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Financialization Historically Contemplated

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ABSTRACT

This article examines the extent to which financialization is a new phase of capital accumulation characterized by its own economic laws in which the real (production) economy adjusts accordingly. In order to examine this hypothesis, we invoke the share of the financial sector in the GDP of the USA, as the best meaningful metric to approximate the expansion of the financialization over time. Our findings suggest that the financialization phenomena of the post-1982 years are comparable to those of the “roaring 1920s”. The observed differences are quantitative, in the main, and although they suggest the presence of regularities; nevertheless, they do not suggest an altogether different stage of a finance-led capitalism.

Key words: Financialization, profit rate, interest rate, long-cycles, financial fragility

JEL classifications: B50; G20; N12; O15; O30; O16

1. Introduction

The purpose of this article is to explore the extent to which financialization is a new stage of capital accumulation and, at the same time, not only is governed by its own economic laws but in addition dictates the behavior of the real (production) economy. In order to examine this hypothesis, we need first to define financialization and then configure a metric that meaningfully assesses the phenomenon. It is important to stress that we do not question the expansion of the financial sector and its practices *per se*, but the extent to which this expansion is an altogether different stage of capital accumulation with its own logic and mechanisms that affect rather than being affected by developments in the real economy.

Financialization is hard to theorize because, on the one hand, there are issues with its quantification, on the other hand, we are dealing with questions related to motives and practices that need to be substantiated (Epstein 2005 and Palley 2013). This is the reason why some of its proponents borrow sociological terms and claim that financialization is more like a “middle-range theory”. The latter typically refers to a hypothesis, which, in the eyes of researchers, is consistent with the hitherto available evidence, and the prospects are reasonably good for its advancement to the next stage in its way to becoming a fully-fledged theory (Lapavistas 2014). We do not dispute or oppose to the intellectual struggle in breaking new ground in economic theorizing. However, we are skeptical in the efforts to define another new stage of capitalism and advance to altogether new theoretical schemes without subjecting them to vigorous testing (see Mavroudeas and Papadatos 2018). For this purpose, we start our analysis: First with the very fundamentals, and above all, with the identification of financial sector, which, besides the banks, includes many other entities (i.e., private equity firms, hedge funds, stocks, and derivatives exchanges); Second, we evaluate the extent to which the expansion of the financial sector entails an altogether new stage or epoche in the evolution of capitalism associated with economic laws and regularities that need to be laid bare.

There is no doubt that the financial sector has grown over time. On further consideration, we discover that the financial sector not only has expanded, but its expansion has been accompanied by the enhancement of financial motives and practices, which permeate the entire economy. Despite these developments, we argue that there has not been anything qualitatively new in the expected evolution of

capitalism as a system that continuously revolutionizes its relations of production. In our view, the financial sector is neither independent of the rest of the economy and governed by its own economic laws; nor imposes these laws on the rest of the economy. We argue that the expansion of the financial sector is likely to be an expected feature of the long (Kondratiev type) cycles in economic activity. As the economy enters its downward phase of the long cycle consequent upon the falling rate of profit, combined with a falling interest rate renders the channeling of savings into the financial markets more profitable, rather than investing in the real economy. As a result, the falling profit and interest rates, separate and in combination, become the material conditions for the flow of savings away from production towards financial “investments” and, in so doing, they become the fuel for the rise of financialization.

We argue that the financialization hypothesis must be placed into a long-run perspective of the Kondratiev cycles.¹ The available data makes possible the comparison of the downward phase of the third long cycle, 1896-1939, and the current fifth 1982-present long cycle. The selection of these two cycles is because both are featuring by the expansion of the financial sector and of the so-called financialization motives and practices. The difference between the two periods is that the financialization in the post-1982 years appears to be more aggressive and expansive. Despite quantitative differences, the economic mechanisms that give rise to the phenomenon of financialization in both periods are no different from those governing the real economy. In our view, the real and financial sectors of the economy are intrinsically connected, while the arrow of causality runs from the real sector of the economy to the financial one.

The remainder of the article is structured as follows: Section 2 presents a brief historical account of the concept of financialization in the two periods and draws comparisons concerning the causes of the phenomenon. Section 3 refers to the data and phenomena associated with the growth in financialization. Section 4 examines the evolution of the financialization and its dependence on the separate and combined movement of the rate

¹ The first long cycle begins with the industrial revolution and ends in the 1840s. The second long cycle extends from about 1845 to 1896. The third covers the period from 1896 to 1940. The fourth is from 1940 to 1982, and finally the fifth from 1982 to the present. Currently, the economies are towards the end of the fifth long cycle. We estimate, based on data of real net profits of the US economy, that the beginning of the sixth long cycle is anticipated toward the end of the 2020s (see Tsoulfidis 2002; Tsoulfidis and Papageorgiou 2019; Tsoulfidis and Tsaliki 2019).

of profit and interest rate. Section 5 subjects to an empirical testing of the hypothesis of financialization for the periods 1896-1939 and 1960-2019 utilizing the Autoregressive Distributive Lags (ARDL) model. Section 5 summarizes and makes some concluding remarks.

2. Financialization in Historical Perspective

We apply the standard definition of financialization, which refers to the growth in the financial sector and the motives and practices associated with finance. The meaning of the latter is that not only do the firms in the financial sector engage in the market of financial instruments but also the firms in production would rather direct their money flows in financial instruments rather than in real investment. The public is equally involved, one way or another, in financial activities by placing its money either from savings or credit in retirement accounts, money market accounts, purchase of stocks, and real estate.

The phenomena associated with financialization appear when certain conditions related to the evolution of the rate of profit and real mass of profits are satisfied. A falling rate of profit, past a point, leads to a stagnating mass of real profits which discourages capital accumulation and diverts firms and the public into short run “investments” in financial markets. A process that is exacerbated by a long run falling interest rate. The idea is that the rate of interest, in the long run, will be lower than its ceiling, the rate of profit. The fall of the latter depresses even more the former compelling the financial institutions to expand their lending activity to recover at least the same interest revenues. The reason is that the “output” of the financial sector is loans and other financial instruments whose price, the interest rate, must be reduced to increase their demand. Hence, the falling rate of profit further depresses an already falling interest rate and paves the way for the appearance of financialization phenomena.

In the long history of capitalism, the phenomenon of financialization became particularly pronounced in the US economy in two periods: The first refers to the third long cycle (1896-1939) and in particular during to the so-called “roaring ‘20s” and the second to the fifth (1982 – present) long cycle, however our time series data start from 1960s to study the phenomenon as it was developing in a much longer period of time. The salient features and specificities of these two periods, we examine below.

2.1 The “Roaring Twenties” Economy

In the “roaring ’20s”, there was a widespread speculative mania that was indirectly encouraged by the policies of the US government. During WWI, the US government lent to its allies, the UK and France, and expected by the end of the War to be paid back through the money that they would receive in war reparations from Germany, according to the Versailles Treaty (1919). In the War years, the USA was experiencing surpluses in its agricultural products with its trade with the European countries while in Germany, the Weimar government was in enormous debt, hyperinflation, and rising social dissatisfaction engendering its economic stability and by extension the world stability. The Deway plan (1924) was designed to provide solutions to potential problems by encouraging the US banks to lend to German ones at an interest rate higher than that of the USA and, in so doing, served several purposes (Quinn and Turner 2020). More specifically, with the inflow of money to German banks the Weimar Republic could perform the following four interrelated and critical functions: (a) increase its imports from the USA; (b) maintain social order domestically through various welfare programs; (c) pay its war reparations to the UK and France and (d) facilitate the UK and France to redeem their (inter alliance) debt to the USA.

