

Differential accumulation: towards a new political economy of capital

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ABSTRACT

Existing theories of capital, neo-classical as well as Marxist, are anchored in the material sphere of production and consumption. This article offers a new analytical framework for capital as a crystallization of power. The relative nature of power requires accumulation to be measured in differential, not absolute, terms. For absentee owners, the main goal is not to maximize profits, but rather to 'beat the average' and exceed the 'normal rate of return'. The theoretical framework builds on Thorstein Veblen's separation of industry from business and on Lewis Mumford's dichotomy between democratic and authoritarian techniques. Extending their contributions, we argue that capital is a business, not an industrial category, a human mega-machine rather than a material artefact. Indeed, it is the *social* essence of capital which makes accumulation possible in the first place. Capital measures the present value of future business earnings, and these depend not on the productivity of industry as such, but on the ability of absentee owners strategically to limit such productivity to their own differential ends. Introducing the twin concepts of the 'differential power of capital' (*DPK*) and the rate of 'differential accumulation' (*DA*), we examine the non-linear and possibly negative link between industrial growth and accumulation in the USA.

KEYWORDS

Capital; power; technology; institutional economics; Veblen; Mumford.

1 INTRODUCTION: THE UNSETTLED QUESTION OF CAPITAL

Political economy, understood as the search for the 'anatomy of civil society' (Marx, 1859b: 20), studies the pursuit of plenty as much as the quest for power. When focusing on capitalist society, however, it suffers from a serious structural drawback: one of its major building blocks – capital – remains elusive and seriously biased.

The reason is twofold. First, with the growing bureaucratization of academia, the study of political economy was gradually segmented into separate 'departments'. Capital was monopolized by 'economists'. 'Political scientists', 'sociologists' and 'anthropologists' were more or less forced to accept whatever definition the dismal science of economics came up with. And given the growing materialistic bent of the latter, the result was to leave power pretty much out of the picture. Thus, as political economy lost its original cohesion, the intellectual journey of capital began limping on one leg. And as if to make a bad situation worse, this leg itself was not in such good shape. Indeed, the second problem is that economists could not agree on the proper definition of capital. Capital was monetary wealth. That was clear enough. Figuring out what made it grow, however, was much harder. 'What a mass of confused, futile, and downright silly controversy it would have saved us', wrote Schumpeter (1954: 323), 'if economists had had the sense to stick to those monetary and accounting meanings of the term instead of trying to "deepen" them!' Of course, the problem was not the desire to 'deepen', but the direction in which the economists went digging. And the difficulty persists precisely because economists insist it is exclusively theirs. According to Bliss (1975: vii), once economists agree on the theory of capital, 'they will shortly reach agreement on everything else'. But then how could they agree on it, if capital, by its very essence, involves power which they view as lying largely outside their domain?

Historically, the principal contention among economists stemmed from trying to marry two different perceptions of capital: one as an income-generating fund, or 'financial wealth', the other as a stock of physical contrivances, or 'capital goods'. The central question has been whether and in what way 'capital goods' are productive, and how their productivity affects their overall magnitude as 'capital'. Mainstream economics has generally tried to show that capital goods were indeed productive, and that this 'positive' attribute is what made capital as a 'fund' valuable.

The marriage did not work well, partly due to a large age difference. The older partner, capital, comes from the Latin *caput*, a word whose origin goes back to Babylon. In both Rome and Mesopotamia capital had a similar, unambiguous economic meaning: it was a pecuniary magnitude. There was no relation to produced 'means of production'. Indeed, *caput* meant 'head', which fits well with another Babylonian invention, the human 'work day' (Bickerman, 1972: 58, 63; Schumpeter, 1954: 322–3). The younger partner, 'capital goods', was born millennia later, roughly together with capitalism, and it was only since the physio-crats that economists began associating 'capital' with roundabout production processes.

For most economists this association is common sense. But then the fact that 'capital' predates 'capital goods' by a few thousand years suggests

that their overlap is not that self-evident. 'Capital' is best viewed as a *shell*, an abstract form in need of contents. The shell is a readily observable monetary magnitude, and is largely beyond dispute; its contents, on the other hand, are not at all apparent, and must hence be reasoned theoretically. Over the past few hundred years, perhaps due to the highly productive thrust of capitalism, most writers have chosen to look for 'materialistic' contents. But this need not be the only route. In fact, by focusing on 'material' considerations alone, much of the 'social' contents of capital, including that which is not unique to capitalism, has been left out of the picture. This neglect has proven costly, leaving capital theory, as well as many of its derivatives, mired in controversy.

For the neo-classicists, the basic problem stemmed from trying to quantify 'capital goods' so that they can be aggregated into 'capital'. The 'formal' problem, identified already by Wicksell (1935: 149), was that unlike labour and land, capital goods were *heterogeneous*, and therefore could not be added in terms of their own technical units. The only way to do so was by using money values, but the value of capital goods depended on the rate of return, which already incorporated the quantity of capital in its denominator. The result was a circular definition in which the quantity of capital depended on the . . . quantity of capital! A more substantive, 'social' challenge came from Veblen (1908a, 1908b, 1908c, 1908d, 1909), but it was only half a century later that the criticism began to echo. Following Sraffa (1960) and the ensuing Cambridge Controversy, it was shown that the 'quantity of capital' was a fiction, and that productive contributions could not be measured without prior knowledge of prices and distribution. Sraffa's famous 'reswitching' examples demonstrated that, contrary to neo-classical theory, 'capital intensity' need not have a unique, inverse relationship with the rate of interest. In other words, the fact that a capitalist uses a less 'mechanized' process (fewer 'capital goods'?) does not necessarily mean she is using less 'capital'.

The neo-classicists conceded there was a problem, offering to treat Clark's quantitative definition of capital not literally, but as a 'parable' (Samuelson, 1962). Some, like Ferguson (1969), even went so far as admitting that neo-classical theory was a 'matter of faith'. But then parables and faith were hardly enough. With the 'quantity of capital' undefined, there is no production function, no supply function and no equilibrium. And with these gone, economics fails its two celebrated tasks of explaining prices and quantities. The material footing of capital therefore had to be retained. The first and most common tactic was to gloss the problem over, or ignore it altogether. So far this seems to be working, as Robinson (1971) predicted and Hodgson (1997) confirmed. Indeed, with the exception of 'specialists', most economists rarely lose sleep over capital theory. A more subtle line of defence was to argue that the problem, however serious in principle, was of limited importance in

practice (Ferguson, 1969). Given the abstract nature of neo-classical theory, however, resting its defence on relevance is hardly persuasive. The third and probably most significant response was to embrace disaggregate general equilibrium models, in which there was no 'capital' and no general 'rate of interest', only individual inputs and individual input prices. But then this was hardly a solution at all. While the shell called 'capital' may or may not consist of individual physical inputs, its existence and pivotal social significance are hardly in doubt. By ignoring capital, general equilibrium has augmented its other weaknesses, turning itself into a hollow formality.

The Marxist treatment of capital, though different in goals, has run into similar problems. Throughout *Das Kapital* there is no 'analytical' definition of capital, perhaps for a good reason. Marx saw capital not as a 'thing', but as a comprehensive social context whose description was intertwined with its explanation (Marx, 1894: 947–8). The context of capital included the production process, the division of labour, technological progress and, above all, the institutional and power arrangements shaping the collective consciousness. According to Wright (1977: 198), the notion that capital accumulation involves merely the tangible augmentation of machinery, buildings, raw materials and the like is alien to Marxist thinking. Instead, he maintains, 'capital accumulation must be understood as the reproduction of capitalist social relations on an ever-expanding scale through the conversion of surplus value into new constant and variable capital.' Emphasizing this aspect of Marx's writing, Shaikh (1990: 73) similarly reiterates that 'capital is not a thing, but rather a definite set of social relations', and that in order to understand it, 'one must therefore decipher its character as a social relation'.

But then when it came to *measuring* capital, Marxist theory has never really managed to transcend the 'materialistic' boundaries of labour time. Marx (1867: 114) insightfully emphasized the *societal* essence of valuation, making the value of a commodity an expression of the 'portion of the total labour-time of society required to produce it'. His troubles began when he tried to build this total from the bottom up – that is, on the basis of quantifiable labour inputs. In so doing, Marx not only assumed that production contained the code of distribution and accumulation (which the post-Sraffa controversy put into question), but also that the production process, including that of 'labour power', could – at least in principle – be *objectively* identified in functional, quantitative terms.

Indeed, by concentrating on the role of production, Marxist value theory tends to ignore the impact on measurement of power institutions such as monopoly and oligopoly, dual labour markets and redistribution by government, to name only a few (Howard and King, 1992: 282; Sweezy, 1942: 270–4). In the absence of price-taking, freely mobile capitalists and

workers, labour values become practically useless for the study of prices and accumulation. In fact, under non-competitive conditions, with the wage rate deviating from the worker's 'socially necessary' cost of reproduction, the value of labour power itself – the basic input in all production processes – is already 'contaminated' by power relations.

The problem of all production-based theories of accumulation – be they neo-classicist or Marxist – is well reflected in their inability to define clearly *what is being accumulated*. The implicit assumption is that accumulation could somehow be measured in *material* terms. In the neo-classical world, where the goal is 'well-being', capital is presumably reducible to some units of pleasure, or 'utils' as the neo-classicists like to call them. Marxists see capitalists as driven by the circular goal of accumulation for the sake of accumulation, a principle best understood in terms of power. Their analytical category of capital, however, is measured in terms of 'labour time', and therefore remains entangled in the material intricacies of production.

The purpose of this article is to offer an alternative approach to the study of capital, seeking to break it loose from the overly 'materialistic' grip of economists and put it back where it belongs – in the broader field of political economy.¹ Drawing on the institutional frameworks of Veblen and Mumford, our principal contribution is to *integrate power into the definition of capital*. Briefly, the value of capital represents discounted expected earnings. Some of these earnings could be associated with the productivity (or exploitation) of the owned industrial apparatus, but this is only part of the story. As capitalism grows in complexity, the earnings of any given business concern come to depend less on its own industrial undertakings and more on the *community's overall productivity*. In this sense, the value of capital represents a *distributional* claim. This claim is manifested partly through ownership, but more broadly through the *whole spectrum of social power*. Moreover, power is not only a means of accumulation, but also its most fundamental end. For the absentee owner, the purpose is not to 'maximize' profits but to 'beat the average'. The ultimate goal of business is not hedonic pleasure, but *differential* gain. In our view, this differential aspect of accumulation offers a promising avenue for putting power into the definition of capital.

The literature on social power is extensive and the relationship between power and accumulation has recently attracted considerable attention from Marxist and institutionalist writers. However, as far as we know, power has never been incorporated into the *definition* of accumulation. If this can be done successfully, the theoretical consequences for political economy will be significant. In particular, it will help clear logical road-blocks in existing capital theory, making political economy more theoretically coherent.

Following this introduction, Section 2 uses Veblen's separation between business and industry to examine the non-linear links between power and production. Section 3 builds on Mumford's emphasis of symbolic drives, arguing that accumulation is possible only because capital is not a tangible artefact, but a social mega-machine. Bringing these two issues together, Section 4 offers a tentative operational definition for differential accumulation, examines its development in the USA, and assesses some preliminary implications. The last section touches on the significance of power for the future of capitalism and beyond.

2 TOWARDS A NEW THEORY OF CAPITAL

Our starting point is that accumulation is not an offshoot of production, but rather an *interaction between productivity and power*. The concept of power is problematic, no less than that of capital. Without getting too deeply into its complexities, our own emphasis is on asymmetric power, or 'power over'. Following Lukes, we see power in capitalism as held and exercised by groups of individuals, whose action or inaction significantly affects the actions and thoughts of others. This power is applied within structural constraints, though the agency-structure distinction is itself potentially ambivalent and theory-dependent. For instance, the power of one group is often imposed as structure on another, power could be solidified into structure and then melted back into power, structure could be altered by power, or it could have its own internal dynamics (for a critical treatment, see Lukes, 1974, 1977, 1978).

The link between power and accumulation is evident from Marx's two forms of circulation: simple circulation ($C \rightarrow M \rightarrow C$), where the purpose is use value, and expanded circulation ($M \rightarrow C \rightarrow M'$), where the end is *more* money. The difference is fundamental. In the first case, typical of the worker's life cycle, the goal is material; in the second case, representing the capitalist drive, the aim is symbolic. Capitalists of course tend to consume more than workers, but that is beside the point. 'Accumulate, Accumulate! That is Moses and the Prophets!' writes Marx. 'Accumulation for accumulation's sake, production for production's sake' (1867: 652). The capitalist seeks higher profit, not in order to buy *more goods and services*, but in order to assert his or her *differential power*. Unfortunately, Marx's insight into the power drive of accumulation has never been integrated into his analytical framework. The parallel dynamics of simple and expanded circulation captured the duality of productivity and power, but the vehicle of accumulation, *C*, remained arrested in a one-dimensional material framework of 'labour content'.

