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Abstract

Economic crises are a recurrent topic in Marx's works, but nowhere does he deal with this subject in a systematic way. Nevertheless, we do find many considerations that are consistent with a systematic and complete view of crises as dialectical moments in the movement of capitalist economies.

According to Marx, the ultimate cause of all actual crises is always the contradiction between subjective and objective goals in the capitalist mode of production. But in the real world there are several direct causes of economic crises, each of which can randomly prevail over the others to trigger the phenomenon. However, the different causes are random only in prevailing as prime mover, not in terms of their presence or absence.

The paper deals with the reconstruction of Marx's dialectical view of economic and financial crises, analysing many passages in Capital and Theories of Surplus-Value, but especially in Economic Manuscripts of 1857-58 (Grundrisse).

Key words: economic crisis, financial crisis, business cycles, dialectics, Marxian economics.

JEL Classification: B140, E320, E440, B510.

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1. Intoduction

The theme of economic crises resurfaces throughout all Marx's body of work, from the *Manifesto of the Communist Party* to the *Theories on Surplus Value* (Sweezy, 1942). And the recurrence of this subject has caused Marx's name to be closely associated with crisis theory. In reality, however, Marx never wrote a systematic theory on this topic (Sweezy, 1942; Mandel, 1992; Foley, 1986).

In the original outline of his *Critique of political economy*, which dates back to 1857, he planned Volume Six on world market and crises. However, in the successive outlines, the plan of this volume, like that of the volumes on the state and foreign trade, was abandoned, and he only dealt with "capital in general", its production and circulation processes and analysis of profit, the rate of profit and interest. Thus, Marx concentrated his analysis on the most abstract features of the capitalist mode of production, leaving aside those he considered the most "concrete" aspects, such as the state, the world market and crises.

In many passages in his works, however, Marx dealt theoretically with a number of important aspects related to the crisis, thereby revealing that he had a theory on it in mind.

According to him, economic crisis was a recurrent phase of industrial cycles, and, like most contemporary economists, he took the existence of these cycles as empirically self-evident. Up to the date of publication of Volume One of *Capital*, indeed, this appeared to be an indisputable fact. Industrial cycles seemed to have a regularity similar to that of the seasons, with an average ten-year periodicity, so that Marx could expressly evoke a:

> path characteristically described by modem industry, which takes the form of a decennial cycle (interrupted by smaller oscillations) of periods of average activity, production at high pressure, crisis, and stagnation (Marx, [1867]1990, p. 785);

saying that:

> this industrial cycle is such that the same circuit must periodically reproduce itself, once the first impulse has been given (Marx, [1894]1991, p. 620);

and adding, by means of an astronomical analogy, which probably had a great influence on Schumpeter, that:

> Just as the heavenly bodies always repeat a certain movement, once they have been flung into it, so also does social production, once it has been flung into this movement of alternate expansion and contraction. Effects become causes in their turn, and the various vicissitudes of the whole process, which always reproduces its own conditions, take on the form of periodicity (Marx, [1867]1990, p. 786).

Moreover, starting from the observation that the average life cycle of capital, in the main industrial sectors, had the same duration as the industrial cycles he observed, he concluded that:

> the cycle of related turnovers, extending over a number of years, within which the capital is confined by its fixed component, is one of the material foundations for the periodic cycle in which business passes through successive periods of stagnation, moderate activity, overexcitement and crisis. The periods for which capital is invested certainly differ greatly, and do not coincide in time. But a crisis is always the starting-point of a large volume of new investment. It is also, therefore, if we consider the society as a whole, more or less a new material basis for the next turnover cycle (Marx, [1885]1992, p. 264).

However, as early as 1886 Engels had noted, in his preface to the English edition of Volume One of *Capital*, that, subsequent to the general crisis of 1867, after the great changes in communication techniques and organizational forms of economic activities:

> the decennial cycle of stagnation, prosperity, overproduction and crisis, ever recurrent from 1825 to 1867, seems indeed to have run its course; but only to land us in the slough of despond of a permanent and chronic depression (Marx, [1867]1990, p. 113).

And Marx, who had had the opportunity to observe ample evidence of this change, did not seem to be particularly troubled by it.

The regular patterns he observed were, in fact, the result not of the essential features of the capitalist mode of production, but only of fortuitous and transitional technical features of "modern industry" and its historically determined production processes. The more general regularity Marx attributed to industrial cycles was indicative, above all, of the non-accidentality of the phenomenon – the fact that cyclical fluctuations are the result of the normal dynamics of capitalist development, the continuous operating of the underlying trends of the process of accumulation and of the major contradictions it usually develops. Regularity can also mean that certain events usually precede others over time (Foley, 1986). This regularity, however, does not necessarily mean a regular pattern over time, because the dialectic dynamics produced by these contradictions is, by its nature, a creative process that cannot recur indefinitely.

Marx saw industrial and trade cycles simply as the natural and specific form of capitalist development (Sweezy, 1942). Crises are the necessary result of the connections between things in their becoming. Even in this general sense, this interpretation is already immediately dialectical, if we understand dialectics as the process of new interconnection between things that have been separated in their development process. Crises are moments of the immanent dynamics and interrelation (internal dialectics) of the elements of the capitalist economic process that are suddenly revealed, with all their violence, to the consciousness of humankind:

> The fact that the movement of capitalist society is full of contradictions impresses itself most strikingly on the practical bourgeois in the changes of the periodic cycle through which modern industry passes, the summit of which is the general crisis (Marx, [1867]1990, p. 103).

And, dealing with Sismondi, Marx explicitly appreciates that:

> He is particularly aware of the fundamental contradiction: on the one hand, unrestricted development of the productive power and increase of wealth which, at the same time, consists of commodities and must be turned into cash; on the other hand, the system is based on the fact that the mass of producers is restricted to the NECESSARIES. HENCE, according to Sismondi, crises are not accidental, as Ricardo maintains, but essential outbreaks – occurring on a large scale and at definite periods – of the immanent contradictions (Marx, Engels, 1989, p. 248).

Above all, however, Marx thought that real crises can properly be understood only in the richness and complexity of "concrete reality":

> the real crisis can only be educed from the real movement of capitalist production, competition and credit (Marx, Engels, 1989, p. 143).

Thus, according to Marx, real crises are necessary moments of the historical development of capitalism and could not be fully explained with theoretical schemes that make excessive abstraction of the richness of nexus and complexity of the reality (Sweezy, 1942). From this point of view, therefore, there is a profound difference between the Marxian conception and the concept that was to emerge later in the work of Tugan-Baranowski, or Marxists such as Hilferding and Bauer, or indeed in most post-Keynesian and Kaleckian business cycle theories.

Marx underlines that, in pre-capitalist economies, crisis, as consequence of accidental destruction of the production elements, was generally equivalent to a situation of famine and typically appeared in the form of a crisis of under-utilization of *use values*. In the capitalist economies, instead, the situation is totally reversed. The production elements, capital and labour, are unused and can be destroyed as a result of the crisis itself. An excess of goods suddenly finds no sufficient solvency. Capitalist crisis, thus, proves to be a crisis of overproduction of *exchange values* (Sweezy, 1942; Mandel, 1968).