The easy money policy and therefore lower interest rates in the USA, and the higher German interest rates made the Deway plan operational by the US financial institutions (such as the J.P. Morgan) which were taking advantage of the higher German interest rates by issuing bonds for the general public offering a somewhat higher than the U.S. interest rate with minimal risk.² These arrangements contributed to the spread of the speculative spirit and fever in the USA and, at the same time, enabled Germany to perform the above four critical functions for the maintenance of its own and by extension to the world stability. The Deway plan was effective, so long as interest rates in Germany were higher than those of the USA. However, by 1928 the US banks and the public found that the continually falling domestic interest rates in combination with the falling rate of profit created profit opportunities in both, the real estate and stock markets, and therefore they no longer were willing to continue their money outflows to Germany and its banks. Smiley (2021) gives a sense of the difference by noting that in

² The US interest rate was also lower than that of the UK and in a way contributed to the stability of the overvalued pound as money was flowing from the USA to the UK.

1928, the flow of “other long-term” capital out of the United States was 752 million dollars, but in 1929 it was only 34 million dollars.

The above description pretty much paints a globalized world economy, tightly interconnected, and in these interconnections, finance was the node with the predominant role. In the famous “roaring ’20s”, the US is usually described as a prosperous society with construction activity being on the rise and families purchasing durable goods (household appliances and cars) mostly on credit and not on disposable income or available savings. At the same time, a speculative culture was gaining momentum as large segments of the US population were engaged in the real estate market. The speculative fever spread rapidly infecting the stock market, a strong indication that the economy's fundamentals were not as healthy as thought (Keynes 1936, ch. 12). The public is attracted to speculation when the business's profits through investment in capital goods are not promising enough and may take a long time to bear fruits, let alone the risk associated with them. By contrast, “investment” in financial instruments, when credit is cheap, not only promises much higher returns than those in investment proper, but the realization of these returns takes place in a shorter time and at a lower risk. The financial frenzy of the public was also encouraged by the existing legislation, which essentially promoted credit by allowing purchases of financial instruments (stocks) at low margin requirements. The result was rising speculation and expansion of the stock market, whose collapse was a matter of time. The reason is that the fundamentals on which the financial markets were couched were not as strong as thought; the falling rate of profit led to stagnating profits already from the end of WWI (see Figure 5 below).

The collapse of the real estate (1926) and stock market (1929) was succeeded by the great depression of the 1930s, which gave rise to many long-lasting institutional changes. The New Deal and the legislations associated with it were designed, among other things, to set limits on the operation of the financial sector. In these limits, the separation of investment from commercial banking figured prominently; furthermore, the Fed became much more involved in the monitoring of the financial sector. Consequently, during the fourth long cycle, starting from WWII to 1982, the expansion of the financial sector was contained within the boundaries set by the New Deal. Furthermore, the rising prices and interest rates discouraged speculative activities

which were contained but started gradually making their appearance in late-1970s and gained momentum in the following decades.

2.2 The fifth long cycle and the rise of neoliberalism

However, the declining rate of profit –that led to the stagflation crisis of the late-1960s to early 1980s– could only be restored through the neoliberal policies of depressing real wages below productivity and by the lowering of interest rates. The implementation of both policies was in the effort to increase the rate of profit and encourage investment activity. The expansion of capital in the lesser developed countries, the creation of common markets and monetary unions, all separate and in combination, are manifestations of the pressing need for capital to restore its rate of profit at a higher level. In a similar vein, the falling interest rates in the post-1982 long cycle were also an expression of the need for higher profits. Neoliberalism was the ideological expression of this necessity that was also materialized in the weakening of the labor movement and the keeping of real wages well behind the rapidly rising productivity. The deregulation (what neoliberals characterized “the winds of change”) was engaged much more vigorously in the financial sector by lifting many New Deal restrictions. This was not an, once for all, intervention but rather an overtime one during which deregulation was taking place. The results of neoliberalism were steady, though, anemic, and jobless economic growth. The increase in rate of profit in the USA and elsewhere continued until about the year 1997; however, it remained lower than that of the 1960s in its long run falling trend. This was the reason for the systematic governments’ efforts to increase the net rate of profit by reducing the interest rate, even at zero bound.

These developments were to the benefit of the financial sector and led to the encouragement of speculative activities. It came as no surprise the breaking of the bubbles in the stock market of the so-called “dot-com” companies in 2000 and the real estate in 2006, followed by the collapse of financial colossal investment banks of Bear Stearns and Lehman Brothers in 2008. In the same year, we had the bailing out of the global insurance company AIG and the emblematic General Motors. Similar phenomena were observed in Latin America and Europe, where the public debt and its servicing became an urgent problem leading to the bailing out of countries.

3. Perspectives on Financialization and its Quantifications

The purpose of the above historical excursion was to show that competition over the extraction of the maximum possible profits is what dictates behaviors and practices from the business world and governments' economic policies and becomes the generative cause of many phenomena that at times attract people's interest. Financialization represents the most recent expression of this competition for the appropriation of the maximum possible profits. In what follows, we give empirical content to the term financialization, and we do that by looking at the key variables discussed in the extant literature.

The usual discussions on financialization are far too abstract to become operational. Many economists view financialization in a broader sense in which the modern corporation is the arena where competing interests of workers, managers, shareholders and financiers are exposed and resolved. According to the so-called "shareholder value orientation" perspective, the growth pattern of the modern corporation has shifted from 'retain and invest' to 'downsize and distribute' (Lazonick and O'Sullivan 2000). In this perspective, shareholders have a short-term horizon, as they are interested in higher dividends and stock prices while managers aim at the long-run growth of the firm. However, higher dividend payments imply lower retained earnings while soaring stock prices entail low equity issuance. Therefore, financing investment expenditures becomes feasible only from external sources: borrowing and increased leverage ratios are rendering the firms in production activities, including those in the financial sector, fragile.

According to the "mature capitalism" perspective, the realization of production of too much surplus becomes increasingly more difficult in dealing with problems relating to its disposition. Hence, finance enters the picture by facilitating the absorption of the produced surplus output, such that production keeps going preventing the economy from stagnation (see Foster 2010 and Lapavitsas 2014). This is the latest version of the underconsumption theory, according to which the purpose of production is consumption, which in and of itself is not enough to absorb the produced output. In this approach, the economy does not generate enough demand, so there is always a surplus output. Under these conditions, financialization helps resolve the demand gap by applying pressure on managers to opt for short-term profits instead of investment proper and long-run growth and expansion of production. This condition has impacted the

financial stability of the economic system since it withholds investment, pushes the leverage ratios upwards, and induces financial fragility. A common feature holding center stage in both the “roaring twenties” and the post-1982 periods.

From the above discussion, it comes as no surprise that financialization is hard to define and remains, up until now, an elusive concept. The share of the financial sector in the economy's GDP is the usual metric for the quantification of financialization. In Figure 1, we display the percentage of the financial sector of the US economy in the total GDP. The financial sector includes: the Federal Reserve banks, credit intermediation, and related activities; securities, commodity contracts, and investments; insurance carriers and related activities; funds, trusts, and other financial vehicles. We present two estimates of this ratio, the first by Philippon (2015) as it has been extended by Fasianos et al. (2018) in which the defense expenditures have been subtracted to get smoother estimates, especially those before 1947. The second (our) estimate starts from 1947 and extends to 2020 based on the total GDP. The two time series data, for their common (1947-2012) period, move close to each other, with a correlation coefficient in the order of 98 percent.

