Global Reset: The Role of Investment, Profitability, and Imperial Dynamics as Drivers of the Rise and Relative Decline of the United States, 1929—2019

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GLOBAL RESET

The Role of Investment, Profitability, and Imperial Dynamics as Drivers of the Rise and Relative Decline of the United States, 1929–2019

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Abstract: A new world order is taking shape as a result of the relative decline of the United States (US) and other Western economies. An important aspect of relative decline is a progressive secular slowing down of productivity growth. Another is the way US development has been shaped and to some extent offset by international resource transfers. To explain these phenomena, attention is paid to the role of profitability as a driver of productivity and investment and global hegemony as a driver of international resource transfers. Particular attention is paid to an empirical analysis of the profitability of the US corporate non-financial sector and the existence of a secular decline in profitability since the mid-1960s interrupted only by the upward phases of a series of shorter-term economic cycles. Attention is also paid to the role of financial investments and some of the international resource transfers that have shaped, offset, and contained relative economic decline. An analysis of these trends frame and explain epochal changes in the dynamics and map of uneven and combined development and the likelihood of a global reset as the centre of world development shifts to Asia and the Eurasian continent.

Keywords: productivity slowdown; capital accumulation; profitability; financialization imperialism; uneven and combined development

1. Introduction

On its emergence unscathed from the Second World War, the United States (US) was the world's leading industrial nation, accounting for nearly one-half of world manufacturing output in the early 1950s. A division quickly emerged between the countries that had emerged victorious from the war, dividing the world into two rival blocs until 1989–1991 when the collapse of European Communism saw the arrival of a unipolar moment. In 1997 the neo-conservative Project for a New American Century was launched with the aim of preserving and enhancing US hegemony in an American 21st century.

These events unfolded in a world in which overall rates of productivity growth in the US and in the other G7 countries were in long-term decline (Freeman 2019). This decline, it will be argued, was due to insufficient domestic productive investment and declining profitability. The decline in domestic profitability itself contributed to an offshoring of investment, an expansion of the financial sector, the industrialization of countries such as China that would emerge as powerful competitors, and a recycling of trade surpluses by energy producers and countries with trade surpluses to acquire US debt, enabling the US to live beyond its means.

The erosion of industrial capacity and loss of secure industrial jobs in the US were closely associated with a decline in social cohesion that included an internal cleavage setting the Globalists and Optimates of Wall Street on the east coast and the technology companies of Silicon Valley and Seattle on the west against the Populares of the Red States of the Mississippi River Basin, the Mid-West, and the Rustbelt.

The relative industrial decline of the US and many other Western economies was, however, offset, yet also shaped, by a continuing global economic and financial role. In particular, while the offshoring of Western capital contributed to the emergence of contender states, the ability of economically advanced countries to set global rules, their role in the international division of labour and the hegemonic role of the US dollar permitted a set of global resource transfers that helped offset relative industrial decline.

The new millennium opened with the dotcom crash in 2000, followed by the 2007–2009 financial crisis and consequent injections of liquidity that jeopardized the standing of the US dollar. In 2013 the slowness of recovery saw the resurrection of Hansen's late 1930s concern with secular stagnation, when Summers argued that negative real interest rates were required to equate savings (excess savings) and investment at full employment. Subsequently, Summers pointed to the risks low real interest rates posed for financial stability, as a real rate of interest that declines to reach the rate of economic growth contributes to asset price explosions, with asset prices exceeding the present value of the associated income

streams (Hansen 1939; Summers 2014a, 2014b). Arriving in 2020, the COVID-19 pandemic catalyzed and intensified some of these underlying trends, including the relative decline of the US and the Western world.

These crises and the relative decline of a hegemonic power almost certainly mark a major turning point in global development and have generated renewed interest in the drivers of uneven and combined development, economic cycles, and shifts in the centre of economic gravity. In studies of the medieval Western world, secular phases of demographic and agricultural expansion and contraction, as well as shorter-term cyclical movements, have been examined. While some of the principal explanations concentrate on Malthusian limits, Bois (1976) attributed them to the lords' demands for revenue and a tendency for the rate of seigneurial levy to fall. Braudel (1984) identified a number of kinds of history which included the analysis of secular cycles (approximately 1200–1350–1510, 1510–1650–1743 marking the rise of commercial capitalism and Western colonial expansion, 1743–1817–1896 marking the first industrial revolution in Europe and white-settled countries, and 1896–1974–? initially marking a Second Industrial Revolution involving electrical energy, division of labour, moving assembly lines, mass production, and mass consumption along with the ascent of the US. Wallerstein (1988) preferred to speak of crisis-punctuated secular trends and cyclical rhythms in Timespace, pointing to the coincidence of cyclical historical movements and changes in the world's geographical centres of economic gravity. Braudel also highlighted the shorter cycles (cyclical rhythms) originally identified by Kondratjew ([1926] 2014) and which Schumpeter ([1934] 1983, 1942) saw as driven by entrepreneurship, competition, innovation, technology waves, and creative destruction. Freeman and Perez (1988) developed this Schumpeterian approach, identifying as the central driver the existence of a succession of techno-economic paradigms (clusters of technically and economically inter-related radical innovations that have pervasive effects on the whole of economic life and involve major changes in the capital stock and skill profile of the population) that, in the light of theories of regulation (Aglietta 1976), are inextricably connected with social and institutional configurations that make innovations socially acceptable and permit their diffusion. Within these cycles were shorter Juglar and Kitchin cycles associated by their advocates with variations in investment and stocks.

The latest Braudelian secular cycle started with the Second Industrial Revolution and included the Great Depression of the 1930s, the Second World War, the Keynesian-Fordist Golden Age in Western countries, the Fordist economic crisis of the 1970s, and a Third Industrial Revolution (electronics, information and communication technologies, and automated technologies dating from around 1969), while, at present, the world is on the verge of a new productivity-increasing industrial revolution (autonomous vehicles, 3D printing, robotics, artificial intelligence, Internet of Things, quantum computing, nanotechnology, genomics and genetic engineering) requiring

massive investment but also posing employment generation challenges. At the same time, climate change and threats to the environment and human health require an end to a model of development that has thrived on the destruction of the natural world and its replacement with circularity, efficiency, smart systems, and new green, resource-saving and healthy ways of life.

The paradox is that in these circumstances that seemingly offer radical new possibilities of investment and wealth accumulation the rates of productivity growth in the US and other G7 countries have slowed almost continuously (Grillo and Nanetti 2020), while economically less developed countries such as China have not only emerged as leading industrial powers but are also at the forefront of developments in industries that will lead the next industrial revolution.

This situation along with ineffective governance and a decline in the cohesiveness of the US and indeed of other Western societies (Dunford and Qi 2020) has led to the claim that the world is approaching not just the end of the "unipolar moment" but also the final stages of the West's 500-years of world domination, achieved militarily and economically from the 16th–17th centuries (Karaganov and Suslov 2020), and of what Frank (1998) in *Re-ORIENT* identified as an interlude of Western dominance lying between two epochs of Asian pre-eminence (see also Arrighi 2007, 9–10, 150–151; Dunford, Gao, and Liu 2021).

The slowdown of productivity growth notwithstanding the neoliberal revolution designed to address the fall in profitability that led to the 1970s crisis and the potential for productivity growth afforded by successive industrial revolutions is one factor that helps explain these evolutions. As will be argued, this decline is a reflection of insufficient domestic investment in efficient plant, equipment, and infrastructure. Insufficient productive investment derives, it will be argued, from a secular downturn in domestic rates of profit since the post-war Golden Age, reaching levels that are considered insufficiently remunerative for private investors (see also Mateo 2016). A consequence is a significant diversion of resources into financial and other rent-seeking activities made possible in part by the offshoring of productive activities. A tendency for competition to equalize rates of profit nonetheless exists, yet this diversion of resources must also be viewed in the light of trends in the creation of liquidity (Mavroudeas and Papadatos 2018). These claims about profits and growth require an examination of what has actually happened to rates of profit and their drivers. At the same time, attention must also be paid to offsetting drivers that have for the time being permitted the US to retain a position of relative global dominance.

To this end, Section 2 documents trends in US profitability and its components, while Section 3 examines the way profitability-driven trends in productive and unproductive (especially financial) investment and capital accumulation help explain relative national decline, and Section 4 identifies the way economic decline has been tempered by the occupation of a dominant position in the global system that permits

the continued appropriation of resources from the rest of the world. The next section will summarize some of the existing research on profitability and growth and highlight the value of theories developed in geopolitical economy traditions, while the final section will conclude.

2. Profitability, Investment, and Economic Recessions and Crises

The growth of productivity through investment in new technologies, plant, and equipment as opposed to intensifying work is a fundamental driver of economic and social progress: it permits increased wages and living standards, reduces the time required to meet (rational, reasonable and sustainable) human needs, and is potentially cumulative in that it generates resources to devote to the next set of productivity-increasing investments, while productive techniques in one area can potentially diffuse to others.