The first step in reinstating the duality of productivity and power is to remove the superficial separation between 'economics' and 'politics'. Capitalism is not an 'economic system', but a whole social order, and

its principal category of capital must therefore have an 'encompassing' definition. As we see it, capital should be understood in terms of ideology, religion and the basic instincts of violence and sex, as well as in terms of production, creativity, consumption and well-being. In short, an attempt to define capital – if that is at all possible – should begin with a broad institutionalist view of society.

Perhaps the first attempt to develop an institutionalist theory of capital along such lines was offered at the turn of the century by Thorstein Veblen. Later, his student and colleague Lewis Mumford expanded some of Veblen's themes into a broad theory of power civilization. The frameworks of both writers build on the primal social interaction between creativity and power: Veblen associated this interaction with a distinction between industry and business, whereas for Mumford it was part of a conflict between democratic and totalitarian technologies. Their profound insights, unduly neglected by political economists, deserve close scrutiny and we turn to them now.

Industry and business

Neo-classical economists see hedonic pleasure and the pursuit of material well-being as the ultimate goal of human beings, and the drive to equilibrium as the governing mechanism (or at least the underlying ideal) of all societies. Veblen, on the other hand, started by identifying the *conflict between creativity and power* as the prime mover of human history. In the modern capitalist order, he argued, this duality is reflected in a fundamental distinction between *industry* and *business*.

For Veblen, industry and business are two separate spheres of human activity. Industry constitutes the material context of capitalism, although it is not unique to it. When considered in isolation from contemporary business institutions, the principal goal of industry, its *raison d'être* according to Veblen, is the efficient production of quality goods and services. The hallmark of industry is the so-called 'machine process', which Veblen equated not merely with the use of machines, but more broadly with the systematic organization of production and the reasoned application of knowledge. Above all, Veblen accentuated the holistic nature of industry. The neo-classical emphasis on individualism and its Robinson Crusoe analogies of the innovative 'entrepreneur' and single 'consumer' were misleading myths. The machine process was essentially a *communal* activity, whose productivity derived first and foremost from *cooperation* and *integration*. The reasons were both historical and spatial.

First, modern industrial production is contingent on the 'technological heritage' of society, the general body of 'community knowledge' grounded in the 'accumulated wisdom of the past' (Veblen, 1908b: 326–9). Second, over time the gradual accumulation of knowledge makes

production more spatially interdependent. 'Evidently', writes Veblen, 'the state of industrial arts is of the nature of a joint stock, worked out, held, carried forward, and made use of by those who live within the sweep of the industrial community. In this bearing the industrial community is a joint going-concern' (1923: 64). Following Sombart, he emphasized the *comprehensive* nature of industry, in that it 'draws into its scope and turns to account all branches of knowledge that have to do with the material sciences, and the whole makes a more or less delicately balanced complex of sub-processes' (Veblen, 1904: 7-8). Given this growing dependency of both knowledge and processes, says Veblen, the efficiency of industrial production increasingly hinges on synchronization and standardization of both production and wants (an issue resurrected half a century later by Galbraith (1967) with his 'revised sequence' and attack on 'consumer sovereignty'). As a highly integrated system, industry is strongly disposed towards elaborate planning and close cooperation. Ultimately, it calls for 'solidarity in the administration of any group of related industries' and, more generally, 'for solidarity in the management of the entire industrial traffic of the community' (Veblen, 1904: 17).

Although Veblen's emphasis of integration and synchronization seems hardly earth shaking, mainstream economists have managed to ignore systematically two of its key implications. One is that distribution cannot possibly be based on factor productivity. The other is that distribution should therefore be sought in the realm of power.

According to Veblen, business differs from industry in both methods and goals. Business enterprise means investment for profit. It proceeds through purchase and sale towards the ulterior end of accumulated pecuniary wealth. While industry is carried by the 'instinct of workmanship', business is a matter of ownership and power; whereas the former requires integration, cooperation and planning throughout society, the latter spells conflict and antagonism among owners, and a cleavage running between businessmen and the underlying population of working consumers.

These profound differences have crystallized into two different 'languages'. Unlike industrial activity with its tangible, material categories, business traffic and achievements are counted in strictly pecuniary terms. Economists insist on reducing business magnitudes to 'real' utilitarian units, though that merely attests their pre-capitalist habit of thinking. Under the price system,

men have come to the conviction that *money-values are more real and substantial than any of the material facts in this transitory world*. So much so that the final purpose of any businesslike undertaking is always a sale, by which the seller comes in for the price of his

goods; and when a person has sold his goods, and so becomes in effect a creditor by that much, he is said to have 'realized' his wealth, or to have 'realized' his holdings. *In the business world the price of things is a more substantial fact than the things themselves.*

(1923: 88–9; italics added)

The pecuniary nature of business terminology is not a mere accounting convention; it is the very essence of business enterprise.

At first sight, Veblen's separation between industry and business seems to resemble Marx's distinction between simple and expanded circulation. There is a crucial difference, however. Unlike Marx, who used a single material unit (labour) to measure both processes, Veblen began at the outset with two distinct categories – material for industry, pecuniary for business. This duality enabled him to avoid the Marxist 'Transformation Problem' altogether: prices and accumulation were business magnitudes, and hence their determination cannot be attributed, at least not in any straightforward way, to the complex and largely intractable sphere of industrial interactions.

According to Veblen, capitalist industry was subordinated to business ends; its aim was not serviceability and livelihood, but profit. Simple as it seems, this hierarchy inverts conventional economic reasoning. Being a quest for profit, argues Veblen, business enterprise is essentially a *claim* on earnings. It is wholly and only an act of *distribution*. Commodities against which profits constitute an effective claim are created elsewhere, in the industrial sphere. Yet, given that industry is carried on for the sake of business, it follows that the primary line of causality runs not from production to distribution, but from distribution to production. And if causality is a guide for analysis, the study of capitalism should begin with business, not industry.

Indeed, on its own, industry provides no insight into distribution. Anticipating the Cambridge Controversy more than half a century before it arose, Veblen pointed out quite bluntly that Clark's marginal productivity theory (1899) was wishful thinking. In order to explain distribution by productivity, we must first identify the productivity of each individual factor of production. Yet this, he said, could not be done since economic inputs did not possess any individual productivity to begin with.

As already noted, Veblen viewed industrial activity as an integrated community process centred on the 'technological heritage' of society. On the surface, this may look similar to prevailing convictions, popular since Galbraith (1958, 1967), which emphasize the growing significance of technology vis-à-vis the traditional factors of production, land, labour and capital. That is not what Veblen had in mind, however. In his opinion, technology, or the 'immaterial equipment' of society as he liked

to call it, was not just another ‘factor of production’, however important. Instead, it was the *vital* cultural substance which made raw materials, machines and physical human labour useful in the first place: ‘To say that these minerals, plants and animals are meaningful – in other words, that they are economic goods – means that they have been brought within the sweep of the community’s knowledge of ways and means’ (1908b: 329). Without this ‘immaterial equipment’, the physical factors of production were *economically* meaningless objects.

For instance, the usefulness of any given computer depends crucially on the current ‘state of technology’. With the arrival of new software, it quickly ends up in the junk heap; the new technology makes it economically obsolete, and although it may have lost none of its operational features, it is no longer a ‘capital good’. Or, to roll history in reverse, a modern factory producing semiconductors would have been a worthless (indeed, meaningless) collection of physical objects during Veblen’s time – first, because it could not have been operated and, second, because its output would have had no perceptible use. In this and every other case, the transformation of a physical object into an economically useful capital good can neither lead nor lag the existing ‘state of industrial arts’. The same logic applies to labour power and raw materials: a jungle tribesman would be lost in a modern factory much as a bank clerk would be in the Sahara desert, while ancient stone utensils are as useless today as was petroleum before the invention of modern engines.

Labour, land and capital goods are obviously essential for production, but only because they are part of a comprehensive social and cultural process. Hence it ‘seems bootless to ask’, argued Veblen, although few neo-classicists were listening, ‘how much of the products of industry or of its productivity is to be imputed to these brute forces, human and non human, as contrasted with the specifically human factors that make technological efficiency’ (1908b: 349–50). In short, as the industrial system grows in complexity, the productivity theory of distribution becomes an oxymoron.

The increasingly ‘holistic’ nature of modern industry was well understood by Marx (1859a: 592f.), who prophetically anticipated its devastating consequences for his own labour theory of value, and hopefully for capitalism itself:

As large-scale industry advances, the creation of real wealth depends less on the labour time and quantity of labour expended than on the power of the instrumentalities set in motion during the labour time. . . . Human labour then no longer appears enclosed in the process of production – man rather relates himself to the process of production as supervisor and regulator. . . . He stands

outside of the process of production instead of being the principal agent in the process of production. In this transformation, the great pillar of production and wealth is no longer the immediate labour performed by man himself, nor his labour time, but the appropriation of his own universal productivity, i.e., *his knowledge and his mastery of nature through his societal existence* – in one word, the development of the *societal individual*. . . . As soon as human labour, in its immediate form, has ceased to be the great source of wealth, labour time will cease, and must of necessity cease to be the measure of wealth, and the exchange value must of necessity cease to be the measure of use value. . . . The mode of production which rests on the exchange value thus collapses.

(cited and translated by Marcuse, 1964: 35–6; italics added)

Although this last prediction is yet to materialize, the *societal* nature of productivity, on which Marx hung his hopes, seems beyond dispute.

To illustrate, consider the automobile industry. Its research and development process incorporates knowledge from fields as diverse as mathematics, physics, chemistry, biology, metallurgy, economics, demography, sociology and politics. Its production relies on coordinating the interaction of raw materials, labour, assembly facilities, infrastructure, transportation and distribution systems in numerous countries. Finally, both development and production are path-dependent. For example, the emergence of large-scale petroleum refining, suburbanization and the highway system accelerated automobile production in the twentieth century, while congestion and environmental concerns may hinder it in the next. In this highly complex context, where technology is cumulative, spatially interdependent and intermingled with politics, it is practically impossible as well as theoretically inconceivable even to identify all inputs, let alone determine their individual productive contributions. As Wicksell put it when he decided to ignore Marshall's notion of 'organization' as a fourth agent of production (1920, Book IV), the whole thing 'lacks *quantitative precision*' (1935: 107; original italics).

Following Veblen (and the reluctant Marx), we can hence argue that the conventional input/output ideology is a misleading simplification: it focuses on first-order interactions between observed (or quasi-observable) quantities, while ignoring the invisible but far more important multi-layer cultural/political/technological interactions, without which physical objects cannot become 'inputs'. Although most economists refuse to admit it, this neglect has seriously undermined their empirical research. Neo-classical production functions are notoriously weak when it comes to predicting output on the basis of physical inputs, typically leaving a wide margin of unexplained variation. The usual defence is to attribute this failure to inadequate measurement of 'technology', dubbing the residual

a 'measure of our ignorance'. This language is highly deceptive, however, since it implies that eventually the problem *will* be overcome. But then how could it when production becomes *ever more* intractable?

Of course, none of this implies that distribution is unrelated to production. According to Veblen, the two are very much related, but their link is alien to the 'productivity doctrine'. Contrary to the common view of distribution as a corollary of creativity, Veblen maintained it was a consequence of 'sabotage'. Most generally, the income of an owner is proportionate not to the specific productive contribution of his or her input, but rather to *the overall damage the owner can inflict on the industrial process at large*. It is this 'negative' relationship to which we now turn to explore.

