pharmaceutical sector), as well as the inclusion of new areas such as e-commerce.
- 27 For full details of the empirical analysis, see the online annex to this chapter, available at: <http://unctad.org/tdr2017/Annex>.
- 28 Sales per worker was used as the relevant variable rather than total sales, because of disclosure constraints in the BEA database.
- 29 Comparable data to assess the impact of patent rights protection on rates of return in these sectors are available only for the listed companies in the database.
- 30 In most cases, public accounting rules allow PPPs to be recorded off-balance sheet (EPEC, 2015), a practice long criticized by the IMF (IMF, 2004).
- 31 UNCTAD secretariat calculations, based on the Farm Subsidy database of the Environmental Working Group (available at: <http://www.ewg.org/agmag/2010/06/farm-subsidy-database#.WXRrc4pLfUj>).
- 32 OECD (2015b), corroborated for example by Johannesen et al. (2016). Monkam (2012) also suggests that

- transfer pricing is the most damaging corporate tax avoidance strategy for developing countries.
- 33 In some industries, the interaction with other strategies to assist rent extraction is particularly obvious. For example, pharmaceutical companies in the United States have allocated the profits generated from high drug prices resulting from patent monopolies, to massive repurchases or buy-backs of their own corporate stock for the sole purpose of giving manipulative boosts to their stock prices (Lazonick et al., 2017).
- 34 For example, the EU's competition watchdog has recently sought to strengthen antitrust policies (Toplensky, 2017).

References

- Akerlof GA and Romer PM (1993). Looting: The economic underworld of bankruptcy for profit. *Brookings Papers on Economic Activity* (2): 1–73.
- Allaire M and Brown S (2009). Eliminating subsidies for fossil fuel production: Implications for U.S. oil and natural gas markets. Issue Brief No. 09-10, Resources for the Future, Washington, DC.
- Artus P (2007). Profitabilité: Sociétés cotées et ensemble des entreprises. *Flash Économie*, No. 355, Natixis, 28 September.
- Atkinson AB (2015). *Inequality: What can be Done?* Cambridge, MA, Harvard University Press.
- Autor D, Dorn D, Katz LF, Patterson C and Van Reenen J (2017a). Concentrating on the fall of labor share. Working Paper No. 23108, National Bureau of Economic Research, Cambridge, MA.
- Autor D, Dorn D, Katz LF, Patterson C and Van Reenen J (2017b). The fall of the labor share and the rise of superstar firms. Discussion Paper No. 1482, Centre for Economic Performance, London School of Economics, London.
- Baker D (2015). The upward redistribution of income: Are rents the story? Working paper, Center for Economic and Policy Research, Washington, DC.
- Barkai S (2016). Declining labor and capital shares. Working Paper, University of Chicago, Chicago, IL.
- Barnett TO (2008). Maximizing welfare through technological innovation. *George Mason Law Review*, 15(5): 1191–1204.
- Bast E, Doukas A, Pickard S, Van Der Burg L and Whitley S (2015). Empty promises: G20 subsidies to oil, gas and coal production. Overseas Development Institute and Oil Change International, London and Washington, DC.
- Baumol WJ (1990). Entrepreneurship: Productive, unproductive and destructive. *Journal of Political Economy*, 98 (5, Part 1): 893–921.
- Bayliss K and Hall D (2017). Bringing water into public ownership: Costs and benefits. Working paper, School of African and Oriental Studies and University of Greenwich, London.
- Bessen J and Meurer MJ (2008). *Patent Failure: How Judges, Bureaucrats and Lawyers put Innovators at Risk*. Princeton, NJ and Oxford, Princeton University Press.
- Bessen J and Meurer MJ (2014). The direct costs from NPE disputes. *Cornell Law Review*, 99(2): 387–424.
- Blanc-Brude F, Goldsmith H and Valila T (2006). Ex ante construction costs in the European road sector: A comparison of public-private partnerships and traditional public procurement. Economic and Finance Report No. 2006/1, European Investment Bank, Luxembourg.
- Buckman G (2005). *Global Trade: Past Mistakes, Future Choices*. London, Zed Books.
- Caliari T and Ruiz RM (2014). Brazilian pharmaceutical industry and generic drugs policy: Impacts on structure and innovation and recent developments. *Science and Public Policy*, 41(2): 245–256.