Obviously, however, the regular occurrence of crises as a phenomenon of overproduction does not mean that the latter is itself the cause of the crisis. Overproduction of *exchange values* is, of course, only an effect. The real cause of the crisis, according to Marx, is, rather, to be sought in the interruption of the normal circulation process and in the causes of the latter.

2. Abstract possibilities of crisis

In Volume Two of the *Theories on Surplus Value,* Marx investigates the *abstract possibilities* or *abstract forms* of crisis (Marx, Engels, 1989, p. 140), underlining that *crisis potentia*:

> can only emerge in the *circulation process* which is in itself also a *process of reproduction* (Marx, Engels, 1989, p. 143).

According to Marx, the metamorphosis formula of the circulation of commodities itself, C-M-C (Commodity- Money- Commodity), contains, in fact, the germ of *the most abstract form of crisis*.

> The possibility of crisis therefore lies solely in the separation of sale from purchase. It is thus only in the form of commodity that the commodity has to pass through this difficulty here. As soon as it assumes the form of money it has got over this difficulty. Subsequently however this too resolves into the separation of sale and purchase. If the commodity could not be withdrawn from circulation in the form of money or its retransformation into commodity could not be postponed – as with direct barter – if purchase and sale coincided, then the *possibility* of crisis would, under the assumptions made, disappear (Marx, Engels, 1989, pp. 138-139).

In this passage, it is already clear that, according to him, a crucial stage in the potential crisis process is the possibility of subtracting money from circulation (hoarding).

However,

> The general, abstract possibility of crisis denotes no more than the *most abstract form* of crisis, without content, without a compelling motivating factor. Sale and purchase may fall apart. They thus represent *crisis potentia* and their coincidence always remains a critical factor for the commodity. The transition from one to the other may, however, proceed smoothly. *The most abstract form of crisis* (and therefore the formal possibility of crisis) is thus the *metamorphosis of the commodity itself*; the contradiction of exchange value and use value, and furthermore of money and commodity, comprised within the unity of the commodity, exists in metamorphosis only as an involved movement. The factors which turn this possibility of crisis into [an actual] crisis are not contained in this form itself; it only implies that *the* framework for a crisis exists (Marx, Engels, 1989, p. 140).
>
> But these are merely *forms*, general possibilities of crisis, and hence also forms, abstract forms, of actual crisis. In them, the existence of crisis appears in its simplest forms, and, in so far as this form is itself the simplest content of crisis, in its simplest content. But the content is not yet *substantiated*. Simple circulation of money and even the circulation of money as a means of

> payment— and both come into being long *before* capitalist production, while there are no crises— are possible and actually take place without crises. These forms alone, therefore, do not explain why their crucial aspect becomes prominent and why the contradiction contained in them potentially becomes a real contradiction (Marx, Engels, 1989, p. 142).

However, in the sphere of the circulation of commodities, taken in itself, a break in the exchange process is unlikely and a pure matter of chance. Its only systematic cause can be found in hoarding, a common phenomenon in pre-capitalistic context, but generally operating on a small scale, with smooth dynamics over time, which cannot be held responsible for sudden and violent crises such as those experienced in the contemporary economy (Sweezy, 1942).

The true leap in quality occurs in the capitalist mode of production, with the transformation of the circulation formula from C-M-C (Commodity-Money-Commodity) to M-C-M' (Money-Commodity-Money), with M' greater than M. In this new kind of circulation (capital circulation), production is no longer aimed at consumption, but at capital valorisation. The capitalist's goal becomes increase in the value of his initial capital (ΔM), or better, its magnitude relative to the original amount of capital size (ΔM/M). Thus, the goal of production becomes maximization of the profit rate.

In this new context, *Say's law* no longer holds. The statement that supply creates its own demand has no general validity, even though it may still have local and contingent validity in the expansive phases of the cycle. In the depressive phases, the capacity of supply to create its own demand cannot be counted on since money, as capital, tends to crystallise in that form (hoarding), while waiting for the business cycle to bring about adequate conditions of returns on investments once again (Sweezy, 1942). In this way, hoarding is no longer psychological, fortuitous behaviour but a systematic phenomenon, closely connected with the dynamics of the capital valorisation conditions. According to Marx, the classical economists' lack of understanding of this crucial passage precluded an understanding of capitalist crisis.

The lack of effective demand, in this case, is a result of the very process of rotation of capital due to the decision, in some part of the economic system, to suspend momentarily reinvestment of the surplus value in new forms of productive capital, for many and varied reasons. It is not, then, the consequence of the short supply of money, however much hoarding of the monetary form of a part of the stock may hold back the process of metamorphosis of another part of it.

The second abstract form of crisis lies in the money function as means of payment. This second form is, according to Marx, more "concrete" than the first, or more involved in the network of social connections that characterize a particular form of historically determined reality. In fact, the money function as means of payment is in its fullness only in the context of a mature capitalist economy, with a fully-developed credit system. In this kind of reality a general crisis is:

> nothing other than the *possibility of crisis* described when dealing with money as a means of payment; but here – in capitalist production – we can already see the connection between the mutual claims and obligations, the sales and purchases, through which the possibility can develop into actuality (Marx, Engels, 1989, p. 142).

The relationship between these two abstract forms of crisis is thus the basis of the connection Marx believes to exist between the financial and real features of a crisis. In his words, in fact:

> The form mentioned first is possible without the latter – that is to say, crises are possible without credit, without money functioning as a means of payment. But the second form is not possible without *the first* – that is to say, without the separation between purchase and sale. But in the latter case, the crisis occurs not only because the commodity is unsaleable, but because it is not saleable within a *particular period of time*, and the crisis arises and derives its character not only from the *unsaleability* of the commodity, but from the *non-fulfilment of a whole series of payments* which

depend on the sale of this particular commodity within this particular period of time. This is the *actual* form of money crises (Marx, Engels, 1989, p. 144).

Thus, credit crisis finds its triggering factor in – even temporary – blockage of the circulation of commodities, and therefore also of capital metamorphosis, but then becomes a potent multiplier of its initial mover.

> There is a contradiction immanent in the function of money as the means of payment. When the payments balance each other, money functions only nominally, as money of account, as a measure of value. But when actual payments have to be made, money does not come onto the scene as a circulating medium, in its merely transient form of an intermediary in the social metabolism, but as the individual incarnation of social labour, the independent presence of exchange-value, the universal commodity. This contradiction bursts forth in that aspect of an industrial and commercial crisis which is known as a monetary crisis. Such a crisis occurs only where the ongoing chain of payments has been fully developed, along with an artificial system for settling them. Whenever there is a general disturbance of the mechanism, no matter what its cause, money suddenly and immediately changes over from its merely nominal shape, money of account, into hard cash. Profane commodities can no longer replace it. The use-value of commodities becomes valueless, and their value vanishes in the face of their own form of value. […] In a crisis, the antithesis between commodities and their value-form, money, is raised to the level of an absolute contradiction. Hence money's form of appearance is here also a matter of indifference. The monetary famine remains whether payments have to be made in gold or in credit-money, such as bank-notes. (Marx, [1867]1990, pp. 235-237).