Absolute ownership and the strategic limitation of industry

Over the long term, argued Veblen, output depended mostly on population and technical knowledge; 'tangible assets' were relatively insignificant. Throughout history, the occasional destruction of material equipment and resources was usually a relatively minor inconvenience. Indeed, even in the twentieth century, when physical accumulation reached unprecedented levels, it took war-stricken Germany and Japan only a few years to launch their 'economic miracles'. The significance of tangible equipment arises mainly in the *short term*, and this according to Veblen is where ownership comes into the picture:

For the transient time being, therefore, any person who has the legal right to withhold any part of the necessary industrial apparatus or materials from current use will be in a position to impose terms and exact obedience, on pain of rendering the community's joint stock of technology inoperative for that extent. Ownership of industrial equipment and natural resources confers such a right legally to enforce unemployment, and so to make the community's workmanship useless to that extent. *This is the Natural Right of Investment.*

(1923: 65-6; italics added)

Hence, the causal link runs not from the creation of earnings to the right of ownership, but from the right of ownership to the appropriation of earnings. 'Capital goods' yield profit not because of their individual productivity, but because they are *privately owned* to begin with. Business enterprise thrives on the implicit threat or explicit exercise of economic power embedded in ownership, with capitalist income being the 'ransom' for allowing industry to function. As Veblen saw it, the Natural Right of Ownership was synonymous with the vested power to incapacitate:

Plainly, ownership would be nothing better than an idle gesture without this legal right of sabotage. Without the power of discretionary idleness, without the right to keep the work out of the hands of the workmen and the product out of the market, *investment and business enterprise would cease*. This is the larger meaning of the Security of Property.

(1923: 66–7; italics added)

Of course, the role of power is hardly unique to capitalism. According to Veblen, all forms of ownership were based on the same principle of coercive appropriation, which in his view dated back to the early stages of barbarism and the initial emergence of predatory social customs (1898, 1899). The differentiating factor was technological: the institutionalization of forceful seizure was intimately linked to the nature of tangible implements and to their relative significance in production. In the earlier stages of social development, forced appropriation was limited if only because there was little to appropriate and most objects were easily replaceable. But as the ‘immaterial assets’ of society started to accumulate, so did the benefit from controlling its key ‘material assets’.

The first form of property rights according to Veblen (1898, 1899) was the ownership of people, particularly women (the English word ‘husband’ and the Hebrew word ‘baal’ both share the double meaning of ownership and marriage, and in the latter case also sexual exploit). The focus of ownership has subsequently shifted (although not necessarily linearly) from slaves, to animals, to land, depending on the nature of technological development, and it was only recently that it moved primarily to produced means of production. Of course, neither slave ownership nor landed wealth was ever justified on grounds of productive contributions; both were institutionalized as a ‘right’ – by virtue of divine will or sheer force, but never as a consequence of creativity. Since the mere ownership of capital is no more productive than the ownership of slaves or land, why do economists insist it is? The answer, according to Veblen, is that economic theory had been unduly affected by the transitory institutions of handicraft existing during the transformation from feudalism to capitalism. Common sense suggested that craftsmen, working for themselves with their own material appliances, had a ‘natural right’ to own what they had made; it also implied they could dispense with their product as they saw fit – that is, sell it for an income. Handicraft and petty trade thus helped institutionalize pecuniary earnings as a natural extension of ownership-by-creativity. With exchange seen as a ‘natural right of ownership’, the very earning of income became a proof of productivity.

But this common sense is misleading. First, even at the handicraft stage, production was already a societal process. Thus, despite the myth

of 'individualism', private ownership was at least partly dependent on the dynamics of power (with the monopoly practices of guilds offering a conspicuous illustration). Second and more significantly, the institutions of handicraft were short-lived. As Veblen pointed out, technical change ushered in by the onset of the Industrial Revolution meant that production had to be conducted on a *large scale*, which in turn implied the progressive *separation of ownership from production*.

During the earlier stages of capitalism, production and business were still partly interwoven. Indeed, even as late as the nineteenth century, US 'captains of industry', such as Cornelius Vanderbilt and Andrew Carnegie, were seen as creative factors, acting as master workmen as well as astute businessmen (Josephson, 1934). This did not last for long, however, and as business became increasingly separate from industry, the implication was no less than profound. Gradually, capitalism came to mean not merely the amassment of 'capital goods' under *private* ownership but, more profoundly, a division between business and industry effected through the rise of *absentee* ownership.

The institution of absentee ownership has altered the very nature and meaning of 'capital'. Modern capitalists have become investors of 'funds', absentee owners of pecuniary wealth with no industrial dealings; their investment is a business transaction in which they acquire a claim over a future stream of money income; and accumulation involves no longer the augmentation of physical means of production, but of financial values. Under absentee ownership, capital is stripped of any tangible characteristic, assuming the universal face of money value. (Marx was of course aware of the 'financial' appearance of capital, but because this conflicted with his value analysis of constant capital, he took the easy way out, defining it away as 'fictitious capital'. See Perlman, 1990.)

Whereas most economists continue to view capital as an amalgamation of machines, structures and semi-finished commodities, for the businessman capital has long signified something totally different. In the eyes of a modern investor, capital means a *capitalized earning capacity*. It consists not of the owned factories, mines, aeroplanes or retail establishments, but of the present value of profits expected to be earned by force of such ownership.

True, neo-classicists never had a quarrel with capital as a present value of future earnings: in the long run, demand and supply made this equal to the cost of producing that capital (assuming competitive markets, perfect foresight and all the rest). But as Veblen (1908b) acutely observed long before the Cambridge Controversy, things were not that simple. If capital and capital goods were indeed the same 'thing', how could capital move from one industry to another, while capital goods, the 'abiding entity' of capital, remained locked in their original position?

Similarly, how could a business crisis diminish the value of capital when, as a material productive substance, the underlying capital goods remained unaltered? Or, how could existing capital be denominated in terms of its productivity, when technological progress seemed to destroy its pecuniary value?

For Veblen, the answer was straightforward: capital was simply not a double-sided entity. It was a pecuniary magnitude and *only* a pecuniary magnitude. The value of capital depends on pecuniary earnings, which in the final analysis depend not on the *productive* contribution of the owned capital goods and not even on the overall productivity of the company's industrial apparatus. Instead, they hinge on the *institutional* ability of the individual firm, operating as a business undertaking (rather than as an industrial unit), to appropriate part of the community's technological efficiency. What is being capitalized is not the *ability to produce*, but the *power to appropriate*.

The contention surrounding the link between profit and power persisted partly because the historical consolidation of property rights slowly substituted manipulation and authority for brute force and open coercion. With profit becoming a legal norm, power has solidified into 'structure' – at least for those subjected to it. Although force and violence remain a latent threat, earning power is now institutionalized through the conventional subordination of industry to business. For the absentee owner, industrial control is designed to generate the largest differential gain, which generally requires the *strategic limitation* of productive activity. In the normal course of business enterprise, this strategic limitation – or 'sabotage' as Veblen liked to call it – becomes the central manifestation of capitalist power.

But then what 'sabotage'? Is it not true that in order to profit, business enterprise needs to *promote* industrial creativity? The answer is *up to a point and only under certain conditions*. Earnings do depend on output, but in a non-linear way, and in following Veblen, that is why we use the notion of *strategic* limitation.

Seen as an entire social order, business enterprise has surely been far more productive than any earlier mode of social organization. Yet, in Veblen's opinion, its immense productive vitality was essentially an industrial, not a business, phenomenon. Business enterprise is possible only in conjunction with large-scale industry, though the reverse is not true. The practices of business – exchange and its surrounding institutions – are of course related to industry, but only in point of control, never in terms of production and creativity. From this a priori vantage point, business *cannot* 'boost' industry. Even companies in possession of cutting-edge technology do not promote industrial creativity; instead, they merely relax some of the constraints which otherwise limit creativity.

A business enterprise will certainly seek to incorporate new methods or products, *but only in so far as they confer an adequate differential advantage*. The R&D departments of Sony and Intel, for example, have generated more and better innovations than those actually used for profitable ends. The production of digital audio tapes (DAT) in the early 1990s, for instance, has been postponed (to the point of making the technology outdated) because several large firms could not reach a consensus regarding its effect on recording profits, a saga which has since been replayed with respect to digital versatile discs (DVD). Similarly, there is usually a substantial lag between the development and introduction of a new Intel microprocessor, depending on the balance between the success of existing models and competitive threats. Moreover, the very development of new technologies and products is often conditioned by their potential effect on existing profit and capitalization. Thus, the petroleum companies, for example, would be interested in new drilling technology but opposed to the development of alternative sources of energy; or the automobile companies would favour the development of manufacturing robots, but object to innovations which could facilitate efficient public transport (as they did earlier in the century by buying and dismantling 100 electric railway systems in forty-five US cities; see Barnet, 1980: ch. 2). The common thread here is simple: business enterprise can and does benefit from the 'state of industrial arts', but only by *restricting it to its own ends*.

Why is it so essential for business to restrict industry? The simple reason is that otherwise profit will collapse to zero. Consider again the automobile business. If the large car companies decided to produce as much as possible rather than as much as the 'traffic can bear', output could probably double at short notice. And this potential is hardly unique to automobiles. Almost every modern industry – from petroleum, through electronics, to clothing, machine tools, telecommunications, construction, food processing and film, to name only a few – is operating far below its full *technological* capacity (not to be confused with full business capacity).² If all industrial undertakings were to follow the reckless example of automobiles, the relentless pressure of oncoming goods would undermine tacit agreements and open cooperation, trigger massive downward price spirals, and sooner or later end in a great depression and a threat of political disintegration. Speculating in similar terms, Veblen (1923: 373) concluded it was therefore hardly surprising that 'such a free run of production has not been had nor aimed at; nor is it all expedient, as a business proposition, that anything of the kind should be allowed.' Profits are inconceivable without production, but they are also impossible under a 'free run' of production. For profits to exist, business enterprise must *partially restrict human creativity and livelihood below their full potential capacity*.

Industrial limitation and the normal rate of return

Extending Veblen, we can distinguish between two types of industrial limitations: (a) *universal*, 'business-as-usual' practices carried out routinely and uniformly by all firms; and (b) *differential* practices carried out by only a single company or group of companies.

To the uninitiated, universal practices of industrial limitations are practically invisible; indeed, in relentlessly trying to raise sales, business firms seem to be doing precisely the opposite. But there is more here than meets the eye. Note that the standard practice in most modern firms, documented extensively since the 1930s, is first to set the price and then to sell as much as needed to satisfy demand. What remains concealed is that the price already incorporated a predetermined profit target, which in turn implies that output must fall short of full potential. Thus, in the normal course of business enterprise, industrial sabotage is brought in, albeit indirectly, simply by 'charging what the traffic will bear' at a predetermined profit target.

This link between pricing policies and profit leads straight to the question of power. The notion that production is restricted by the ability of firms to *set* profitable prices implies that such firms possess a certain monopolistic power to begin with. Indeed, Veblen was probably the first to emphasize that even without open business cooperation, modern business competition was usually 'imperfect', and that monopoly and oligopoly were the rule rather than the exception. Moreover, even in those isolated cases where free competition is said to reign, the 'power to incapacitate' is not at all absent.

Consider a neo-classical 'perfectly competitive' firm, but instead of focusing on what it does, think of what it is unwilling to do. To illustrate, take the case of mining, where prices are presumably set by global supply and demand. Could we not argue that at least in such cases the existence of 'market prices' removes the spectre of business sabotage? The answer is no. Mining output, much like any other output, is controlled by business. The actual production of a single firm, as well as the number of firms in operation, are therefore bounded not by the state of industrial arts, but by what could be sold at a 'reasonable' profit. In fact, this is exactly what standard neo-classical theory tells the owner of a perfectly competitive firm: in the long run, have your company produce only if you expect to earn at least the 'normal' rate of return. Otherwise, shut down.

For neo-classicists who make normal returns equal to the marginal revenue product of capital, this simply assures efficient resource allocation. On the other hand, from a Veblenian standpoint which delinks earnings from production, the unwillingness to produce for less than some conventional rate of return is the very manifestation of industrial

sabotage. Thus, although perfectly competitive firms do not determine prices, their productive activity – individually and in the aggregate – is nevertheless limited by the imperative of earning the ‘normal’ rate of return.

The normal rate of return is of course a fuzzy magnitude, a convention which varies among business owners and over time. The important point, however, is that it exists in the first place. With the gradual penetration of capitalist institutions, businessmen have come to believe that the flow of profit is a *natural, orderly phenomenon with a more or less pre-determined pace*. According to Veblen, this is hardly trivial. Until a few hundred years ago, profit was seen more as a coincidence than as a regular feature of ownership. The main goal was to *retain* property, and owners of land, slaves or gold rarely expected their assets to ‘grow on their own’. But under capitalism, where the business limitation of industry grows increasingly universal, the consequent profit is regarded as ‘natural’ and its rate of expansion as ‘normal’. In this way, the strategic limitation of any given industry can prevail even in the absence of explicit binding arrangements.

The normality of profit has been so thoroughly accepted that the industrial limitation from which it derives is no longer self-evident. For instance, over the past 100 years, the US unemployment rate has averaged 7 per cent (5.7 per cent without the 1930s). However, since this rate has been associated with ‘business as usual’, most economists now take it to represent ‘the natural rate of unemployment’. In an unconscious Orwellian bent, modern textbooks casually talk about the ‘full employment unemployment rate’, ‘unemployment equilibrium’ and ‘over-full employment’ – generally without quotation marks (see for example: Branson, 1989: 188; Parkin and Bade, 1986: 282–3).