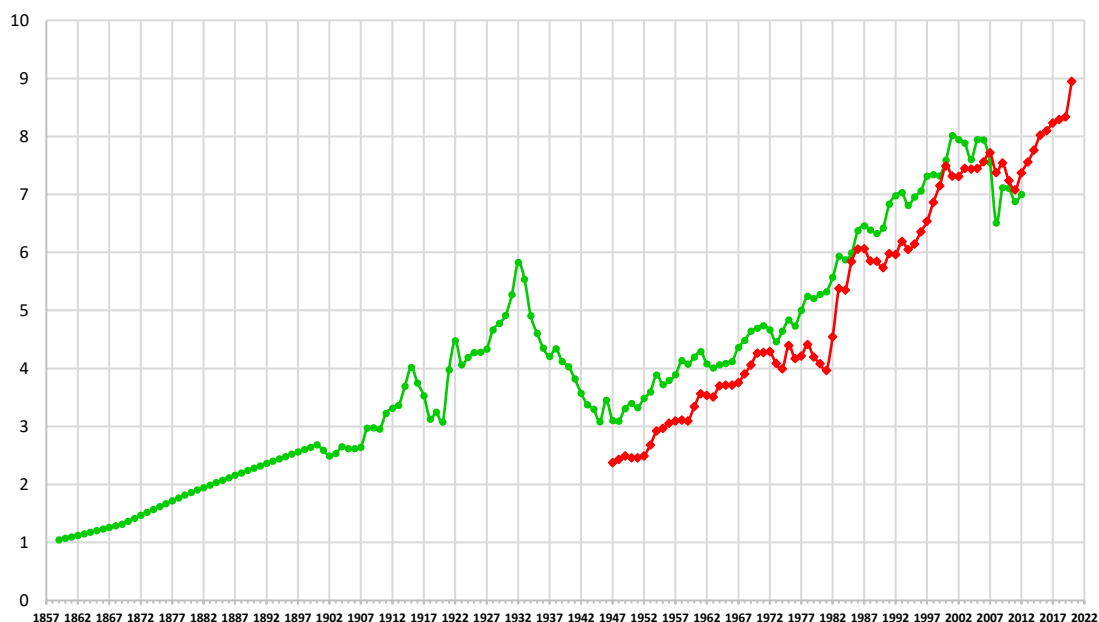


Figure 1. Share of Financial Sector in GDP, USA 1859-2020³

³ Source of data <https://fred.stlouisfed.org/>

A cursory consideration of the evolution of the financial sector, as captured by its share in GDP (see Figure 1), shows its expansion over the years. An expansion punctuated by downturns in the recessionary years during which the financial sector gathers momentum and then grows faster than the rest of the economy. We observe that the financial sector's share in the total GDP peaks in 1932 and then collapses and reached its trough in WWII years. The financial sector's share in the GDP resumed its rising course from 1947 onwards and resurfaced in 1983, that is, in the onset of the fifth long cycle. Shorter downturns and resurfaces have also occurred in recent years, from 2000 to 2007 and from 2007 to 2014. Hence, caution should be applied in the observed expansion of the financial sector because its “output” is particularly problematic from the very inception of national income and product accounts. The reason is that in this sector's output there are many imputations, that is, fictitious transactions, which may give rise to overestimations. The trouble is that the imputations, over time, have increased in size and therefore may overstate the relative expansion of this particular sector (see Shaikh and Tonak 1994, p.12 and Shaikh 2016, pp. 245-246).

Another aspect of financialization is the immanent pressure to innovate, the so-called “financial engineering” and by that is meant the “manufacturing” of new financial products. We have no data on innovations; however, we just can infer from the share of patents of financial firms (Fasianos *et al.* 2018). The patents that have been granted to the financial sector include methods for managing mutual fund structures, collateral management, and monitoring the value of an index-linked bond, none of which are novel. We know that under Section 101 of the US patent laws, the abstract ideas are not patentable, and in this category are classified most of the financial schemes. In Figure 2 below, we display the share of patents granted to the financial sector in the US relative to the total patents granted.

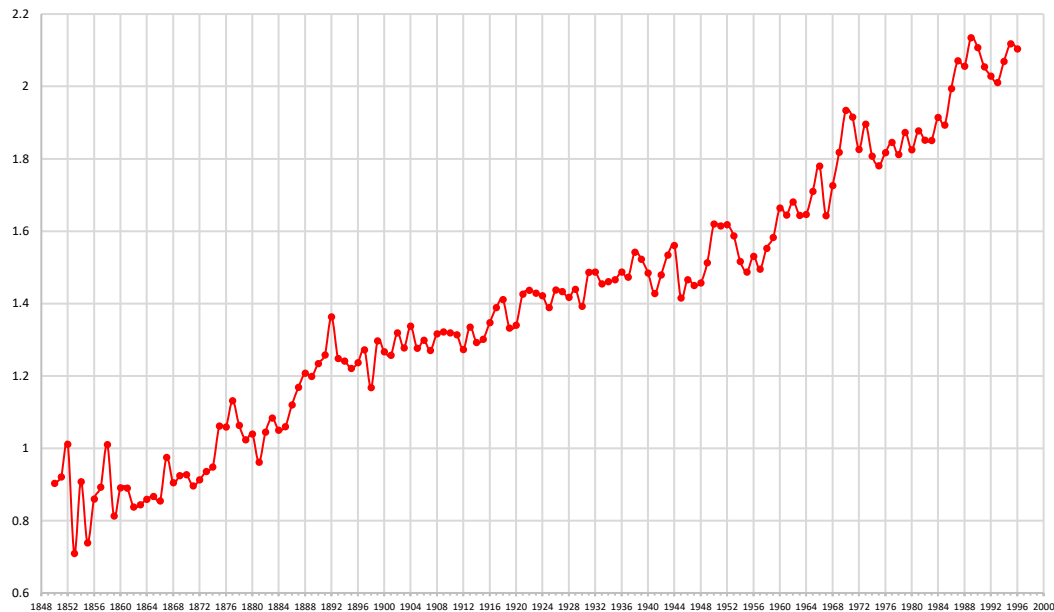


Figure 2. Patents on inventions and trademarks in the financial sector relative to the total patents registered, USA, 1850-1996

We may observe that during the downturns of economic activity, the financial sector issues more patents than in the rising phase. Hence, the assumption is that once a patent is granted almost immediately becomes an innovation. In other words, there is no significant time lag between invention and innovation, as may be the case between patents and innovations in other industries.

As we argued, financialization is not contained in any sector but soon spreads “infecting” all participants in the economy. In this respect, households have also been “infected” by financialization’s “motives and practices” as this manifested in their rising debt. In Figure 3, we display the share of household debt to GDP from 1947 to 2022 as another salient feature of capitalism. A thorough consideration of Figure 3 reveals long cycles in the movement of this variable. Thus, the rising household debt up until the mid-1960s and its stationary stage in the stagflation crisis of the mid-1960s to early 1980s. The rising stage, in the neoliberalism period of economic expansion, up until the ‘great recession’ of 2008-2009, and then the household debt plummeted in the following years (source: <https://fred.stlouisfed.org>). However, the variable under study unquestionably overall trends in the upward direction.

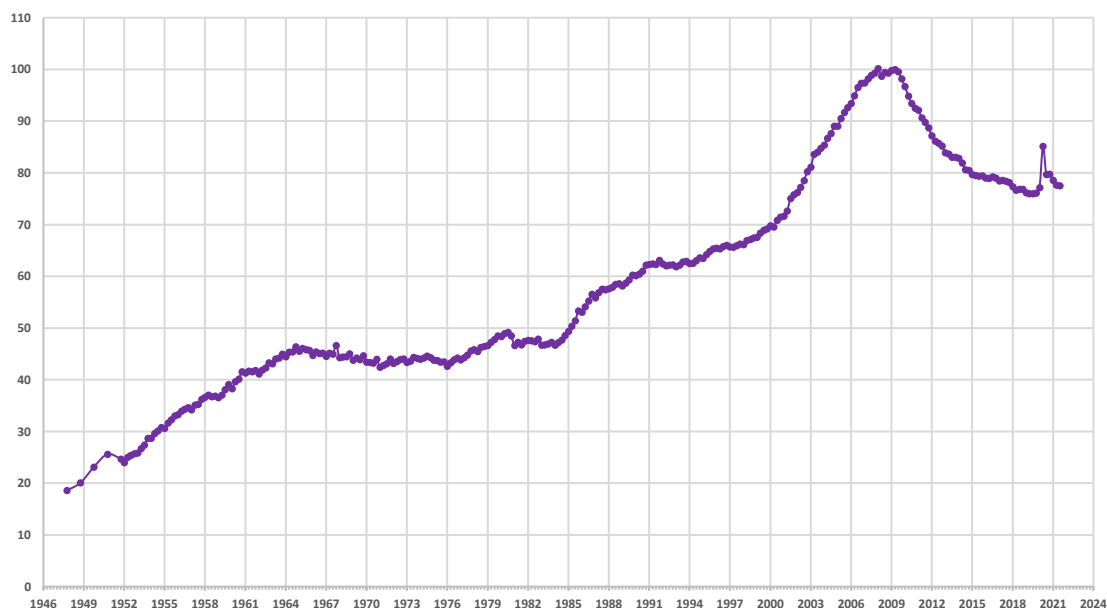


Figure 3. Households' debt as a percentage of GDP, USA 1947:1-2021:3

According to the financialization thesis, during the current long cycle, the income and wealth inequalities have grown since about the mid-1970s (Stockhammer 2004 and 2012). This might be attributed to the availability of more rentier-type of incomes, which the already rich usually take advantage of. In this respect, the already very rich have been helped by the government's efforts to protect the value of financial assets. The main gains of financialization tend to go to those who most successfully speculate at low cost and to the asset management and investment firms involved. In Figure 4, we display the income and wealth shares of the top one percent of the total population.