> This sudden transformation of the credit system into a monetary system adds theoretical dismay to the actually existing panic, and the agents of the circulation process are overawed by the impenetrable mystery surrounding their own relations (Marx, Engels, 1988, pp. 378-379).

But as striking as credit and monetary crises may be in their effects, they are not generally the first cause. In fact, Marx specifies that:

> If the crisis appears, therefore, because purchase and sale become separated, it becomes a money crisis, as soon as money has developed as means of payment, and this second form of crisis follows as a matter of course, when the first occurs. In investigating why the general possibility of crisis becomes a reality, in investigating the conditions of crisis, it is therefore quite superfluous to concern oneself with the forms of crisis which arise out of the development of money as means of payment. This is precisely why economists like to suggest that this obvious form is the cause of crises. (Marx, Engels, 1989, pp. 144-145).

And that:

> The superficiality of political economy shows itself in the fact that it views the expansion and contraction of credit as the cause of the periodic alternations in the industrial cycle, whereas it is a mere symptom of them (Marx, [1867]1990, p. 786).

Even the first abstract form, however, cannot be considered the true cause of real crises.

> The *general possibility* of crisis is the formal *metamorphosis* of capital itself, the separation, in time and space, of purchase and sale. But this is never the *cause* of the crisis. For it is nothing but the *most general form of crisis*, i.e. the crisis itself in *its most generalised expression*. But it cannot be said that the *abstract form of crisis* is *the cause of crisis*. If one asks what its cause is, one wants to know why *its abstract form*, the form of its possibility, turns from possibility into *actuality* (Marx, Engels, 1989, pp. 144-145).

There is an antithesis, immanent in the commodity, between use-value and value, between private labour which must simultaneously manifest itself as directly social labour, and a particular concrete kind of labour which simultaneously counts as merely abstract universal labour, between the conversion of things into persons and the conversion of persons into things; the antithetical phases of the metamorphosis of the commodity are the developed forms of motion of this immanent contradiction. These forms therefore imply the possibility of crises, though no more than the possibility. For the development of this possibility into a reality a whole series of conditions is required, which do not yet even exist from the standpoint of the simple circulation of commodities. (Marx, [1867]1990, p. 209).

3. The concrete genesis of crisis

Marx does not *a priori* exclude, in the "concrete" complexity of reality, an accidental genesis of general crises. He believes, for example, that they may be triggered by simple mismatches between supply and demand on single markets that generate:

changes in price which prevent large portions of the total capital from being replaced in their average proportions, and which, in the overall context of the reproduction process as a whole, particularly as developed by credit, must recurrently bring about a situation of general stagnation (Marx, [1894]1991, pp. 614-615).

Nor does he rule out the possibility that, in the complexity of reality, crises may be triggered by:

the fraudulent businesses and speculative dealings that the credit system fosters (Marx, [1894]1991, p. 615).

And Engels, in a note to the third German edition of Volume One of *Capital*, underlines that:

The monetary crisis, defined in the text as a particular phase of every general industrial and commercial crisis, must be clearly distinguished from the special sort of crisis, also called a monetary crisis, which may appear independently of the rest, and only affects industry and commerce by its backwash. The pivot of these crises is to be found in money capital, and their immediate sphere of impact is therefore banking, the stock exchange and finance. (Marx, [1867]1990, p. 236).

According to Sweezy, Marx thought the most common and probable cause of crisis, inherent in the very nature of the capitalist mode of production, could be identified in the decline of the profit rate below the level that the capitalists expect as normal (Sweezy, 1942).

In fact, Marx observes that:

in view of the fact that the rate at which the total capital is valorized, i.e. the rate of profit, is the spur to capitalist production (in the same way as the valorization of capital is its sole purpose), a fall in this rate slows down the formation of new, independent capitals and thus appears as a threat to the development of the capitalist production process; it promotes overproduction, speculation and crises, and leads to the existence of excess capital alongside a surplus population (Marx, [1894]1991, pp. 349-350).

In Marx's words, however, there is no reference to a profit level that capitalists expect as normal and that can play a role in changing investment decisions. This kind of concept, referred to by Sweezy, is far more reminiscent of Keynes' idea of normal interest rate level expectations that influence speculators' demand for money. In Marx's work, however, there is no evidence that he saw the rate of profit as a subjective incentive for accumulation of capital. Significantly enough, in fact, in the previous passage quoted, Marx contrasts the “spur” of the rate of profit with the “purpose” of valorisation of capital.

According to Marx, of course, the average rate of profit plays a major role in capitalist competition, stimulating movements of capital from one productive branch to another and determining a redistribution of total surplus value proportionally to the capital invested. The average rate of profit, therefore, can influence the composition of investment in term of use values, but there is no deterministic relation between it and the aggregate investment amount.

A fall in the average rate of profit could produce the decrease in capitalists’ spending which crisis usually involves, because a lower rate of profit certainly implies a lower rate of accumulation (Shaikh, 1991b). Accumulation of capital, however, is possible at any positive rate of profit and a lower accumulation rate does not automatically imply any problems of disproportion between supply and demand. A reduction in the rate of accumulation might not be welcome to capitalists, but it does not necessarily have to lead to the characteristic disequilibria of capitalist crisis (Foley, 1986). According to Foley, this explanation of capitalist crisis should identify some systematic reasons why a fall in the rate of profit can lead to sudden adjustments in economic activities. And these reasons may possibly involve the credit system and finance as important elements of the circulation process of capital.

As far as the dynamics of the rate of profit can help to understand Marx’s crisis theory, however, distinction has to be made between the three main forces that, according to Marx, tend to reduce the rate of profit.

One is the growth of the organic composition of the capital, which generates the tendency of the rate of profit to fall, dealt with by Marx under the simplification hypothesis that the conditions of the law of labour value are fully met. The second is the reduction of the surplus value due to the increase of the share of wages in the social product. The third is represented by the impossibility of selling commodities at their value or their prices of production, so that the profit is reduced or cancelled. This latter situation is what Sweezy termed "realization crisis" (Sweezy, 1942). The determinants of this last force are totally different from those that act on the first two. In determining the first two, in fact, the variations of the surplus-value and organic composition of the capital play a fundamental role in a context of full realization of the value of commodities. In the third case, instead, there is a general lack of effective demand, not unable to buy all the commodities produced, but unable to buy them at their prices of production.