Where does the ‘normal rate of return’ come from? Paradoxically, the *universality* of profit and the regularity of its expansion are based on *specific* institutions of differential sabotage. Indeed, a normal rate of return can exist only because businessmen are never satisfied with it. What businessmen believe they are entitled to under normal circumstances is not what they seek in practice. The primal drive of business enterprise is not to meet but ‘*beat* the average’. Business performance is denominated in relative, not absolute, terms, and it is ‘getting ahead of the competition’ which constitutes the final aim of all business undertakings. This compelling desire to earn more, grow larger and expand faster *than others* is perhaps the most fundamental drive of business, and in that sense, even members of the tightest oligopolistic coalition are fiercely competitive. The *differential* essence of accumulation lies at the heart of our theory of capital, and we return to it below. For the moment, though, our focus is on how the differential limitation of industry forms the basis for the normal rate of return.

Differential returns mean above-average profit growth. This usually required raising one's *own* profit growth, though that in itself is rarely feasible without also limiting the *average* growth of profit. The problem is simple. Profit is a product of sales and the profit share of sales. Individual firms can try to raise their sales faster than the average, though that alone would not guarantee differential profit growth since sales and the profit share are not independent. If all firms push their sales up, the consequence is an overall loss of business control over industry and a resulting drop in the overall profit share of income. The conclusion – well known since antiquity but broadly institutionalized only since the late nineteenth century – is the *imperative of restricted access*: for the profits of one owner (or a coalition of owners) to beat the average, others must be prevented from accessing the same source of earnings.

The means of achieving this end are numerous, transcending both business and politics, and spanning the societal spectrum from the individual to the global. Without attempting a fuller analysis, we can mention direct 'business-like' limitations, such as predatory pricing, formal and informal collusion, advertisement and exclusive contracts. 'Political' examples include patent and copyright laws, industrial and labour policy, legal monopolies, preferential tax treatment, trade and investment pacts and barriers, as well as the occasional use of force, including military, for differential business ends (for various case studies, see: Nitzan, 1992; Bichler and Nitzan 1996a, 1996b; Nitzan and Bichler, 1995, 1996, 1997).

The negative industrial impact here is often indirect. For the beneficiary owner, the differential gain accrues because the necessary industrial limitation is borne by *other owners*. For instance, the large petroleum companies have gained from expanding world demand at least partly because they were politically able to keep smaller 'independent' companies largely out of the loop (Blair, 1976). On the other hand, when exclusion cannot be ensured, as in the case of microchips in the past few years, soaring production often ends up 'overshooting' into 'excess capacity' and falling profits. In general, then, the negative impact of business on industry is both indirect and non-linear: *while profits usually correlate positively with one's own production, beyond a certain point this correlation is maintained only in so far as production by others is contained*.

In sum, business profits are possible because absentee owners can strategically limit industry to their own ends. Such control is carried out routinely, either by pricing products towards earning a 'target rate of return' at some 'standard capacity', or by making industrial activity conditional on earning a 'normal rate of return'. Underlying these *universal* business principles are numerous *differential* practices, with individual or groups of owners trying to redistribute income via institutional change. The aim of most (though not all) differential tactics is

to restrict the industrial activity of existing or potential rivals. Their aggregate effect is to undermine the industrial community at large, which in turn gives rise to a 'normal' rate of return.

The link between differential and universal industrial sabotage is closely related to the twin cleavages pervading business enterprise – one between absentee owners and the industrial community (Marx's 'class struggle'), the other between absentee owners themselves ('competition'). On a disaggregate level, the distribution of profit among absentee owners is roughly related to the balance of *business* damage they inflict on each other. On an aggregate level, their total profit depends (although not in any linear way) on the overall *industrial* damage arising from their business warfare. In other words, business goals revolve around the distribution of profit, while business methods assure that such profit is made available in the first place.

Capital and the corporation

One reason why Veblen's analysis never became too popular is that it effectively made business capital a *negative* industrial magnitude. This conclusion is alien to both neo-classical and Marxian thinking. For the former, with its emphasis on harmony and equilibrium, the 'positive' social value of capital is hardly questionable. Marx accentuated the antagonistic social basis of capital, linking accumulation to exploitation. In parallel, however, he also stressed the relentless pressure to improve productivity – pressure which derived not from the lure of monopoly, but from the discipline of competition. And so despite the antagonism – or perhaps because of it – capitalists must use their capital in the most productive way.

Even British contributors to the Cambridge Controversy were still ambiguous on the industrial footing of capital. Sraffa (1960) broke the 'conspiracy of silence' by destroying the presumption that the profit rate measured the contribution of investment to national income, let alone to human welfare. This called into question the positive connotation of both accumulation and growth, and refocused attention on distribution (Robinson, 1971: 20). Yet, the Veblenian link between distributive power and industrial limitation remained largely unexplored, even after Robinson realized Veblen had anticipated much of her critique (Robinson, 1979: 60; 1980: 115–16). Indeed, while the Cambridge Controversy raised the possibility that capital *could* be unproductive, Veblen contended that, from an industrial point of view, it was *necessarily* counterproductive. Without the business right for a 'conscious withdrawal of efficiency', he maintained, there was no profit and thus no investment and no capital. Capitalization was determined not only by what was produced, but also by what was *not* produced. The institution of capital, by its very essence, was therefore a fetter on industrial progress.

It is essential to reiterate the a priori nature of this position. Veblen's starting point – the distinction between 'business' and 'industry' – meant that *any* extra-industrial system of distribution could operate only by limiting productive activity. Contrary to Knight (1921: 188–9), for whom 'productivity is a matter of limitation', that is, a direct *consequence* of property rights, for Veblen, the 'technological heritage' was rooted solely in the 'instinct of workmanship'. Institutions of social power and subordination could never enhance that instinct, only limit it to a greater or lesser extent. And so, even if business enterprise were shown to be the least industrially harmful of all potential modes of distribution, that still would not make capital 'productive': because business was separate from industry, profits could arise only from the former limiting the latter.

The emergence of capital as a business limitation of industry was intimately linked to the rise of the modern corporation, and to the larger use of credit as a means of ownership. The popular view, supported by mainstream economic thinking, is that the corporation is an outgrowth of technology. The corporation, we are told, is the most efficient mode of business organization, and it is this organization which enables society to reap the benefits of large-scale production. Samuelson *et al.* (1988: 453) are a typical example. 'Large-scale production', they say, 'is technically efficient, and a large corporation is an advantageous way for investors to pool the irreducible risks of business life. Without limited liability and the corporation, a market economy simply could not reap the benefit that comes when large supplies of capital need to be attracted to efficient-sized corporations.' This view is well reflected in contemporary business jargon which commonly explains the high profitability of corporate giants by equating their business size with technological 'competitiveness'.

From a Veblenian standpoint, however, this logic makes no sense. The corporation is a business institution, not an industrial unit, and so the reason for its emergence and continuous success must go beyond economies of scale. Large-scale production is a sound business practice only if it serves to raise profits, and contrary to popular conviction the link between them is not self-evident. Since the 1890s, the modern corporation has outgrown its largest industrial unit, suggesting that economies of scale are no longer the paramount determinant of business size (Edwards, 1979: 217–18; Scherer *et al.*, 1975: 334–6). A typical modern firm now owns numerous, in some cases thousands of, industrial establishments, often in unrelated industries. Moreover, while the corporation continues to grow in size, its industrial units do not. The fact that industrial size is not a necessity for business success has been brought home forcefully with the growing significance of 'outsourcing'. Many of today's corporate giants have successfully reinstated the 'putting out' system of the Industrial Revolution, the result being rising profit coupled with a *falling* payroll.

The rise of the corporation is of course related to the emergence of large-scale industry, but causality may well run opposite to what mainstream economics argues. The corporation emerged not to *enable* large-scale industry, but rather to *prevent* it from becoming 'excessively' productive.

In the case of the USA, this is well illustrated by the two principal processes charted in Figure 1. Between 1790 and the Civil War, population growth averaged 3 per cent annually. With the conquering of the western 'frontier', this fell to 2.2 per cent between the Civil War and the turn of the twentieth century, and further down to 1.6 per cent between the turn of the century and the onset of the Great Depression. The second significant development occurring in the latter half of the nineteenth century was rapid productivity growth. In manufacturing, the growth of output per employee rose from less than 0.5 per cent in the 1860s, to over 3 per cent by the turn of the century.

The crucial intersection of these two opposing trends occurred during the last decade of the nineteenth century. Until then, with population

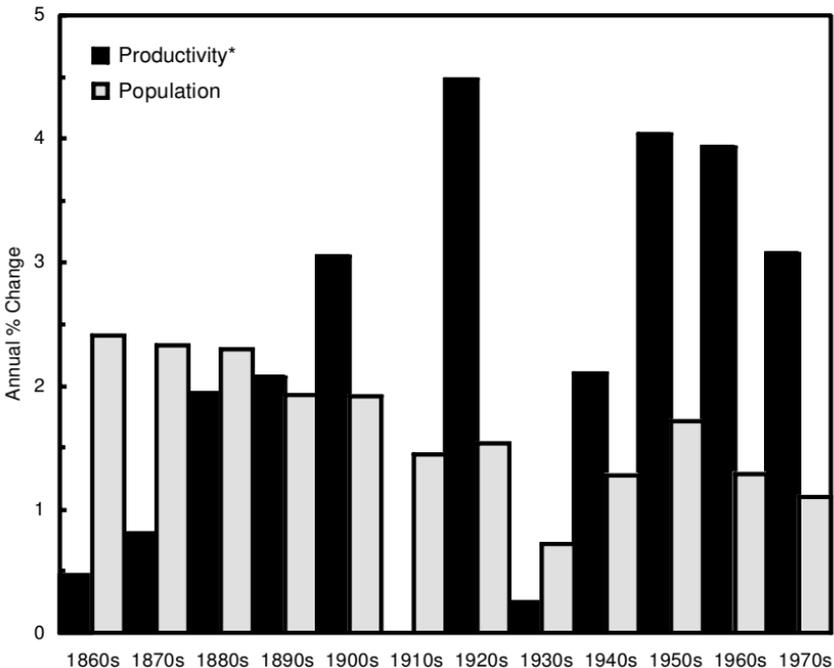


Figure 1 The productivity threat

Source: US Department of Commerce.

Note: * Labour productivity in US manufacturing, based on Edwin Frickey's Federal Reserve Board index of manufacturing production continued by the index of manufacturing production and divided by the number of manufacturing production workers.

expanding faster than productive capacity, the main concern for individual firms was how to satisfy soaring demand. Sales could hence grow at maximum potential without threatening mark-ups and profitability. This was the golden age of 'free competition'. But then things began to change. After the Civil War, the 'state of the industrial arts' benefited from an unprecedented increase in the use of new raw materials, the development and assimilation of innovations, new production techniques and growing product diversity. The net result was a marked acceleration in capacity growth. Given that this coincided with slowing population growth, the threat was that sooner or later the industrial system would become 'inordinately productive'. If the earlier pattern of competitive production were to continue, industry would tend to generate much more output than could be sold at *profitable* prices, bringing business enterprise to a halt.

It was at that point that the modern corporation as we know it was born. Until then, business combination largely took the form of 'pools' and 'trusts'. Their primary purpose was to constrain aggregate output to 'what the traffic could bear' at profitable prices. Yet as Olson (1965, 1982) convincingly argues, collaboration is usually difficult and often impossible for large groups, and an excessive number of firms was indeed a primary reason for the relative fragility of these early combinations (Chandler, 1977: 317–18; Cochran and Miller, 1961: 140–6). There was hence a pressing need to reduce the number of firms, and the most effective method was merger.

Mergers, however, were not only structural transformations but also financial transactions. They involved *buying and selling capital* which meant that *firms had to have a pecuniary value*. In short, capital itself had to become 'vendible'. The developments that followed were quick and swift. During the 1890s, the USA saw the widespread incorporation of business firms, the rapid growth of stock and bond markets and the expanding use of credit. It was in that period that the separation of business from industry was finally complete. Firms were turned into corporations and investors into absentee owners. From then on, the predicament of excess capacity remained a more or less permanent feature of US capitalism. As Figure 1 shows, productivity growth continued to run ahead of population growth. Industrial limitation therefore remained a business necessity, carried out by progressive corporate concentration and by relentless restructuring of political and business institutions.