And yet the US rate of productivity growth has slowed significantly and in recent years has stood at very low levels (see Figure 1).[1] Rates and levels vary across sectors and over time. At present the degree of dispersion is large, with high productivity (often oligopolies and monopolies) at one end of the spectrum and

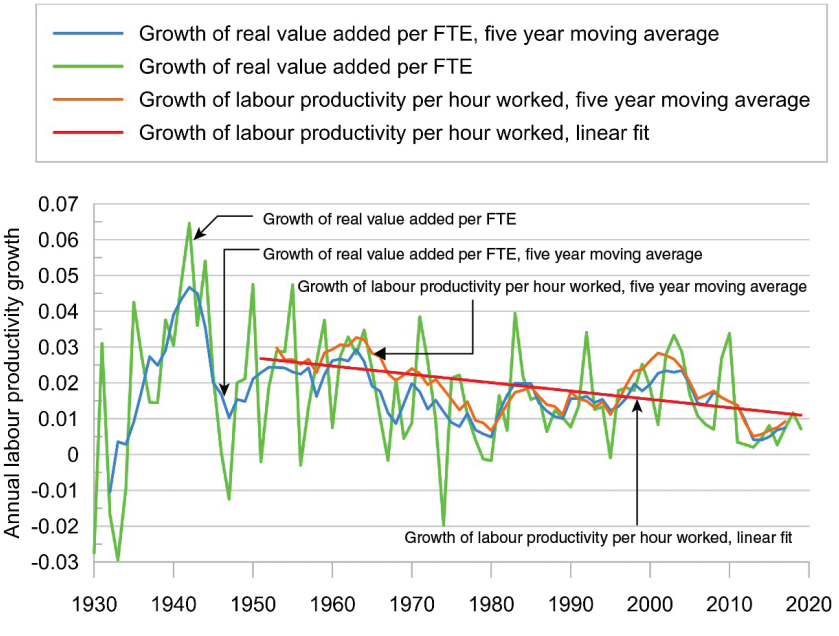

Figure 1 US Productivity Growth Rates, 1929–2019

Sources: Elaborated from Bureau of Economic Analysis (2020) and Conference Board (2020).

zombie companies that just manage to recover costs and refinance outstanding debt at the other. From very nearly 2.7% per year from 1950 until 1972, hourly annual productivity growth rates declined to just under 0.9% from 2009 to 2019, with a large drop coming in 2020.

In the second half of the 1990s and early part of the new millennium growth rates did increase in the US for a while, though not in other G7 countries, averaging nearly 2.6% per year in 1995–2004 (see Figure 1). The surge in productivity growth was largely due to growth in some manufacturing sectors (computers and semiconductors, in which it grew rapidly) and especially in retail and wholesale sectors in the 1990s and information sectors in the early part of the new millennium (Bureau of Economic Analysis 2020; The Conference Board 2019). Caution should, however, be exercised in attributing this spurt to information and communications technologies and the new economy, as changes in measurement techniques played a role, as did explosive debt-fuelled growth and cheap imported manufactures (involving significant transfers of value).

In the years since the 1950s average productivity growth rates in manufacturing industries were higher than in other broad sectors and, on average, trended very marginally upwards, but manufacturing declined from 26.1% of value-added in 1951 to just 10.9% in 2019. Most other broad areas of economic activity witnessed low levels and stagnant or declining rates of productivity growth and increased their shares of value-added: finance and real estate rose from 10.3% to 21.2%; professional and business services from 3.3% to 12.6%; and education and health from 1.8% to 8.7%.

Declining productivity growth rates were an overall tendency. In the years since the economic crisis of the 1970s it was occasionally offset by particular factors: the renewal of some activities after the regular recessions that saw some scrapping of assets and exit of capital; the recycling of petrodollars and subsequently of East Asian trade surpluses; the commercialization of the internet; the exploitation of shale energy; and increases in liquidity that funded debt-supported consumption and production.

The growth in (household, government, and enterprise) debt was associated with a significant increase in the role of finance and fictitious capital. Financial capital plays an important role in payments settlement, the creation and allocation of credit, the reallocation of risks associated with uncertainty and incomplete information, and the reallocation of capital from declining to growing sectors. Idle money savings and newly created credit are loaned out in return for interest payments or invested in shares and real estate in the expectation of receiving dividends, rent, and capital gains. The provision of credit, a reduction in risk or the protection of real wealth incur costs and are indirectly productive, but generally speaking these activities do not create new value (Durand 2017; Mello and

Sabadini 2020). Financial activities earn commission, receive interest that is a claim on the profits of productive activities or household incomes and government revenue, earn dividends that are also claims on profits and generate capital gains which themselves involve a zero-sum game among market participants. The creation of new value essentially depends on investment in productive activities.

Generally speaking, competition leads in the direction of an equalization of rates of profit, but in certain situations financial investments can prove more profitable than productive investments. In the simplest case, if the rate of interest exceeds the rate of return on productive investment, idle money and credit will be channelled towards financial assets (and real estate), increasing asset values and hence attracting additional investments: an important characteristic of these sectors is that they are reflexive communities of self-realizing expectations, temporarily detached from real possibilities of profitability, and generating speculative increases in returns and capital gains.

As this sector increases in size and especially as the volume of consumer, government, and enterprise debt accumulates, the risks of financial instability give rise, as in the 2007 financial crisis and the COVID-19 crisis, to government measures to inject liquidity, making investments in these sectors attractive. At the same time changes in corporate governance that saw the replacement of stakeholder by shareholder value principles increased financial returns and the attractiveness of financial investments (Aglietta and Rebérioux 2005). In this world, companies also purchase their own stocks to remunerate shareholders and senior executives and reduce the possibilities of takeover amongst other reasons, driving up stock market valuations. Yet another situation is where the productive capital of a developed country is invested at high rates of return in emerging economies, generating international financial payments that sustain domestic financial markets.

In all of these cases financial and real estate capital develop to the detriment of productive capital. Misleading assessments of risks, securitization and sale of risks, and the adoption of mark to market accounting principles that value assets at market prices reinforce speculation and unsustainable debt, as credit is allocated in the light not of expected incomes but expected asset values. In a crisis the market values of assets and capitalized securities fall below the values of the loans to be repaid, generating liquidity crises and, since the financial crisis, massive government liquidity injections and bailouts.

Generally speaking political economy accounts of investment in new technologies and processes and growth in capitalist economies attribute their evolution principally to changes in the rate and mass of profits (Banerjee, Kearns, and Lombardi 2015; Carchedi and Roberts 2018; Kliman 2012; Marx [1863] 1969; Tapia Granados 2012, 2018): if the rate and mass of profits decline, investment and the accumulation of capital slow, and vice-versa. At the same time investment is the variable that

fluctuates most widely, oscillating sharply downwards in recessions and strongly upwards in expansions, playing a major role in driving growth and development.[2]

A slowdown in investment manifests itself as diminished demand, initially for investment goods, increased inventories, a slower recovery of costs and turnover of capital (over-production and under-consumption), the devaluation of capital assets (overaccumulation), and slower rates of economic and employment growth. Of course as Harvey (1975) argued a slowdown in investment in one place may see a displacement (an example of creative destruction) to places where rates of return are greater.

Although a relationship between profitability and growth is quite widely recognized, the specific causal mechanisms are subjects of considerable controversy. At least four views can be identified. These views overlap but differ over the prime movers and sequences of events.

The first identifies a direct impact of profits on investment as the leading cause of recessions and crises. In the words of Marx ([1863] 1969, 170–171):

> accumulation for its part is not determined directly ... by the rate of surplus-value but by the ratio of surplus value to the total amount of capital advanced [capital outlay], that is, by the rate of profit, and not so much by the rate of profit as by the total amount [mass] of profit.

Of advocates of this view, some argue that there is tendency (offset by a number of counter-tendencies) for the rate of profit to decline due to the replacement of human labour (the source of surplus-value) by machinery embodying new, more sophisticated technologies.

The second is the view that declines in profitability are due to tight labour markets and worker militancy that increase the share of wages and reduce the share of profits in national income (profit squeeze). The consequence is reduced investment, increased unemployment, and a reduction in the share of wages that opens to way to a new wave of expansion (industrial reserve army mechanism).

A third argument is that recessions are predominantly caused by insufficient effective (underpinned by an ability to pay) consumer demand and insufficient purchasing power. Insufficient demand is usually itself attributed in significant measure to wage repression and a declining share of wages in national income (under-consumption theories), although wages alone are seen as not sufficient to absorb output (Harvey 2010, 106–118). At the same time, a realization crisis in which finished goods and services are not sold and the capital advanced and added-value are not realized directly contribute to a fall in the rate of profit (realization crisis theories).

Yet another core causal mechanism is associated with Keynes, Kalecki, and Minsky. For Keynes ([1935] 2018, 119–121) the marginal efficiency of capital

which itself reflects the expected return on capital and the psychology of investors drives investment, while for Minsky (2008, 158) a private market system must generate cash flows for capitalist employers sufficient to provide investment funds, enable the repayment of debts incurred to finance investment, and provide a financial return for investors. These arguments are very similar to the view of Marx expressed earlier. In the case of these authors and indeed of under-consumption accounts, however, causation runs from investment and its drivers such as government spending and capitalist and worker consumption to profitability. This stance was made particularly clear in the summary of Kalecki's view by Robinson (1966) as "workers spend what they earn, and capitalists earn what they spend." Kalecki's view as well as Robinson's interpretation of it and indeed her own work were strongly shaped by Luxemburg's *The Accumulation of Capital* and the reproduction schemes in Volume II of Marx's *Capital* (Harcourt and Kriesler 2014). Capitalists save, and if their savings are invested, they create additional income that capitalists can hope to earn, so investment is the source of profits.

The Keynesian account of the causal mechanisms underpins the view that, as long as resources are less than fully employed, a government can incur debts without a risk of default, as the resulting increase in the rate of economic growth will raise revenue by an amount that exceeds the rate of interest, enabling debts to be serviced and repaid. A comparable view underpins modern monetary theory, which suggests that a government with a sovereign currency can print money, avoiding debt service costs and without a risk of inflation (Fullbrook and Morgan 2020; Kelton 2020), as increased investment and productive capacity are expected to raise the output of goods and services. However, a government demand stimulus and the printing of money do not necessarily mean that capitalists will invest and create new value. If the rate of return on productive investment is low, money may simply enter financial markets, inflating stock and bond prices. Alternatively cash may be accumulated or debts recycled, reducing the velocity of money (the money supply relative to GDP) especially in a world of zombie companies whose profits just suffice to service constantly recycled debts and which are kept afloat by credit, asset sales, loan guarantees, and interest rate cuts. And if money enters markets for goods and services which are not in excess supply without an increase in investment and output, inflation will result.