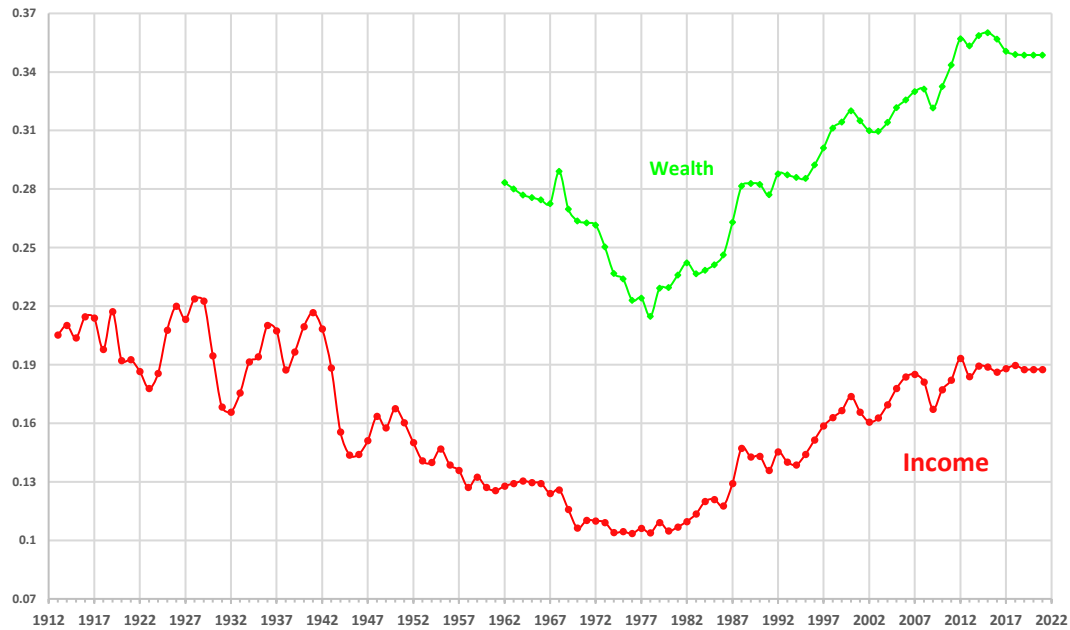


Figure 4 Share in income and wealth of the top 1% of the US Population⁴

We observe that what is true in the post-1982 years, that is, the rising income inequality is also true in the 1920s. During the 1920s, the top one percent of the population owned nearly 22% of total income. The New Deal led to a downturn in the share of the top one percent in total income, which lasted until the 1970s. The rise of neoliberalism, among other things, increased income inequality, and the top one percent of income was about 19 percent in 2012 and remained at this level the years after. Similar is the movement of the share in the wealth of the top one percent of the population in the last decade ranging around 35% of the total wealth. It is important to note that the two time series data have a correlation coefficient of 98%. The correlation coefficient between wealth and income shares of the top one percent of the population with the share of the financial sector in GDP for their common period is 90% and 91%, respectively.

4. Rate of Profit and Interest Rates: The Underlying Causes of Financialization

Having established that since the time of the industrial revolution financialization is on the rise, and the quantitative importance of the financial sector increases as time goes by. From the above discussion and the pertinent literature, the share of the financial sector in the total GDP captures the economic significance of financialization better

⁴ The data were retrieved from the World Inequality database available at wid.world

than any other variable. We study the US economy not only because of its large share in the global GDP, which is another way to say that changes in the US economy impact the rest of the world; but mostly because the US financial sector possesses an altogether different meaning than that in countries like Luxembourg or Switzerland, whose financial sector is the dominant one.

Our analysis begins with the "roaring 1920s", the decade marked by high growth rates. However, on a more thorough examination, we discover that the fundamentals of the US economy (profitability and the interest rate) were not as solid as they usually thought. As might be expected, there was an aura of affluence expressed in the purchase of durable consumer goods (various household appliances and cars), however, these purchases were made, to a great extent, on credit. The available data indicate that 60 percent of cars and nearly 80 percent of radios were bought on credit (Reis 2008, p. 36). The car industry started having problems of overcapacity, as there was saturation of demand. Meanwhile, Ford, the innovative firm whose success was associated with the rising phase of the third long cycle, started facing a saturated market and even worse, intensive competition from newly emerging automobile firms. Farmers in the US were also in financial straits as the European countries, by the end of WWI, started their own production to the detriment of the US agricultural exports. This situation was getting worse by the increasing international competition and falling prices. The reliance on credit in the agricultural sector further increased the US farmers' debt bringing them to a precarious position.

Consequently, income and wealth were very unequally distributed, as this can be seen in Figure 4. From various sources, we know that about twelve million people were below the poverty line (about 9 percent of the population in the 1920s) while working hours remained high and wages did not keep up with productivity. On top of all these twenty million people, about fifteen percent of the population were involved in buying and selling shares to make a profit on the stock market. This percentage of the total population is considered quite high household-wide provided that the average household size in 1920 was 4.3 compared to 2.3 people in the 1990s. Ordinary people were buying massively shares "on the margin", the new financial innovation of the

period.⁵ However, this same innovation became a weakness, when stock prices plummeted in the 1929 stock market crash.

It is important to note that underneath these developments in the financial sector is the evolution of the profitability variables which are displayed in Figure 5. We observe that the rate of profit already from 1918 is falling and never returns to the 1918 level. Very similar is the evolution of the mass of real net profits, in which we can fit a logistic curve indicating that the inflection point is around the beginning of WWI and from 1918 onwards starts the stagnating period during which the new investment does not generate any increase in profits, in other words the marginal profits are zero and so on average, investment spending is discouraged. The data on the rate of profit and the mass of real net profits are from Malloy (1994).⁶ The lack of investment leads to rising unemployment and the two in combination indicate the stagnating face of the economy.

⁵ Investors only needed to put down 10-20% of the price of a stock, and brokers would lend them the remaining percentage. Buying on margin enabled investors to purchase more stock than they would otherwise and, subsequently, realize higher gains should the stock price go up.

⁶ The logistic curve that we tried is of the form $\pi = L + (U-L)/[1 + \exp(- (a \cdot t + b))]$, where π = real net profits, L = lower asymptote, U = upper asymptote, t = years, a , and b are parameters to be estimated, whose ratio $-b/a$, or $(L + U)/2$ gives us the inflection point. The R -square = 92% while the lower bound was fixed at $L = 12$ and the estimated $U = 30.5$, $a = 0.133$, $b = -2.587$. The ratio $-(-b/a) = 19.5$ years, which added to the year 1896 gives us approximately the year 1916, as the year of the inflection point, which is also approximately found as the midpoint between the upper and lower boundaries, that is 21.25 corresponding to about the same year. It is important to stress that quite similar are the rate of profit and mass of real net profits data in Duménil and Lévy (2016).