Material wealth and corporate finance

With the corporation seen as a means of *limiting* industrial activity for business gain, accumulation can no longer be understood in terms of the underlying physical apparatus of the firm. The reason is twofold. First, accumulation is forward-looking. Being a financial portfolio,

capital denotes the present value of *expected future earnings*. In other words, accumulation normally occurs *before* the profit is earned and usually before any material equipment is created. Second and more importantly, capacity growth is an industrial activity, which, as noted earlier, could be good as well as bad for business.

The 'twisted' link between accumulation and production becomes evident from a closer examination of equity and debt. For the archaic 'captain of industry', capital meant equity; debt did not provide the direct control necessary to run industry. As capitalist ownership gradually shifted into absentee footing, however, the difference started to blur. With the show now being run by modern 'captains of solvency', equity and debt have become undifferentiated, self-expanding claims on the asset side of the balance sheet. For the absentee owner, they are both capital, qualified only by their risk/reward profiles.

Although entries on the liabilities side of the balance sheet do not stand against specific entries on the assets side, it is generally accepted that equity capitalizes the corporation's 'immaterial assets' and debt its 'material assets'. The conventional wisdom is that both 'assets' are valuable because of their productivity. The former represent the company's *unique* knowledge, client loyalty and other aspects of its supposed industrial superiority; the latter its *undifferentiated* plant and equipment.

Consider first the 'immaterial assets'. Contrary to popular perceptions, these are only marginally related, and commonly totally unrelated, to the productivity of the firm's *own* industrial apparatus. Take innovations. There is no denial that these are productive. The company books, however, capitalize not the innovation, but the patent or copyright protecting it. (Think of what would happen to the profits of Bayer or Microsoft without these legal shields.) Knowledge can generate *differential* profit only if others are *prevented* from using it. Common knowledge therefore can never be capitalized as an 'immaterial asset'. Moreover, from a broader communal perspective, the company's own contribution to knowledge is marginal at best. Any invention, even the most revolutionary, is only one step at the end of a long 'historical thought process' which is largely unprotected by property rights. Microsoft's software, for instance, could not have been developed without computer languages, the 'chip', the discovery of semiconductivity, binary logic, mathematical functions or, for that matter, human language. Such knowledge owes its existence to society at large, and was available to Microsoft free of charge. Had Microsoft followed the productivity doctrine of distribution to the letter, paying royalties on the use of such knowledge, it would have gone bankrupt in no time. Of course, some of Microsoft's principal owners have contributed to human knowledge, though it is hard to believe their contributions were in any way proportionate to their profit and capitalization. The difference is wholly attributed to power.

Moving from specific, legally sanctioned items to general unsanctioned ones, the alleged productivity of 'immaterial assets' becomes even more dubious. Corporate mergers, for instance, commonly lead to a higher combined capitalization. The effect on productive potential, however, is at best marginal and often negative, particularly when the new amalgamation is 'downsized' to shed excess capacity. The source of added capitalization must therefore be traced to the additional market or political power generated by the merger, though that is rarely admitted in public. Instead, it is minted on the balance sheet as fresh 'goodwill'. (This happened regularly during the US 'buy-and-rationalize' takeover boom of the 1980s, when 'junk bonds' were issued against higher earning expectations of the merged companies.) Indeed, the meaning of 'goodwill' has deviated considerably from its original connotation of customer loyalty based on intimate knowledge in a small community. Instead, it is now used (or abused) as a catch-all term for the power to limit industry strategically for differential business gains.

The conclusion is simple: equity accumulation capitalizes not *differential productivity* but *differential power*. In this sense, *any* institutional arrangement leading to higher profit expectations – whether it is favourable political rearrangements, the creation of new consumer 'wants', the reorganization of collusion or the weakening of competitors – will sooner or later lead to higher equity values backed by new 'goodwill'.

But then what about debt? Is it not true that, unlike equity, this is commonly backed by a material apparatus whose productive essence can hardly be denied? Does this not suggest that capital income is at least partly a function of productivity? The answer again is negative. Plant and equipment are productive in the context of industry 'at large'. It is only because of that broader context that the ownership of machines yields a right to appropriate part of the societal output. Only under these circumstances can machines be 'capitalized'.

For instance, consider a supertanker vessel. Its ability to transfer crude petroleum changes very gradually and predictably over time. Its value as 'capital', on the other hand, could vary dramatically with oil prices. The latter are affected by very broad social circumstances, such as the relative cohesion of OPEC and the large petroleum companies, Middle East wars, global growth and energy conservation. If these lead to higher oil prices, a larger share of the overall societal output will probably go to supertanker owners. The value of their tangible asset will have appreciated while its productivity did not. And there is nothing unique about oil tankers. Indeed, the same principle applies to aircraft, factories, office space and every other piece of 'capital equipment'. Their capitalized value depends not on their intrinsic productivity, but rather on the general institutional, political and business circumstances within which they are operated.

Now, on the company books, physical assets are recorded not at current market value, but at cost. Consciously or not, there is an attempt to separate the portion attributable to market power (which should hence be capitalized as goodwill), from the so-called 'true' value of the asset as measured by its historical cost. However, even that latter portion has little relationship to the productivity of the underlying equipment.

The reason is that at any point in time, the very 'cost' of producing plant and equipment is itself a function of institutional circumstances. First, if ownership of supertankers confers large profits, some of these will be appropriated by the companies producing them (as well as their workers, if they have enough bargaining power). The redistributive mechanism works through a higher selling price, recorded as higher cost by the acquiring shipping line. Second and more importantly, even under so-called normal circumstances with no differential earning capacity, the price of tangible equipment already embodies the conventional 'normal rate of return'. And as noted earlier, the latter reflects the *average* limitation of industry by business.

To sum, the distinction between stocks and bonds is rooted in institutional, not industrial, circumstances. Both forms of capital rest on power, though the nature of power is different in each case. Equity capitalizes the firm's *differential* ability to restrict industry for its own benefit; whereas debt capitalizes the *average* ability of all owners to limit industry at large.

For this reason, long-term swings in the ratio of interest to profit could be interpreted as a proxy for the 'maturity' of capitalism. Our notion of maturity here does not imply a linear or even an upward progression, but merely the strength and solidity of business institutions. Viewed in this light, the 'maturity' of capitalism is intimately linked to the nature of earning expectations and their associated forms of capitalization. Frankel (1977, 1980) sees the basic difference between equity and debt as a question of trust: the former represents an *expected return*, the latter a *promise of return* (1980: 20). But then, under business enterprise, the progression of trust among owners depends on the 'normalization' of their power. For this reason, we can expect that as capitalism matures and industrial control is increasingly petrified into accepted institutions, perceptions of 'risk' should decline, 'trust' should rise and debt should become an increasingly acceptable form of accumulation. Conversely, when changing circumstances work to loosen the previous grip of existing conventions and understandings (and in that sense 'invigorate' capitalism), debt should become relatively more difficult to issue, and the more 'risky' equity investment should again be used as the primary vehicle of capitalization.

Following this logic, we expect the maturity of capitalism, approximated by the share of interest in total capital income, to be positively

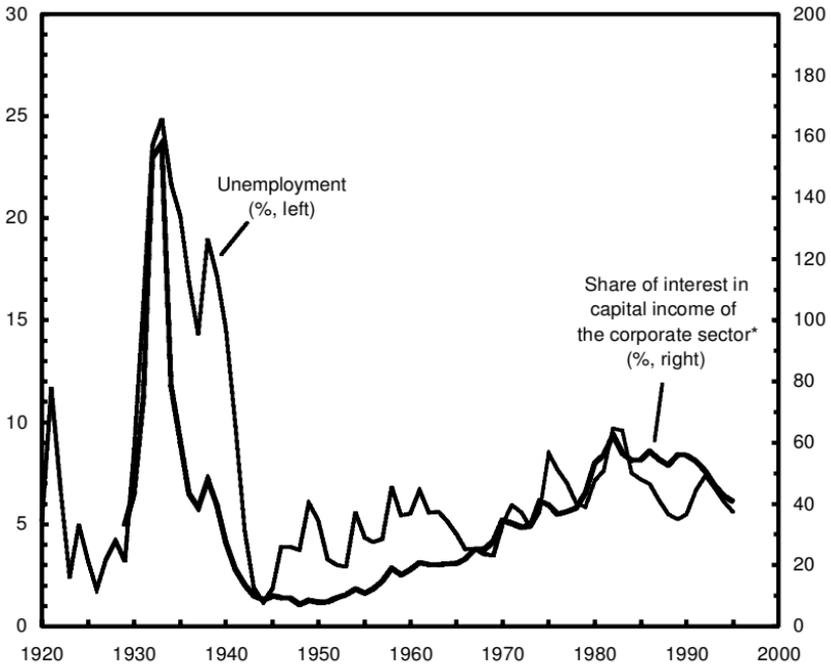


Figure 2 Business trust and industrial sabotage

Source: US Department of Commerce; *Economic Report of the President*.

Note: * Capital income comprises pre-tax corporate profit (with capital consumption allowance and inventory valuation adjustment) and net interest.

correlated with 'industrial sabotage'. And, indeed, this seems to be the case in the USA, as illustrated in Figure 2. Since the early 1930s, this index of maturity has been closely correlated with the unemployment rate, a readily available (albeit imperfect) proxy for industrial limitation. At first sight, the relationship seems intuitive and not particularly significant. After all, economic fluctuations affect profit more than interest, so when unemployment rises so should the ratio of interest to overall capital income. However, this triviality holds only in the short term. In the longer haul, interest payments are much more flexible, so there is no *technical* reason for their share in total capital income to correlate positively with unemployment. That such correlation exists is therefore significant.

The 1930s and 1940s were marked by great turbulence, with business control over industry first growing 'excessive' and then, with the war-induced boom, turning 'too loose'. The 1950–80 period was much more stable. Business has slowly regained control over industry, boosting confidence in the regular flow of capital income and 'trust' among

lenders and borrowers. The consequence was a gradual rise in unemployment on the one hand and a shift from profit to fixed income on the other. Since the mid-1980s, the increasing globalization of business enterprise and the progressive opening of the US economy have reversed or at least counteracted this trend. Existing business institutions have come under assault and the ability to control industry for business ends has been somewhat compromised. The result has been falling unemployment, coupled with a drop in the ratio of interest to capital income, as the 'promise' of return weakened relative to the mere 'expectation' of return.

3 CAPITAL AS POWER: THE MEGA-MACHINE

The essence of accumulation is an interaction between production and power. So far, we have dealt with power as a *means* of accumulation. Now we shall argue that power is also the *final end* of accumulation. From this latter perspective, material measurements of capital, regardless of their feasibility, are irrelevant. As a quest for power, capital is inherently *relative* and must therefore be measured *differentially*. Capital represents an abstract distributional claim. Its essence as power, however, goes beyond the overall distribution of 'rewards', as suggested by Parkin (1971: 46) for example. The reason is that what workers stand to 'lose' is *qualitatively different* from what capitalists seek to 'gain': the former are giving up *goods and services*, the latter win *control over social production itself*. In other words, it is only for the capitalist that distribution means power; for the worker it is largely a matter of well-being. In dealing with the power drive, therefore, our focus, at least as a first approximation, is not on society in general, but on those who dominate it.

Material and symbolic drives

One of the most comprehensive attempts to understand the interaction between technology and power was offered by Lewis Mumford (1934, 1961, and primarily 1967, 1970). Mumford challenged the conventional emphasis on material technology, arguing instead that techniques were integral to man's higher culture. The final aim of technology, he maintained, was society rather than nature. Indeed, the most complex machines were not tangible but social.

Thus, whereas Veblen emphasized the progressive separation between the positive aspects of material technology and negative features of social power, Mumford (who was greatly influenced by Veblen) suggested a different dichotomy between democratic and authoritarian technologies. Democratic technology centred on *human progress*; authoritarian technology focused on *human control*. Rather than following Veblen's notion of

power as a fetter on technology, Mumford began by viewing power itself as a form of technology.

Contrary to the conventional wisdom, Mumford emphasized the *symbolic* aspects of human development. Limited by the material bias of their profession, he argued, archaeologists were naturally disposed towards judging human progress on the basis of physical objects. 'Man the maker', however, was a fairly late arrival, preceded by other, less visible but equally important mental activities. Moreover, the growth of material production has hardly diminished the primacy of symbolic drives.