- Chong E, Huet F, Saussier S and Steiner F (2006). Public-private partnerships and prices: Evidence from water distribution in France. *Review of Industrial Organization*, 29 (1–2): 149–169.
- Cobham A and Jansky P (2017). Global distribution of revenue loss from tax avoidance: Re-estimation and country results. Working Paper No. 2017/55, United Nations University-World Institute for Development Economics Research (UNU-WIDER), Helsinki.
- Council of Economic Advisers (2016). Benefits of competition and indicators of market power. April, Issue Brief, Washington, DC.
- Crivelli E, De Mooij R and Keen M (2015). Base erosion, profit shifting and developing countries. Working Paper No. 15/118, International Monetary Fund; Working Paper No. 15/09, Oxford University Centre for Business Taxation, Oxford.
- Cumming C (2015). What's behind the huge increase in bank patent filings? *American Banker*, 2 July. Available at: <http://www.law.edu/res/docs/2015-0702-AmericanBankerArticle.pdf>.
- Cusumano MA (2010). *Staying Power: Six Enduring Principles for Managing Strategy and Innovation in an Uncertain World*. Oxford, Oxford University Press.
- Davis D, Kaplinsky R and Morris M (2017). Rents, power and governance in global value chains. Working Paper Series No. 2, PRISM School of Economics, University of Cape Town, Cape Town.
- Deakin S (2005). The coming transformation of shareholder value. *Corporate Governance: An International Review*, 13(1): 11–18.

- Dealogic (2017). Investment banking scorecard. Available at: <http://graphics.wsj.com/investment-banking-scorecard/> (accessed 13 March 2017).
- Decker RA, Haltiwanger J, Jarmin RS and Miranda J (2016). Where has all the skewness gone? The decline in high-growth (young) firms in the US. *European Economic Review* 8(6): 4–23.
- Deloitte (2011). The next phase: Opportunities in China's pharmaceutical market. Deloitte Touche Tohmatsu, Hong Kong.
- Drahos P (2003). When the weak bargain with the strong: Negotiations in the World Trade Organization. *International Negotiation*, 8(1): 79–109.
- Drexel J (2008). Is there a 'more economic approach' to intellectual property and competition law? In: Drexel J, ed. *Research Handbook on Intellectual Property and Competition Law*. Cheltenham, Edward Elgar Publishing: 27–53.
- Drutman L (2015). *The Business of America is Lobbying: How Corporations Became Politicized and Politics Became More Corporate*. Oxford, Oxford University Press.
- EIG (2017). Dynamism in retreat: Consequences for regions, markets, and workers. Economic Innovation Group, Washington, DC.
- EPEC (2015). Debt and deficit treatment of PPPs according to Eurostat. European PPP Expertise Centre. Available at: <http://www.eib.org/epec/g2g/i-project-identification/12/125/index.htm>.
- Epstein G and Power D (2003). Rentier incomes and financial crises: An empirical examination of trends and cycles in some OECD countries. Working Paper Series No. 57, Political Economy Research Institute (PERI), University of Massachusetts, Amherst, MA.
- Ferraz JC and Hamaguchi N (2002). Introduction: M&A and privatization in developing countries: Changing ownership structure and its impact on economic performance. *The Developing Economies*, 40(4): 383–399.
- Fildes N (2017). What is at stake in the Apple-Qualcomm dispute? *Financial Times*. 28 April.
- Fink C (2013). Intellectual property activity worldwide: Key trends, facts and figures. In: Abbott FM, Correa CM and Drahos P, eds. *Emerging Markets and the World Patent Order*. Cheltenham, Edward Elgar Publishing: 37–45.
- Foroohar R (2017). Release Big Tech's grip on power. *Financial Times*. 18 June.
- Foster JB, McChesney RW and Jonna RJ (2011). Monopoly and competition in twenty-first century capitalism. *Monthly Review*, 62(11): 1–39.
- Fratini SM (2016). Rent as a share of product and Sraffa's price equations. *Cambridge Journal of Economics*, 40(2): 599–613.
- Galbraith JK (1954). *The Great Crash 1929*. London and New York, Penguin Books.
- Gehl Sampath P and Roffe P (forthcoming). The untimely death of the Transpacific Partnership Agreement: Where do we go next? CEIPI-ICTSD Series on Trade and Intellectual Property, Strasbourg and Geneva.