With regard to the first kind of cause, Marx observes:

> Simultaneously with the development of productivity, the composition of capital becomes higher, there is a relative decline in the variable portion as against the constant.
> These various influences sometimes tend to exhibit themselves side by side, spatially; at other times one after the other, temporally; and at certain points the conflict of contending agencies breaks through in crises. Crises are never more than momentary, violent solutions for the existing contradictions, violent eruptions that re-establish the disturbed balance for the time being (Marx, [1894]1991, p. 357).

Therefore, according to Marx, the fall in the rate of profit is, of course, a long-term trend that shows the historical limit of the capitalist mode of production

> in the way that the development of labour productivity involves a law, in the form of the falling rate of profit, that at a certain point confronts this development itself in a most hostile way and has constantly to be overcome by way of crises (Marx, [1894]1991, p. 367).

According to some Marxists (Grossmann, [1929]1992; Mandel, 1968; Mattick, 1969), this long-term tendency also manifests itself in “concrete” reality in the recurring cycles, which replicate it in synthetic form but eventually find a temporary solution by means of a crisis. Crisis, in fact, reduces the size of the value of constant capital, either by destroying its material substance, or by “devaluing it". On one hand, the shutdown of the plants and the cessation of the business of many firms leads to either:

> a shorter or longer disruption […] in their function as means of production (Marx, [1894]1991, p. 362).

or "actual destruction", due to the erosion of time during inactivity. On the other hand, the value of capital, understood as the capitalization of the future earnings to which its property is entitled, is immediately reduced because of the fall in the revenues on which it is calculated (Marx, [1894]1991, p. 362).

The second cause of the fall in the rate of profit lies, instead, in its structural conflict with the wage (Sweezy, 1942; Yaffe, 1972; Shaikh, 1991a). However, in Marx's view the possibility of wage growth is closely connected to the dynamics of the *industrial reserve army*.

> Taking them as a whole, the general movements of wages are exclusively regulated by the expansion and contraction of the industrial reserve army, and this in turn corresponds to the periodic alternations of the industrial cycle. […] The appropriate law for modern industry, with its decennial cycles and periodic phases which, as accumulation advances, are complicated by irregular oscillations following each other more and more quickly, is the law of the regulation of the demand and supply of labour by the alternate expansion and contraction of capital, i.e. by the level of capital's valorization requirements at the relevant moment, the labour-market sometimes appearing relatively under-supplied because capital is expanding, and sometimes relatively over-supplied because it is contracting (Marx, [1867]1990, p. 790).

Wage level, thus, shifts over time with the oscillations of the industrial reserve army, which in turn depend on the phases of capital accumulation. This produces a process of cyclical development in which crises become the necessary means by which the conditions of accumulation – undermined during the phases of prosperity by the increase in the organic composition of capital and, above all, by the growth of wages and the resulting erosion of profits, due to the reduction of the reserve industrial army – are periodically restored.

In Marx's words:

> The path characteristically described by modem industry, which takes the form of a decennial cycle (interrupted by smaller oscillations) of periods of average activity, production at high pressure, crisis, and stagnation, depends on the constant formation, the greater or less absorption, and the re-formation of the industrial reserve army or surplus population. In their tum, the varying phases of the industrial cycle recruit the surplus population, and become one of the most energetic agencies for its reproduction. […] Modern industry's whole form of motion therefore depends on the constant transformation of a part of the working population into unemployed or semi-employed 'hands' (Marx, [1867]1990, pp. 785-786).

In these dynamics lies the main mechanism identified by Marx, which, according to Sweezy (1942) and Steindl (1976), is closer to a modern business cycles theory and has numerous points of contact with many "endogenous" versions of it, developed during the 20th century. This mechanism, however, can only explain the phases of acceleration and deceleration of the business cycle, but cannot directly account for crisis of overproduction, even though the latter is an integral part of the dynamics of the cycle itself.

The third cause of the fall of the rate of profit, instead, lies in a lack of effective demand.

> The market expands more slowly than production; or in the cycle through which capital passes during its reproduction – a cycle in which it is not simply reproduced but reproduced on an extended scale, in which it describes not a circle but a spiral – there comes a moment at which the market manifests itself as too narrow for production. This occurs at the end of the cycle. But it

merely means: the market is GLUTTED. Overproduction is MANIFEST. If the expansion of the market had kept pace with the expansion of production THERE WOULD BE NO GLUT in the MARKET, NO OVERPRODUCTION (Marx, Engels, 1989, pp. 153-154).

Thus, the laws that govern the dynamics of demand are different from those governing the processes of production and valorisation of capital. As Engels explicitly underlined in *Anti-Düring*:

> the capacity for extension, extensive and intensive, of the markets is primarily governed by quite different laws that work much less energetically. The extension of the markets cannot keep pace with the extension of production. The collision becomes inevitable, and as this cannot produce any real solution so long as it does not break in pieces the capitalist mode of production, the collisions become periodic (Marx, Engels, 1987a, pp. 262-263).

According to Marx, however, demand is not an exogenous variable, totally independent of production.

> Production is directly also consumption. […] Production as directly identical with consumption, consumption as directly coinciding with production, is called by them *productive consumption*. […] Consumption is directly also production, just as in nature consumption of elements and chemical substances is production of a plant. It is obvious that man produces his own body, e.g., through nutrition, a form of consumption. But the same applies to any other kind of consumption which in one way or another produces man in some aspect. Consumptive production. […]
> Production is thus directly consumption, consumption is directly production. Each is immediately its opposite. At the same time, however, a mediating movement takes place between the two. Production mediates consumption, for which it provides the material; consumption without production would have no object. But consumption also mediates production, by providing for the products the subject for whom they are products. The product only attains its final FINISH in consumption. […]
> Without production there is no consumption, but without consumption there is no production either, since in that case production would be useless. […]
> Hence production produces consumption: (1) by creating the material for consumption; (2) by determining the mode of consumption; (3) by creating in the consumer a need for the products which it first posits as objects. It therefore produces the object of consumption, the mode of consumption and the urge to consume (Marx, Engels, 1987b, pp. 27-30).

Nevertheless,

> Production is not only directly consumption, and consumption directly production; nor is production only a means of consumption and consumption the purpose of production, in the sense that each provides the other with its object, with production supplying the external object of consumption, and consumption the notional object of production. Each of them is not only directly the other, nor does it merely mediate the other, but each of the two, by the fact of its taking place, creates the other, creates itself as the other. It is only consumption that consummates the act of production, since consumption completes the product as a product by dissolving it, by consuming its independent material form. […] Production, on the other hand, produces consumption by creating the definite mode of consumption, and also by creating the incentive to consumption, the very capacity to consume, as a need (Marx, Engels, 1987b, pp. 30-31).

Thus, production produces consumption, but not automatically and in order to absorb all the product. The identity between production and consumption is a dialectical identity, which comes about through a dialectical process.

> The last [kind of] identity, […], has many times been explained by economists when discussing the relation of demand and supply, of objects and needs, of needs created by society and natural needs.