In an important analysis of the drivers of recessions in the US from 1929 to 2013, Tapia Granados (2012, 2018) showed that profits and their impact on investment played the leading role in explaining recessions. More specifically, he showed that profits peak several quarters before recessions, that investment peaks immediately before recessions, and that profits recover before investment does. As profits and investment decline, employment and wage income decline, capital is devalued or written-off, debts are cancelled and inventories liquidated, laying potential foundations for a renewed cycle. In deep productive system recessions, capitalists,

governments, or financial institutions are unable to meet due debt payments, creating the risk of financial crises, possibly including bank runs and liquidations (banking crises), national currency devaluation (currency crises), or sovereign debt defaults (sovereign debt crises).

In capitalist societies the view that the substitution of capital for labour drives profits downwards along with Schumpeterian perspectives maintain that a new cycle depends on the destruction, in value if not in physical terms, of old low productivity enterprises, assets, activities, and technologies. A consequence is the serious and sometimes devastating disruption of the lives of companies, individuals, families, and communities. This phase gives way to the creation of new economic activities and, for those not thrown irreversibly onto the scrap heap, new jobs and new ways of life. Creative destruction varies, however, in its intensity, geography, and degree of destructiveness (Mullan 2017; Schumpeter [1943] 2003).

These arguments are all concerned with explanations of the regular economic cycles that punctuate the development of capitalist market economies. As already mentioned, there are also secular trends operating over longer periods of time and less

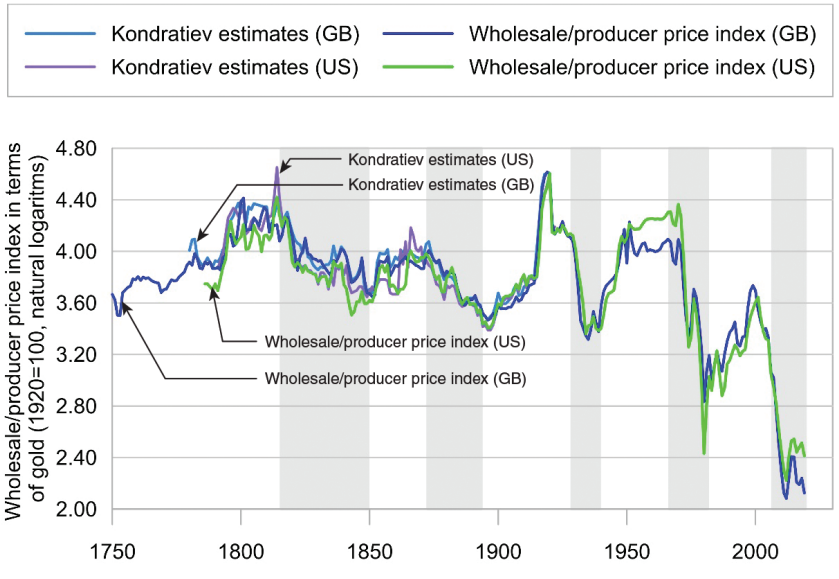

Figure 2 Kondratiev Cycles and Major Crises

Sources: Gold prices (New York market price or US official price in US$ per troy ounce and London market price, New York market price and exchange rate or British official price in GB£ per troy ounce) from Officer and Williamson (2021); wholesale price indices from Palgrave Macmillan Ltd (2013) and producer purchasing price index for US and GB from US Bureau of Labor Statistics (https://www.bls.gov/pPI/) and UK Office for National Statistics (https://www.ons.gov.uk/searchdata?q=producer%20prices). Kondratiev's estimates from Kondratjew ([1926] 2014).

frequent but larger structural crises that open the way to new social orders and systems of international relations. These longer-term cycles include Kondratiev waves (Figure 2) and Braudelian secular cycles. Kondratiev price waves appear after 1940 only if one plots a series of prices in terms of gold that he himself reported but did not plot. The reason why is that the behaviour of the general level of prices in capitalist economies changed after the Second World War (Shaikh 2016; Tsoulfidis and Papageorgiou 2019), though as will be seen the evolution of profitability displays similar cycles.

Of the crises that occurred in the Western world, the first occurred after the Napoleonic Wars and saw, depending on the industrial or agrarian character of the country, the first crisis of industrial capitalism or the last (Malthusian) crisis of the Ancien Régime. The second coincided with the late 19th century Great Depression. The third occurred between the First and Second World Wars. The fourth started in the late 1960s (Dunford 1990), and a fifth with the onset of the 2007 financial crisis. As subsequent sections will indicate, in capitalist societies these cycles are connected with trends in profitability.

3. Measuring Profitability: The Case of the United States

Although the rate and mass[3] of profits are central drivers of economic cycles and crises, they can be measured in different ways and for different parts of an economy (Appendix 1). The estimates for the US in Figure 3 are for domestic non-financial corporations (including the operations in the US of foreign multinational corporations) and are derived from Bureau of Economic Analysis (2020) national accounts tables.

Since 1925 domestic non-financial corporations have accounted for 68% to 75% of private non-residential fixed assets, and from 1959 for 48% to 56% of gross value-added. Estimates were made for the non-financial corporate sector, as these corporations constitute the core of the private productive economy: partnerships and sole proprietorships are numerous, yet net income is usually payment for the work of owners, who often could not otherwise support themselves.

The most common estimates include in the denominator fixed assets (in this case net stock of private fixed assets). As the net stock of fixed assets is an end of year figure, the capital stock estimates were lagged by one year to measure the capital stock advanced at the start of a new year and increased by net investment in new fixed assets.

This measure of the capital advanced excludes circulating capital comprising wages advanced, which can be measured by compensation paid to employees, and inventories of intermediate goods. These items are excluded for several reasons. First, in national accounts, estimates of inventories include not only stocks of raw materials, semi-finished goods, and "work-in-progress" but also stocks of

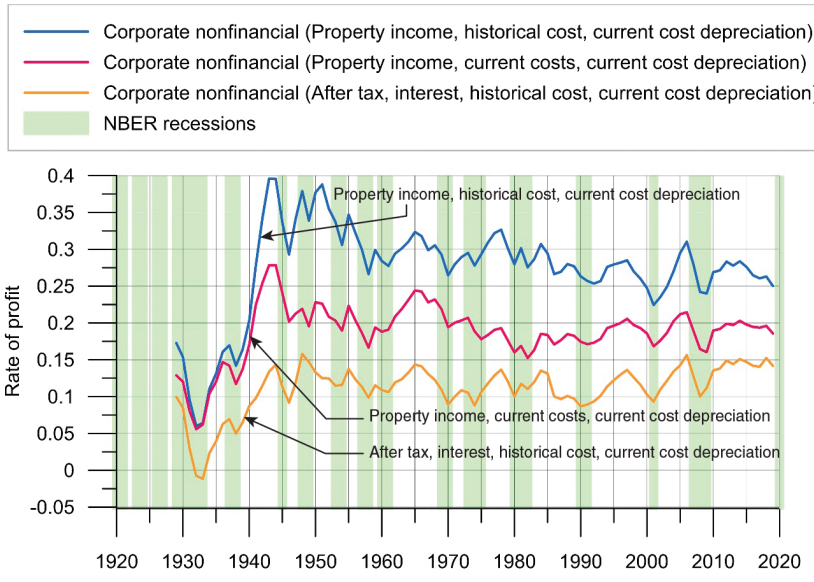

Figure 3 US Corporate Nonfinancial Sector Profitability, 1929–2019

Source: Elaborated from Bureau of Economic Analysis (2020).

unsold finished goods which are not part of the capital advanced. The difference between gross output and value-added does, however, provide an estimate of the value of intermediate goods. Second, circulating capital, including wages advanced, may turn over a number of times in the course of a year, depending on how quickly costs and outlays are recovered. Turnover is difficult to estimate, although Green (2020b) has employed a stock adjustment argument to suggest that turnover rises and falls as the ratios of gross output and value-added on the one hand and intermediate goods and value-added on the other rise and fall. Due however to these two measurement difficulties, circulating capital was not included in the denominator.

Profit, net investment, and capital advanced all involve estimates of depreciation (Appendix 1). Profit can also be defined and measured in different ways. The most general definition referred to as property income in this article is the difference between net value-added (gross value-added minus depreciation at historical or in this case current cost) and the compensation of employees. Net operating surplus is property income minus net taxes on production and imports and subsidies, while net income or net primary income is the net operating

surplus plus the difference between property income receipts and payments (including interest and dividends). After-tax profit is property income less taxes, interest, and transfers.

Figure 3 reports the evolution of the rate of profit of the corporate non-financial sector (where profits derive from financial and non-financial activities, as will be seen) from 1929 to 2019 measured in three different ways. Measured at historical cost, the property income rate declined rapidly on the occasion of the 1929 stock market crash and then increased until the end of the Second World War and the early 1950s, due in no small measure to the destruction of capital in the Great Depression. From that point in time it declined, with a strong declining trend and peaks that were in almost all cases successively lower: 0.39 in 1951, 0.32 in 1978, and 0.31 in 2006 (see Kliman 2012 whose estimates for the entire corporate sector were computed in the same way and yielded a similar result up to 2011).

The after-tax series reveals that this descent of peak values was softened considerably, declining from 0.16 in 1948 to 0.13 in 1978 and subsequently reaching the 1948 peak again in 2006. Indeed, while the trend from the end of the Second World War was downwards until 1980, it has been upward since 1980. This outcome reflects significant declines in tax (net taxes on production and imports and corporate profits taxes) and interest and miscellaneous payments and net transfers. As will be seen, however, it also includes the role of profits from financial assets that have increased sharply as a share of the total since the 1980s. In the case of the corporate sector as a whole (not plotted), the after-tax series peaks decline: 0.15 in 1948 and 0.11 in 1978 and 2006. These historical cost results are strong indications of a secular decline in profitability (certainly in relation to productive investments) that was not reversed by the neoliberal revolution.