According to Mumford, perhaps the most important human technology – invisible to archaeology until the invention of writing – is language. Material technology of the palaeolithic and neolithic cultures (and in some sense even of our own age) remained infinitely inferior to the complexity, flexibility, uniformity, efficiency and growth of their spoken language. It is unclear how long language took to develop, but according to Mumford little of what followed could have been achieved without the prior construction of this wholly symbolic technology. Moreover, it is unlikely that the development of language was driven by the everyday imperatives of survival – the hunting pack was dependent on short commands and had little use for the subtlety of language common even among the most primitive tribes still living today. According to Mumford, the principal drive was self-discovery.

Mumford argues that the latent function of language – much like the earlier appearance of ritual and taboo and the subsequent evolution of science and technology – was *to control, for better or worse, man's own mental and emotional energies*. In many ancient cultures, words were considered the most potent force: God is commonly believed to have created the world with his words, a feat of power which humans have since striven to emulate. Both in goal and structure, language was a precursor for all later technological developments.

Mumford differentiated between two qualitatively distinct technologies: one associated with the democratic outlook of neolithic culture, the other with the power bias of 'civilized' society. In his opinion, their distinct paths stem from a different reaction to death: neolithic technology takes the 'biological' route, seeking to enhance life, while accepting the inevitability of death. Power technology, on the other hand, uses 'mechanical' force and violence in the vain hope of achieving immortality.

Neolithic culture does not see work as alienating labour, but rather as a communal process intertwined with the broader ecological system. Work is often back-breaking, but physical toil is compensated by companionship, cooperation, song and rhyme, and aesthetic achievements are valued no less than abundance of yield. Indeed, many early feats of domestication – such as fertilization, the sacrifice of food for

future growth, the harnessing of cattle and the use of a plough – were probably practised first as religious rituals. Feminine traits abound – from the lunar cycle linking cultivation to menstruation and sexuality, through the primary role of containers (pot, jar, house, village), to the careful cultivation of gardens and the patient rearing of children. Festivities, ceremonies and rituals revolve around the family, neighbours and community. Eating, drinking and sexual activity occupy a central place. There is no lifetime division of labour. Knowledge is rarely monopolized, and most types of work could be performed by all members of the community. Systemic gender inequality is uncommon. There are no social classes and authority stems from age. Violence is limited and dictatorial power rarely tolerated.

Neolithic culture established the merit of morality, self-discipline, cooperation and social order. It has shown the value of public goods and forethought. Most importantly, it has proved the most resilient social organization, always outlasting the far more energetic yet vulnerable power civilization. These aspects of neolithic culture, Mumford argues, did not disappear with the archaic village. As a form of social technology, they persist within modern society – sometimes visibly as in villages, communal organizations and even business companies, and at other times invisibly as resistance to the dictates of mechanical civilization.

Mumford makes no attempt to romanticize. Neolithic culture, he points out, has significant shortcomings. The exclusive nature of small associations restricts human interaction, the horizons are limited, and pettiness and suspicion prevent broader cooperation. After an initial burst of discoveries and inventions, neolithic innovation died down and stagnation set in.

Against this backdrop of a peaceful if limited form of democratic organization, rose the spectre of power civilization under the authoritarian rule of divine kingship. The first of these social amalgamations evolved in the great river deltas – from Egypt, through Mesopotamia, to the Indus Valley and China. According to Mumford, their unifying hallmark was *absolute power*. The need for such power was partly rooted in material circumstances. Economic surplus and the consequent amalgamation of wealth had for the first time created the possibility of ‘total loss’. A large and growing population, subdivided by advancing division of labour, was becoming increasingly interdependent. Under these conditions, flooding, drought and later total war could have easily spelled catastrophe, perhaps complete annihilation. Whereas neolithic culture could flexibly respond to the first two and rarely faced the third, in the urban amalgamates of the deltas these had to be counteracted resolutely and ruthlessly. And given the large scale of activity, that could be achieved only through the sanction of absolute authority.

But as Mumford argues, material considerations tell only part of the story; the more important part was symbolic. The rise of power civilization was accompanied by the appearance of the *sky gods*. Neolithic earth gods, attuned to the 'micro' biological cycle of fertility and operating on a human scale, were no longer sufficient for the task at hand. For the kings, risk of disaster made failure increasingly unacceptable, thus amplifying the ever-present fear of death. Neolithic culture, humbled by its limited potential, had to accept mortality, but kings were no longer bounded by neolithic horizons. Control over a growing economic surplus and larger populations suggested to them, admittedly with some justification, that the 'skies were the limit'. Expanding insight into writing, mathematics and astronomy gave their task cosmic proportions. But rationality grew hand in hand with irrationality, and the king, dazzled by his own achievements and fears, was driven towards the ultimate feat of becoming an immortal sun god himself.

Power civilization appeared after rising agricultural productivity had for the first time enabled a systematic generation of surplus. According to Mumford, it was probably at this point that hunting chiefs who earlier entertained symbiotic relationships with neolithic settlements, first discovered the promise of redistribution. Weapons, which previously were used primarily against animals, were increasingly applied against people, and total war had become a permanent institutional feature. (Neolithic excavations offer little or no evidence of fortification or weaponry. The first fortifications are associated with urban centres, while heaps of cracked skulls – early evidence of organized murder – do not appear until kingship.) From then on, civilization has been on a power trip to control nature and, most importantly, humans.

The mega-machine

According to Mumford, the first power machine was social. In attempting to emulate the perfect cosmic order so as to annul their own mortality, kings have turned to design, assemble and operate a human *mega-machine*. Absolute control of this mega-machine served as evidence of supernatural power, and its most fantastic output – megalomaniacal graves – was supposed to open the gate to immortality.

The mega-machine constructed by early kingships, says Mumford, typically comprised three principal components: a *labour machine* of peasant conscripts toiling in the erection of public works; a *military machine* needed to impose internal discipline and later to engage in war; and a *bureaucratic machine* to keep the accounts. Control was in the hands of a coalition comprising the royal court and the high priesthood – the former maintaining a monopoly over physical force, the latter over knowledge and ideology. Division of labour and advanced specialization

(Egyptian mining expeditions, for instance, had up to *fifty* different job descriptions), strict regimentation, uncompromising discipline and tough punishment have reduced the workers, soldiers and officials in these organizations to a state of near-mechanical components. Initiative was all but forbidden and flexibility disallowed. Taken as whole, these organizations formed 'a combination of resistant parts, each specialised in function, operating under human control, to utilize energy and to perform work'. In short, they fulfilled all the requirements of Franz Reuleaux's classic definition of a machine (Mumford, 1967: 191).

The fusion of rational insight and highly irrational aspirations resulted in a massive explosion of what we today call 'productivity'. Seen from a material standpoint, the technological achievements of the early megamachine – particularly the construction of the pyramids – remained unparalleled until our own epoch. But the more significant contribution, according to Mumford, was the construction of the human megamachine itself. It was here that the three basic principles of mechanization – complex coordination, dehumanization and remote control – were first applied. The original object of mechanization was *society itself*. Indeed, Mumford argues that just as the cosmic world view was a necessary prerequisite for the adoption of universal weights, coins, the calendar and clockwork, so was the human megamachine the ultimate model for subsequent non-human mechanization.

The megamachine enabled human beings to transcend for the first time some of their own biological limitations. The principles of universality, order and predictability opened the door to a continuous expansion of knowledge. Urban amalgamations created by the first megamachines opened new horizons for human interactions, triggering a flurry of creativity difficult to achieve in small disjointed neolithic settlements.

But the unleashing of such positive forces was neither the prime purpose nor the most important consequence of the megamachine. According to Mumford, the ultimate goal of human organization on a large scale was and remained the *exertion of social power*. The use of brute force was more than a means of exacting obedience; it was the very manifestation of a power civilization. Human sacrifice, though predating kingship, has become a growing preoccupation and slowly institutionalized, if only unconsciously, in the form of war. In its extreme incarnation, argued Mumford (1967: 184), kingship was a 'man eating device', and the cannibalistic lust of earlier kings has repeatedly resurfaced in subsequent appearances of social megamachines. Even today, wealth (capital) and the death penalty (capital punishment) remain linked to the same root, *caput*.

In sum, Mumford puts the power orientation of the megamachine model in sharp contrast to the democratic features of neolithic society. With the rise of the megamachine, neolithic dispersion had been replaced

by power concentration, ecological production by mechanization, lack of specialization by lifelong division of labour, limited local violence by the institutionalization of total war, cooperation by exploitation, forced labour and slavery, and egalitarianism by a class structure.

The resurrection of the mega-machine: the normal rate of return

Eventually, the mega-machines of the great deltas crumbled under their own weight. For all their external might, they were internally vulnerable: dehumanization and obedience stifled initiative, and the preoccupation with power and death was bound to undermine legitimacy. And when the 'myth of the machine' died – that is, when the power structure no longer fulfilled the Pharaoh's promise of 'life, prosperity and wealth' – the social pyramid was liable to falter.

But according to Mumford, the 'myth of the machine', much like neolithic culture before it, has outlived its first historical incarnation. In the sixteenth century, after more than two millennia of relatively small-scale social organization, power returned to centre-stage. The most significant sign was the resurrection of the sky gods and the growing assimilation of Galileo's mechanical world picture. Within only a few centuries, mechanization has once again taken command – so much so that in 1933 the entrance to the World's Fair at Chicago could proudly boast: 'Science explores: Technology executes: Man conforms.' This, together with the title of the fair – 'The Century of Progress' – attest to the extent to which the 'myth of the machine' has been restored (Mumford, 1970: 213).

Extending Mumford, we argue that the new mega-machine was in fact much more powerful than the old. In his writing, Mumford focused mainly on the newly resurrected institution of kingship and on its successor, the sovereign state. But lurking under the surface and soon rising to prominence was another, perhaps more potent, power structure which Mumford did not emphasize: *capital*. In our view, capital fulfils all the characteristics of a mega-machine. Based on a fundamental belief in the 'normal rate of return', it is a symbolic crystallization of power, exercised over a large-scale human organization, typically by a small group of people – the large absentee owners. As a symbolic shell, capital wraps within it not production for the sake of welfare, but production as a means of power. The quantitative nature of accumulation therefore involves the mechanization not of industry, but of social relations in general.

The renewed mechanization of social structures has led many to believe that capital – which they erroneously equated with machines – was on the decline. One of these was Galbraith (1967, 1983), who mistakenly interpreted the return of the mega-machine as a new social

organization, the 'technostructure'. Beginning by assuming that property was distinct from organization, he went on to argue that capitalists became dependent on knowledge and hence lost their primacy to the technocrats. Galbraith himself provided no real evidence that this was indeed the case, although following *The Modern Corporation and Private Property* by Berle and Means (1932), and *The Managerial Revolution* by Burnham (1941), he was not alone in inferring that ownership was becoming increasingly separate from control.

Despite their popularity, however, the 'separation thesis' and the consequent belief that capital was on the decline were founded on pretty shaky grounds. As Zeitlin (1974) convincingly shows, the direct evidence, including Berle and Means's own study, was dubious from the very start, and the separation of ownership from control was largely a 'pseudofact' (neither the earlier data nor those furnished by subsequent attempts have been able to show that such separation has actually taken place). Zeitlin's critique is corroborated indirectly though no less forcefully by the data in Figure 3. If capital was indeed on the descent, the earnings of its owners should have diminished in significance. The evidence, however, shows the exact opposite. In the USA, where systematic historical data are available, the combined share of pre-tax profit and interest in national income has in fact shown an *upward* trend since the 1920s (recall that we treat both interest and profit as capital income). Not surprisingly, the idea of the technostructure proved a passing fad (at least outside academia). Knowledge of production techniques is not a prerequisite for exacting obedience. In the final analysis, it is the owners, not the engineers, who are in the driver's seat, and their ultimate goal is not 'continuity', 'security' or 'sales growth' as Galbraith would have us believe, but accumulation.

The underlying driving force of large-scale business organizations is not fundamentally different from that which propelled early kingships and the sovereign state. As power structures, all seek to control nature and, ultimately, human beings. Business enterprise does this through the differential appropriation of profit. In the process, it unleashes the community's industrial knowledge, but only partially. Because profits are contingent on the strategic limitation of industry, it follows that the final purpose is not the *growth* of industry, but the *control* of industry.