After this, nothing is simpler for a Hegelian than to posit production and consumption as identical. And this has been done not only by socialist belletrists but also by prosaic economists, such as Say, in declaring that if one considers a nation – or mankind *in abstracto* – then its production is its consumption. Storch has shown that this proposition of Say's is wrong, since a nation, for instance, does not consume its entire product, but also creates means of production, etc., fixed capital, etc. […] One must only [M-9] emphasise the important point here that production and consumption, if considered as activities of one subject or of many individuals, appear in any case as moments of a process in which production is the actual point of departure and hence also the dominant moment. Consumption as a necessity, as a need, is itself an intrinsic moment of productive activity. The latter, however, is the point where the realisation begins and thus also its dominant moment, the act epitomising the entire process. […] Consumption thus appears as a moment of production.

But in society, the relation of the producer to the product, once it has been completed, is extrinsic, and the return of the product to the subject depends on his relations to other individuals. The product does not immediately come into his possession. Nor is its direct appropriation his aim, if he produces in society. Distribution, which on the basis of social laws determines the individual's share in the world of products, intervenes between the producer and the products, i.e. between production and consumption (Marx, Engels, 1987b, pp.31-32).

But then, what determines the periodic inadequacy of effective demand? Marx explicitly states that, if we abstract from the phenomenal manifestations that characterize the real world and make the simplifying hypothesis that the whole of society is composed solely of capitalists and wage workers:

a crisis would be explicable only in terms of a disproportion in production between different branches and a disproportion between the consumption of the capitalists themselves and their accumulation (Marx, [1894]1991, p. 615).

This, at first sight, seems to be consistent with Tugan-Baranowski's interpretation of crises, based on the reproduction schemes on expanded scale dealt with in Volume Two of *Capital*, which Sweezy called "crises arising from *disproportionality*" (Sweezy, 1942).

However, in the following lines Marx confirms that, in the complexity of the real world:

the replacement of the capitals invested in production depends to a large extent on the consumption capacity of the non-productive classes; while the consumption capacity of the workers is restricted partly by the laws governing wages and partly by the fact that they are employed only as long as they can be employed at a profit for the capitalist class (Marx, [1894]1991, p. 615).

Elsewhere he observes that consumption:

is inhibited, since the majority of the population, the working people, can only expand their consumption within very narrow limits, whereas the demand for labour, although it grows *absolutely*, decreases *relatively*, to the same extent as capitalism develops (Marx, Engels, 1989, p. 124).

But the limits to the consumption of wage workers are governed by the dynamics of wages, which, as we have just seen, is strictly dependent on the relative over-population. Consumption limits thus oscillate with the oscillations of the industrial reserve army, which in turn depend on the phases of capital accumulation. Under-consumption theses, therefore, appear to contradict the Marxian view of crisis as prepared by a period of falling profits due to wage growth. This explicitly emerges in a famous passage in Volume Two of *Capital*:

It is a pure tautology to say that crises are provoked by a lack of effective demand or effective consumption. The capitalist system does not recognize any forms of consumer other than those who can pay, if we exclude the consumption of paupers and swindlers. The fact that commodities are unsaleable means no more than that no effective buyers have been found for them, i.e. no consumers (no matter whether the commodities are ultimately sold to meet the needs of productive or individual consumption). If the attempt is made to give this tautology the semblance of greater profundity, by the statement that the working class receives too small a portion of its own product, and that the evil would be remedied if it received a bigger share, i.e. if its wages rose, we need only note that crises are always prepared by a period in which wages generally rise, and the working class actually does receive a greater share in the part of the annual product destined for consumption. From the standpoint of these advocates of sound and 'simple'(!) common sense, such periods should rather avert the crisis. It thus appears that capitalist production involves certain conditions independent of people's good or bad intentions, which permit the relative prosperity of the working class only temporarily, and moreover always as a harbinger of crisis (Marx, [1885]1992, pp. 486-487).

In this passage, Marx set his vision of the cycle, based on the antagonism between wages and profits, against the under-consumption theories of Sismondi and many other advocates of trade-unionism. Even though, as Sweezy underlines to support his idea of Marx's under-consumption theory, in Volume Three of *Capital*, Marx explicitly states that:

The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses, in the face of the drive of capitalist production to develop the productive forces as if only the absolute consumption capacity of society set a limit to them (Marx, [1894]1991, p. 615).

According to Marx, however, the restricted consumption of the masses only reflects the fundamental contradiction of the capitalist mode of production: the contradiction between its objective and subjective goals, «between socialised production and capitalist appropriation ends» (Marx, Engels, 1987a, p. 263). Given the structural antagonism between wages and profits, the subjective goal of valorising invested capital tends to penalize the actual objective conditions for its realization.

In this nexus between private and social goals lies the "fundamental contradiction" of capitalist production of which Sismondi was already aware: on the one hand «the system is based on the fact that the mass of producers is restricted to the NECESSARIES» (Marx, Engels, 1989, p. 248). On the other hand:

The fall in prices and the competitive struggle […] impel each capitalist to reduce the individual value of his total product below its general value by employing new machinery, new and improved methods of labour and new forms of combination. That is, they impel him to raise the productivity of a given quantity of labour (Marx, [1894]1991, p. 363).

All this helps to ensure that:

The conditions for immediate exploitation and for the realization of that exploitation are not identical. Not only are they separate in time and space, they are also separate in theory. The former is restricted only by the society's productive forces, the latter by the proportionality between the different branches of production and by the society's power of consumption. And this is determined neither by the absolute power of production nor by the absolute power of consumption but rather by the power of consumption within a given framework of antagonistic conditions of distribution, which reduce the consumption of the vast majority of society to a minimum level, only capable of varying within more or less narrow limits. It is further restricted by the drive for accumulation, the drive to expand capital and produce surplus-value on a larger scale. This is the law governing capitalist production, arising from the constant revolutions in methods of production themselves, from the devaluation of the existing capital which is always associated with this, and from the general competitive struggle and the need to improve production and extend its scale, merely as a means of self-preservation, and on pain of going under (Marx, [1894]1991, p. 352-353).

Therefore:

> The so-called plethora of capital is always basically reducible to a plethora of that capital for which the fall in the profit rate is not outweighed by its mass - and this is always the case with fresh offshoots of capital that are newly formed - or to the plethora in which these capitals, which are incapable of acting by themselves, are available to the leaders of great branches of business in the form of credit. This plethora of capital arises from the same causes that produce a relative surplus population and is therefore a phenomenon that complements this latter, even though the two things stand at opposite poles - unoccupied capital on the one hand and an unemployed working population on the other.
> Overproduction of capital and not of individual commodities - though this overproduction of capital always involves overproduction of commodities - is nothing more than overaccumulation of capital (Marx, [1894]1991, p. 359).