- George S (2015). *Shadow Sovereigns: How Global Corporations are Seizing Power*. Cambridge, Polity Press.
- Glasgow LJ (2001). Stretching the limits of intellectual property rights: Has the pharmaceutical industry gone too far? *IDEA, The Journal of Law and Technology* 41(2): 227–258.
- Glyn A (2006). *Capitalism Unleashed: Finance, Globalization and Welfare*. Oxford, Oxford University Press.
- Grullon G, Larkin Y and Michaely R (2017). Are US industries becoming more concentrated? Available at: <https://ssrn.com/abstract=2612047> or <http://dx.doi.org/10.2139/ssrn.2612047>.
- Hall BH (2009). Business and financial method patents, innovation and policy. *Scottish Journal of Political Economy*, 56(4): 443–473.
- Hansmann H and Kraakman R (2001). The end of history for corporate law. *Georgetown Law Journal*, 89(2): 439–468.
- Harvey D (2005). *A Brief History of Neoliberalism*. Oxford, Oxford University Press.
- Hsu S-L (2015). The rise and rise of the one percent: Considering legal causes of wealth inequality. *Emory Law Journal Online*, 64: 2043–2072. Available at: <http://law.emory.edu/elj/elj-online/volume-64/essays/considering-legal-causes-wealth-inequality.html>.
- Hunt RM (2010). Business method patents in U.S. financial services. *Contemporary Economic Policy*, 28(3): 322–352.
- IMF (2004). Public-private partnerships. International Monetary Fund, Washington, DC.
- IMF (2014). Spillovers in international corporate taxation. Policy paper. International Monetary Fund, Washington DC.
- Ireland P (2010). Limited liability, shareholder rights and the problem of corporate irresponsibility. *Cambridge Journal of Economics*, 34(5): 837–868.
- Joseph RK (2015). *Pharmaceutical Industry and Public Policy in Post-Reform India*. London, Routledge Taylor and Francis.
- Johannessen N, Tørsløv T and Wier L (2016). Are less developed countries more exposed to multinational tax avoidance? Method and evidence from micro-data. Working Paper No. 2016/10, United Nations University-World Institute for Development Economics Research (UNU-WIDER), Helsinki.
- Katz ML, and Shapiro C (1999). Antitrust in software markets. In: Eisenach JA and Lenard TM, eds. *Competition, Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace*. New York, NY, Springer Science and Business Media: 29–81.
- Keller W and Olney WW (2017). Globalization and executive compensation. Working Paper No. 23384,

- National Bureau of Economic Research, Cambridge, MA.
- Keynes JM ([1936] 1973). *The Collected Writings of John Maynard Keynes: The General Theory of Employment, Interest and Money*, vol. VII. London, Macmillan.
- Khan LM (2017). Amazon bites off even more monopoly power. *New York Times*, 21 June.
- Khan MK and Jomo KS, eds. (2000). *Rents, Rent-Seeking and Economic Development: Theory and Evidence in Asia*. Cambridge, Cambridge University Press.
- Kindleberger CP and Aliber RZ (2011). *Manias, Panics and Crashes: A History of Financial Crises*. London, Palgrave Macmillan.
- Krueger AO (1974). The political economy of the rent-seeking society. *American Economic Review*, 64(3): 291–303.
- Kwoka J (2015). The changing nature of efficiencies in mergers and in merger analysis. *The Antitrust Bulletin*, 60(3): 231–249.
- LaPira TM and Thomas HF (2017). *Revolving Door Lobbying: Public Service, Private Influence, and the Unequal Representation of Interests*. Lawrence, KS, University Press of Kansas.
- Lazonick W (2016). The value-extracting CEO: How executive stock-based pay undermines investment in productive capabilities. Working Paper No. 54, Institute for New Economic Thinking (INET), Oxford.
- Lazonick W (2013). The financialization of the U.S. corporation: What has been lost, and how it can be regained. *Seattle University Law Review*, 36(2): 857–909.
- Lazonick W, Hopkins M, Jacobson K, Sakinç ME and Tulum Ö (2017). US pharma's financialized business model. Working Paper No. 60, Institute for New Economic Thinking (INET), Oxford.
- Lemley MA (2015). Faith-based intellectual property. *UCLA Law Review*, 62: 1328–1346.
- Lerner J, Baker J, Speen A and Leamon A (2015). Financial patent quality: Finance patents after state street. Working Paper No. 16-068, Harvard Business School, Cambridge, MA.
