Crisis theories: Tendential fall in the rate of profit, underconsumption and economic crises in the 21st century

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ABSTRACT

Marxist crisis theory is concerned with uncovering the underlying causes of recurring economic crises in capitalism. This paper's contribution is to compare the theoretical assessments and implications of theories of a tendential fall in the rate of profit and underconsumptionist theories as well as to assess their relevance for recurring economic crises in a short descriptive empirical analysis of the economic crisis in 2001, the Great Recession after 2007 and the crisis of 2020. Theories of a tendential fall in the rate of profit focus on the production process, asserting that reducing the share of living labour in production through the mechanization of production eventually leads to a declining profit rate. As the profit rate is the main driver of accumulation, this leads to an interruption of accumulation, i.e. crisis. In contrast, underconsumptionist theories focus on the sphere of circulation, identifying the inevitably recurring lack of aggregate demand as the main cause of crisis. Profit rates in the U.S. fell before the crises of 2001, 2007 and 2020, while the data does not show declining consumption before the respective crises. This suggests that falling rates of profit rather than declining consumption caused the crises of 2001 and 2007. The shutdown of production due to the Covid-19 pandemic caused the 2020 crisis, but the data suggests that declining profitability was already an issue before the onset of the crisis.

KEYWORDS

economic crisis, crisis theory, falling rate of profit, underconsumption, Marx

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1. Introduction

The two massive economic crises since the beginning of the 21st century, starting with the Great Recession after 2007 and continuing with the economic crisis after the start of the Covid-19 pandemic, have once again shown that capitalism generates crises on a regular basis. While mainstream economics tends to treat crises as exceptions, Marxist economists view them as a necessary consequence of the internal contradictions of the capitalist mode of production (Sablowski, 2012, p. 1). Since economic crises have in fact recurred regularly over the last 200 years (Shaikh, 2011, p. 44), explaining them is one of the most central questions of economics. The Great Recession after 2007 revitalized theoretical debates about the underlying causes of crises. Given that Marxist economists have always emphasized the crisis-proneness of capitalism, it seems fitting to look at Marxist explanations of the underlying causes.

While Marxist scholars agree on the inevitability of economic crises in capitalism, they disagree on their specific causes. Underconsumptionist theories argue that crises recur because of a lack of aggregate demand. Workers can only buy part of the total product that they produce. This leaves a demand gap, which the consumption of capitalists cannot fill. Thus, part of the total product cannot be sold, which leads to a crisis (Sablowski, 2012, pp. 7–8). Theories of a tendential fall in the rate of profit argue that competition between capitalists leads to increases in labour productivity, which are achieved through mechanization of production. As a result, less living labour is used in the production process. Since living labour is the only source of profit, this results in a fall in the rate of profit leading to economic crises because the profit rate is the main driver of accumulation (Shaikh, 1987, pp. 115–116). Further Marxist theories of crises include disproportionality theories, which argue that crises stem from the anarchy of production in capitalism (Shaikh, 1978, p. 228), or profit-squeeze theories, which view increasing real wages as the source of falling profit rates (and thus of crises) (Shaikh, 1978, p. 237).

Theories of the tendential fall in the rate of profit gained traction in the 1970s with the works of Paul Mattick, David Yaffe, Mario Cogoy and Anwar Shaikh. These authors argue that the law of the tendential fall in the rate of profit established by Karl Marx explains the recurrency of crises. On the other hand, contributions from Paul Baran and Paul Sweezy in the 1960s revitalized underconsumptionist theories dating back to Rosa Luxemburg and others. In this paper, I want to discuss the relevance of theories of the tendential fall in the rate of profit and underconsumptionist theories. For this purpose, I will answer the following research questions:
Why do economic crises occur according to theories of the tendential fall in the rate of profit and according to underconsumptionist theories? Can Marxist crisis theories

contribute to an understanding of periodically recurring crises, including the Great Recession and the 2020 economic crisis?

Both underconsumptionist theories and theories of a tendential fall in the rate of profit are often concerned with long-term trends and structural crises. For instance, Mandel (1995) explains so-called long waves of either expansion or stagnation of 20 to 25 years with movements in the average profit rate. Kotz (2009, p. 1) distinguishes between periodic business cycle recessions that can be "resolved after a relatively short period by the normal mechanisms of a capitalist economy" and structural crises which are "long-lasting" and require "significant restructuring [...] if the crisis is to be resolved within capitalism and the capital accumulation process restored." In the empirical part of this article (chapter 4), I investigate whether the two strands of Marxist crisis theories can also help explain periodically recurring crises, i.e. what Kotz calls periodic business cycle recessions. Empirically, such crises can be defined as periods with a declining rate of accumulation and usually at least one quarter of negative GDP growth rate. To answer the research questions, the article is structured as follows. In chapter 2, I explain the theory of a tendential fall in the rate of profit, mainly drawing on the work of Marx, Shaikh and Mattick. Subsequently, in chapter 3, I present underconsumptionist theories, focusing on Sweezy and Baran's theory. In chapter 4, I conduct a short descriptive empirical analysis, drawing on data provided by the Federal Reserve Bank of St. Louis and the Bureau of Economic Analysis. I close with a discussion of similarities and differences between underconsumptionist theories and theories of a falling rate of profit as well as their empirical applicability (chapter 5).

2. Tendential fall in the rate of profit

I will briefly explain some characteristics of the capitalist mode of production that are essential for understanding crisis theories before turning to different theories of crises. In capitalism, firms produce commodities for the sole purpose of generating surplus value and profit (Mattick, 1981, p. 53). This is the case because capitalists have the power to decide what and how much is produced. An individual capitalist is not concerned with society's needs for products, but with the profit they can generate by producing and selling commodities. Since capitalists determine production and their main goal is the generation of profit, capitalist production is driven by the profitability of production, not by the satisfaction of consumers' needs.

In the process of accumulation, parts of the previous period's profits are reinvested as capital. According to Marx, this is one of the main characteristics of the capitalist mode of production (Marx, 1992, pp. 351–352). It is of the utmost importance for firms to keep accumulating, or else they are at risk of going bankrupt (Mattick, 1981, p. 71). Sweezy (1962, p. 80) emphasizes that the position, prestige and power of a capitalist depend on the size of their capital and that this is what drives capitalists to accumulate. An economic crisis can be defined as the interruption of the process of accumulation (Kotz, 2013, p. 336).

Marx and many other Marxist economists view a falling rate of profit as a "law of motion" inherent in the capitalist mode of production.[1] In this chapter, I present the theory of a tendential fall in the rate of profit. The falling rate of profit is an underlying tendency that is counteracted by other factors. Therefore, it is a development that is sometimes not directly observable. Duncan Foley uses a helpful metaphor to illustrate this:

> *The basic tendency for the rate of profit to fall is something like the law of gravity, in the sense that everything tends to fall to the ground. Many things stand up, such as buildings and people, because of offsetting structures or processes. But it is impossible to understand these offsetting structures without understanding the law of gravity itself. In the same way, we may see periods of capital accumulation where the profit rate does not fall very much. (Foley, 1986, p. 134)*

2.1 Competition, rising organic composition of capital and falling rate of profit

Competition forces firms to develop new methods of production to increase the productivity of workers. With increasing labour productivity, less labour time is necessary to reproduce the workers (Mattick, 1981, p. 53), which means that the product of more labour time can be appropriated by the capitalist, increasing the rate of surplus value (see section 2.2). Increasing the rate of surplus value is an important means to increase profits, which in turn are necessary to avoid being driven out of business. There are two possibilities for capitalists to increase their profit with methods of production that allow higher labour productivity.

The first possibility is to develop a new method of production and sell at a lower price than other capitalists in the same industry and still maintain a positive rate of profit as a result of the lower costs of production, while the profit rate of other firms with higher costs of production is reduced by a greater proportion. Through price cutting,

1 Keynes also asserts that profitability has a declining trend. He calls this a falling marginal efficiency of capital (Tsoulfidis, 2008).

the capitalist who implemented a new method of production can increase their market share if other capitalists cannot compete with the low prices (Shaikh, 2016, 333). Increasing the market share allows the capitalist with the newer method of production to increase their mass of profit. Thus, according to Shaikh's theory of *real competition*, cost cutting and price cutting are fundamental characteristics of competition between capitalists. Eventually, the other firms in the same branch have to adopt the new method of production to avoid selling products for less than production costs. The innovating capitalist can benefit from their advantage until the other firms adopt this method of production (Marx, 1992, pp. 373–374).[2] The second possibility for the capitalist with lower costs of production would be to keep selling the product at the same price as before; in this case, the capitalist can achieve a super-profit due to the lower costs of production (Foley, 1986, p. 54).