The current cost series (Figure 3) generates a slightly different conclusion in that it indicates what many authors have claimed was a neoliberal recovery of profitability from the early 1980s until the eve of the financial crisis. In Figure 3 these three series are superimposed on the recessions identified by the NBER (National Bureau of Economic Research) (2020). Generally speaking, a recession involves two consecutive quarterly falls in real GDP. The NBER series differs, in that it identifies as a recession the months from a peak to a trough, using a range of economic indicators. What is striking is the extent to which downturns in the corporate non-financial sector annual profit rate series correspond with and often anticipate these recessions. Although not reported, the monthly unemployment series indicates that unemployment starts to rise after the start of recessions and falls once the economy pulls out of recessions.

The rate of profit can be partitioned into a number of elements:

$$Rate\ of\ profit = \frac{Profits}{Capital\ advanced} \equiv \frac{Profits}{Value\ added} \times \frac{Value\ added}{Capital\ advanced}$$

$$\equiv \frac{Profits}{Value\ added} \times \left(\frac{Value\ added}{Employment} \times \frac{Employment}{Capital\ advanced} \right)$$

In words

$$Rate\ of\ profit \equiv Profit\ share \times Efficiency\ of\ capital$$

$$\equiv Profit\ share \times Productivity\ of\ labour \times Capital\ per\ person\ employed$$

The monetary expression of the efficiency of capital (output capital ratio, which in the classical tradition is equal to the maximum rate of profit) can itself be divided into the product of the efficiency of capital in volume (real) terms and the relative price of value-added and capital goods (Loiseau and Mazier 1977; Shaikh 2016).

The first part of this partition is plotted in Figure 4 for historical and current cost estimates of the profit rate of the non-financial corporate sector. In the 1930s and up to the end of the Second World War GDP increased much faster than the capital stock, reflecting an already mentioned massive destruction of capital value that significantly raised profitability (creative destruction). As a result, in the case of the two series, the efficiency of capital increased. Until the early 1980s, the share of profits in income declined and the share of wages increased. The outcome of this increase in the wage share for profitability differed, however, depending on whether the non-financial corporate sector capital stock was measured at historical or current cost. The neoliberal revolution, the offshoring of manufacturing to emerging countries and a decline in the power of wage earners saw a well-documented reversal of this trend and a decline in the wage share from the early 1980s. This reversal drove in the direction of an increased rate of profit, yet whether the rate of profit increased or decreased depended on the evolution of the efficiency of capital.

At historical cost, the efficiency of capital fell, as increases in capital per person employed outstripped the increase in the productivity of labour: as already mentioned, US rates of productivity growth have declined steadily since the early 1980s, interrupted briefly in 1995–2004. Compared with historical cost estimates of the rate of profit and the efficiency of capital, current cost estimates were lower, due to the revaluation of the capital stock in current cost estimates, dipped more strongly from the mid-1960s, as an era of inflation set in, and rose clearly from the

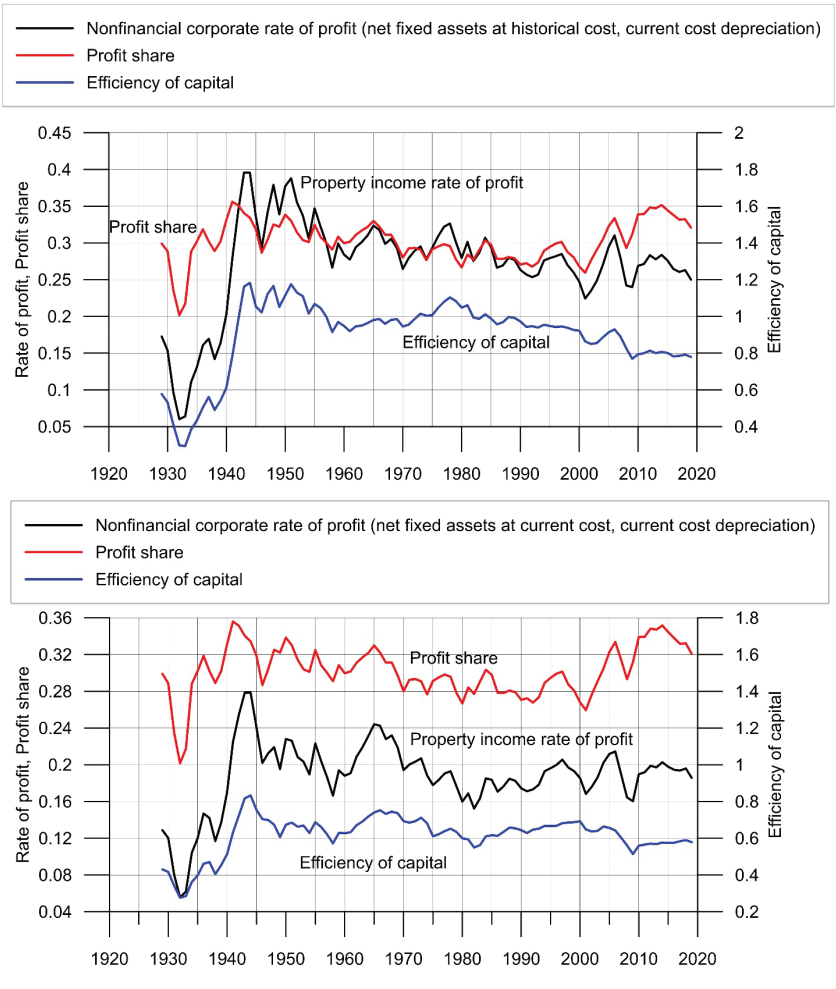

Figure 4 A Partition of US Corporate Nonfinancial Sector Profitability at Historical and Current Cost, 1929–2019

Source: Elaborated from Bureau of Economic Analysis (2020).

early 1980s, when inflation was brought under control, until the eve of the dotcom crash in the late 1990s. Of particular importance was the increase and then the fall in the current cost of replacing depreciated fixed assets relative to their original acquisition costs (what capitalists actually paid for them) in the eras of inflation and disinflation. As for the relative cost of capital goods, it increased until the early 1960s, and declined slowly until 1973, when it increased. In the second half of the 1970s and start of the 1980s, it plateaued. Subsequently it declined steadily.

Historical cost estimates point to an overall increase in capital per worker (a rise in the composition of capital as a result of capital-intensive labour-saving innovation) that exceeded the rate of productivity growth. The consequent fall in the efficiency of capital more than offset the impact of an increase in the profit share. Conversely, current cost estimates suggest that an increase in the efficiency of capital contributed to a neoliberal profit rate recovery in the 1980s and 1990s.

If, as is most common, one computes a whole economy current cost rate of profit (Figure 5), a neoliberal profit rate increase, starting in the early 1980s, is much clearer (see also, for example, Duménil and Lévy 2004). The rate of profit then dipped ahead of the dotcom crash and subsequently increased up to the eve of the financial crisis. The decline in the share of profits up to the early 1980s and the subsequent increase in the profit share played a role in the overall trajectory of profitability, but at the whole

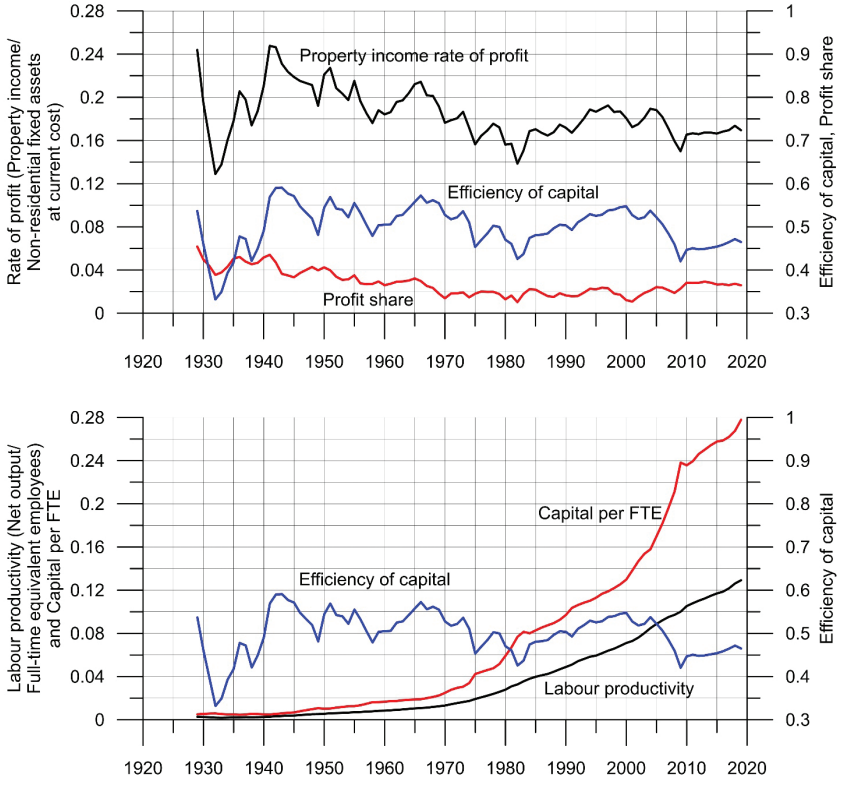

Figure 5 US Whole Economy Profitability at Current Cost, 1929–2019

Source: Elaborated from Bureau of Economic Analysis (2020).

economy level it was an increase in the efficiency of capital that played a larger role. These trends reflect the relative movement of the productivity of the full-time equivalent employed population (FTE) and capital per FTE. In the years in which the efficiency of capital increased, capital per FTE increased more slowly. This trend in the capital stock measured at current cost partly reflects a fall in the relative cost of capital, and the growth of service sectors whose capital intensity, including investment per FTE in property, fixtures and fittings, was low. With the arrival of the financial crisis, capital per FTE increased sharply. The implication is that the relationship between productivity growth and capital per FTE (which approximates to Marx's organic composition of capital) along with the role of the devaluation of the existing capital stock warrant more attention than they generally receive.