And it is here that the new mega-machine is potentially more powerful than the old. The basic reason is that unlike kingship and the sovereign state, capital is vendible. This has several related implications. First, *power can be bought and sold* and, as a result, *can be augmented on an ever-increasing scale*. Unlike the old mega-machines, whose expansion was inherently limited by their ability to amass physical symbols of prowess such as pyramids, canals, public works and large standing armies, the growth of capital is *potentially boundless*. Capitalists increase

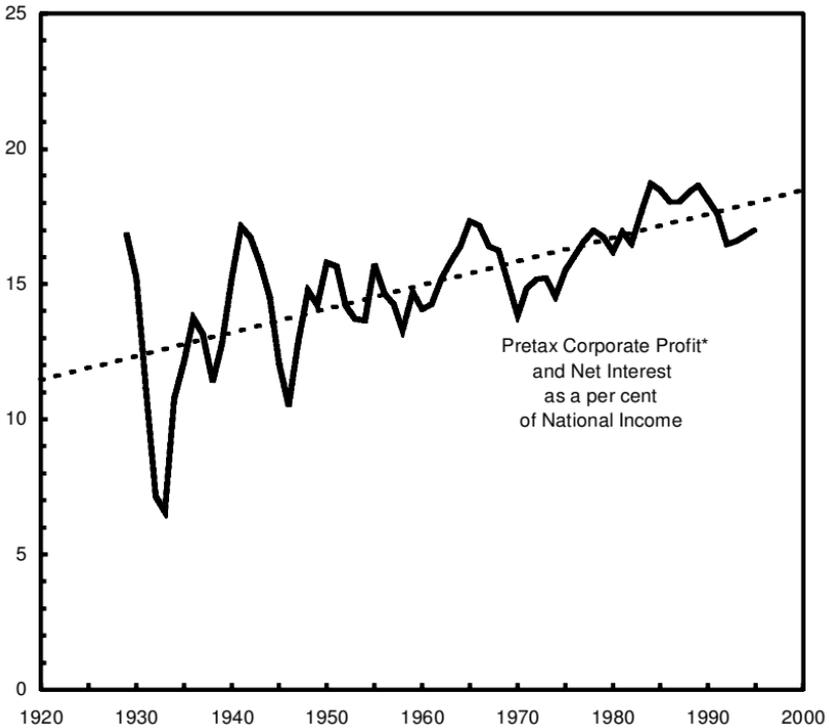


Figure 3 Capital's share of income in the USA

Source: US Department of Commerce.

Note: * Including capital consumption allowance and inventory valuation adjustment.

their power by accumulating ownership titles over the entire social production process, and the only limit on such ownership is an all-encompassing, global monopoly. Second, contrary to earlier forms of power which expanded largely by force, capital can do so peacefully as well. Instead of exerting punishment, it expands mainly by extending reward (although its differential limitation of industry is itself a form of 'punishment'). Third, compared with previous mega-machines whose power symbols were often culture-specific, capital is far more universal. Regardless of its underlying contents, its shell is always the same: *a pecuniary growth of money values*. By the late twentieth century, the universality of capital has reached the point where its symbols have been reduced to electronic flickers, bits and bytes parked in computer storage or racing the information highways.

By virtue of its limitlessness, versatility and universality, capital has become much more *flexible* than earlier mega-machines. Whereas kingship and the sovereign state are relatively rigid social structures, capital is highly malleable. When destroyed through loss or bankruptcy,

large-scale capital commonly resurrects itself through merger and realignment. Indeed, *this flexibility is what makes 'capital accumulation' possible in the first place.* The significance of such pliability can hardly be overstated. If orthodox economics was right, and capital was indeed a physical amalgamation of 'machines' or 'production lines', its immobility would have made accumulation impossible. On the other hand, if we treat capital as a human mega-machine, a structure of *social* control, capitalization and recapitalization become possible as business organizations adapt to a changing reality. Literally, capital can be accumulated only because it is *not* a physical entity.

Extending Mumford, we can therefore argue that the 'myth of the machine' has progressed in a series of increasing abstractions: from kingship, through the sovereign state, to capital. The acceptance of mechanization as a social mode of organization is now reflected in the 'normal rate of return', the belief that the expansion of power is the 'natural' order of things. And since the quest for power should be treated symbolically, capital, by virtue of being the most abstract form of power, is in that sense also the highest form of power. The first step towards a power-based theory of capital, therefore, is to integrate power into the *definition* of accumulation.

4 DIFFERENTIAL ACCUMULATION

Mainstream as well as Marxian economics view profit and accumulation as related though distinct concepts. Profit is seen as a potential source of accumulation, but accumulation is said to take place only if the profit is 'invested' in newly produced plant and equipment, and in more roundabout production processes. We reject this interpretation. As a crystallization of power, accumulation has little to do with so-called 'real investment' *per se*. As noted earlier, capitalization is a forward-looking process. What is being accumulated are claims on the future flow of profit. The pace of accumulation therefore depends on two factors: (a) the institutional arrangements affecting profit expectations; and (b) the normal rate of return used to discount them into their present value. The effect of rising industrial capacity on these factors is not only highly complex and possibly non-linear, but its direction can be positive as well as negative.

But then if capital is not 'tangible', how should its accumulation be measured? Surely, the mere augmentation of money values tells us little about power, particularly in the presence of inflation or deflation. The answer is rooted in the *relative* nature of power. The power of the absentee owner is the power to control part of the social process, and that becomes meaningful primarily against the power of other owners.

The relative nature of power is not unique to capitalism, of course.

Kings have gauged their power against other kings, states against other states. But in these earlier mega-machines, comparisons were still largely subjective and their social significance more limited. It is only under capitalism, where power could be 'objectively' quantified through the pecuniary units of capital accumulation, that the relative essence of power rises to centre-stage.

Absentee owners exercise power over society in general, though their reference point is usually much more focused. *The power of capitalists – at least in their own minds – is gauged relative to other capitalists.* Some Marxian economists, for example Bowles *et al.* (1986, 1990), have offered to weigh capitalist power more widely – relative to workers, foreign suppliers and the country's citizenry, among others (see also Kotz, 1994, for a review). These proxies of power differ from ours in two respects. First, they tell us little on the distribution of power among capitalists. Second, they do not bear directly on the *measurement* of accumulation. They treat power and accumulation as separate categories, whereas for us *power is the very essence of accumulation.*

For the individual absentee owner, the rate of accumulation is relevant primarily in comparison to some benchmark. Economists tend to use a price index as such a benchmark, ostensibly in order to express accumulation in 'real' terms. Consciously or not, this procedure makes hedonic pleasure the ultimate purpose of profit. Capitalists, we are told, are never satiated, and regardless of how much they consume (or save for future consumption), they are relentlessly driven to 'maximize' their profits in order to augment their utility further and further. The problem with this logic is twofold. First, capitalists are of course concerned with consumption, but beyond a certain level of wealth, it is only marginally affected by their rate of accumulation. Moreover, profit-induced consumption is usually conspicuous – that is, aimed at establishing a *differential* status. This is highly important, because once we move into the realm of conspicuous consumption, the notion of 'real profit' assumes an entirely different meaning: higher prices, which from a utilitarian perspective imply a lower real income, for the conspicuous consumer often mean the exact opposite, since they bestow a higher differential status. The second difficulty is that, despite endless academic debates, the precise meaning of 'profit maximization' is still unclear. Capitalists may of course wish to earn 'as much as possible', but since the maximum attainable profit is for ever unknown, the principle seems irrelevant in practice.

In reality, accumulation is benchmarked not against a price index, but against its own average. Capitalists focus on *differential* accumulation. Rather than subject themselves to the absolutism of 'profit maximization', they commonly seek something much simpler: to 'beat the average'. Indeed, for the absentee owner there seems to be no greater

disgrace than falling consistently below the 'normal rate of return'. Unlike the elusive 'maximum', reference to the 'normal' and 'average' is everywhere. Large companies gauge their performance relative to listings published by periodicals such as *Fortune*, *Business Week*, *Far Eastern Economic Review*, *Euromoney* or *Forbes*; fund managers are hired and fired according to whether they exceed or fall short of their relevant benchmark; and stock performance is meaningless unless compared to market or industry indices. In fact, the notion of normality as a benchmark for competitive achievements has been so thoroughly accepted in capitalist society that it now dominates numerous non-business spheres, such as education, sports, the arts and even foreign relations, where GDP per capita, growth rates and the like are constantly contrasted with regional or global averages.

Our general aim is to define capital as a *differential power claim over the social process*. The issue is of course highly complex and cannot be fully explored here, but the following tentative suggestions may offer a useful starting point.

- 1 The 'differential power of capital' (*DPK*) possessed by a particular group of owners should be measured relatively, by comparing the group's combined capitalization to that of the average capital unit. If this average is \$5 million, capital worth \$5 billion represents a *DPK* of 1,000. It means that as a group, the owners of that capital are 1,000 times more powerful than the owners of an average capital.
- 2 With this definition, the pace of 'differential accumulation' (*DA*) is given by the rate of change of *DPK*. Positive, zero or negative rates of *DA* imply rising, unchanging or falling differential power, respectively.
- 3 Strictly speaking, only capitalists with a positive *DA* are said to 'accumulate'. The study of accumulation should therefore have them at its centre.

Within this simple framework, the next question concerns the proper unit of analysis. Note that our focus here is not on the individual owner, but on a group of owners. The reason is that the vendability of capital creates centrifugal as well as centripetal forces, thus limiting the power of any single capitalist. In counteracting the centrifugal forces, the elementary solution is the corporation itself. But the need for business to control industry means that collective action usually requires corporate coalitions (overt or tacit). As a first approximation, therefore, our emphasis is on a corporate cluster of '*dominant capital*' – a concept which we tentatively use to denote the most powerful/profitable corporations at the centre of the economy.

Operationally, we define differential accumulation as the rate at which the capitalized income of 'dominant capital' expands relative to the

economy's average. Because capital income includes both profit and interest, the proper aggregate is that of total assets (rather than owners' equity). Given the forward-looking nature of capital, this could be measured by the market value of all outstanding equity and debt. However, this measure is often 'contaminated' by investor 'hype' – that is, by swings of optimism and pessimism which respond more to the prospects of capital gain and loss than to a cool-headed assessment of future earnings and the likely course of the 'normal rate of return' (Nitzan, 1995, 1996). The alternative is to use 'book value' as reported in the financial statements. This is a somewhat 'lagging' indicator for capitalization, reflecting earning expectations prevailing when the assets were first recorded. However, given that differential accumulation is concerned with relative rather than absolute values, the benefit of relative stability may well offset the drawback of inaccuracy, particularly over the longer term.

Applying this definition to the US case, Figure 4a provides capitalization indicators for a 'typical' corporation of the 'dominant capital' group, as well as for the average corporation in the economy. 'Dominant capital' is provisionally defined here as equivalent to the 500 largest US-based industrial companies, listed annually since 1954 by *Fortune*. This group is limited to publicly traded companies with 50 per cent or more of their sales coming from manufacturing and/or mining. Diversified companies, those relying more heavily on other lines of activity, and private firms are excluded. (Since 1994, the *Fortune* 500 coverage has been expanded to the entire universe of publicly traded companies. For consistency, our series ends in 1993.) Based on these data, the average capitalized income of 'dominant capital' is given by the total assets of the *Fortune* list divided by 500. Two proxies for the economy's average are given by dividing total corporate assets by the number of corporate tax returns – first for the economy as a whole, and then for the combined mining and manufacturing sector, both using data from the US Internal Revenue Service. (For comparison, all series are rebased with 1954 = 100.)

Figure 4b charts two alternative measures for the differential power of capital (*DPK*) possessed by an average *Fortune* 500 company, one based on comparison with the average US corporation, the other on comparison with the manufacturing and mining average. With a logarithmic scale, the slopes of the two *DPK* series indicate the difference between the rate of accumulation of a typical company in the 'dominant capital' group, and the average rate of accumulation in the broader corporate universe. These slopes therefore provide proxies for the rate of differential accumulation (*DA*) by US 'dominant capital'.

What do the figures tell us? Most generally, they suggest that US differential accumulation has proceeded more or less uninterruptedly

for the past four decades, and possibly longer. Relative to the manufacturing and mining average, differential accumulation by US 'dominant capital' has averaged 2 per cent annually (the slope of the trend line). The broader comparison against the economy's average suggests a far faster rate, averaging 3.8 per cent. In fact, even this higher rate may well understate the pace of differential accumulation. There are two reasons for this. First, our *Fortune* 500 proxy for 'dominant capital' is heavily biased towards manufacturing and mining which have tended to decline vis-à-vis the tertiary sector. As a result, the generally faster-growing service-oriented companies are excluded from our 'dominant capital' proxy but included in the economy's average. Also, over the years, some of the *Fortune* 500 became 'too' diversified and were dropped from the list, although conceptually they remained an integral part of 'dominant capital'. For these reasons, an alternative proxy for 'dominant capital', based solely on size, is likely to show an even faster rate of differential accumulation.