Nevertheless,

> What then does *overproduction of capital* means? Overproduction of amounts of value destined to produce surplus value (or, if one considers the material content, overproduction of commodities destined for reproduction)— that is, *reproduction on too large a scale*, which is the same as overproduction pure and simple.
> Defined more closely, this means nothing more than that too much has been produced for the purpose of *enrichment*, or that too great a part of the product is intended not for consumption as REVENUE, but *for making more money* (for accumulation); not to satisfy the personal needs of its owner, but to give him money, abstract social riches and capital, more power over the labour of others, i.e. to increase this power (Marx, Engels, 1989, pp. 162-163).

Thus, overproduction of capital outlines as a problem of *disproportion* between the production of *producer goods* and that of *consumption goods*. It is, once again, a consequence of the anarchy of capitalist competition.

The more fundamental contradiction between socialised production and capitalist appropriation ends, between the laws that govern demand and those governing the processes of valorisation of capital, however, does not directly play a role in periodical crises, because:

> there is also, as we have already seen (Volume 2, Part Three), a constant circulation between one constant capital and another (even leaving aside the accelerated accumulation) which is initially independent of individual consumption in so far as it never goes into this even though it is ultimately limited by it, for production of constant capital takes place never for its own sake but simply because more of it is needed in those spheres of production whose products do go into individual consumption (Marx, [1894]1991, p. 420).

Thus, the *ultimate limit* does not play a role as long as capitalists' expectations of returns are as usual, and they create demand reciprocally.

> This can continue quite happily for a good while, stimulated by prospective demand, and in these branches of industry business proceeds very briskly, as far as both merchants and industrialists are concerned. The crisis occurs as soon as the returns of these merchants who sell far afield (or who have accumulated stocks at home) become so slow and sparse that the banks press for payment for commodities bought, or bills fall due before any resale takes place. And then we have the crash, putting a sudden end to the apparent prosperity (Marx, [1894]1991, p. 420).

In Volume Two of *Capital*, Marx analyses the «movement of the social capital» as a result of «the totality of movements» of its «autonomous fractions, the turnovers of the individual capitals» (Marx, [1885]1992, p. 427). In his reproduction schemes, for the sake of simplicity, the total social product breaks down into two great departments: means of production (department I) and means of consumption (department II).

If, as does Marx in Volume Three of *Capital*, we denote with c_i, v_i and s_i the three components (constant capital, variable capital and surplus value) of the value of commodity i, we can summarise Marx's schemes thus (Bortkiewicz, 1952; Sweezy, 1942):

$$\begin{array}{ll} I & c_1 + v_1 + s_1 \\ II & c_2 + v_2 + s_2 \end{array} \tag{1}$$

In the case of simple reproduction, in which, by definition, the surplus value is wholly converted into consumption by capitalists, the equilibrium conditions are:

$$c_1 + c_2 = c_1 + v_1 + s_1 \tag{2}$$

$$v_1 + v_2 + s_1 + s_2 = c_2 + v_2 + s_2 \tag{3}$$

Simplifying, we get:

$$c_2 = v_1 + s_1 . \tag{4}$$

Given the methods of production, this condition imposes an adequate proportion between the value produced in department I and that produced in department II, as well as an adequate distribution of constant and variable capital between the two departments.

Passing from a simple reproduction scheme to a reproduction scheme on an expanded scale, a share ϑ of the surplus value has to be utilised to increase the invested capital. Starting from the previous simple reproduction scheme, if ϑs_1 is converted into additional capital, then (4) is no longer satisfied and, from the standpoint of the entire economic system, it occurs that, in the process of circulation between capitalist A of department I and capitalist B of department II:

> A (I), by selling its surplus product to B (II), has supplied the latter with a corresponding portion of constant capital in the natural form, but at the same time made an equal portion of B(Il)'s commodity value unsaleable. If we bear in mind the total social reproduction - which includes both capitalists I and II - then the transformation of A(I)'s surplus product into virtual money capital expresses the non-transformability of a portion of commodity capital equal to this in value back into productive (constant) capital; i.e. not virtual production on an expanded scale, but rather a restriction of simple reproduction, i.e. a shortfall in simple reproduction. Since the formation and sale of A(l)'s surplus product are themselves normal phenomena of simple reproduction, we have here, even on the basis of simple reproduction, the following mutually conditioning phenomena: formation of virtual extra money capital in department I (hence under-consumption from department Il's standpoint); piling up of commodity stocks in department II which cannot be transformed back into productive capital (i.e. relative over-production in department I I); surplus money capital in department I and a shortfall in reproduction in department II (Marx, [1885]1992, pp. 578-579).

This contradiction emerging in the reproduction scheme on an expanded scale is the basis upon which Rosa Luxemburg and many other successive Marxists started to identify a chronic lack of demand in the process of the accumulation of capital.

Marx, however, found a partial solution to this contradiction in the constant formation of commodity stocks, which play the role of counterparts of the temporary piling up of money that takes place in the process of transformation of the surplus product of department I into money capital, characterising the very process of reproduction on an expanded scale:

> We saw how the piling up of money takes place at several points, so that money has to be withdrawn from circulation, partly to make possible the formation of new money capital in department I itself, partly to maintain the value of the fixed capital that is gradually being consumed, for the time being, in the money form. […] it follows that the constant formation of commodity stocks is indispensable, in the hands of their respective producers themselves, in order to keep the machinery of reproduction going. […] the commodity stock in means of consumption that ensures the continuity of the consumption process involved in reproduction, and therefore the transition from one year to the other (Marx, [1885]1992, p. 580).

Such commodity stocks, which pass from one production cycle to the next, imply that the capitalists in department II «must have a money reserve capital that enables them to continue their production process even though one part of their productive capital is temporarily tied up in the commodity form» (Marx, [1885]1992, p. 581) or, in line with Marx's observations in other passages, that they can access a developed credit system that allows for transference of the excess of liquidity from one department to the other.

Commodity stock formation alone, however, is not enough to solve the problem definitively. It can only solve the contradiction within a single production cycle, but not in the overall process of rotation of social capital. Considering the series of production cycles in their succession, in fact:

> Just as the current year concludes on the side of department II with a commodity stock for the next, so it began with a commodity stock on the same side left over from the previous year. In analysing the annual reproduction - reduced to its most abstract expression - we must thus cancel out the stock on both sides. If we leave the year in question with the whole of its production, and thus also that which it transfers as a commodity stock to the next year, we must deduct from this on the other side the commodity stock that it receives from the year before, and we thus have the total product of an average year as the object of our analysis (Marx, [1885]1992, p. 581).

Marx gives a series of numerical examples showing that reproduction schemes on an expanded scale reconfirm the need for adequate proportions between the two departments of social production, which, however, must be different from those required in simple reproduction. The composition of the social product must change in favour of department I, which drives the process of accumulation, with department II having to increase its capital in such a way as to ensure growth of the variable capital of department I. All this obviously presupposes an adequate industrial reserve army, even though this is not necessarily a problem for a social system that generates structural and permanent relative over-population.