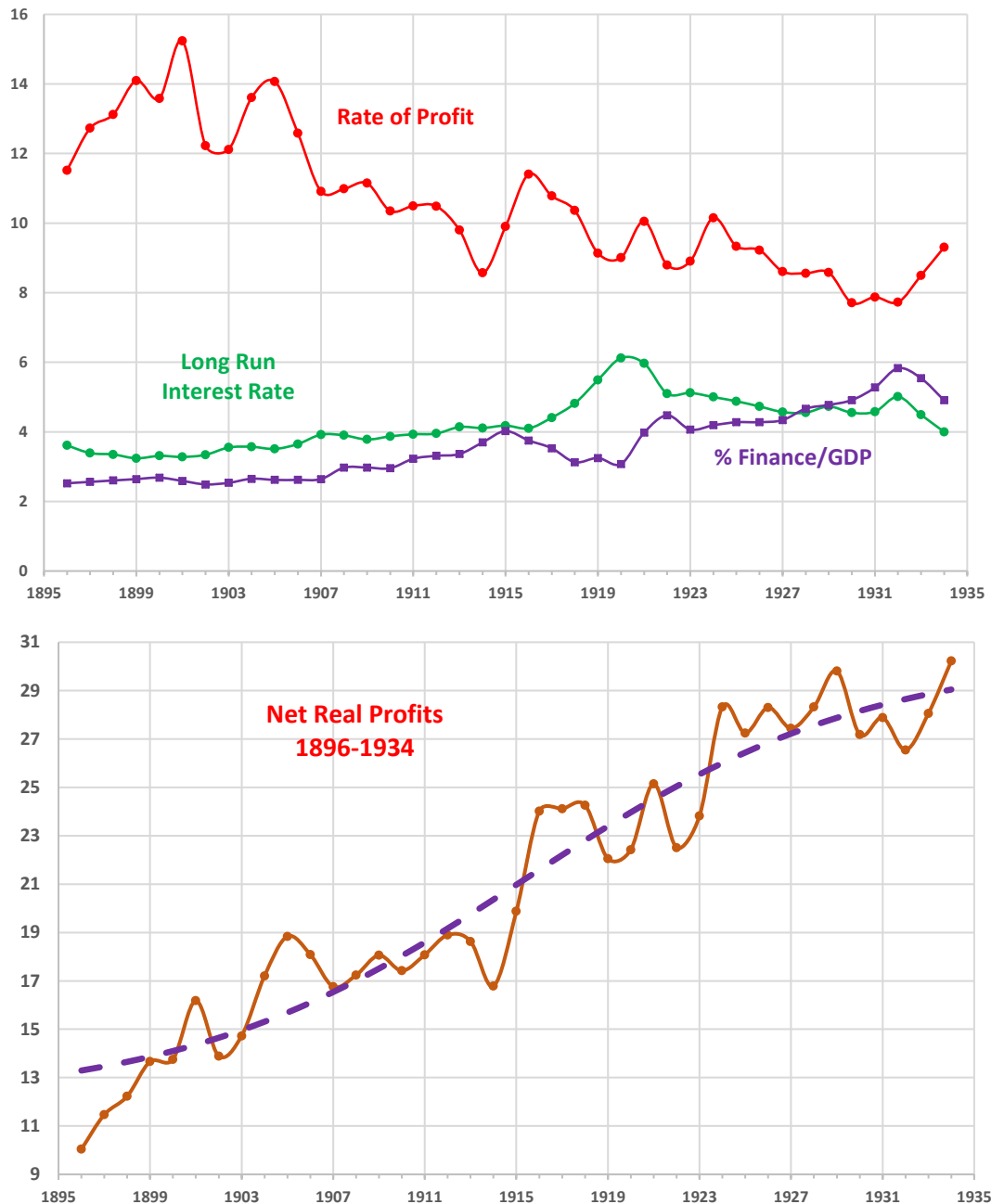


Figure 5. The fundamentals of 1920s

From the top panel of Figure 5 we observe that the rate of profit and the financialization variable move in opposite directions, most of the time, with a correlation coefficient estimated at -81.7% (in the 1896-1934 period) and -62.9% in the 1920-1929 period. The correlation between the rate of interest and the financialization variable is 57.5% for the entire 1896-1934 period. However, in the post-1920 years, the correlation coefficient becomes negative and equal to -66%. The 'rate of profit of enterprise', Marx's term for the difference between the rate of profit and nominal interest rate was negatively correlated with the financialization variable for the entire 1896-1934 period;

the correlation coefficient is estimated at -79.3% and remained negative at -26.8% during the 1920-1934 period. It is important to note that in deflationary times, such as those of the interwar period, the nominal interest rate is what people paid attention most of the time. The results for the real interest rate, however, were no different, the correlation coefficients were -62.3% and -59.8% in their respective periods.

The phenomena of the 1920s onwards are not unique but may be repeated provided the same conditions hold, that is, the combination of falling profit and interest rates. The stagflation crisis of the late-1960s and early 1980s (the end of the fourth long cycle in which Keynesian policies were applied) was not accompanied by the so-called 'cathartic mechanisms' of rising unemployment, falling real wages and devaluation of capital, and there was no restoration of profitability in any significant upward way. Neoliberalism has not been only an ideological approach but rather the application of systematic economic policies aiming at restoring profitability to promote investment in real capital. This was achieved through the depression of real wages well below the growth in productivity, the lifting of "impediments" to capital mobility, and the deregulation of financial capital. The result was falling real wages and interest rates, which both increased profitability and, for at least two decades, gave somewhat higher growth rates creating an atmosphere of optimism. These were the years of the much-celebrated "new economy". The recessionary years, 1997 and 2001, not only did not raise concerns but, on the contrary, strengthened the already existing beliefs of a "new economy" characterized by shallow and rare recessions and mostly vigorous economic growth.

As a consequence, we had statements reminiscent of the "roaring '20s" or those of the "mixed economy" of the 1960s. For example, in the "new economy" because of the rapid flow of information, there is no need for government intervention, the market in and of itself is capable of dealing with whatever discrepancies in supply and demand. The "new economy", according to its proponents, was supposed to be depressions-proof and the depressions are to be found in economic history books. The falling interest rates and the slightly rising but always much lower than the 1960s rates of profit, past a point, turned the money flows more towards financial assets and far less in real capital. The post-1982 years are known for the systematic efforts of central banks to reduce interest rates and lax requirements in the financial sector. New Deal restrictions applied to banks, such as the separation of commercial and investment banking were lifted.

Figure 6 below portrays the evolution of profitability, interest rate and the financialization variable during the fifth long cycle.