4. Profitability, Investment, and Financialization

A difficulty with the view that the rate of profit was restored in the neoliberal era is that the rate of accumulation (net investment over advanced capital or net investment over profit multiplied by the rate of profit) did not recover from the early 1980s (Figure 6).[4] At the same time the share of corporate non-financial sector profits devoted to investment declined (Figure 6), and the share of GDP devoted to overall net investment fell in every successive decade from 11.0% in the 1960s to 4.4% in 2010–2019 (Bureau of Economic Analysis 2020). For those who use current cost estimates and argue that the rate of profit increased in the neoliberal era, the explanation offered is that investment was diverted to financial markets (which did indeed occur, though it is perhaps overstated, as will be shown).

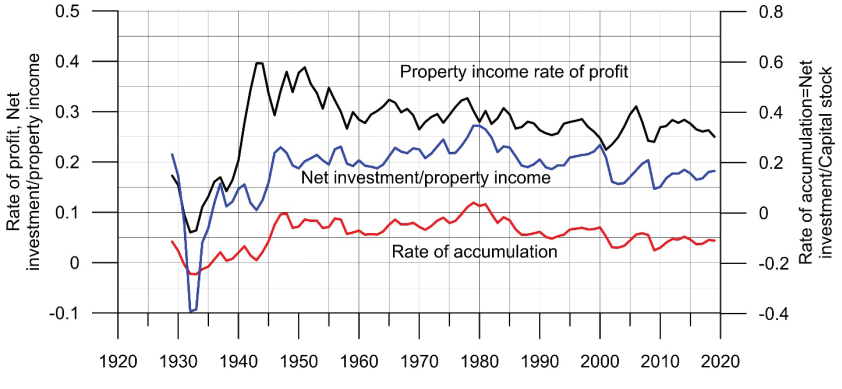

Figure 6 US Corporate Nonfinancial Sector Profitability, Investment, and Accumulation at Historical Cost, 1929–2019

Source: Elaborated from Bureau of Economic Analysis (2020).

In this era a geographical separation of different functional roles identified in the smile curve of value-added occurred, with supposedly high value-added research and design at one end of the value chain and commercialization and marketing at the other in developed countries and supposedly low value-added manufacture and assembly in low-cost countries in the middle. This division of labour involved the separation off of some knowledge-intensive activities. The design and marketing of manufactured goods will, however, create no value without material production.

At the level of the entire economy, investment and the rate of accumulation were closely associated with oscillations and an overall decline in rates of profit. Insufficient investment and a decline in the rates of investment and accumulation would almost certainly depress rates of productivity growth which themselves contribute to their cause where increases in productivity are outstripped by increases in capital per full-time equivalent employee.

A number of different mechanisms have been suggested as explanations of the decline in productivity growth rates. In *The Rise and Fall of the Great Powers*, Kennedy (1987) anticipated relative US decline due to uneven rates of growth and technological and organizational innovation. Gordon (2016) argued that the economy-wide transformative impact of recent innovations is smaller than those of the late 19th and first three-quarters of the 20th century and is restricted by four or more headwinds (demography, education, inequality, and debt). The four headwinds could be construed as factors that limit profits and investment.

Another possible driver of reduced profitability and impediment to the development of the productive forces is a decrease in the share of productive labour involved in surplus-value production and a corresponding increase in the share in unproductive labour (employed to perform some supervisory tasks by industrial capital, employed by commercial, interest-bearing, or other types of financial and real estate capital, or paid out of state capitalized tax revenue and debt). An increase in these activities increases necessary labour (especially if productivity is low), social overhead costs, and the capital advanced without creating additional surplus-value, while diverting economic resources away from production. In the case of the US studies show that the wages of unproductive labour rose from 50.7% in 1964 to 65.5% in 2007 and 64.8% in 2010, although its employment share flattened (Mohun 2014; Tsoulfidis and Paitaridis 2019). Whether it reduces surplus-value or just increases overhead costs counted as constant capital, it reduces the rate of profit with the effect occurring either through a reduction in the rate of surplus-value or an increase in the composition of capital (see Appendix 2).

If the rate of profit in the domestic productive sector was relatively low and in decline, as historical cost estimates suggest that it was, a switching of investment is what one might expect. A clear response starting in the 1970s and accelerating

up to the financial crisis was an offshoring of investment to places with higher rates of return: net foreign direct investment increased from 0.4% of GDP in the 1980s to 1.1%, 1.6%, and 1.5% in subsequent decades, with not insignificant shares in China's mainland and Hong Kong (Bureau of Economic Analysis 2020).

The domestic financial sector was, however, another major investment destination. Corporate non-financial sector financial accounts (Board of Governors of the Federal Reserve System 2020) record separately the incomes earned by non-financial corporations from financial investments. As Figure 7 shows, the share of financial assets in total assets increased at an astonishing rate from the early 1980s as neoliberalization accelerated and financial and asset markets were liberalized. Many companies are short of cash and have to borrow to invest. This growth of financial investments reflects, however, a different phenomenon: relatively rich corporations that undertook relatively little productive investment were flush with earned and borrowed cash and used it to invest in what are classified as financial assets that included acquiring their own equity and driving up the values of their own shares.

In the case of Figure 7 the rate of profit was computed as the ratio of net primary income to total liabilities plus equity. Net primary income is the sum of profits earned from trading operations along with income from external financial investments less payments of interest and rent. This measure is close to the measures of

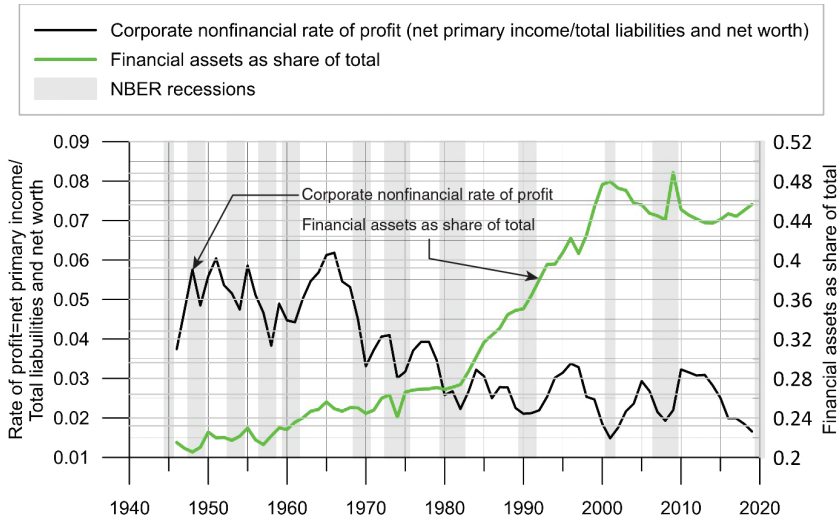

Figure 7 US Corporate Nonfinancial Sector Profitability at Current Cost and Financial Assets as a Share of Total Assets, 1929–2019

Source: Elaborated from US Federal Reserve Board (2020).

profit earned that is recorded in corporate balance sheets. Total liabilities plus equity is equal to total assets, but highlights what corporations owe external creditors and holders of their equity. It includes not just real assets but also financial assets and so-called non-produced non-financial assets such as natural resources and non-residential intellectual property products, including contracts, leases, licences, goodwill, and immaterial marketing assets. Immaterial intellectual property assets have increased significantly since the 1980s, coming with other so-called financial assets to account for approaching one-half of total assets.

As in the historical cost case, this current cost rate of profit, which plays a significant role in corporate investment decision making, has trended downwards from the second half of the 1960s and the onset of the economic crisis of the 1970s, in this case approaching just 1.5% in the early 2000s and again in 2019 (Figure 7). With such a low rate of return, it is no wonder that capitalist investment has diminished and productivity growth stagnated.

Figure 8 records the changing shares of interest (averaging 9.6% until 1966, jumping to an average of 45.8% in 1967 to 1991 and dropping to an average of 28.7% from 2010) and dividend payments (averaging 28.5% up to 1968 and 42.5%

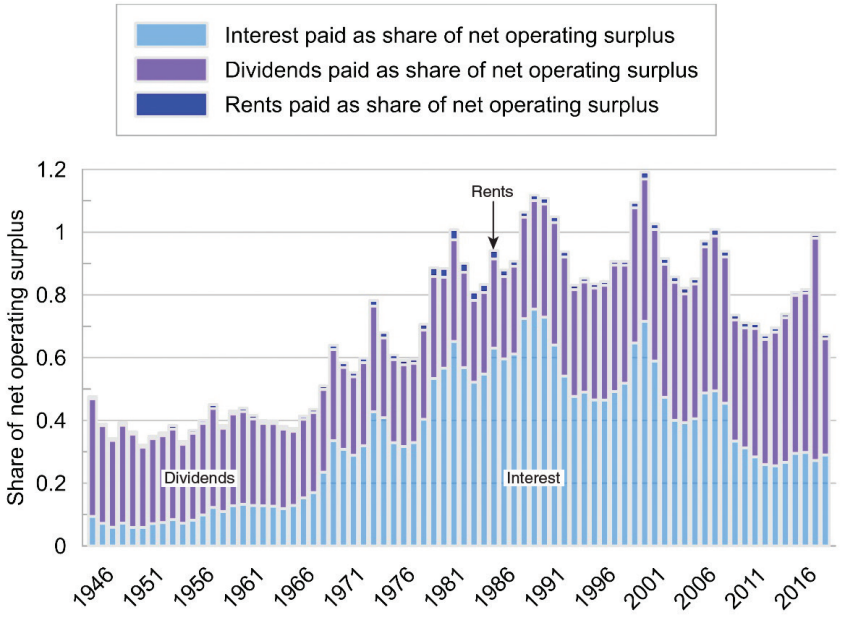

Figure 8 Dividends and Interest Paid as a Share of Net Operating Surplus of Non-Financial Corporations

Source: Elaborated from US Federal Reserve Board (2020).

since 1991) as shares of gross operating surplus for non-financial corporations. In addition to the use of their income to pay these expenses, non-financial corporations used some of their after-tax cash (the sum not spent on capital investment and acquisitions) and borrowed funds to pay dividends to shareholders and to purchase and increase the value of their own shares.