- Locke SD and Schmidt WD (2008). Business method patents: The challenge of coping with an ever-changing standard of patentability. *Fordham Intellectual Property, Media and Law Journal*, 18(5): 1079–1094.
- Mahdawi A (2017). It's not just Amazon coming for Whole Foods – Silicon Valley is eating the world. *The Guardian*. 20 June.
- MarketLine (2016). Company Profile: America Movil, SAB de CV (AMX). Available at: <https://www.marketresearch.com/> (accessed 19 June 2017).
- McKinsey Global Institute (2015). Playing to win: The new global competition for corporate profits. Available at: <http://www.mckinsey.com/mgi/overview/in-the-news/playing-to-win-the-new-global-competition-for-corporate-profits>.
- Mill JS ([1848] 1884). *Principles of Political Economy*. New York, NY, D. Appleton.
- Miller SP (2013). Where's the innovation: An analysis on the quantity and quality of anticipated and obvious patents. *Virginia Journal of Law and Technology*, 18(1): 2–55.
- Monkam N (2012). ATAF regional studies on reform priorities of African tax administrations: Africa-wide Report. Johannesburg, African Tax Administration Forum. Available at: http://ataftax-dev.co.za/images/atrn_documents/15617%20-%20ATAF_AFRICA-WIDE%20REPORT_ENG_v8.pdf (accessed 26 July 2017).
- Nolan P (2002). China and the global business revolution. *Cambridge Journal of Economics*, 26(1): 119–137.
- OECD (2015a). *Enquiries into Intellectual Property's Economic Impact*. Paris, OECD Publishing.
- OECD (2015b). *Measuring and Monitoring BEPS, Action 11 – 2015, Final Report*. OECD/G20 Base Erosion and Profit Shifting Project, Paris, OECD Publishing.
- Palma JG (2009). The revenge of the market on the rentiers: Why neo-liberal reports of the end of history turned out to be premature. *Cambridge Journal of Economics*, 33(4): 829–869.
- Panic M (2011). Globalization in the age of transnationals: The claims and the reality. In: Panic M, ed. *Globalization: A threat to International Cooperation and Peace?* (2nd edition). London, Palgrave Macmillan: 3–56.
- Park WG (2008). International patent protection: 1960–2005. *Research Policy*, 37: 761–766.
- Patterson MR (2012). Leveraging information about patents: Settlements, portfolios, and holdups. *Houston Law Review*, 50(2): 483–522.
- Perez Ludeña M (2016). Multinational enterprises from Latin America: Investment strategies and limits to growth and diversification. *Transnational Corporations Review*, 8(1): 41–49.
- Philippon T and Reshef A (2009). Wages and human capital in the U.S. financial industry: 1909–2006. Working Paper No. 14644, National Bureau of Economic Research, Cambridge, MA.
- Piketty T (2014). *Capital in the Twenty-First Century*. Cambridge, MA, Belknap Press of Harvard University Press.
- Prebisch R (1986). Address delivered at the twenty-first session of ECLAC, Mexico City, 24 April. *CEPAL Review*, 29: 13–16.
- Ricardo D ([1817] 1962). On the principles of political economy and taxation. In: Sraffa P, ed. *The Works and Correspondence of David Ricardo, Vol. 1*. Cambridge, Cambridge University Press.
- Rivera E (2006). Modelos de privatización y desarrollo de la competencia en las telecomunicaciones de Centroamérica y México. *Estudios y Perspectivas*,

- No. 66. Economic Commission for Latin America and the Caribbean (ECLAC), México, DF.
- Rocha F and D. Kupfer (2002). Structural changes and specialization in Brazilian industry: The evolution of leading companies and the M&A process. *Developing Economies*, 40(4): 497–521.
- Ryan-Collins J (2017). How land disappeared from economic theory. *Economics*, 4 April. Available at: <http://economics.com/josh-ryan-collins-land-economic-theory/>.
- Schumpeter JA (1942). *Capitalism, Socialism and Democracy*. New York, NY, Harper Torchbooks.
- Seccareccia M and Lavoie M (2016). Income distribution, rentiers and their role in a capitalist economy. *International Journal of Political Economy*, 45(3): 200–223.
- Shapiro N (2017). The hidden cost of privatization (blog). Institute for New Economic Thinking. Available at: <https://www.ineteconomics.org/perspectives/blog/the-business-of-government>.