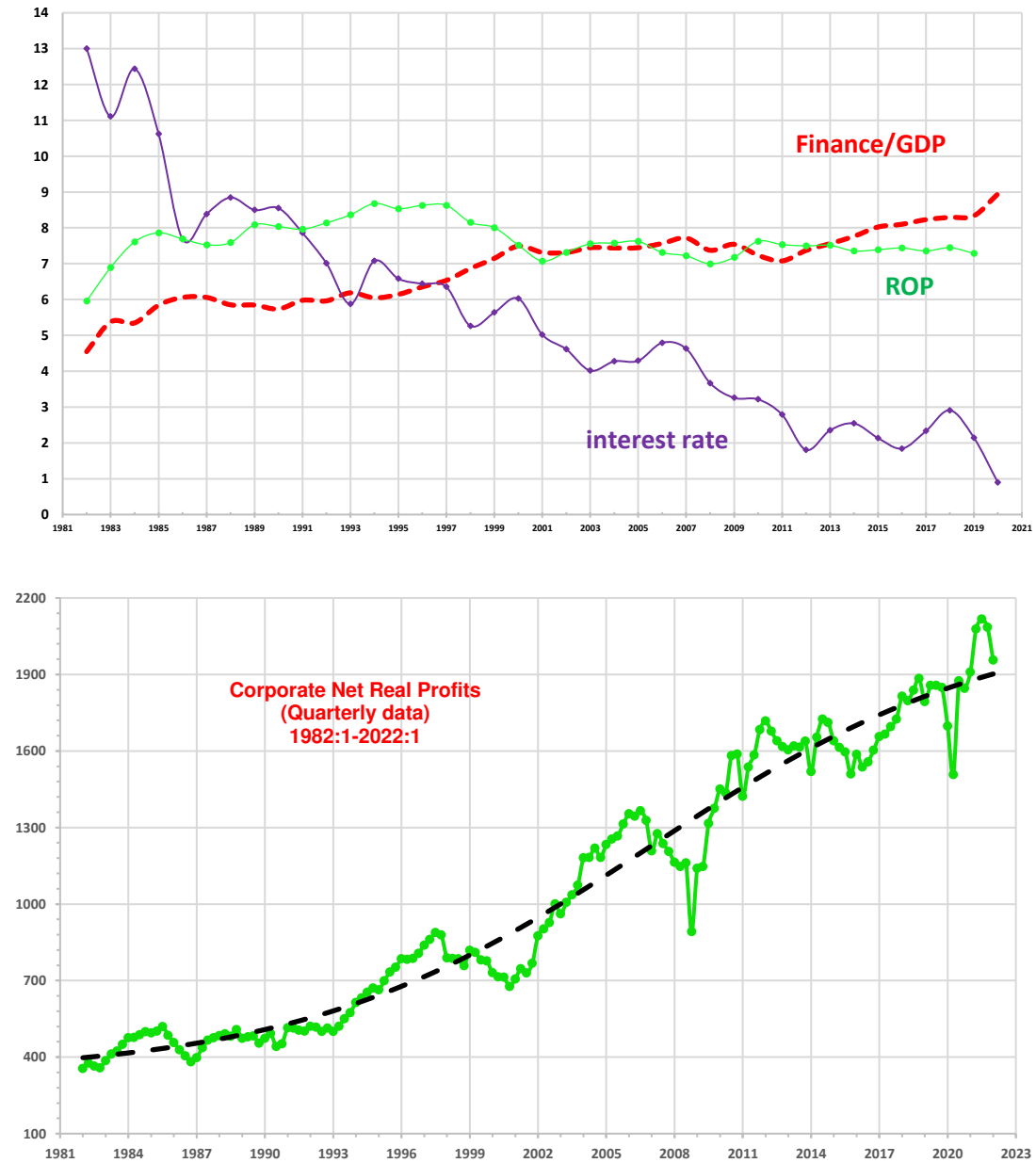


Figure 6. The fundamentals of 1980s and beyond⁷

⁷ The data on the rate of profit comes from Feenstra et al. (2015). The data on the long-term rate of interest is from Officer (2022). The corporate profits are from the Fred database (fred.stlouisfed.org) and have been deflated by the GDP deflator available in the same database. We applied the logistic curve (see footnote 6) with the lower bound estimated at $L=330.67$, the upper bound, $U=2123.81$, the slope $a=0.0326$, the constant $b=-7.81$, and R -squared = 96%. The fifth long cycle is still in process and other thing constant its end is estimated by the end of the current decade (see Tsoulfidis and Papageorgiou 2020 and Tsoulfidis and Tsaliki 2019, 2022).

The difference of the fifth long cycle with that of the 1920s period is only quantitative. The rate of profit is slightly rising until 1997 and then starts its falling trend. The correlation with the growth of the financial sector appears to be relatively weak at -0.18 percent for the entire 1983-2019 period, while for the 2007-2019 period is -0.14 percent. By contrast, the interest rate since 1982 has been in a downward direction, while in recent years, it approached, if not exceeded, the zero bound, as was the case in Germany and Japan. The correlation coefficient between the interest rate and financialization variable is at -93% for the entire post-1982 period. The financial industry's share in GDP is on the upward trend. The net real corporate profits remain stagnant already from 2007, as this is derived from the details of our logistic curve, whose stagnating phase is anticipated to continue toward the end of the 2020s...

The effect of the nominal interest rate on the surface plays a major role; however, we should not underestimate the role of the profit rate, whose level is at the lowest of the post-WWII period and so even when it was rising from 1982 to 1997. Nevertheless, this in and of itself is not adequate to bring new investment in real capital. The falling interest rate up to a point has contributed to the profitability and promoted the growth during the now-forgotten "new economy" period, and from the 2007 onwards the falling rate of profit led to stagnant mass of real net profits and the financialization phenomena.

5. Econometric Analysis

In the econometric analysis that follows, we utilize as our dependent variable the financialization defined as the ratio of finance sector's output over the GDP (see Figure 1), FIN, and as independent variables the rate of profit, ROP, and the nominal interest rate, INTER. None of our variables were found to be I(2), which allows us to proceed with the use of the ARDL bounds method of cointegration. The aforementioned method provides us with more degrees of freedom than other cointegrating methods, thus gives rise to more robust estimates of our parameters and of the various diagnostic tests that we carry out.

Our initial ARDL model for the 1896-1939 period showed that some of our parameters are not structurally stable because the cumulative sum of squared recursive residuals test, CUSUMSQ slightly exceeded the 5% level of significance. Since we found an

indication of instability, we also tested using the ARDL specification of lags using this time an OLS regression to identify structural breaks (the ARDL method in EViews 10 does not have this option). Using the Bai-Perron tests of L+1 vs. L sequentially determined structural breaks, we found that in the year 1921, there is structural break in the constant of our selected equation. These results suggested the introduction of a dummy variable, DUMMY, spanning the period 1896-1939. The structural breaks tests showed, as expected, change of behavior from the year 1921 onwards. Thus, we opted for an ARDL(1, 2, 2) according to the usual Akaike info criterion (AIC) for selecting the optimal lag length. The results for the selected variables and their lags are displayed in Table 1 below. The letter L before of the variables indicates the use of logarithms.

Table 1. Model selection method: Akaike info criterion (AIC), USA 1896-1939

Selected Model: ARDL(1, 2, 2)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFIN(-1)	0.307676	0.089016	3.456400	0.0015
LROP	-0.262120	0.090453	-2.897871	0.0066
LROP(-1)	-0.236957	0.105848	-2.238654	0.0320
LROP(-2)	-0.354550	0.109815	-3.228599	0.0028
LINTER	-0.124983	0.150398	-0.831017	0.4119
LINTER(-1)	0.173509	0.218030	0.795806	0.4318
LINTER(-2)	-0.273317	0.143073	-1.910328	0.0648
DUMMY	0.141321	0.027257	5.184775	0.0000
C	3.145031	0.496696	6.331899	0.0000
R-squared	97.77%		Adj. R-squared	97.21%
Prob(F-stat.)	0.000000		Durbin-Watson	1.944288

We applied the Breusch-Godfrey Serial Correlation LM test, for the presence of autocorrelation and tested for heteroscedasticity and both were ruled out. Further tests show that the residuals are normally distributed and the CUSUM and CUSUMSQ, show structural stability as shown on Figure 7 below.

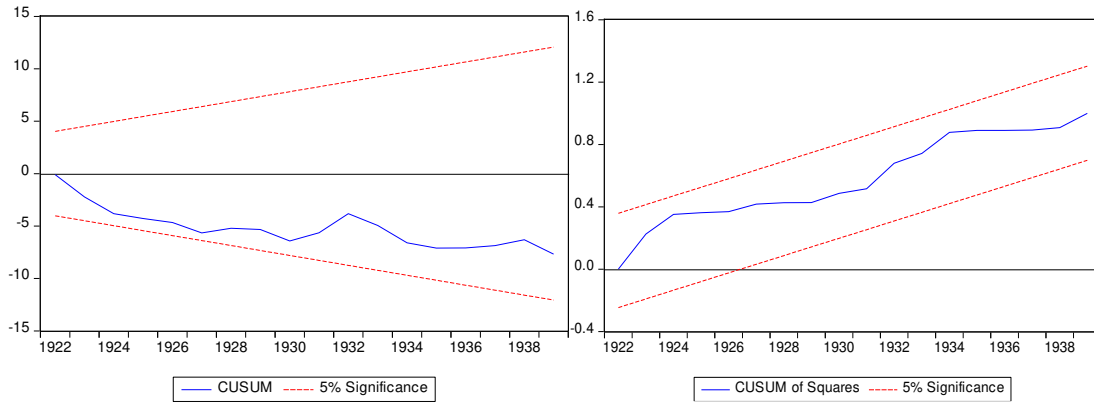


Figure 7. CUSUM and CUSUM of Squares, USA 1896-1939

Since our model seems to be well-behaved from the above diagnostic tests, we proceed with the F-bounds test, to test whether there is a cointegrating relation between our variables. The F-bounds test ascertains the presence of cointegration among the three variables, a cointegration relationship enhanced by the presence of the dummy variable for the period during which the US population was inflicted by the frenzy of speculative activities and resulted in financialization. The long-run relation of the variables at hand are displayed Table 2 below along with the conditional error correction (EC) equation.