The evolution of these indicators has been interpreted as a reflection of the financialization of non-financial companies and as correlates of an explosion of debt, especially since the collapse of the Bretton Woods fixed exchange rate order in 1971 and the 1970s economic crisis:

> Unable to find profitable productive investment opportunities ... [non-financial enterprises] have been eager participants in the merger, takeover, and leveraged buyout frenzy that has swept the country in recent years, becoming in the process both lenders and borrowers on an enormous scale. (Magdoff and Sweezy 1987, 17)

These trends were later interpreted as consequences of the replacement of the principle of stakeholder value with one of shareholder value involving (1) the expenditure of earnings and credit in financial markets (interest, dividends and stock buybacks), (2) the acquisition of financial assets and income from interest, dividends and capital gains, and (3) intense drives to reduce costs and maximize short-term returns. In another interpretation, a financialized model of development was identified in which profit-making occurred "increasingly through financial channels rather than through productive activities" (Krippner 2011, 4). As already mentioned, authors who argue that there was a neoliberal revival of profitability use this increase in interest and dividend payments and portfolio investment to explain the decline in the rate of accumulation, attributing it to a diversion of resources into financial activities.

The increase in the role of financial activities did coincide with the decrease in productive investment, slower rates of accumulation (the ratio of net investment to the capital stock net of depreciation) and stagnating productivity, though they richly rewarded extremely wealthy executives and elites. In this article it has been argued that this decline is fundamentally due to a decline in the rate of profit on productive investment to which the relative profitability of offshoring can be added.

As Figure 9 shows, the decline in investment in fixed assets as a share of GDP was accompanied by a decline in the share of after-tax profits allocated to net fixed investment. However, this decline in the real investment share of profits was not especially large and occurred in an era in which depreciation increased significantly, perhaps due to the growing role of information technology infrastructure and equipment. Interest and dividend payments did increase,

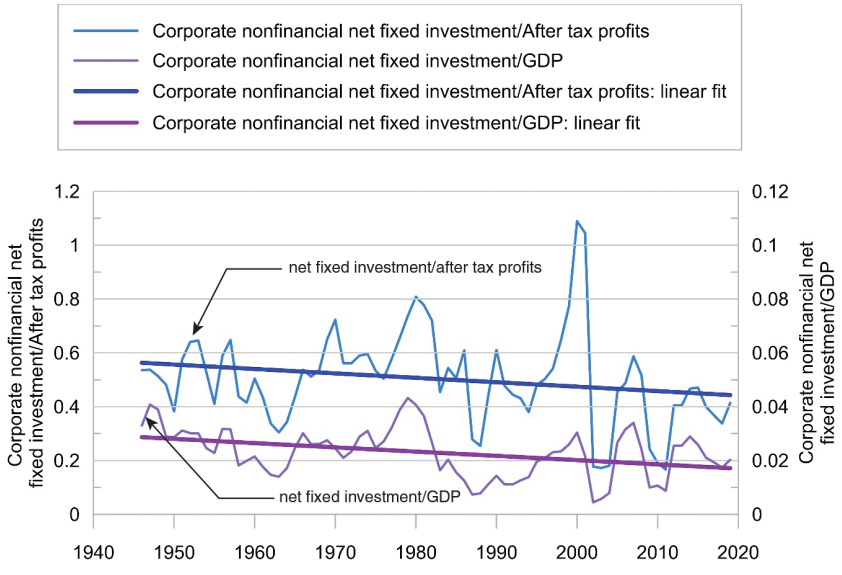

Figure 9 Net Fixed Investment of Nonfinancial Corporations as a Share of GDP and After-Tax Profits

Source: Elaborated from Federal Reserve Board (2020).

but non-financial corporations used debt to fund productive and other activities (see also Kliman and Williams 2015). High interest rates do reduce the resources left for productive investment and squeeze out investment projects with relatively low rates of return, but also provide opportunities to accumulate interest-bearing capital. And once interest rates fell as a result of central bank interventions and the cost of credit declined, companies could borrow to fund the acquisition of financial assets.

Not all assets of non-financial corporations recorded as financial are, however, financial. The market value of foreign direct investment abroad accounted for 10.1% of financial assets in 1945 and 31.2% in 2019, having reached 37.7% in 2013 and 37.3% in 2017. As classification as a direct investment requires an ownership stake of at least 10%, implying more than a short-term commitment, and as much FDI seeks out markets, resources, or reduced costs, these assets reflect the offshoring of productive activities. In recent years, however, a large share of these investments have been in tax havens, suggesting that tax avoidance also played a role: affiliates in low tax countries permit tax avoidance through the use of transfer prices, internal loans and the allocation of overhead costs (Rabinovich 2019, 746–748).[5]

These financial assets include intangibles such as copyrights, trademarks, patents, distribution rights, energy and resource rights, goodwill, and so on. An increase in the share of intangibles is in part a consequence of corporate strategies, including an increased emphasis on mergers and acquisitions. Yet it is also a result of the redefinition of core competences to concentrate on apparently high value-added activities such as innovation, product development and marketing in global value chains, an associated increase technological and intellectual rents and workforce downsizing as non-core low-value-added activities are offshored (Rabinovich 2019).

As already mentioned, a consequence is a functional international division of labour. The smile curve of value-added suggests that newly added income at market prices per unit of a commodity is high in the initial product development stage and at the consumer end, which are both concentrated in developed economies. The first stage involves highly paid design, patenting, prototype development and brand management, often spread over a large volume of output, while the consumer end involves specialized logistics, marketing, commercialization, and after-sales service. The middle section involving manufacture and assembly offshored to low-wage countries is associated with low newly added income at market prices. In 2009 market price value-added in China contributed just 3.6% to the $2.0 billion of Chinese iPhone exports to the US. The remainder was added in Germany, Japan, Korea, the US, and other countries (Xing and Detert 2010, 5). And yet it is these middle sections of global value chains that add most surplus-labour and on which the world depends for many manufactured goods, while emerging economies will seek to upgrade and establish independent capabilities in research, design, and standard-setting and consequently start to challenge and erode the associated leadership of the US and other developed economies.

A final striking phenomenon can be observed in Figure 10, which plots asset–earnings ratios, with the net primary income available to valorize different categories of assets in the denominator and the value of fixed assets, non-financial assets, and financial and non-financial assets, respectively, in the numerators. The sharp oscillation in the ratio of net primary income to total assets reflects sharp movements in share prices, soaring when share prices rise and declining sharply when they fall. The chart also reveals extraordinary increases in the gap between the value of total financial and non-financial assets of non-financial corporations and the revenue streams required to valorize them. These gaps are not merely indicative of the speculative or fictitious character of much investment, and the way in which values are disconnected from actual earnings, but also suggest that what are classified as financial activities do not in themselves create new value (Green 2020a). A revenue stream from productive activities is needed to remunerate productive investments and a volume of financial capital

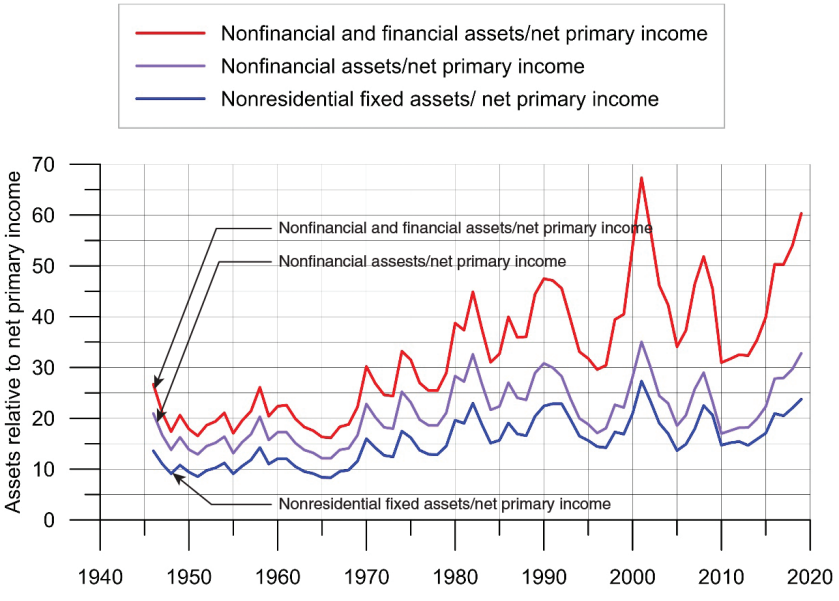

Figure 10 Asset–Earnings Ratios for Non-Financial Corporations

Source: Elaborated from US Federal Reserve Board (2020).

that itself does not create new wealth (though it may reduce some costs and plays a role in the creation ex nihilo of credit and the reallocation of capital). The situation that results could be depicted as an inverted pyramid resting on net value-added less compensation of employees. Out of this income are made successive layers of payments, starting with rent, interest and dividends, after which come derivatives, derivatives of derivatives, derivatives of derivatives of derivatives and so onwards.

5. Imperial Dynamics

The position of the US as a hegemonic power, which is underpinned by the role of the dollar as the leading world currency (Costigan, Cottle, and Keys 2017), has enabled it to attract a large net inflow of financial resources. This stream of income has sustained aggregate demand and enabled the US to run large trade deficits: overall receipts from the rest of the world were much smaller than US payments to the rest of the world, increasing the net worth of the latter. The fact that the US was allowed to spend more than it earned helps explain growth differentials, as do other asymmetries relating to the relative prices of exports and imports of goods and services and in particular of raw materials.