The main way to increase productivity is to replace workers with machines. Marx (1976, pp. 515–517) notes that a capitalist will invest in machinery if the costs of producing the machinery are lower than the value of the labour power it replaces. Shaikh refers to this process as the *mechanization of production*. Furthermore, capitalists invest in larger-scale plants and equipment. While this increases fixed costs, it also reduces unit costs by decreasing variable costs. This is called the *capitalization of production* (Shaikh, 1987, p. 116). Through these mechanisms, capitalism is constantly increasing labour productivity.

As a result, constant capital increases relative to variable capital over time. Constant capital is the value of the means of production (such as plant, equipment, materials), while variable capital is the value of the labour power expended in the labour process, or the sum of total wages (Marx, 1976, p. 320). An increase in the elements of constant capital in relation to the elements of variable capital is synonymous with a rising composition of capital. The value composition of capital is the relation of the value of the means of production, or constant capital c, to the value of the labour power applied, or variable capital v. The organic composition of capital is the value composition of capital "in so far as it is determined by its technical composition and mirrors the changes in the latter" (Marx, 1976, p. 762). With regard to the falling rate of profit, the concept that is typically referred to is the organic composition of capital and its increase over time. In Marx's labour theory of value, a commodity's (exchange) value "represents the total amount of abstract labour time socially necessary for its production" (Shaikh, 1977, p. 113), which also includes the labour time necessary to produce all the inputs. Prices are the monetary form value takes in circulation (Shaikh, 1977, p. 125). According to Marx, labour values regulate market prices, although they are not

2 For a more detailed elaboration of price setting and cost cutting in the framework of real competition, see Shaikh (2016, pp. 261–264).

the same. Market prices fluctuate turbulently around prices of production, which are composed of direct prices (prices proportionate, but not equal, to labour values) plus the general rate of profit[3] (Işıkara and Mokre, 2021, p. 3).

The rate of profit is the key driver of accumulation and thus also a key element in understanding crises, as I will argue in section 2.3. The rate of profit is defined as $r = \frac{s}{c+v}$, i.e. the surplus value s appropriated by the capitalist over the total capital invested, which is the sum of constant capital c and variable capital v (Wright, 1999, p. 117). Thus, the rate of profit depends on the surplus value appropriated by the capitalist. The crucial point is that in the Marxist labour theory of value only living labour can generate surplus value (Marx, 1992, p. 248). Now, if variable capital decreases relative to constant capital, as established in the previous paragraphs, each product contains a smaller amount of living labour. Hence, there are fewer possibilities for the generation of surplus value (Marx, 1992, pp. 317–318). Marx summarizes this as follows:

> *Since the mass of living labour applied continuously declines in relation to the mass of objectified labour that it sets in motion, i.e. the productively consumed means of production, the part of this living labour that is unpaid and objectified in surplus-value must also stand in an ever-decreasing ratio to the value of the total capital applied. But this ratio between the mass of surplus-value and the total capital applied in fact constitutes the rate of profit which must therefore steadily fall. (Marx, 1992, p. 319)*

Another line of reasoning is the following:

> *the relative decline in the variable capital, and thus the development of the social productivity of labour, means that an ever greater amount of total capital is required in order to set the same quantity of labour-power in motion and to absorb the same amount of surplus labour. (Marx, 1992, p. 328)*

By definition, a greater amount of total capital along with a constant amount of surplus value leads to a falling rate of profit, as can be seen in the formula for the rate of profit $r = \frac{s}{c+v}$. However, an increase in variable capital increases both the numerator and denominator of the fraction. As s is a positive function of v, the overall effect on r is ambiguous. The same is not true for constant capital c. Thus, the rising organic composition of capital is a key concept in the tendency of the profit rate to fall because the relative amount of living labour contained in the production process is crucial to the rate of profit.

3 See Işıkara and Mokre (2021) for an empirical analysis of price-value relationships "providing support to the classical argument that labour values have a regulatory function for prices of production and thereby for market prices" (Işıkara and Mokre, 2021, 7).

The theory of the tendential fall in the rate of profit due to a rising organic composition of capital is contested by other Marxist scholars. The so-called Okishio theorem based on Nobuo Okishio's work proposes that cost-reducing behaviour by firms that increases labour productivity does not lead to a falling rate of profit, but rather to an increase in the general profit rate (Kliman, 1997). Shaikh (2016, p. 261) argues that this only holds if firms are price takers, as assumed in the neoclassical understanding of perfect competition. If, on the other hand, firms engage in price cutting, as Shaikh argues, profit rates have a tendency to decrease with an increasing organic composition of capital.[4]

The theory of the tendential fall in the rate of profit asserts that the capitalist mode of production is characterized by an ever growing increase in labour productivity through its in-built laws of motion. The increase in labour productivity reduces the amount of living labour relative to constant capital, i.e. the organic composition of capital rises. In the long term, this must lead to a fall in the rate of profit because it results in less surplus value that can be appropriated by capitalists.

2.2 Counteracting tendencies

Even though there is a tendency for the rate of profit to fall, it does not experience a constant decrease due to counteracting influences that attenuate the fall. While the rate of profit decreases, other processes are unfolding. Marx mentions the following six countertendencies.

1. Increasing rate of exploitation: One of them concerns the rate of surplus value s/v, also called the rate of exploitation, which increases over time. This follows from the increase in productivity: as productivity increases, the labour time necessary to reproduce the workers decreases (Mattick, 1981, p. 53), which means that a larger proportion of labour time can be devoted to producing surplus value. In this case, the growth of real wages cannot keep up with the growth in productivity (Shaikh, 1992, p. 177). The prolongation of the working day is another way to increase the rate of surplus value. It can raise the absolute surplus value without increasing the composition of capital. Thus, it increases the rate of profit (Marx, 1992, pp. 339–341).

A rising rate of surplus value has a positive effect on the rate of profit. This can be seen by displaying the rate of profit as $\frac{s/v}{c/v+1}$. Here, the rate of surplus value appears in the numerator and the organic composition of capital in the denominator. Howev-

4 A more detailed contribution to this debate can be found e.g. in Shaikh (1982, 2016) but is beyond the scope of this article.

er, the rate of profit will still decrease if the rise in the organic composition of capital offsets the rise in the rate of surplus value. Mattick (1981, p. 54) argues that – as the organic composition of labour rises – this will inevitably be the case because at some point, even with a rising rate of surplus value, no more surplus value can be gained from a (relatively) decreasing number of workers.

2. Reducing wages below their value: Moreover, reducing wages below the value of labour power also serves to increase the rate of profit (Marx, 1992, p. 342). The value of labour power is the labour time necessary to produce the means of subsistence of the workers (Marx, 1976, 274), i.e. the labour time necessary to reproduce the labour power. A reduction in wages below the value of labour power increases the rate of exploitation, as more labour time is spent on the generation of surplus value. However, since the reproduction of workers is a necessary condition for wage labour, and thus the production of surplus value, the reduction of wages below their value can only temporarily counteract the tendential fall in the rate of profit.

3. Cheapening of the elements of constant capital: A cheapening of the elements of constant capital also attenuates the fall in the rate of profit, as the increase in the value composition of capital does not keep up with the increase in the technical composition. As a consequence of increases in productivity, each quantity of material that is included in the constant capital contains less value. Therefore, the value of the constant capital does not increase as quickly as its material volume (Marx, 1992, pp. 342–343).

4. Relative surplus population: The relative surplus population (a result of increasing productivity) also dampens the fall in the rate of profit. A relative surplus population allows for branches where wages are particularly low, thus achieving a high rate and mass of surplus value. Since the general rate of profit is achieved by an equalization of profit rates between industries, the existence of industries with high rates of profit attenuates the fall of the general rate of profit (Marx, 1992, pp. 343–344). Moreover, an increase in the reserve army of labour reduces the bargaining power of workers, enabling a higher rate of surplus value (Foley, 1986, p. 133).

5. Foreign trade: In foreign trade, a higher rate of profit can be achieved if the competing foreign businesses have higher production costs. Also, higher rates of exploitation can be achieved in less developed countries. Thus, foreign trade also attenuates the fall in the rate of profit (Marx, 1992, pp. 344–345).

6. Increase in share capital: Marx (1992, pp. 347–348) also mentions the increase in share capital as a counteracting tendency. The dividends on share capital yield a rate of profit below the average profit rate. According to Marx, the general rate of profit would be even lower if these capitals also entered into the equalization of the general rate of profit.

It is important to note that the very same processes that bring about a falling rate of profit cause some of the counteracting influences. For instance, the increase in labour productivity leads to a falling rate of profit while at the same time increasing the rate of exploitation and cheapening the elements of constant capital.