Marx’s numerical examples show only the theoretical possibility of the absence of lack of demand. But Marx, of course, does not assume any automatic co-ordination mechanism that can ensure that the proportions between the different departments of social production be appropriate for a regular progress of the accumulation process. His examples only show that a reproduction process on an expanded scale is theoretically possible. In the context of the social anarchy that characterises capitalist competition, however, it is highly unlikely.

At this point, as mentioned previously, the real reason for the occurrence of crisis is not the absolute limit of consumption, but the anarchy of competition, the blind behaviour of autonomous producers, who operate without awareness of their social function and social needs.

> This inner dependence in combination with external autonomy drives commercial capital to a point where the inner connection is forcibly re-established by way of a crisis.
>
> This explains the phenomenon that crises do not first break out and are not first apparent in the retail trade, which bears on immediate consumption, but rather in the sphere of wholesale trade, as well as banking, which places the money capital of the entire society at the wholesalers' disposal.
>
> The manufacturer may actually sell to the exporter, and the exporter to his foreign customer; the importer may sell his raw materials to the manufacturer, and the manufacturer sell his products to the wholesaler, etc. But at some particular imperceptible point the commodity lies unsold; or else

> the total stocks of producers and middlemen gradually become too high. It is precisely then that consumption is generally at flood tide, partly because one industrial capitalist sets a series of others in motion, partly because the workers these employ, being fully occupied, have more than usual to spend. The capitalists' expenditure increases with their revenue. (Marx, [1894]1991, pp. 419-420).

Therefore, according to Marx, in "concrete" reality there are various triggering causes of industrial and commercial crises, which can prevail over each other in starting the phenomenon, depending on the actual course of events, because:

> The world trade crises must be regarded as the real concentration and forcible adjustment of all the contradictions of bourgeois economy (Marx, Engels, 1989, p. 140).

This vision is consistent with a substantial unpredictability of the moment and the specific features of crises and with cycle trends variable over time. On the basis of the usual classification of crisis theories, therefore, this is more consistent with an "exogenous" theory, based on shocks changing over time, than with endogenous patterns based on fixed and simplified deterministic relationships.

But the different possible causes of the crisis are only accidental in assuming the role of final trigger, not in their presence or absence. In all his work, Marx has shown that the «more abstract forms» of these contradictions «are recurring and are contained in the more concrete forms» (Marx, Engels, 1989, p. 140). The different potential causes of the crisis, therefore, are all inherent tendencies of the accumulation of capital, which emerge as a necessary outcome of the inner contradictions of the capitalist mode of production. Every expansive phase of the accumulation of capital will always also accumulate the same kinds of contradictions, which will, sooner or later, be the premise of a paralysis of the process of accumulation itself, although it is not generally foreseeable which one will assume the title role and when it will trigger its effects.

Yet what we can, in today's words, define as complex and chaotic dynamics is nothing but what Marx called *dialectics*, that is, in Engels' words, «the science of the general laws of motion and development of nature, human society and thought» (Marx, Engels, 1987a, p. 131). Thus, the dynamics of business cycles and of crises are nothing but the dialectics of the accumulation of capital and of all the mode of production of which the latter is the driving mover. And the dialectical features of crises are more evident in the *Grundrisse* than in the successive works, because, in the *making process of Capital* (Rosdolsky, 1977), this first draft of his critique of political economy directly explained the topics in the way he conceived them, that is in a dialectical way, before he decided to translate them into a more common language for "non-German readers" (or better, philosophers).

4. The dialectical nature of crises

The section of the *Rough Draft of 1857-58* (*Grundrisse*) on the circulation of capital process goes beyond abstract analysis of this process and adds some "concrete" complements to it, dealing with the problem of realisation and crises of overproduction.

Marx, analysing the «unity of the production and valorisation process», starts from the observation that the actual product of it

> is value. […] This value as such is *money*. However, this is the case only *in itself*; it is not posited as such. What is initially *posited*, what is actually there, is a commodity of a certain (ideal) price, i.e. a commodity which exists only in idea in the form of a certain sum of money, and which can be *realised* as such only in exchange, i.e. it must first re-enter the process of simple circulation in order to be posited as *money*. […] Strictly considered, the valorisation *process* of capital – and it is only

> by means of the valorisation process that money becomes capital – appears at the same time as its *devaluation process*, ITS DEMONETISATION (Marx, Engels, 1987b, p. 329).

This devaluation occurs in two respects. The first is closely connected to the reduction of relative necessary labour time by increasing productive power», because the existing capital is valued at the costs of production at which it can be reproduced and the value of the specific product, in which a part of original capital was transformed, decreases with the reduction of living labour objectified in it.

According to Marx, however, this kind of devaluation:

> does not belong here, because it presupposes capital as completed. […] Belongs to the doctrine of concentration and competition of capitals (Marx, Engels, 1987b, p. 330).

Thus, the devaluation dealt with in this section is:

> that capital has made the transition from the form of money to that of a *commodity*, of a product which has a certain price, which is to be *realised*. As money, it existed as *value*. Now it *exists* as product and only in idea as price; but not as *value as such*. In order to *valorise* itself, i.e. to preserve and to multiply itself as value, it would first have to make the transition from the form of money into that of use values (raw material–instrument–wages). But in doing so it would lose its *form* as value. It now has to re-enter circulation in order to posit this form of general wealth anew (Marx, Engels, 1987b, p. 330).

At this point, an initial dialectical separation plays a fundamental role in creating the dialectical movement that will entail the possibility of crisis as final result of the failure of a new synthesis:

> No longer does the capitalist enter into the circulation process merely as an exchanger; he does so now as a *producer* confronting the other exchangers as *consumers*. They are to exchange money to obtain his commodity for their consumption, while he exchanges his product in order to obtain their money (Marx, Engels, 1987b, p. 330).

Thus:

> If this process miscarries – and the very separation [of producers and consumers] entails the possibility of miscarriage in the individual case – the money of the capitalist has been transformed into a worthless product; not only has it not gained any new value, it has lost its original value (Marx, Engels, 1987b, p. 330).

Once again, thus, the possibility of a breakdown in the circulation process is viewed as a mere consequence of separation of producers and consumers: a dialectical antithesis that either finds a new synthesis (the logical form in which opposites find their organic integration) or produces a disruptive implosion of the process (crisis).

Crisis, therefore, only is a potential event, but:

> whether this is so or not, the devaluation of capital constitutes a moment of its valorisation process. This is already inherent in the simple fact that the product of the process in its immediate form is not *value*, but must first re-enter circulation to be realised as such. Hence, if capital is reproduced as value and new value by means of the production process, it is simultaneously posited as *non-value*, something still to be *valorised by means of exchange* (Marx, Engels, 1987b, p. 330).

Thus, the possibility of crisis is inherent to the process of valorisation of capital, the first mover of capital accumulation and all the capitalist mode of production, but, from the point of view of the individual capitalist, its realisation is a matter of chance.