Table 2. Conditional Error Correction Regression and Bounds Test, USA 1896-1939

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.145031	0.496696	6.331899	0.0000
LFIN(-1)*	-0.692324	0.089016	-7.777504	0.0000
LROP(-1)	-0.853627	0.138913	-6.145056	0.0000
LINTER(-1)	-0.224791	0.071937	-3.124810	0.0037
D(LROP)	-0.262120	0.090453	-2.897871	0.0066
D(LROP(-1))	0.354550	0.109815	3.228599	0.0028
D(LINTER)	-0.124983	0.150398	-0.831017	0.4119
D(LINTER(-1))	0.273317	0.143073	1.910328	0.0648
DUMMY	0.141321	0.027257	5.184775	0.0000
Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LROP	-1.232987	0.110601	-11.14808	0.0000
LINTER	-0.324690	0.089880	-3.612472	0.0010
C	4.542714	0.359871	12.62319	0.0000
EC = LFIN - (-1.2330*LROP -0.3247*LINTER + 4.5427)				
F-Bounds Test Null Hypothesis: No levels relationship				
Test Statistic	Value	Significance	I(0)	I(1)
F-statistic	15.38311	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

Below, we present the error correction form of our model which shows the short run dynamics of the aforementioned variables. The coefficient of the error correction term is negative and equal to 0.69. Thus, any deviation from equilibrium will be corrected by 69% in the following period.

Table 3. ECM Regression, USA 1896-1939

Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LROP)	-0.262120	0.078324	-3.346606	0.0021
D(LROP(-1))	0.354550	0.098917	3.584332	0.0011
D(LINTER)	-0.124983	0.135593	-0.921753	0.3633
D(LINTER(-1))	0.273317	0.121668	2.246416	0.0315
DUMMY	0.141321	0.017553	8.051201	0.0000
CointEq(-1)*	-0.692324	0.084501	-8.193063	0.0000
R-squared	72.92%	Mean Depend. Var.	0.011310	

Having established that financialization, to the extent reflected in our FIN dependent variable, is explained by the interplay of our two key independent variables, the ROP and the INTER. Thus, it may not come as a surprise that the same two independent variables will be behind the financialization that so much “ink has been spilled over” the last few decades. We speculate that the importance of the interest rate variable will be much higher during the fifth long cycle, that is, in the period from 1982 onwards. The idea is that the interest rate has been on a falling path since 1982, the result of quantitative easing policies. For this phenomenon to appear in our estimations and since we have the necessary data, our analysis spans the period 1960 to 2019, the last year that we have data on the rate of profit, our key independent variable.

We have also tried the ARDL model for the period 1982-2019 with very similar results with respect to the explanatory content of the independent variables. We opted though for the extension of our database to the year 1960 precisely because we want to show that in fact there is structural break and that the phenomenon is much more pronounced in the post-1982 period, nevertheless the explanatory variables are of the same sign and statistical significance (see the Appendix).

On our initial ARDL model with its expanded coverage starting in the year 1960 and ending to 2019 showed that the cumulative sum of recursive squared residuals, CUSUMSQ in the post-1980 years was close to the 5% level of significance. In order to get a more clear-cut answer to whether our parameters are stable, we tested using the OLS regression to identify structural breaks (the ARDL method in EViews 10 does not have this option) and found that in the year 1982 there is a structural break in our constant of equation, after all this is the year for the onset of the fifth long cycle for the US economy and the attributed to it financialization era.

The next step is to find the precise form of the ARDL model, and for that we utilized the Akaike info criterion (AIC) for the selection the optimal lag length. The results suggested an ARDL(1, 2, 0) with the inclusion of our DUMMY variable that takes on the price of zero up until the year 1982 and one for the following years.

Table 4. Model selection method: Akaike info criterion (AIC), USA, 1960-2019

Selected Model: ARDL(1, 2, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
FIN(-1)	0.753137	0.050019	15.05700	0.0000
ROP	-0.120444	0.081994	-1.468944	0.1479
ROP(-1)	-0.146956	0.113536	-1.294354	0.2013
ROP(-2)	0.185197	0.078055	2.372659	0.0214
INTER	-0.046373	0.015509	-2.990119	0.0043
DUMMY	0.720819	0.130138	5.538858	0.0000
C	1.956338	0.583408	3.353293	0.0015
R-squared	98.90%		Adjusted R-squared	98.77%
Prob(F-statistic)	0.000		Durbin-Watson stat	1.623

The model has also been tested for the presence of autocorrelation and heteroscedasticity and found it to be free from both problems. Moreover, the residuals are normally distributed and the CUSUM and CUSUMSQ, show structural stability as shown in Figure 8 below

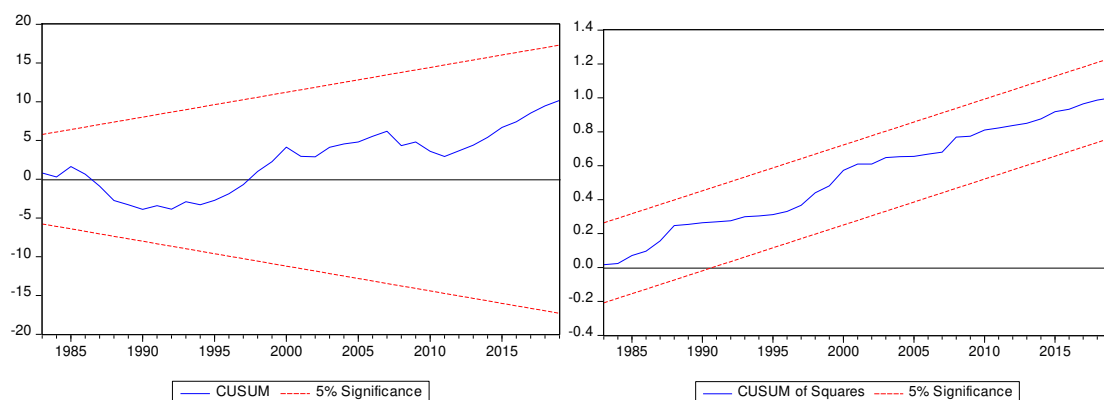


Figure 8. CUSUM and CUSUM of Squares, USA, 1960-2019

Since the diagnostic tests we conducted show that the residuals of our model are well behaved, we proceed with the estimation of the long run relationship and the F-bounds test of cointegration. The long run relationship of the variables at hand are given in the table below which are both statistically significant indicating that there is a long run or cointegration relationship is stable as this ascertained by the F-bounds test statistics.

Table 5. Conditional Error Correction Regression and Bounds Test, USA, 1960-2019

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.956338	0.583408	3.353293	0.0015
FIN(-1)*	-0.246863	0.050019	-4.935390	0.0000
ROP(-1)	-0.082203	0.044089	-1.864465	0.0679
INTER**	-0.046373	0.015509	-2.990119	0.0043
D(ROP)	-0.120444	0.081994	-1.468944	0.1479
D(ROP(-1))	-0.185197	0.078055	-2.372659	0.0214
DUMMY	0.720819	0.130138	5.538858	0.0000
Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROP	-0.332989	0.149975	-2.220296	0.0308
INTER	-0.187847	0.038662	-4.858683	0.0000
C	7.924775	1.356304	5.842921	0.0000
EC = FIN -0.332989*ROP -0.187847*INTER + 7.924775)				
F-Bounds Test				
Null Hypothesis: No levels relationship				
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.031895	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

In Table 6, we show the short run dynamics of our model as they are represented in the error correction form of our model.