Through these counteracting influences the profitability of capital can be preserved at times despite the underlying tendency of the rate of profit to fall. The profit rate experiences a sharp fall only in times of actual crisis (Mattick, 1981, p. 56). Furthermore, conjunctural factors and particular historical events have an effect on the actual rate of profit (Shaikh, 1992, p. 175). Thus, even though there is a tendency for the rate of profit to fall, it is not constantly decreasing.

2.3 Economic crises in theories of the tendential fall in the rate of profit

According to theories of the tendential fall in the rate of profit,[5] the tendency of the rate of profit to fall will prevail when the counteracting forces are not strong enough to offset it. In this section, I explain why a fall in the rate of profit leads to economic crises.

In Marxist economics, the rate of profit is identified as the key driver of production and accumulation. Marx notes:

> *The rate of profit, i.e. the relative growth in capital, is particularly important for all new off-shoots of capital that organize themselves independently. And if capital formation were to fall exclusively into the hands of a few existing big capitals, for whom the mass of profit outweighs the rate, the animating fire of production would be totally extinguished. It would die out. It is the rate of profit that is the driving force in capitalist production, and nothing is produced save what can be produced at a profit. (Marx, 1992, p. 368)*

An increase in the rate of profit often leads to periods of enhanced capital accumulation (Shaikh, 1992, pp. 174–175). At the same time, there is less incentive for investment

5 Whenever I mention theories of the tendential fall in the rate of profit, I refer to theories which view the falling rate of profit as the result of a rising organic composition of capital.

with a lower rate of profit. As the profit rate falls, the minimum capital that an individual capitalist needs to advance in order to make productive use of labour keeps increasing, which impedes the formation of new businesses (Marx, 1992, p. 359). Furthermore, low general rates of profit force the least profitable firms into bankruptcy (Wright, 1999, p. 118) because competition increases in the battle for sales. If firms that are more profitable become more aggressive in their price-cutting behaviour, less profitable firms are driven out of business. Sweezy (1962, p. 141) stresses that a fall in the rate of profit implies that the expected profit on an investment of a given size will decrease, which will lead capitalists to reconsider whether they really should invest their money, thus disrupting the process of accumulation. Sweezy (1962, p. 142) argues that capitalists generally want to receive at least the rate of profit that they are used to. If the rate of profit falls below this usual rate of profit, they could just hold on to their money instead of investing. Even though as a class they cannot hold on to their money for longer periods, individual capitalists might do so.

Shaikh (2011, pp. 46–47) argues that it is actually the difference between the rate of profit and the interest rate that drives accumulation. Referring to Marx, he calls this measure the rate of profit-of-enterprise. This rate is the key to active investment because it indicates the difference between the profit a capitalist can achieve through active investment (in the sphere of production) and the profit that they can make through passive investment (in the financial sphere). Passive investment is relatively safe compared to active investment (Shaikh, 2011, pp. 46–47). Hence, if the rate of profit falls to the point where it equals the interest rate, the rate of profit-of-enterprise is 0 and there is no incentive for capitalists to make an active investment as opposed to a safer passive investment.

As explained before, competition forces capitalists to constantly accumulate and increase labour productivity. If they do not, they are threatened with bankruptcy, as they cannot keep up with other firms in their industry. However, the need to accumulate inevitably leads to an increase in the organic composition of capital, which in turn puts pressure on the rate of profit. Therefore, in theories of the falling rate of profit, economic crises are an inevitable component of the capitalist mode of production. According to Mattick, "Marx's theory of accumulation is thus at the same time a theory of crisis, as it locates the origin of crisis in an insufficient valorization of capital,[6] which in turn originates in the breakthrough of the tendency of the profit rate to fall" (Mattick, 1981, p. 56).

6 Valorization of capital refers to "capital expansion by the investment of surplus value as additional capital" (Mattick, 1981, p. 52).

Whereas the explanations outlined above largely focus on the sphere of production, the crisis first becomes apparent in the sphere of circulation (Mattick, 1981, p. 59). Since capitalists' investment constitutes a substantial part of aggregate demand – in the form of demand for investment goods (Shaikh, 1978, p. 226) – a decrease in the rate of accumulation leads to overproduction of investment goods. Hence, there is an overproduction of capital (overaccumulation) (Marx, 1992, pp. 359–360).

The existence of a sphere of production and a sphere of circulation also includes the temporal separation between production of surplus value and realization of surplus value. However, both processes condition each other and have to be completed in order to generate profit. In the process of production, surplus value is produced, and it is represented in commodities as the surplus product. In a next step, this surplus value has to be realized in the sphere of circulation in order to successfully contribute to the accumulation of capital (Marx, 1992, pp. 351–352). The labour time expended in the production process determines the exchange value of a commodity, but the commodity can only be sold if it has use value. Similarly, total surplus value is determined by total surplus labour. But if the surplus value cannot be realized, there is no profit. If parts of the total product cannot be sold in times of crisis, this impedes the realization of surplus value and the process of accumulation. It then appears as if the crisis were caused by a lack of realization of surplus value, when in fact it is a lack of the production of surplus value leading to a falling rate of profit and consequently to a decrease in investment (Mattick, 1981, p. 62).

Shaikh describes the events that occur once a crisis actually breaks out:

> *Inventories pile up and profits fall, often quite sharply. Firms increase their borrowing to tide them over the bad times, and this drives up interest rates – which only makes matters worse for firms, though of course it makes banks happy. On the other hand, as businesses start to fail, they default on their debts and this puts the banks into jeopardy. The rising tide of business bankruptcies begins to trigger bank failures. Interest rates reverse themselves and begin to fall. The stock market index slides downward. (Shaikh, 1987, p. 118)*

One important function of crises is to restore profitability (Sweezy, 1962, p. 142). There are several mechanisms during crises that help to restore profitability – most notably the destruction and devaluation of existing capitals (Marx, 1992, p. 363). When firms go bankrupt in a crisis, the existing means of production (e.g. their machines and buildings) are not used and, therefore, do not function as capital any more, which is essentially a destruction of capital (Marx, 1989, p. 127). In some cases, firms that have gone bankrupt may sell parts of their means of production at a price that is lower than their previous value. The existing constant capital is thereby devalued (Moseley, 2011, p. 5). Through the devaluation and destruction of capital, the capital invested per worker (or the organic composition of capital) decreases, and thus the rate of profit increases. Furthermore, workers' bargaining power decreases as more workers become unemployed during the crisis. Therefore, the rate of exploitation increases, which also leads to an increase in profitability. If these processes are successful in increasing the rate of profit, accumulation continues (Wright, 1999, p. 118). Crises only have the effect of increasing the rate of profit if capital devaluation occurs to a sufficient extent.

It is important to distinguish between the trigger of a crisis and the underlying cause of a crisis, or as Roberts (2016, p. 57) puts it, between the "proximate cause" and the "essential or ultimate cause". The proximate causes are different for each crisis, as is evident when looking at the outbreak of specific historical economic crises. Roberts (2016, p. 57) gives the example of the stock market crash of 1929, the sharp increase in oil prices in 1974 or the bursting of the housing bubble in 2007, each of which triggered a crisis. He also convincingly argues for the necessity of a theory that provides one single explanation for all forms of crisis, since explanations that describe only one particular crisis cannot be considered crisis theories because they do not explain why crises recur (Roberts, 2016, p. 57). Roberts (2016, p. 59) also notes that "the counter-tendencies operate in such a way as to give a cyclical character to the operation of the [tendency of the rate of profit to fall]." According to theories of the tendency of the rate of profit to fall, the underlying cause of most economic crises is the fall in the rate of profit, with the respective appearances only displaying the immediate triggers. Kliman formulates the need for an analysis of the underlying causes with regard to the Great Recession after 2007 as follows:

> *It is certainly true that a fall in the rate of profit was not the proximate cause of the crisis. If we seek to move beyond journalistic accounts that merely correlate current events, however, we must look for longer-term developments that set the stage for crisis and thus served as indirect causes. This paper argues that the fall in the rate of profit was a key indirect cause. (Kliman, 2010, as cited in Giacché, 2011, p. 22)*

Mattick (1981, p. 73) also argues that neither the exact moment of the crisis' outbreak nor its extent can be predicted. These predictions are not the aim of theories of the tendential fall in the rate of profit. Rather, their achievement lies in providing a theoretical framework which explains that capitalism has an inherent tendency towards recurrent crisis because of the tendency of the profit rate to fall.

To summarize, the rate of profit drives the process of accumulation. Hence, a falling rate of profit leads to a disruption of accumulation when the counteracting tendencies are not strong enough to offset the rising organic composition of capital. Thus, the capitalist mode of production regularly produces economic crises, as its foundational requirement – continuous accumulation – is not achieved. Empirically, if a particular economic crisis is caused by a fall in the profit rate, the data will show a decline in the rate of profit before the onset of the crisis, followed by a decline in investment or rate of accumulation.