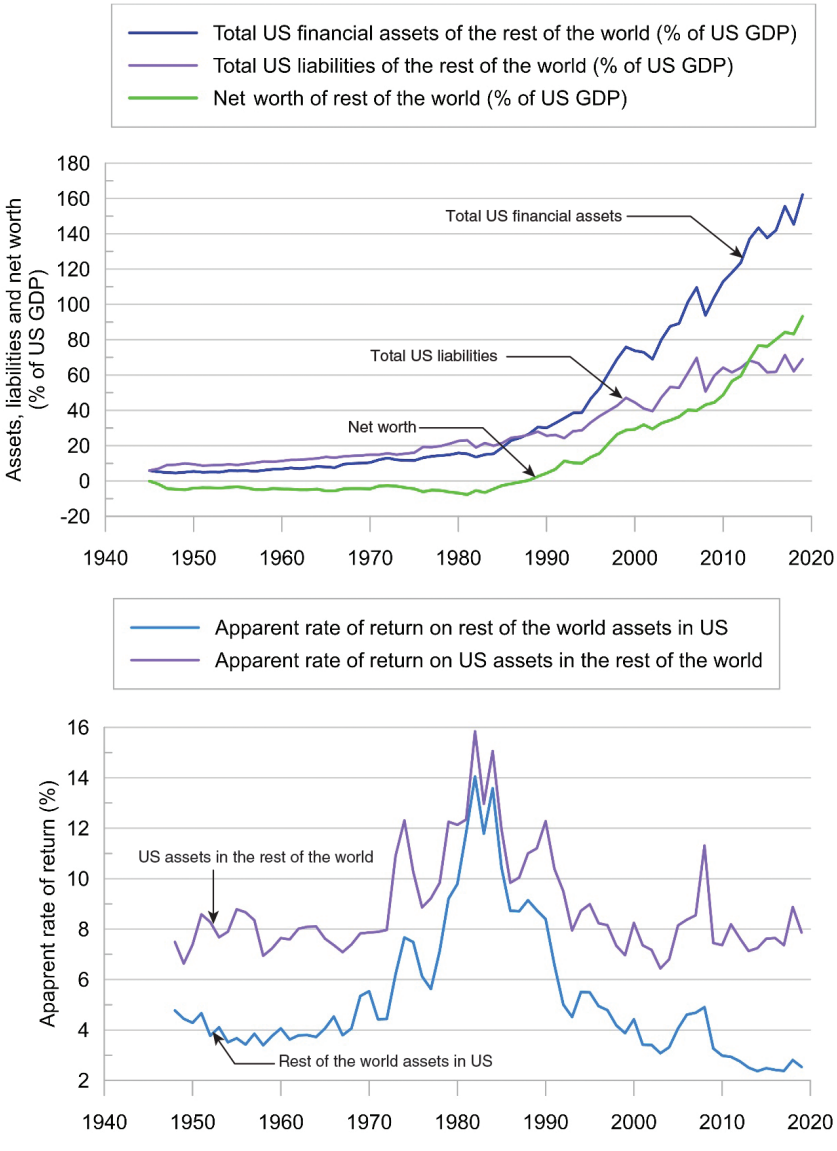

Figure 11 Asymmetric Transfers of Income and Wealth Between the USA and the Rest of the World, 1945–2019

Source: Elaborated from US Department of Commerce Bureau of Economic Analysis (2020).

The magnitudes of some of these capital flows are reported in Figure 11. Figure 11A records the dramatic growth of the US financial assets of the rest of the world

and the less striking recent growth of the US liabilities of the rest of the world since the early 1980s. In 2019 US assets stood at 69.0% of GDP, while US liabilities stood at a remarkable 162.2%. The net worth of the rest of the world was equal to 93.2% of US GDP.

In spite of the large differences in the overall value of these two sets of assets, annual income receipts of the two sets were similar: for the US annual earnings were equal to 5.4% of US GDP in 2019, whereas US payments to the rest of the world were smaller at 4.1% of US GDP. Earnings were similar because of large earnings differentials, favouring the US: the apparent rate of return on US holdings in the rest of the world (7.9% in 2019) substantially exceeded the earnings of the rest of the world on US holdings (2.5%) (Figure 11). In other words, the US finances its trade and government budget deficits by borrowing in its own currency, avoiding exchange rate risk and at low rates of interest, with foreign acquisitions of US Treasuries and other US dollar-denominated assets, pushing up the value of the dollar and keeping US interest rates low. The cost is a large accumulation of debt.

By 2019, 22.6% of the profits of the US corporate sector were made up of the difference between the flow of profits on US direct investments abroad and foreigners' direct investments in the US (Figure 12). The financial activities of the US corporate sector appropriated another 21.1%, having grown dramatically after 1984, while manufacturing accounted for just 15.1% of corporate profits, compared with around 55% in the early 1950s.

The international status of the US dollar is the source of another significant advantage that tempers relative decline, namely international seigniorage: the US can engrave hundreds of fiat dollars for a few cents and use them used to pay for US imports or to acquire foreign assets (real resources provided by other countries). Once acquired, many of these dollars go into circulation in other parts of the world or are added to reserves and are not used to purchase US goods and services or make claims on US resources. In 2007 some $500 billion US dollars for which foreigners had provided goods, services, and assets were in circulation outside the US (Eichengreen 2011, 3–4).[6]

An important consequence is that the US can live beyond its means. However, exorbitant privilege conferred by the role of the US dollar as the world's reserve currency does involve certain costs. As Triffin (1960) noted, the international economy needs dollars for liquidity purposes and to meet the demand for reserve assets. However, the persistent current account deficits that result put pressure on dollar convertibility and adversely affect US competitiveness. This impact on competitiveness contributes via its impact on profitability and investment to the remarkable decline in US manufacturing and the share of manufacturing in US profits.

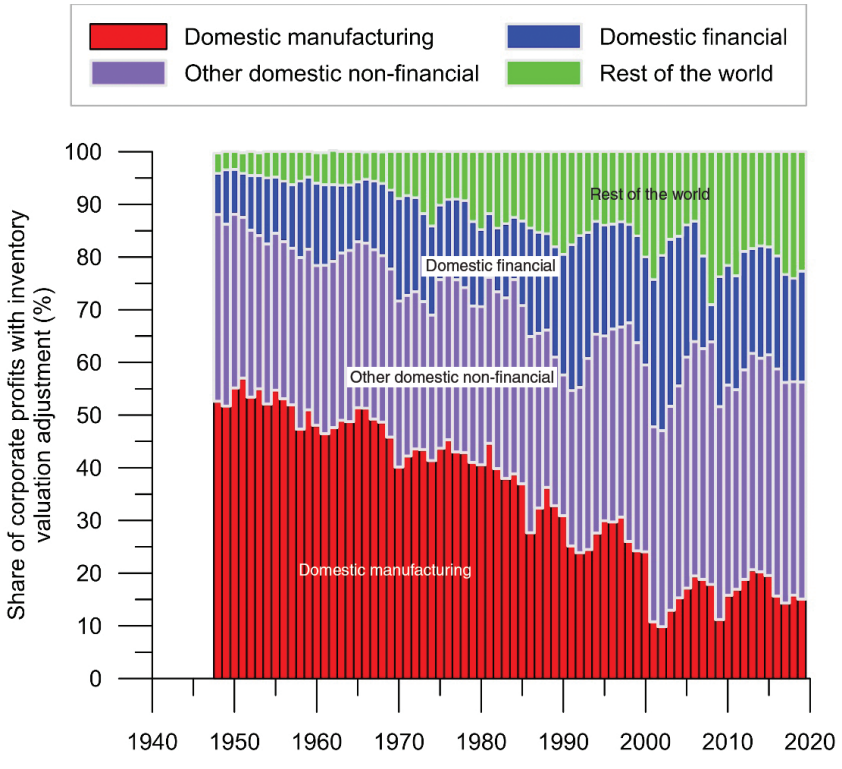

Figure 12 Changing Sources of Corporate Profits, 1948–2019

Source: Elaborated from US Department of Commerce Bureau of Economic Analysis (2020).

In these conditions the US has continued to appropriate resources from the rest of the world. These resources temper relative economic decline, as has the role of US non-financial corporations in some global value chains. To date the US has managed to retain a dominant position in the global system. This advantageous position is, however, threatened by two factors. The first is the reluctance of other countries to purchase US Treasury debt along with de-dollarization and the use of other currencies that will reduce the ability of the US to profit from its hegemonic role. The second is the ascent of new powers that may play leading roles in the technologies of the next industrial revolution and the fact that, short of a large-scale devaluation of existing capital assets (and system change), the low rate of return documented in this article will deter the domestic investment required to enable the US to compete.

6. Conclusions

Analyses of uneven and combined development and of cyclical movements and trends suggest that the world is approaching a major turning point, amounting to the approaching end of the "unipolar moment," dating from the collapse of European Communism, and, more strikingly, the final stages of the West's 500-years of world domination, achieved militarily and economically from the 16th–17th centuries (Dunford and Qi 2020; Frank 1998; Karaganov and Suslov 2020). A major challenge is to develop geoeconomic and geopolitical concepts relating to capitalism and imperialism to explain these trends. Geopolitical economy and analyses of the dynamics of capital accumulation and crisis have a great deal to offer.

In the US and other Western countries the crisis that coincided with the recession of 1973–1975 signalled the start of a period of overall relative economic stagnation that has largely continued until the present. In the US the growth of labour productivity slowed overall and was largely confined to parts of a much-compressed manufacturing sector and to wholesale, retail, information, and entertainment industries as investment was low, and innovations were slow to diffuse. Cash and credit were not invested in new more efficient plant, equipment, and infrastructure, with large gaps emerging between the performance of a few leaders and the rest. These trends marked a transition to an era of relative economic, political and cultural decline. Advanced economies such as the US failed to generate new industrial sectors, new technologies and enough secure and decent jobs for the former industrial working class and sufficient middle-class career paths for young people, with wide disparities emerging across its national territory. At the same time zombie private companies were kept afloat (Mullan 2017), possibly due to the political difficulties and potential social consequences of radical restructuring.