- Smith A ([1776] 1981). An Inquiry into the Nature and Causes of the Wealth of Nations. In: Campbell RK and Skinner AS, eds. *The Glasgow Edition of the Works and Correspondence of Adam Smith*, vol. II. Indianapolis, IN, Liberty Fund.
- Standing G (2016). *The Corruption of Capitalism: Why Rentiers Thrive and Work Does not Pay*. London, Biteback Publishing.
- Starrs S (2014). The chimera of global convergence. *New Left Review*, 87: 81–96.
- Stiglitz J (2016a). Inequality and economic growth. In: Mazzucato M and Jacobs M, eds. *Rethinking Capitalism: Economics and Policy for Sustainable and Inclusive Growth*. Hoboken, NJ, Wiley Blackwell: 134–155.
- Stiglitz J (2016b). Towards a broader view of competition policy. Lecture presented at the 4th BRICS International Competition Conference in Durban, November 2015.
- Stryszowska M (2012). Estimation of loss in consumer surplus resulting from excessive pricing of telecommunication services in Mexico. Digital Economy Papers No. 191, OECD Publishing, Paris.
- Sylos-Labini P (1969). *Oligopoly and Technical Progress* (revised edition). Cambridge, MA, Harvard University Press.
- The Economist* (2013). Institutions matter, a lot. 6 March.
- The Economist* (2016). Too much of a good thing. 26 March.
- The Week* (2013). Farm subsidies: A welfare program for agribusiness, 10 August. Available at: <http://theweek.com/articles/461227/farm-subsidies-welfare-program-agribusiness>.
- Tirole J (2015). Market failures and public policy. *American Economic Review*, 105(6): 1665–1682.
- Titolo M (2013). Leasing sovereignty: On State infrastructure contracts. *University of Richmond Law Review*, 47(2): 631–693.
- Toplensky R (2017). EU considers tougher competition powers. *Financial Times*. 2 July.
- Toye J and Toye R (2004). *The UN and Global Political Economy: Trade, Finance, and Development*. Bloomington, IN, Indiana University Press.
- UNCTAD (2015) *World Investment Report 2015: Reforming International Investment Governance*. United Nations publications. Sales No. E.15.II.D.5. New York and Geneva.
- UNCTAD (TDR 1997). *Trade and Development Report, 1997*. United Nations publication. Sales No. E.97.II.D.8. New York and Geneva.
- UNCTAD (TDR 2014). *Trade and Development Report, 2014: Global Governance and Policy Space for Development*. United Nations publication. Sales No. E.14.II.D.4. New York and Geneva.
- UNCTAD (TDR 2015). *Trade and Development Report, 2015: Making the International Financial Architecture Work for Development*. United Nations publication. Sales No. E.15.II.D.4. New York and Geneva.
- UNCTAD (TDR 2016). *Trade and Development Report, 2016: Structural Transformation for Inclusive and Sustained Growth*. United Nations publication. Sales No. E.16.II.D.5. New York and Geneva.
- United States Government Accountability Office (2013). Corporate tax expenditures: Evaluations of tax deferrals and graduated tax rates. GAO 13-789, Washington, DC.
- Vitali S, Glattfelder J and Battiston S (2011). The network of global corporate control. *PLoS ONE*, 6(10): e25995. Available at: <https://doi.org/10.1371/journal.pone.0025995>.
- Walsh JS (2013). The future of the small software firm: A case for the proper balance of laws protecting software and competition (doctoral dissertation). University of Leicester, Leicester.
- Weil D (2014). *The Fissured Workplace: Why Work Became so Bad for so Many and What can be Done to Improve it*. Cambridge, MA, Harvard University Press.
- Young A (2016). Taxpayer-funded capitalism: Here are the biggest corporate subsidy deals of 2016. *Salon*, December 27. Available at: <http://www.salon.com/2016/12/27/taxpayer-funded-capitalism-here-are-the-biggest-corporate-subsidy-deals-of-2016/>.
- Zingales L (2017). Towards a political theory of the firm. New Working Paper Series No. 10, Stigler Center for the Study of the Economy and the State, University of Chicago, Chicago, IL.
- Zucman G (2014). Taxing across borders: Tracking personal wealth and corporate profits. *Journal of Economic Perspectives*, 28(4): 121–148.