3. Underconsumptionist crisis theories

The literature on crises of underconsumption takes a different perspective when explaining economic crises. While the falling rate of profit explanation focuses on the production process itself, underconsumptionists focus on the sphere of circulation. Although there are differences between the various underconsumptionist theories in their explanations of the exact mechanisms that lead to crises, underconsumptionist theories share the view that economic crises are the result of insufficient effective demand. If effective demand is not sufficient to buy the commodities produced, the circuit of capital is disrupted, and this leads to a crisis. There are different possible explanations as to why production outpaces aggregate demand in capitalism. Sweezy writes:

> *The real task of an underconsumption theory is to demonstrate that capitalism has an inherent tendency to expand the capacity to produce consumption goods more rapidly than the demand for consumption goods. To put the point in another way, it must be shown that there is a tendency to utilize resources in such a way as to distort the relation between potential supply of and potential demand for consumption goods. (Sweezy, 1962, p. 180)*

At the same time, counteracting tendencies exist, which work against the lack of effective demand (Bleaney, 1976, p. 237). Thus, there is only a tendency towards underconsumption leading to economic crises, but this tendency is not always apparent.

Shaikh (1978) and Sablowski (2012) present the basic features of underconsumptionist theories. They start with the proposition that the entire social production consists of two departments: the department that produces investment goods (Department 1) and the department that produces consumer goods (Department 2). In this view, the production of Department 1 depends entirely on the demand for investment goods that Department 2 generates: the demand for investment goods – determined by the production of consumer goods – dictates how many investment goods are produced. Consequently, the entire production is determined by the demand for consumer goods. However, workers receive only part of the total revenues as wages and, therefore, cannot buy the full social product. This leaves a demand gap that must be filled by the consumption of capitalists. Since the remaining product (surplus product) is conceived of as consisting only of consumer goods, this would only be possible if capitalists spent their entire profits on consumption. But capitalists generally do not spend their entire profits on consumption because competition forces them to accumulate. If they were to spend their entire profits on consumption, there would be no investment and accumulation. Thus, they do not spend their entire profits on consumption and demand for consumer goods is insufficient (Sablowski, 2012, pp. 7–8; Shaikh, 1978, pp. 222–223). This is the basic explanation of early underconsumptionist theories. In other words, parts of the surplus value generated in production cannot be realized in the sphere of circulation because of a lack of effective demand.

Later underconsumptionist theories recognize that the net product (total product minus replacement of depreciated constant capital) consists of investment goods and consumer goods, not only of consumer goods. Thus, capitalists can fill the demand gap by investing in new investment goods for the next period, giving rise to accumulation. Accordingly, it would be possible for the increase in effective demand to keep up with the increase in production (Shaikh, 1978, p. 227). Even though it would be theoretically possible, underconsumptionist writers like Luxemburg question where the effective demand for all the additional commodities with expended production should come from (Bleaney, 1976, p. 190). In other words, underconsumptionists claim that the increase in production is not justified by the demand for consumer goods (Bleaney, 1976, p. 193). Bleaney summarizes this newer strand of underconsumptionist theories as follows:

> *ln skeletal form they [underconsumptionist theories] can be presented as follows: the consumption of the working class always falls substantially short of the total productive capacity of the community, while capitalists will always only absorb a limited portion of the surplus value in personal consumption. On average, there is a tendency for capitalists not to plan to invest sufficiently to fill this gap between production and consumption, so that the economy is constantly being pressed down towards stagnation because of inadequate effective demand. (Bleaney, 1976, p. 237)*

3.1 Sweezy's theory of underconsumption

Sweezy's theory of crisis, developed in his 1942 book *The Theory of Capitalist Development*, is one of the most influential contributions to the literature in the 20th century. In contrast to theories of the falling rate of profit, Sweezy argues that the inability to sell commodities at their full values and thus the inability to realize the surplus value is the main cause of economic crises, not only an effect of crises (Sweezy, 1962, p. 155). Such crises are called realization crises (Sweezy, 1962, p. 156) and stem from a lack of effective demand.

The capitalists' drive for larger profits leads to an increase in the organic composition of capital (see section 2.1), meaning that a smaller proportion of the accumulated capital is spent on the wages of workers. As before, it is assumed that workers spend their entire wages on consumption. Furthermore, capitalists strive to accumulate larger and larger shares of their profits, which means that the share of the capitalists' profits that is used for consumption also decreases. As accumulation increases, total consumption increases as well, because a) capitalists' total consumption increases with rising profits even if the share of profits that is used for consumption decreases, and b) workers' consumption increases because parts of the accumulated capital go to wages. However, since a smaller proportion of the accumulated capital is spent on wages, which determine workers' consumption, and capitalists themselves consume a smaller proportion of total surplus value, the growth rate of consumption declines relative to the growth rate of means of production. Furthermore, Sweezy notes that "over long periods a given percentage increase in the stock of means of production will generally be accompanied by approximately the same percentage increase in output" (Sweezy, 1962, pp. 181–182). Thus, Sweezy stresses that an increase in the means of production must lead to an increase in the output of consumer goods. If the growth rate of consumption declines relative to the growth rate of means of production, while the ratio of the growth rate of the output of consumption goods to the growth rate of means of production stays constant, the output of consumption goods will grow faster than total consumption (Sweezy, 1962, p. 183). This is the main argument in Sweezy's crisis theory.

Sweezy (1962, p. 180) differentiates between two potential effects of the underconsumptionist tendency of the capitalist mode of production: crisis and stagnation. A crisis occurs when production is expanded and commodities are put on the market but then face insufficient demand, so that they cannot be sold at the usual rate of profit. When capitalists recognize that they cannot realize their expected rate of profit, they reduce investment (probably in the production of both consumption goods and investment goods), which leads to a crisis because the accumulation of capital slows down due to a lack of investment by capitalists. If capitalists do not make full use of existing means of production because they realize beforehand that additional production would not face sufficient demand, the result is stagnation instead of crisis. If a crisis is caused by underconsumption, the data will show a decrease in consumption expenditures relative to output before the outbreak of the crisis.

3.2 Counteracting forces to the tendency towards underconsumption

Sweezy identifies counteracting forces to the underconsumptionist tendency of the capitalist mode of production. The tendency to underconsumption can be offset temporarily and accumulation can continue in periods in which the counteracting forces outpace the tendency. Sweezy (1962, p. 218) mentions two counteracting forces (new industries and faulty investment) that allow production to expand without outpacing consumption, and three forces (population growth, unproductive consumption and state expenditures) that increase the growth rate of consumption in relation to the growth rate of means of production.

1. New industries: In the formation of new industries, there is no fixed relation between means of production and consumption. For example, the construction of railways can be an outlet for accumulation without depending on consumption as long as the railway is being built. Consumption will only set in later. Thus, new industries can temporarily work against the tendency for underconsumption (Sweezy, 1962, p. 218).

2. Faulty investment: If a capitalist's investment does not generate the expected profit and maybe even results in a loss of capital, this faulty investment absorbs part of the accumulated capital without producing consumption goods (Sweezy, 1962, p. 221), thereby also counteracting underconsumptionist tendencies.

3. Growth of population: If the population grows fast enough, capitalists can employ additional workers without paying higher wages. If capitalists can employ additional labour at low costs, Sweezy assumes that they do not have any incentive to increase constant capital relative to variable capital, and both will increase. Since the investment in variable capital provides additional consumption while being an outlet for accumulation, a rapidly rising population works against the tendency of underconsumption (Sweezy, 1962, p. 222).

4. State expenditures: State expenditures can also counteract the tendency of underconsumption. If state consumption is made possible by drawing on parts of the surplus value, e.g. through taxes paid by capitalists, it slows down accumulation and increases total consumption (Sweezy, 1962, p. 233).