In some ways these trends echo the earlier relative decline of Great Britain in the late 19th century. Attributing it to a "squeeze on profits between wages and prices, and . . . the intensity of international competition," Lewis (1967, 27) pointed out,

> In the low level of [domestic] profits in the last quarter of the century we have an explanation which is powerful enough to explain the retardation of industrial growth in the eighties and nineties . . . [and] the solution to the great mystery of British foreign investment, namely, why Britain poured so much capital overseas into primary producing countries in the eighties.

In this article these trends were attributed to inadequate productive investment that itself reflected a secular decline (subject to shorter cyclical fluctuations) in the rate

of profit that neoliberalism failed to reverse, non-financial corporations quest for technological and intellectual rents and dominant market positions in global value chains, an offshoring of productive capabilities to countries with the cultural and administrative capacity to drive endogenous processes of development, and more generally a flight of cash and liquidity into financial activities. The mass of profits did increase, but at a rate relative to the mass of capital to be valorized that diminished at critical moments, giving rise to a succession of crises. These crises were managed through vast injections of liquidity that exacerbated the growth of debt and drove measures to support asset values and a quest for new classes of assets against which income could be generated.

As a quest for a global constitution of capital and of economic liberty beyond the reach of the sovereign state (Slobodian 2018, 1–26)[7] and national deregulation/reregulation to protect private property rights, neoliberalism provided opportunities for private capital to enrich itself. At the same time neoliberal globalization provided an opportunity for emerging economies to exploit latecomer advantage capabilities (Lin 2017), while ensuring in the case of those with competent interventionist governments that they developed endogenous industrial and managerial capabilities (Dunford 2017) that came to challenge Western global political and economic leadership. A starting point for analyses of these transformations is a rejuvenated geopolitical economy exploring the interaction of internal and external drivers of change.

Appendix 1. Gross, Net, Current, and Historical Cost Estimates of the Capital Stock

The rate of profit is defined as the ratio of profits to the capital advanced, where profits are equal to the difference between value-added and employment incomes, and the capital advanced is made up of fixed capital, stocks of materials, semi-finished goods, and fuel along with work-in-progress but excludes unsold finished goods. To these items Marxist definitions would add wages.

The capital advanced, profits, and value-added can be computed gross or net depending on whether an allowance is made for depreciation. Most researchers use Bureau of Economic Analysis (BEA) data. The BEA only computes net capital stock valued at historical and current costs. A number of researchers call for gross estimates. In this case accumulated depreciation allowances are recorded as part of the capital stock until the plant and equipment concerned is scrapped (recovered costs remain part of the capital stock).

Fixed assets can be valued at historical and current cost, as can the consumption of fixed capital (depreciation). Historical cost measures record the amount of money actually spent to acquire capital assets (their book value) or if the

investment was financed with credit the outstanding debt (and its cost). At historical cost, depreciation is the difference between gross and net investment in fixed assets (the change in the net stock of fixed assets) valued at historical cost. If it is valued at historical cost, the change in the net stock from the end of one year to the next is equal to investment less depreciation. This relationship does not hold for current cost estimates (Kliman 2012). Current cost depreciation involves the use of current prices to measure depreciation of fixed assets purchased in the past and is the difference between gross and net investment at current costs. A historical cost measure corresponds most closely to Marx's concept of profitability.

In current cost estimates the gross capital stock or the capital not used up are retrospectively revalued at their present-day cost or current market value (so they are revalued at current prices). The current cost measure indicates what capitalists might receive if they sold their assets, and what it would cost to replace the entire capital stock (even though a good part of the capital stock is carried over from one year to the next), but it is not the sum of money that they actually advanced. This current cost definition of capital as the sum needed to replace the entire capital stock at current values underlies the Okishio Theorem according to which labour-saving and capital-using investments increase individual and aggregate profitability, contradicting Marx's law of the tendency of the rate of profit to fall.

The gross and net methods generate different estimates of the capital stock and the rate of profit. A net figure estimates the outstanding (unrecovered) part of the sum originally advanced. A gross capital stock measure assumes that the sum initially invested is part of the capital stock at its original value or (which is the same thing) at the depreciated value plus the depreciation recovered by an investor until the corresponding capital is retired or scrapped. The gross stock can be measured in terms of historical costs or it can be revalued at current prices (at prices that apply if repurchased). Of course recovered depreciation may be invested in which case it adds to the gross and net capital stock or may be used to pay down debts. Shaikh (2016, Appendix 6.7) uses current costs and suggests the use of nominal gross profits divided by lagged gross investment, as it does not require assumptions about service lives made to arrive at net capital stocks. In the case of BEA estimates the depreciated value of capital stocks is computed by assuming a geometric decline in asset efficiencies over an infinite lifetime. Shaikh also makes the important point that depreciation is treated as if it were independent of economic circumstances, which it clearly is not as recessions and crises normally accelerate the scrapping of fixed capital. Shaikh proposes a method to compute gross capital stocks. Comparing the two methods, he says that "The new gross stock measure [for the corporate sector] starts out higher than the official BEA net stock, but . . . by 1947 the former is 90% of the latter. However, the gross stock grows more rapidly than the official

measure, so that by 2009 the former is 68% higher" (Shaikh 2016, Appendix 6.7), with evident implications for computed profit rates. L. Tsoulfidis and Paitaridis (2019) have developed this method.

In this article BEA estimates of the net capital stock valued at historical and current costs are used, profits are net profits (profits less current cost depreciation), while historical and current cost estimates are compared, although historical cost estimates are preferred as they refer to the sum actually advanced (or the sum owed) and correspond with Marx's own definition.

Appendix 2. A Note on Productive and Unproductive Labour

In Marx's theory new value is created by productive labour engaged in the production of goods and services (use values) that command a market price, and excludes labour involved in the transfer of ownership, supervision, and social maintenance. Capital is advanced to employ unproductive labour (constant capital and wages), and the value of the product increases as does necessary labour. As unproductive labour does not create surplus-value it increases necessary relative to surplus-labour. For commercial, financial, and property capital, the labour employed is a source of profit, even if it does not produce surplus-value, while these types of capital all participate in the redistribution of surplus-value and equalization of the rate of profit (equalization of course coexists with differentiation as a result of competition and innovation). In the case of the state, capitalized tax revenue derives in part from the taxation of wages (possibly paying entirely for collective services) and in part from surplus-value, and can also be conceived as overhead costs (that do not participate in the equalization of rates of profit).

Most often it is argued that the wages of unproductive labour are deducted from the surplus-value produced in the circuit of industrial capital, reducing the rates of surplus-value and profit (see, for example, Mohun 2014). Smith (1993), however, argued that the wages advanced should be considered a social overhead cost that, as with constant capital advanced (itself objectified labour) in all sectors, passes on its value to finished goods and services, reducing the average rate of profit as it increases the organic composition of capital (and reduces the labour available for surplus-value production). Whatever the mechanism there are strong pressures to reduce circulation and other indirect costs. Circulation and perhaps social-maintenance labour may decrease the turnover period of capital by increasing the velocity of circulation of commodities and thereby increase the employment of productive labour and absolute surplus-value (Smith 1993).

Notes

1. The claim that productivity statistics do not incorporate quality improvements cannot be used just to explain recent trends. In the past, quality improvements were also a characteristic of product development, and past progress was understated by real GDP estimates (Gordon 2016, 556–557). Official GDP estimates have increased due to changes in methodology and imputations for non-traded goods and services, such as the rent that homeowners would have to pay if they rented their own homes. Imputations reached 14.8% of GDP by 2006 (Bureau of Economic Analysis 2007).
2. This view differs from endogenous growth theories: instead of attributing growth to knowledge and investment in intangible R&D and human capital, a central role is attributed to their combination with tangible investments in plant and equipment. Empirical research shows that "the great preponderance of economic growth in the US since 1947 involves the replication of existing technologies through investment in equipment, structures, and software and expansion of the labour force" (Jorgenson, Ho, and Samuels 2014).
3. As Grossmann ([1929]1992, 101–104) pointed out, it is the tendency of the mass of surplus-value or of profit (which generally increases) to increase at a slower rate relative to the total capital employed that matters: in this sense, the rate of profit is merely an index revealing a fall in the mass of profits relative to the accumulated mass of capital, relative to the sum required to valorize the mass of capital advanced and relative to the sum required to maintain existing assets and fund new productivity-increasing investments. Clearly, in conditions of overaccumulation a major crisis resulting in the destruction of accumulated capital would resolve the problem. This diagnosis is reflected in some neoclassical studies. For McGowan and Andrews (2016) insolvency regimes that do not secure an orderly exit of inefficient firms hamper productivity growth.
4. Recently, the measurement of Gross Fixed Capital Formation has changed with the reclassification of some types of intangible expenditure, which have increased in relative importance as investment. Corrado, Hulten, and Sichel (2009) have claimed that computerized information usually measured by software, innovative property starting with R&D and economic competencies such as advertising, marketing, training and organization that were formerly classified as operational expenses (circulating capital) should be classified as fixed capital. Of these activities the last two are not substitutes for the capital investment in technology, plant, equipment and infrastructure that transform much R&D, innovation and investment in human resources into higher productivity. These intangible assets (goodwill, for example) are sometimes used to warrant the excess of a company's stock market valuation over the book value of its assets (Mullan 2017).
5. In 2015 the 500 largest American companies held more than $2.1 trillion in accumulated profits offshore to avoid US taxes. See "Big U.S. Firms Hold $2.1 Trillion Overseas to Avoid Taxes: Study." *Reuters Staff*. Accessed January 2, 2021. https://www.reuters.com/article/us-usa-tax-offshore-iduskcn0s008u20151006.
6. As most trade and finance are denominated in dollars, just about every country in the world is subject to US commercial rules and must operate through the US banking system, enabling the US to threaten them, sanction them and impose not inconsiderable economic and social costs if they do not defer to US interests.
7. Brzezinski (1970, 28) approvingly cited a 1968 article announcing that "the nationstate as a fundamental unit of man's organized life has ceased to be the principal creative force: international banks and multinational corporations are acting and planning in terms that are far in advance of the political concepts of the nation-state."

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