Seen as a *power* process, US accumulation appears to have been on a sustainable keel throughout much of the postwar era. This conclusion is hardly intuitive. Indeed, according to the analysis of the regulation and social structure of accumulation (SSA) schools, the USA has experienced an accumulation *crisis* during that very period, particularly since

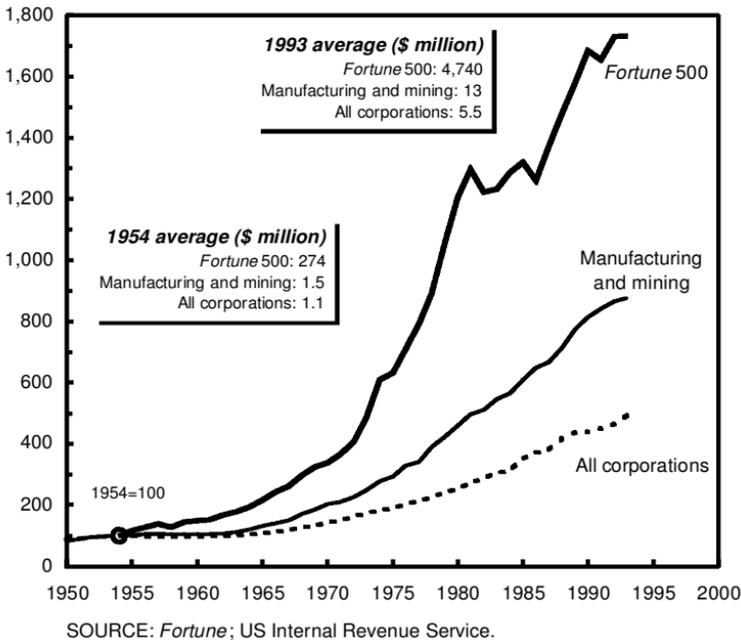


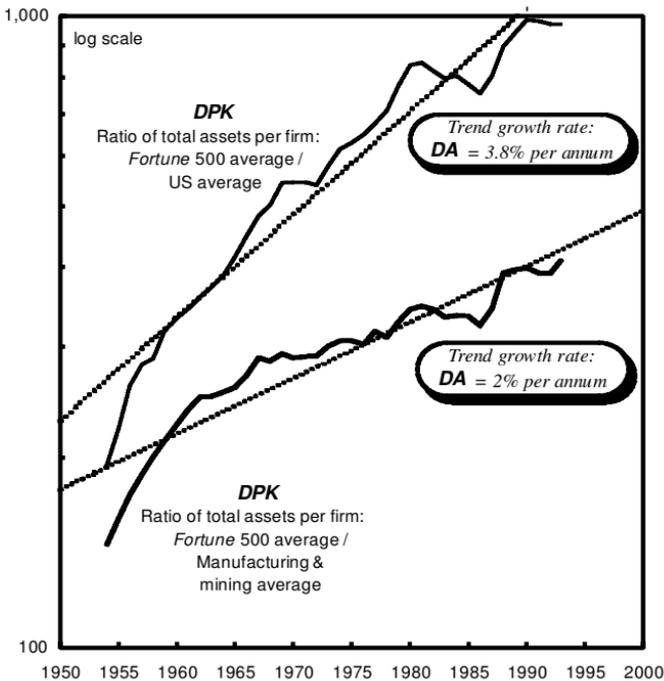
Figure 4a Total assets per firm in the USA (rebased)

Sources: *Fortune*; US Internal Revenue Service.

the late 1960s. How is this difference possible? In our view, the reason is rooted in the troubled definition of capital. The conventional wisdom which focuses on profit (rather than capital income as a whole) indeed suggests a crisis. Figure 5a shows that net profit as a share of national income has been on a downward trend; and given that profit is seen both as the principal source of investment finance as well as its major inspiration, it is then only natural that accumulation (measured in material rather than power terms) should follow a similar downward path, as the figure patently confirms.

This notion of accumulation crisis lies in sharp contrast to the evidence based on differential accumulation. As illustrated in Figure 5b, unlike profit, *total* capital income has in fact shown an upward trend since the end of the Second World War, reaching a record high during the 1980s. These data show no sign of crisis; if anything, they indicate that capital income has grown *increasingly abundant*.

From a conventional viewpoint, this evidence presents a serious theoretical inconsistency: if capital income has indeed risen, why did it not



SOURCE: *Fortune*; Internal Revenue Service.

Figure 4b Differential accumulation in the USA

Sources: *Fortune*; US Internal Revenue Service.

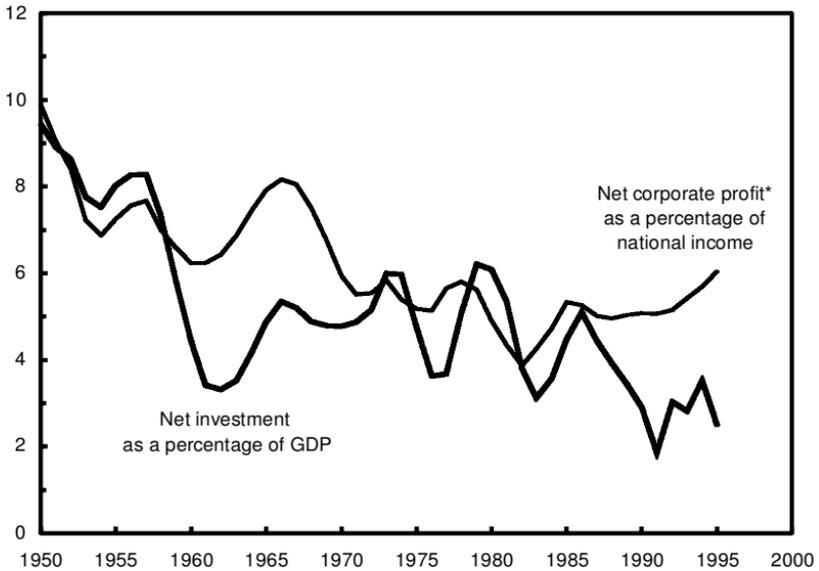


Figure 5a An accumulation crisis? ...

Source: US Department of Commerce.

Notes: Series shown as three-year moving averages.

* Including capital consumption allowance and inventory valuation adjustment.

fuel a 'real' investment boom? From a Veblenian viewpoint, on the other hand, the two developments are consistent: capital income depends not on the *growth* of industry, but on the strategic *control* of industry. Had industry been given a 'free rein' to raise its productive capacity, the likely result would have been *excess* capacity and possibly a *fall* in capital's share. From this perspective, it is entirely possible that the upward trend of the income share of capital occurred precisely because 'real' investment declined.

To close the circle, note that the postwar upward trend in the income share of capital coincided with the positive path of differential accumulation by 'dominant capital' (Figure 5b). This relationship is hardly trivial, at least from the viewpoint of economic orthodoxy. Neo-classical analysis, for one, suggests that because of diminishing returns, accumulation (defined as rising capital goods per head) should be associated with lower rates of returns and hence downward pressure on the income share for capital. Marxist analysis is more ambivalent on the issue, accepting on the one hand that distribution could depend on power, but remaining hostage to the labour theory of value in which a rising organic composition of capital is a depressant of surplus.

DIFFERENTIAL ACCUMULATION

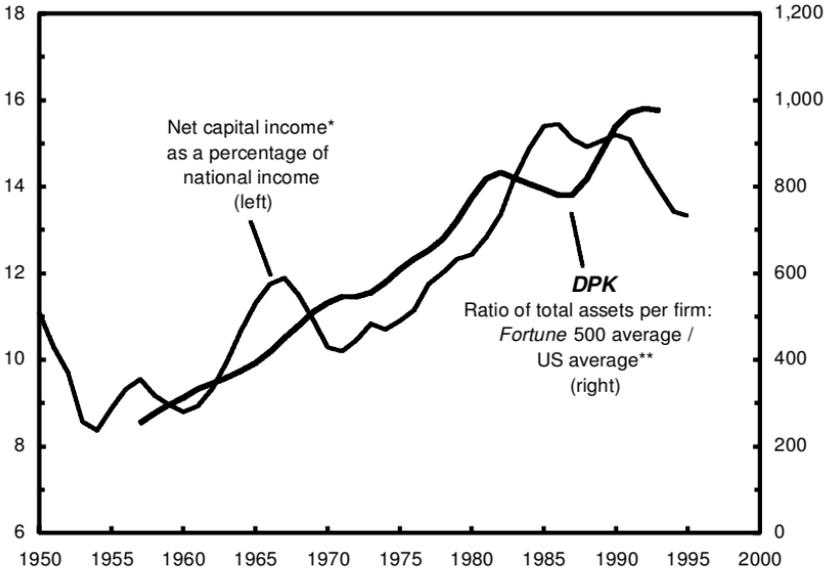


Figure 5b ... Or a differential accumulation boom?

Sources: US Department of Commerce; US Internal Revenue Service; *Fortune*.

Notes: Series shown as three-year moving averages.

* Net capital income is the sum of after-tax corporate profit (with capital consumption allowance and inventory valuation adjustment) and net interest.

** US average comprises all corporations.

From a Veblenian viewpoint, however, the positive association between accumulation and capital's income share is exactly what one would expect. Accumulation is a power process, not a material one. Defined in differential terms, it involves the growing relative power of the economy's leading business concerns, which in turn helps sustain or expand the overall income share of capital. This is consistent with our analysis in the second section, where we suggested that the distribution of capital income among absentee owners (and hence the differential rate of accumulation) is roughly related to the balance of *business* damage they inflict on each other, whereas the income share of all absentee owners depends (although non-linearly) on the overall *industrial* damage arising from the business warfare raging among them.

These observations lead us to the following tentative proposition about the general nature of modern capitalism. A *sustainable regime of capital accumulation* is defined by two related long-term conditions:

- 1 A non-negative rate of differential accumulation by the 'dominant capital' group, which suggests that the relative power of the largest

absentee owners is either stable or growing. This condition reflects both the power drive of accumulation as well as the necessity to exercise power in order to bring industry under effective business control.

- 2 A steady or rising capital share of income. Although this is partly an indirect result of the first condition, it also reflects the overall balance of power between capitalists and other societal groups. Unless this condition is fulfilled, the very 'capitalist' nature of the system could be put into question.

Within this context, the violation of one or both criteria brings the threat of a *major capitalist crisis*.

5 A LAST NOTE ON POWER

The issues discussed in this article go to the heart of political economy. It is therefore natural, indeed desirable, that they should raise more questions than they answer. Although such questions can be neither enumerated nor dealt with here, one in particular is worth mentioning since it could well present the greatest challenge: is power inherent to human society, and if so, what are the implications for the future of capitalism and beyond?

The general neglect of the whole issue is well reflected in Keynes's famous article 'The economic possibilities for our grandchildren' (1930). In calculating the prospects for humankind a century ahead, Keynes presented accumulation merely as a *means*, a historical 'trick' for eliminating the 'economic problem'. Once scarcity was no more, he argued, the 'money motive' would be recognized for what it was, 'a somewhat disgusting morbidity, one of those semi-criminal, semi-pathological propensities which one hands over with a shudder to the specialist in mental disease', something which 'we shall then be free, at last, to discard' (1930: 329). But then dispensing with accumulation seems easy only because Keynes assumes it has little to do with power. Unfortunately, capital has everything to do with power. Discarding it therefore requires either an alternative form of power, or the elimination of social power altogether. This fundamental dilemma has been succinctly summarized by Koestler (1946), in his discussion of the kibbutz. Even there, under small-scale communism, he argued, 'The instinct to dominate had not been abolished, merely tamed and harnessed.' But then, he added, that 'was as much as anybody could hope for' (1946: 340-1). Perhaps this 'harnessing' will be the main task if capitalism is to give way to a better society.

NOTES

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- 1 This approach was introduced in Nitzan (1992), and further developed in Nitzan and Bichler (1995, 1996, 1997) and Bichler and Nitzan (1996a, 1996b).
- 2 The difference is fundamental. Conventional capacity measures consider what is feasible *under the existing social order of business enterprise and production for profit*, and usually estimate normal utilization to be in the 70–90 per cent range. Alternative measures based on a *material/technological* limit, however, are likely to suggest far lower capacity utilization. Veblen, for one, estimated this to fall short of 25 per cent (1919: 81), a figure not much different from later estimates reported in Blair (1972: 474) and Foster (1986: ch. 5). Interestingly though not surprisingly, US military contractors, engaged in the most destructive form of business enterprise, sometimes operate at as little as 10 per cent of their capacity, while earning superior rates of return (US Congress, Office of Technology Assessment, 1991: 38).

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