5. Unproductive consumption: Another force counteracting the tendency to underconsumption is the consumption by unproductive "joint owners of the surplus value in the form of rent, interest, etc." (Sweezy, 1962, p. 227). In modern times, the most important link of causation for unproductive consumption starts with increasing monopolization. This leads to an increase in the costs of distribution and thus amplifies the role of commercial capital: according to Sweezy (1962, pp. 281–282), price cutting in a branch with a high degree of monopolization would lead to retaliation by other firms, which would then decrease profitability. Thus, capitalists are eager to increase their sales without cutting prices.[7] This is a crucial point in the underconsumptionist theory of the Monopoly Capital School (see section 3.3). Accordingly, an increase in sales is achieved by higher expenditures on advertising and other commercial activities instead of price cutting (Sweezy, 1962, pp. 281–282). In Sweezy's view, many activities by commercial capitalists are unproductive activities, i.e. they do not produce surplus value. Thus, the revenue of commercial capitalists is simply a part of the surplus value that is generated in the production process in other industries. Since this part of the surplus value is not available for accumulation, the advancement of commercial capital slows the growth of production (Sweezy, 1962, pp. 278–279). Furthermore, a share of commercial capital is spent on wages which workers use for consumption (Sweezy, 1962, p. 280). To summarize in Sweezy's words,

> *surplus value which would otherwise be available for accumulation is instead diverted into supporting a swollen selling and distributing mechanism. [...] Consumption is raised by the amount paid as wages to additional unproductive workers, and the same effect, so far as the reproduction process is concerned, is brought about by the outlays on materials and equipment necessary for carrying on selling and much of distribution activities. The net effect of all this is a slowing down in the rate of expansion of capital and the emergence of a powerful counteracting force to the tendency to underconsumption. (Sweezy, 1962, p. 283)*

Examinations from a different theoretical perspective assert that the increase in unproductive spending and activities (which according to Sweezy counteracts the tendency towards underconsumption) can also contribute to a fall in the rate of profit. Moseley (1992, pp. 115, 122) argues that the increase in the ratio of unproductive labour to productive labour was the main reason for the decline in the rate of profit in the US in the period from 1947 to 1977, which led to the stagflation crisis of the 1970s. Since no surplus value can be generated in unproductive activities like supervision and circulation activities, larger proportions of capital being invested in unproductive activities reduces the rate of profit (Moseley, 1992, pp. 117–118). If unproductive labour increases relative to productive labour, a greater share of surplus value is needed to pay for the costs of unproductive labour, which means that less surplus value can be appropriated by capitalists (Moseley, 1992, p. 122). This analysis of the role of unproductive spending differs from underconsumptionist interpretations.

7 The monopoly capital school's price theory of a branch dominated by a few large corporations is elaborated on in Baran and Sweezy (1966, pp. 57–64).

3.3 Monopoly capitalism

In *Monopoly Capital: An Essay on the American Economic and Social Order* from 1966, Baran and Sweezy extend Sweezy's earlier work. They argue that increasing monopolization changed the complexion of the economy to the extent that the analysis of a competitive economy of small enterprises is outdated and, therefore, an analysis of the economy must focus on the impact of increasing monopolization (Baran and Sweezy, 1966, p. 6). The stage of capitalism that is characterized by large corporations instead of small enterprises is referred to as *monopoly capitalism*. The term *monopoly* in this case does not refer to lone suppliers in a particular branch, but rather to high degrees of concentration and centralization and firms having considerable market power.

Baran and Sweezy (1966, p. 108) contend that monopoly capitalism produces a continuously rising surplus without generating sufficient investment outlets and consumption to absorb it. The rising surplus results from the lack of price reductions in combination with constant efforts to cut costs (Baran and Sweezy, 1966, p. 67). They argue that monopoly capitalism is characterized by many industries being dominated by a small number of large corporations. In this view, firms tend to refrain from price-cutting strategies in an oligopolistic branch because of a fear of retaliation by other firms. Nonetheless, the drive to reduce costs still exists in monopoly capitalism for various reasons (Baran and Sweezy, 1966, pp. 68–69). For instance, corporations that reduce their costs can survive price wars (if they were to appear) for longer periods. Thus, firms with lower costs can use tactics like special discounts since other firms are hesitant to retaliate because they know the firm with lower costs would survive the price war for a longer period. Firms also have an incentive to reduce costs because they can then afford expenditures for advertising or research and development which could lead to an increase in market share (Baran and Sweezy, 1966, pp. 68–69). Furthermore, profit margins are higher if costs are reduced and prices remain constant.

With regard to the rising surplus, Baran and Sweezy conclude:

> *The whole motivation of cost reduction is to increase profits, and the monopolistic structure of markets enables the corporations to appropriate the lion's share of the fruits of increasing productivity directly in the form of higher profits. This means that under monopoly capitalism, declining costs imply continuously widening profit margins. And continuously widening profit margins in turn imply aggregate profits which rise not only absolutely but as a share of national product. If we provisionally equate aggregate profits with society's economic surplus, we can formulate as a law of monopoly capitalism that the surplus tends to rise both absolutely and relatively as the system develops. (Baran and Sweezy, 1966, pp. 71–72)*

The surplus (which increases as a share of total income) needs to be absorbed, or else there would be a crisis. It can either be absorbed by consumption or investment, or it can be wasted (Baran and Sweezy, 1966, p. 79). If the share of surplus that capitalists consume decreases over time, an ever larger share of an always growing surplus would need to be invested in order to absorb the surplus. Baran and Sweezy argue that this would not make sense because it implies that more and more investment goods would need to be produced for the sole purpose of producing more investment goods and without contributing to production of consumer goods (Baran and Sweezy, 1966, p. 81). This leads to the conclusion that monopoly capitalism has an inherent tendency towards crisis:

> *It [monopoly capitalism] tends to generate ever more surplus, yet it fails to provide the consumption and investment outlets required for the absorption of a rising surplus and hence for the smooth working of the system. Since surplus which cannot be absorbed will not be produced, it follows that the normal state of the monopoly capitalist economy is stagnation. (Baran and Sweezy, 1966, p. 108)*

Once again, counteracting forces exist that can absorb parts of the surplus and thus work against the tendency towards crisis. These forces include, for instance, the stimulation of additional demand through advertising and other sales forces, as well as military spending and other government expenditures. One counteracting tendency that Baran and Sweezy (1966) paid relatively little attention to, but that would become a focal point in more recent crisis theories in the tradition of the Monopoly Capital School (e.g. Foster and Magdoff, 2009), is financialization. Foster and Magdoff (2009, p. 77) define financialization as "the shift in gravity of economic activity from production (and even from much of the growing service sector) to finance". This process accelerated in the 1980s (Foster and Magdoff, 2009, p. 19). The argument is summarized in the following paragraph:

> *a realistic assessment of recent economic history is best conducted within a framework that focuses on the interrelationship between the stagnation tendency of monopoly capital and the forces that to some extent counter it. The largest of the countervailing forces during the last three decades is financialization – so much so that we can speak today of "monopoly-finance capital". The expansion of debt and speculation that characterized the US economy (and advanced capitalism as a whole) since the late 1960s represented the main means by which the system managed to avoid sinking into a deep slump, while not enabling it to overcome the underlying stagnation tendency. (Foster and Magdoff, 2009, p. 19)*

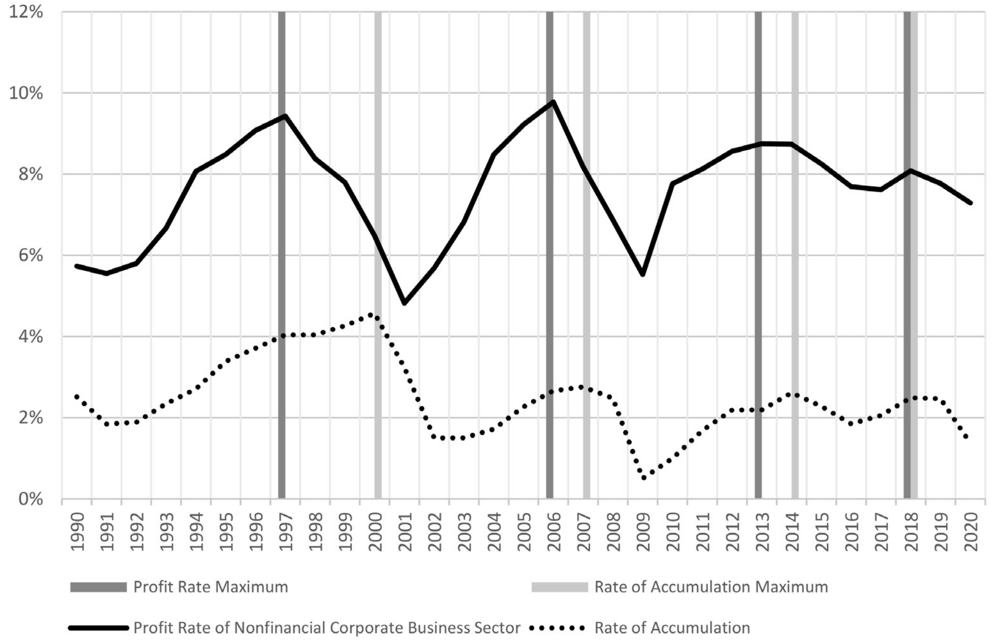
The role of financialization as a counteracting tendency is twofold: rising consumer debt and government debt stimulate consumption (Foster and Magdoff, 2009, p. 46), while increasing speculation provides an outlet for the rising economic surplus (Foster and Magdoff, 2009, p. 53). The rising debt of private and government sectors deals with the problem of underconsumption by increasing consumption, while rising speculation provides possibilities for investment that do not necessarily lead to an increase in production, thus enabling the use of capital without exacerbating the problem of underconsumption. When the rise in debt cannot be sustained, a crisis breaks out. Accordingly, if this explanation of a crisis applies, the data will show an increase in debt followed by an increase in the delinquency rate right before the crisis.