Table 6. ECM Regression USA, 1960-2019

Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROP)	-0.120444	0.074743	-1.611440	0.1131
D(ROP(-1))	-0.185197	0.070852	-2.613866	0.0117
DUMMY	0.720819	0.113889	6.329111	0.0000
CointEq(-1)*	-0.246863	0.045260	-5.454386	0.0000
R-squared	39.16%	Mean depend. var.	0.084692	

The above ECM representation of our model, shows that any deviation from the equilibrium, is corrected by approximately 25% in the following period. Finally, the model has also been tested in logarithms with similar results with the difference that the log of the rate of profit variable was found statistically significant at 10%, so we prefer to present the results without their logarithms.

6. Summary and Concluding Remarks

Financialization is a relatively recent term that entered our economics lexicon; however, the process is anything but novel. The salient features of the current phase of financialization were already in place in the 1920s. Consequently, financialization is not an altogether new phenomenon, having occurred during the last decades and even less an epochal shift of the capitalist system. Political economy and economic history can shed light on this phenomenon, and for this purpose, the availability of data is of great help in the study of two periods. The data on the variables which we consider that capture the phenomenon show beyond any doubt that now, we have more finance than in the 1960s, or, earlier, but the growth of the financial sector, in general, is a regularly produced result, when certain conditions are met. These conditions prevailed during the fifth long cycle and by the end of the fourth long cycle and their difference from the 1920s we have argued is only quantitative.

The falling rate of profit coupled with falling and particularly low-interest rates, as a result of the quantitative easing policies, have led to the expansion of speculation and

financial engineering. For years, companies were buying back their own stock so the price would go up to look good on paper, and of course, when the cost of borrowing money is cheaper there is not much concern about risk. The 1982-2007 phase is known also as the “great moderation” for its low inflation, low-interest rates, and especially for the shallow business cycles. The same is not true, though, for the post-2007 phase inflicted by rising income inequalities and polarization, some bubbles, and two severe downturns, the downturn in 2020 is the worst in the post-WWII period, as of this writing. The slowdown in real investment induces financial institutions to grant new loans to recover the old ones. However, new loans require the expansion of economic activity, which may become possible through lower interest rates and the tempering of lending standards.

However, firms in the face of falling profit and interest rates would rather buy back shares, distribute dividends, or invest in titles and avoid investing in real capital, thereby making the economy even more financialized and therefore fragile. In effect, a falling rate of profit coupled with a falling interest rate makes it more tempting to invest in financial assets and less in real capital because of its low net returns. The financial assets become more tempting for the people because borrowed money is cheap and as interest rates are in the downward direction the price of assets is increasing.

Our econometric analysis has shown that the nature of capitalism remains qualitatively the same. It is important to stress, though, that historically, each of these two investigated periods has been characterized as a new stage of capitalism with its own “laws of motion.” More specifically, the first decade of the twentieth century was thought as a new stage of capital accumulation with the dominance of monopolies endowed with power over the market forces. This belatedly stage of capitalism was characterized as “imperialism.” Similarly, the post-1980s long cycle has been pronounced as a new stage in the long development of capitalism featuring with altogether different traits. We argued that the profit motive has been underneath both imperialism and financialization and their associated phenomena. Moreover, our econometric analysis showed that the underlined “laws of motion” of capitalism remained the same, and the stagnating real net profits that discourage investment spending are the result of the operation of the law of the falling rate of profit and interest rate. We hope to have shown that profitability and its long-run evolution give rise to the usual phenomena associated with financialization.

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Appendix: The ARDL Model for the Period, 1982-2019

In what follows, we show that the application of the ARDL model to the shorter 1982-2019 period gives quite similar results. We got the following selected model

Table A1. Model selection method: Akaike info criterion (AIC), USA, 1982-2019

Selected Model: ARDL(3, 0, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
FIN(-1)	0.819355	0.149999	5.462415	0.0000
FIN(-2)	0.039713	0.204504	0.194191	0.8473
FIN(-3)	-0.237169	0.152128	-1.559008	0.1288
ROP	-0.145852	0.061211	-2.382768	0.0233
INTER	-0.103366	0.034892	-2.962491	0.0057
C	4.317419	1.066263	4.049112	0.0003
R-squared	96.46%		Adjusted R-squared	95.91%
Prob(F-statistic)	0.000		Durbin-Watson stat.	1.925

We have tested for autocorrelation and heteroscedasticity and we found our model free from both problems. Moreover, the residuals are normally distributed and the CUSUM and CUSUMSQ are structurally stable as shown in Figure A1 below

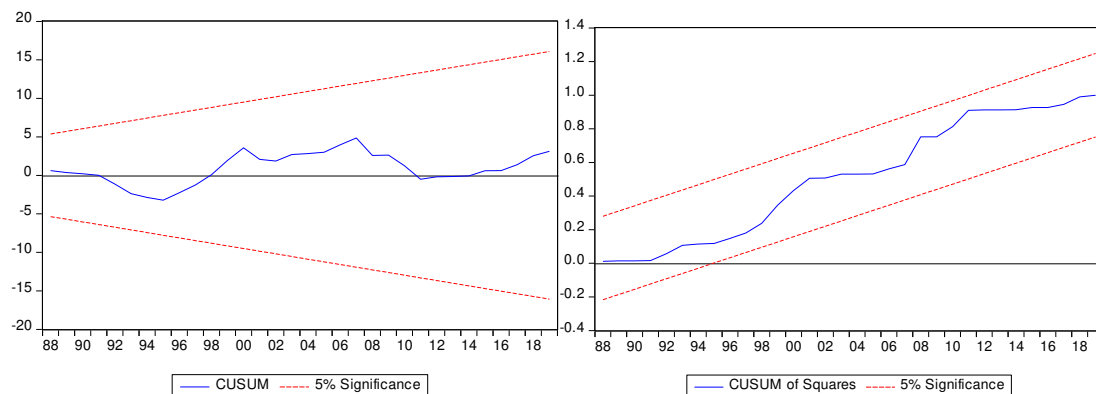


Figure A1. CUSUM and CUSUM of Squares, USA, 1982-2019

The F-bounds test ascertains the presence of cointegration among the three variables, whose long-run relation is displayed Table A2 below along with the conditional error correction (EC) equation.

Table A2. Conditional EC Regression and Bounds Test, USA, 1982-2013

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.317419	1.066263	4.049112	0.0003
FIN(-1)	-0.378101	0.098092	-3.854534	0.0005
ROP	-0.145852	0.061211	-2.382768	0.0233
INTER	-0.103366	0.034892	-2.962491	0.0057
D(FIN(-1))	0.197456	0.145626	1.355908	0.1846
D(FIN(-2))	0.237169	0.152128	1.559008	0.1288
Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROP	-0.385749	0.165291	-2.333758	0.0261
INTER	-0.273383	0.033709	-8.110180	0.0000
C	11.41870	1.264037	9.033513	0.0000
EC = FIN - (-0.2734*INTER -0.3857*ROP + 11.4187				
F-Bounds Test Null Hypothesis: No levels relationship				
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.206984	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5

The error correction form of our model in Table A3 shows the short run dynamics of the aforementioned variables.

Table A3. ECM Regression Case 2: Restricted Const. and No Trend, USA, 1982-2019

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FIN(-1))	0.197456	0.121302	1.627807	0.1134
D(FIN(-2))	0.237169	0.121950	1.944799	0.0606
CointEq(-1)*	-0.378101	0.067335	-5.615207	0.0000
R-squared	40.65%	Mean depend. var.	0.115	

The above ECM representation of our model, shows that any deviation from the equilibrium, is corrected by approximately 37.8% in the following period. Finally, the model has also been tested in logarithms with similar results with the difference that

the logarithm of the rate of profit variable was found statistically significant at 10%, so we prefer to present the results without their logarithms.