4. Economic crises in the 21st century

So far, the 21st century has seen three recessions in the United States. The bursting of a stock market bubble ("dot-com bubble") in 2000 triggered a recession in 2001 (Wolff, 2002, p. 118). This recession is generally characterized as rather mild (e.g. Roberts, 2009, p. 64). In December 2007, the Great Recession was triggered by the bursting of a housing bubble in the US. Housing prices had continuously risen as a result of predatory lending by banks (Roubini and Mihm, 2010, p. 65), speculation by financial institutions (Foster and Magdoff, 2009, pp. 96–97) and low interest rates (Shaikh, 2011, p. 51). Complicated financial instruments like collateralized debt obligations allowed banks to make profits without bearing the risk of potential mortgage defaults (Roubini and Mihm, 2010, pp. 64–65). All of this was only possible because of the continuous deregulation of financial markets as one pillar of the ongoing process of neoliberalization. While the housing bubble enabled economic expansion, its bursting thrust the US and the rest of the world into the Great Recession, which lasted from December 2007 until June 2009 (Rich, 2013). The economic crisis in 2020 was triggered by the shutdown of production due to the Covid-19 pandemic. This resulted in massive job losses, decreasing consumption, idle production capacities and low investment rates (Roberts, 2020, p. 238).

In the previous chapters I have argued that a crisis' trigger does not necessarily constitute its underlying cause. In this chapter, I apply a descriptive empirical analysis to examine which crisis theory can be helpful in explaining crises in the 21st century. I focus on data from the United States because the Great Recession originated there and the US is the most dominant capitalist economy. If a particular economic crisis is caused by a fall in the profit rate, the data will show a decline in the rate of profit before the onset of the crisis, followed by a decline in the rate of accumulation. If underconsumption is its cause, the data will show a decrease in consumption expenditures relative to output before the outbreak of the crisis. If the Monopoly Capital explanation of financialization as a countertendency applies, the data will show an increase in debt accompanied by an increase in the delinquency rate right before the crisis.

Figure 1: Rate of profit and rate of accumulation



Data source: Profits: National Income and Product Accounts (NIPA), table 1.14, line 27. Rate of accumulation: Fixed Assets, tables 4.1, 4.4, 4.7, line 37.

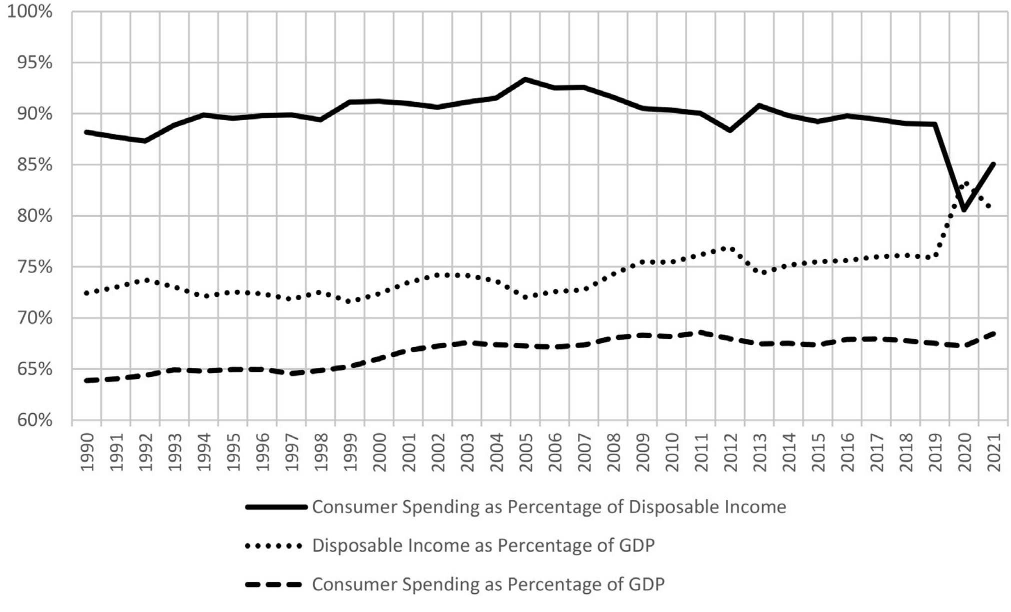
Figure 1 shows the rate of profit in the non-financial corporate business sector and the rate of accumulation from 1990 to 2020.[8] Theories of a tendential fall in the rate of profit assert that profit rates will fall before a crisis, followed by a decline in accumulation. During the observed time span, the rate of profit reaches its local maximum/minimum one to three years before the rate of accumulation. The profit rate starts falling in 1997, 2006 and 2013, while the rate of accumulation begins to fall in 2000, 2007 and 2014. This indicates that the rate of accumulation reacts to the rate of profit, as expected by the theory of the tendential fall in the rate of profit.[9] A decline in the profit rate starts in 1997, followed by a declining rate of accumulation in 2000 (i.e. before the recession in 2001). The rate of profit then reaches its local maximum in 2006

8 Following Kotz and Basu (2019, p. 18), I calculate the rate of accumulation as the ratio of gross investment less depreciation to non-residential fixed assets (replacement cost value). The profit rate is the ratio of corporate non-financial profit before tax to current cost-fixed assets.

9 The only exception to the rate of accumulation starting to fall after the rate of profit is in the year 2018, when both start to decline in the same year.

at 9.8% and then sharply declines until 2009 (5.5%). The rate of accumulation is at its local peak in 2007 (2.8%) and falls in 2008 and 2009 (0.5%). This suggests that both crises might have been caused by a fall in the rate of profit followed by a fall in the rate of accumulation, when the countertendencies ceased to outweigh the fall in the rate of profit. The profit rate and rate of accumulation started declining again after 2018, i.e. before the recession in 2020, albeit less severely than before the previous crises. This indicates that the economy was in a bad state even before large parts of production were shut down because of the Covid-19 pandemic. It is important to note that while the profit rate fell before the respective crises, there is no falling trend over the entire period depicted in Figure 1, even though theories of a tendential fall in the rate of profit would suggest such a declining trend in the absence of countertendencies. This is likely due to the increased rate of exploitation serving as a countertendency, as neoliberal policies were successful in suppressing real wage growth from the 1980s onwards (Shaikh, 2016, pp. 730–731). As discussed in the theoretical part of this paper, the fact that a countertendency masks the tendential fall in the rate of profit does not mean that the tendency is not operating.

Figure 2: Disposable income and consumer spending

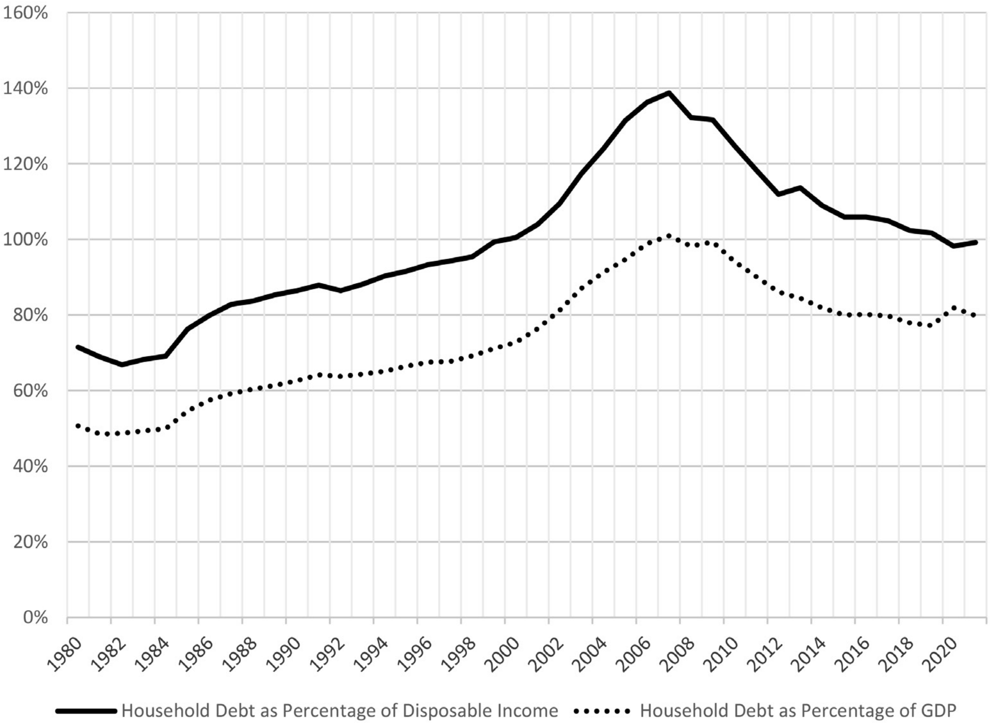


Data source: Disposable income: NIPA table 2.1, line 27. Consumer spending: NIPA table 2.1, line 29. GDP: NIPA table 1.1.5, line 1.

Figure 2 shows consumer spending as a percentage of GDP from 1990 to 2021. Furthermore, it displays disposable income as a percentage of GDP as well as the ratio of consumer spending to disposable income. Underconsumptionist theories would expect a decline in consumer spending before a crisis breaks out. The data suggests that underconsumption was not a problem before 2001, as consumer spending increased relative to GDP in the years prior. Disposable income relative to GDP remained relatively stable from 1990 (72.4%) to 2007 (72.7%). Still, consumption expenditures as a share of GDP rose from just under 64% to over 67% during the same time span. This was possible because of rising household debt, which allowed an increase in consumer spending as a percentage of disposable income from about 88% to about 93% in that time span. Household debt relative to household income more than doubled from 67% in 1982 to 139% in 2007, as it did relative to GDP (see Figure 3). This indicates that household spending had become increasingly debt-financed in the decades prior to the Great Recession. These developments show that financialization and increasing debt did in fact act as a countervailing tendency to underconsumption, which would otherwise have been expected because of stagnating real wages as a result of the neoliberal attack on labour (Foster and Magdoff, 2009, p. 28; Shaikh, 2016, p. 730) .

Figure 2 shows that the decline in consumer spending as a share of GDP in the years prior to the Great Recession was only minimal. Thus, underconsumption does not seem to have caused the Great Recession. Before the economic crisis in 2020, consumer spending as a share of GDP was relatively stable (68% in 2008 and 67.5% in 2019), as disposable income relative to GDP rose but consumption was less debt-financed, as the decline in household debt relative to both disposable income and GDP indicates (see Figure 3). This suggests that the 2020 crisis was not caused by underconsumption either. There was no relevant increase in household debt relative to disposable income or GDP prior to the 2020 economic crisis.

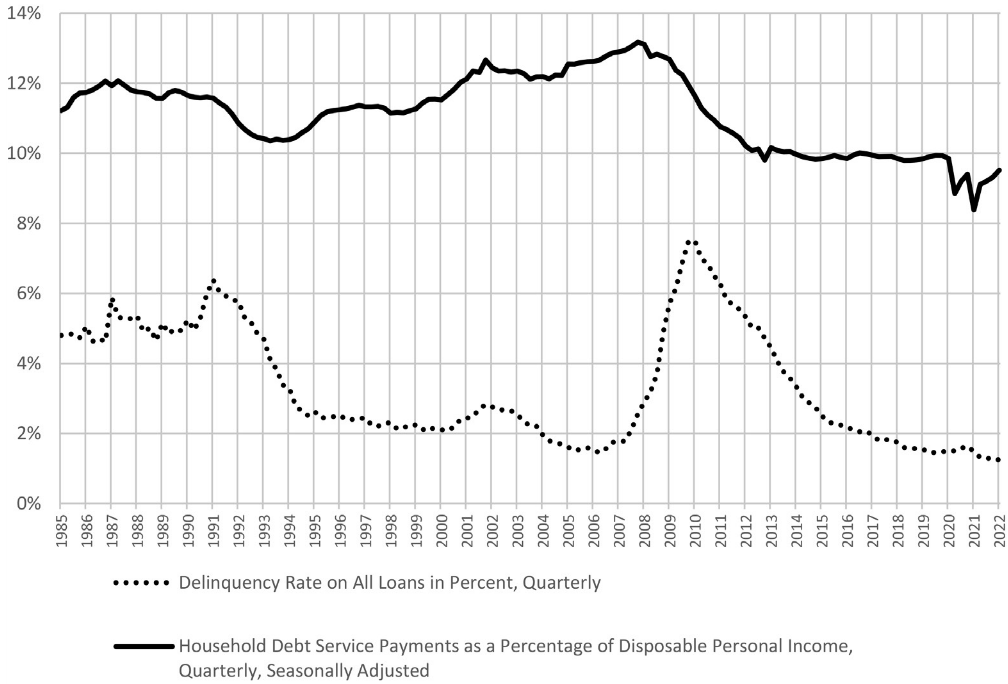
Figure 3: Household debt as a percentage of disposable income and GDP



Data source: Household debt: Flow of Funds table L.101, line 24. Disposable income: NIPA table 2.1, line 27. GDP: NIPA table 1.1.5, line 1.

The data suggests that at least one part of the Monopoly Capital crisis theory, i.e. rising debt before the Great Recession, applies. Figure 4 displays household debt service payments relative to disposable income as well as delinquency rates on all loans, both from 1985 to 2021. Debt service payments as a share of household income rose from about 10.4% in 1993 to 12.7% in 2001 and 13.1% in 2007. Delinquency rates slightly increased from the second quarter of 2000 to the first quarter of 2002, as expected with the recession of 2001. Delinquency rates then started rising in 2007 (1.75% in the first quarter of 2007) and continued climbing until 2010 (7.5% in the first quarter of 2010), indicating that debt-financed consumption hit its peak before the start of the Great Recession and could not be sustained any longer. Before the 2020 crisis, neither household debt nor debt service payments increased relative to disposable income. Household debt relative to disposable income declined from 2007 (139%) until 2020 (98%), while debt service payments remained relatively stable from the first quarter of 2012 (10.1%) to the first quarter of 2020 (9.8%). This indicates that there was no piling up of household debt which could have caused the 2020 crisis.

Figure 4: Household debt service ratio and delinquency rates on all loans



Data source: Household debt service ratio: Flow of Funds table "Household Debt Service and Financial Obligations Ratios". Delinquency rate: FRED "Delinquency Rate on All Loans, All Commercial Banks".

To summarize, the short descriptive empirical analysis offered here suggests that theories of a tendential fall in the rate of profit are correct in assessing that the profit rate drives accumulation. Furthermore, the rate of profit already fell before 2001 and 2007 respectively, not after the beginning of the crises, suggesting that this was the cause of the crises, not their result. Consumer spending did not decrease significantly prior to 2001 or the Great Recession, mainly because the rise in household debt allowed consumer spending to remain stable. This leads to the inference that underconsumption did not cause the recession of 2001 or the Great Recession. However, rising household debt, which was necessary to keep raising the level of consumption, certainly played a large role in the Great Recession, as the bursting of the mortgage bubble triggered the crisis. Profitability was declining before the onset of the 2020 crisis as well, albeit less severely than before the Great Recession. While the shutdown of production due to a health crisis triggered the sudden slump, profitability issues apparently already existed before the crisis. None of the data presented here suggest that underconsumption or increasing debt were a problem before the 2020 crisis.

5. Discussion

In this chapter, I discuss similarities and differences between theories of the tendential fall in the rate of profit and the underconsumptionist theory of the Monopoly Capital School in explaining periodically recurring economic crises.

First of all, underconsumptionist theories and theories of the falling rate of profit differ in their analysis of where the main cause of economic crises lies. Theories of the falling rate of profit pinpoint it in the production process itself. They argue that the endeavour to increase labour productivity caused by competition between businesses forces firms to reduce the amount of living labour contained in the production process, which ultimately results in a falling rate of profit. Thus, the focus on the production process is crucial. Underconsumptionist theories locate the underlying cause of crises in the sphere of circulation, as the production of consumer goods outpaces consumption. Put another way, the underlying problem in the view of theories of the falling rate of profit lies in the insufficient production of surplus value, whereas according to the Monopoly Capital School, a lack of realization of surplus value is the problem (Mattick, 2007, p. 195). Baran and Sweezy (1966, p. 8) even admit that their approach "has resulted in almost total neglect of a subject which occupies a central place in Marx's study of capitalism: the labor process."

In theories of a falling rate of profit, overproduction is generally seen as a result of the falling rate of profit, "with the suspension of accumulation, appearing then as insufficient demand, including the demand for consumer goods" (Mattick, 1981, p. 200). Thus, many theorists of a falling rate of profit criticize underconsumption theories for falsely interpreting insufficient demand as the underlying cause of crisis instead of recognizing that it is a consequence of the falling rate of profit (Mattick, 1981, pp. 66, 200). Shaikh describes why this is the case:

> *Incidentally, it is worth noting that when, as a consequence of declining profitability, capitalists curtail their investment expenditures, part of the product available will not be sold and it will appear that the crisis is caused by lack of effective demand, by "underconsumption." But in fact this "underconsumption" is only a reaction to the crisis in profitability. It is a symptom, not a cause. (Shaikh, 1978, p. 232)*

Over the course of every crisis, there is a period when commodities cannot be sold. However, this does not necessarily imply that underconsumption is the cause of the crisis. The quote by Shaikh shows that theories of the falling rate of profit provide an explanation for the lack of aggregate demand during a crisis that does not depend on an underconsumptionist theory.

Another aspect of divergence between underconsumptionist theories in general and theories of the falling rate of profit regards the question whether production in capitalism has to be based on consumption. In the underconsumptionist view, production can only grow if the demand for consumer goods grows accordingly. Sweezy holds a particularly strong position, arguing that an increase in means of production by one per cent must be accompanied by an increase in output of consumer goods by one per cent (Shaikh, 1978, p. 229). In stark contrast, Shaikh (1978) argues that capitalist production is not determined by the demand for consumer goods. Instead, the demand for an increase in output can stem from the demand from capitalists for even more investment goods. Hence, theoretically the problem of underconsumption would not exist if investment by capitalists, which is determined by expected profitability, were high enough. I would argue that it is certainly true that increasing investment can suffice to buy the surplus product. However, enough consumer goods have to be produced and the masses must be able to afford those commodities, at least to the extent that the reproduction of labour power is ensured. Otherwise, the production of surplus value (and thus profit) could not be maintained.

Another area of disagreement regards the conception of competition. In both theories, the respective understanding of competition is crucial. In Shaikh's framework of *real competition,* price-cutting behaviour is a fundamental characteristic of capitalist competition (Shaikh, 2016, p. 262). This is key to the concept of the falling rate of profit because capitalists can only cut prices if they also reduce costs (Shaikh, 2016, p. 14), and cost reductions are achieved by increasing labour productivity by increasing the organic composition of capital, which gives rise to the tendency of the profit rate to fall. According to the monopoly capital theory, the increase in monopolization has led to decreasing competition within branches, resulting in higher prices that are "a close approximation to the theoretical monopoly price" (Baran and Sweezy, 1966, p. 67). Shaikh heavily criticizes this notion, as he writes:

> *All branches of the Marxian monopoly capitalism school share the central premise that competition declines as firms become larger, more varied, and fewer in number. This is the foundation for their arguments. Yet it is solely within the theory of perfect competition that an industry is deemed fully competitive only when its firms are infinitesimal price-takers, identical in cost structure and infinite in number. No such requirement exists within the classical theory of real competition, in which firms are always price-setters and larger scale is the immanent means of reducing costs in the competitive battle. (Shaikh, 2016, p. 355)*

Shaikh argues that even if it is true that industries are increasingly dominated by larger corporations (which is the basis of the monopoly capitalism theory), this does not rule out price-cutting and cost-cutting behaviour. In the framework of *real competition*, firms are always looking to engage in price cutting regardless of their size, with large firms even having an advantage (Shaikh, 2016, p. 355). Downward rigidity of prices is central to the argument of the Monopoly Capital School. In their view, together with the ongoing efforts to reduce costs, it is responsible for the proclaimed tendency of the surplus to rise. If it is not true that the monopolization of modern capitalism has led to an abolishment of price competition, a key element of the Monopoly Capital School's crisis theory has disappeared. In my opinion, the evidence provided by Shaikh (2016, pp. 370–372) strongly suggests that this is the case.

Both theories discussed in this article aim to describe tendencies of the capitalist mode of production. If countervailing forces are not strong enough to offset the tendencies, the latter will give rise to crises. Thus, even though for instance the tendential fall in the rate of profit is a tendency that operates long-term, it can give rise to periodical crises that recur in shorter time spans. The empirical analysis presented in chapter 4 suggests that the declining rate of profit was a problem *before* the onset of the economic crisis in 2001, the Great Recession and the 2020 economic crisis, leading to declining rates of accumulation. This is in line with expectations generated by theories of a tendential fall in the rate of profit and thereby further strengthens their position. On the other hand, the Monopoly Capital School's explanation of financialization as a countertendency of underconsumption is in line with the longer-term trends before the Great Recession, as debt piled up in the decades leading to the Great Recession. The data does not suggest that underconsumption was an issue before any of the crises in the 21st century. Thus, the empirical analysis suggests that theories of a tendential fall in the rate of profit can shed light on periodically recurring crises. This does not seem to be true for underconsumptionist theories. For the Monopoly Capital School's crisis theory, the data only supports the claim of a long-term process of financialization culminating in the Great Recession after 2007.

6. Conclusion

In this paper, I compared two different strands of Marxist crisis theories, namely theories of a tendential fall in the rate of profit and underconsumptionist theories, with the aim of gaining insights that orthodox economic theories cannot provide. The first theoretical strand was represented in this paper by the works of Karl Marx, Anwar Shaikh and Paul Mattick (other notable proponents include Henryk Grossmann, David Yaffe, Mario Cogoy and Michael Roberts). My account of underconsumptionist theories focused mostly on the work of Paul Baran and Paul Sweezy as well as John Bellamy Foster and Fred Magdoff (further notable authors writing about underconsumption include Rosa Luxemburg, Karl Kautsky, Otto Bauer and Harry Magdoff). The crisis theories presented in this paper offer tremendous insights into the underlying causes of economic crises. Especially regarding the Great Recession after 2007, they provide an explanation that differs from mainstream descriptions of the crisis. While most commentators and orthodox economists claim that developments in the financial sphere were the reason for the economic crisis, theories of the falling rate of profit as well as underconsumptionist crisis theories convincingly argue that the underlying causes of the crisis are to be found in the "real economy" within the spheres of production and circulation. Furthermore, they establish that crises are recurrent phenomena inherent to the capitalist mode of production, rather than unfortunate random events.

Theories of the tendential fall in the rate of profit argue that capitalism has an inherent tendency towards crisis due to a rising organic composition of capital. Competition between capitalists in the same branch forces firms to keep reducing costs. Capitalists reduce costs by increasing labour productivity by increasing constant capital relative to variable capital. Because of this process, less living labour is used in the production process. Since living labour is the only source of surplus value, a rising organic composition of capital results in a falling rate of profit. Countertendencies such as a rising rate of surplus value can temporarily offset the tendency of the profit rate to fall. However, at some point, the tendency of the profit rate to fall will prevail. Since the rate of profit is the main driver of capital accumulation, a falling rate of profit explains the recurrency of economic crises.

According to underconsumptionist theories, the underlying cause of crises is the lack of effective demand, as production of consumer goods outpaces consumption. The Monopoly Capital School argues that the economy nowadays is dominated by large corporations with considerable market power. In their view, this leads to prices that remain high even though firms are reducing costs. This results in a rising surplus, which cannot be absorbed by the consumption of workers and capitalists. Consequently, the economy tends towards stagnation because the production of consumer goods does not face enough effective demand. In this context, financialization, which has accelerated since the 1980s, can be understood as a counteracting force to the economy's tendency towards stagnation. Increasing household debt allowed consumption to keep growing despite stagnating real wages, and financial speculation provided an outlet for parts of the surplus.

Both theories provide an explanation for economic crises – the falling rate of profit on the one hand, the rising surplus and underconsumption on the other hand. In both theories, countertendencies exist which mask the underlying tendency, but are recurrently not strong enough to offset the underlying tendency. There are many areas of disagreement between the two theories: theories of the falling rate of profit focus their analysis on the labour process itself with the concept of the rising organic composition of capital. Underconsumptionist theories place a stronger emphasis on the sphere of circulation, arguing that the causes of crises arise in this sphere. From the perspective of theories of a tendential fall in the rate of profit, overproduction is a result of the fall in the rate of profit because capitalists curtail their investments. Thus, what the Monopoly Capital School attributes to underconsumption because of monopoly capitalism, scholars like Shaikh or Mattick view as the result of a falling rate of profit.

The short descriptive empirical analysis in chapter 4 shows that declining profitability was an issue before the recession in 2001, the Great Recession from 2007 and the 2020 economic crisis, while underconsumption does not seem to have occurred. I do not claim to make a final judgement about which theory offers better explanations of crises. A more exhaustive empirical analysis would be necessary to provide a more definitive answer. However, because of the theoretical discussion and empirical analysis in this paper, I do think that theories of the falling rate of profit allow for a more profound understanding of capitalist crises than the underconsumptionist theory of the Monopoly Capital School.

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