> The three processes [maintenance of the value of the capital employed, valorisation, realisation of the value of the product] whose unity is formed by capital are external to one another, separate in time and space. As such, the transition from one to the other, i.e. their unity in relation to the individual capitalists, is fortuitous. […] They exist *independently* alongside one another, despite their *inner unity*, and each exists as the precondition of the other. Over the whole range of production it must assert itself, in so far as the whole of production is based on capital, and capital must therefore realise all the necessary moments of its self-formation and contain the conditions for the realisation of these moments (Marx, Engels, 1987b, pp. 330-331).

If we abstract from the fact that capital, in the full development of the capitalist mode of production, determines all the commodity circulation itself, then:

> capital now shares the fate of commodities in general; it becomes a matter of chance, whether or not it is exchanged for money, whether or not its *price* is realised.
> […] now as product, as commodity, it appears dependent on circulation, which lies outside the production process. […] As a commodity, it must be (1) use value, and as such object of need, object of consumption; (2) exchanged for its equivalent – in money. Only through a sale can the new value be realised (Marx, Engels, 1987b, p. 331).

Thus capital, as commodity, firstly needs demand for it, because:

> the commodity is exchange value only in so far as it is simultaneously *use value*, i.e. object of consumption (what kind of consumption, still quite irrelevant here). It ceases to be exchange value if it ceases to be use value (Marx, Engels, 1987b, p. 331).

But, even and above all, it needs solvency to be realised as value, and therefore:

> an equivalent for the commodity must be available, and since circulation was originally presupposed as a fixed magnitude, as having a given volume, while capital has produced a new value in the production process, it appears that there can in fact be no equivalent available for it (Marx, Engels, 1987b, p. 332).

In conclusion:

> when capital emerges from the production process and returns into circulation, it appears
> (a) that as *production* it has come up against the barrier of the given volume of *consumption*, or of the *consumption capacity*. […] As a *particular*, *one-sided*, *qualitative use value*, e.g. as grain, its quantity itself is irrelevant only to a certain degree; it is required only in a specific quantity, i.e. in a certain measure. But this measure is given partly by the quality of the commodity as use value—its *specific* utility, usability—and partly by the number of exchangers who have a need for this particular object of consumption. The number of consumers multiplied by the size of their demand for this *specific* product. […] At the point where the demand for a certain use value ceases, it ceases to be use value. […] As soon as it ceases to be use value, it ceases to be an object of circulation […].
> (b) As *new value* and *value* as such, capital appears to come up against the barrier of the volume of *available equivalents*, in the first place of money – money not as means of circulation but as money. Surplus value (the surplus over and above the original value) requires a surplus equivalent. […].
> (c) […] Capital as production based on wage labour presupposes circulation as a necessary condition and moment of the entire movement. This specific form of production presupposes the specific form of exchange which finds its expression in money circulation. If the process is to be renewed, the whole product must be converted into money (Marx, Engels, 1987b, p. 332).

Therefore:

> These are the contradictions which cannot escape a simple, objective, impartial examination. How they are constantly transcended in production based on capital, yet constantly reproduced, and only forcibly transcended (although up to a certain point this transcendence appears merely as a smooth adjustment), is another question. For the moment, the important thing is to take note of the existence of these contradictions. All the contradictions of [simple commodity] circulation come to life again in a new form. The product as use value is in contradiction to itself as value; i.e. in so far as it exists in a specific quality, as a specific thing, as a product possessing specific natural properties, as a substance of need in contradiction with the substance which as value it possesses exclusively *in the labour objectified* in it. […] Being measured by use value is here tantamount to being measured by the aggregate demand of the exchangers for this product, i.e. by the amount of total consumption. […] If it is to be transposed into the general form, the use value must be present only in a specific quantity (Marx, Engels, 1987b, p. 333).

Thus, according to Marx, realisation depends on aggregate demand *tout court*, but the demand of the specific *use value* in which capital, as pure value, happens to be incarnated to valorise itself. If there is disproportion between the quantity of the specific use value in which the initial capital was transformed in the production process and the social need for it, then the circulation process will come to a halt.

But what does solvency depend on? For every single capitalist, it ultimately depends on the realization of the surplus values of the other capitalists (Shaikh, 1978). In fact:

> the surplus value, has to be exchanged for surplus value. Hence, as value, it comes up against a barrier in the production of others, just as, as use value, it comes up against a barrier in the consumption of others. As use value, its measure is the size of the demand for the specific product; as value, its measure is the *amount of objectified labour* existing in circulation. […]
>
> Capital's creation of *absolute surplus value* – more objectified labour – is conditional upon the expansion, indeed the constant expansion, of the periphery of circulation. The *surplus value* produced at one point requires the production of surplus value at *another* point, for which it may be exchanged (Marx, Engels, 1987b, p. 334).

In other words, as Kalecki reaffirmed many years later (Kalecki, 1954), profit realisation depends on capitalists' expenses, consisting of investment and capitalists' consumption.

Accordingly,

> A condition of production based on capital is therefore *the production of a constantly expanding periphery of circulation*, whether the sphere is directly expanded, or *whether* more points within it *become points of production*. […]
>
> The tendency to create the *world market* is inherent directly in the concept of capital itself. […]
>
> On the other side, the production of *relative surplus value*, i.e. the production of surplus value based upon the increase and development of the productive forces, requires production of new consumption, so that the sphere of consumption within circulation is enlarged, as that of production [of absolute surplus value] was enlarged before. *Firstly*, quantitative increase in existing consumption; *secondly*, the creation of new needs by the propagation of existing ones over a wider area; *thirdly*, production of new needs and discovery and creation of new use values (Marx, Engels, 1987b, pp. 334-335).

However,

> from the fact that capital posits every such limit as a barrier which it has *ideally* already overcome, it does not at all follow that capital has *really* overcome it; and since every such limit contradicts the determination of capital, its production is subject to contradictions which are constantly overcome but just as constantly posited. Moreover, the universality for which capital ceaselessly strives,

comes up against barriers in capital's own nature, barriers which at a certain stage of its development will allow it to be recognised as being itself the greatest barrier in the way of this tendency, and will therefore drive towards its transcendence through itself (Marx, Engels, 1987b, p. 337).

Therefore, Marx thought that the difficulties classical economy comes up against in dealing with overproduction crises ultimately were due to the unilateral vision of the nature of the capitalist mode of production and the inability to identify the synthesis of its internal contradictions:

> The economists who, like Ricardo, conceive production as directly identical with the self-valorisation of capital, who therefore ignore the barriers of consumption or the existing barriers of circulation itself, so far as circulation must represent counter-values at all points, and who are only concerned with the development of the productive forces and the growth of the industrial population—i.e. with supply, regardless of demand— have therefore grasped the positive essence of capital more correctly and profoundly than those who, like Sismondi, emphasise the barriers of consumption and of the existing circle of counter-values, although the latter has better grasped the limitations of production based on capital, its negative one-sidedness. Ricardo has better grasped its universal tendency, Sismondi its particular restrictedness (Marx, Engels, 1987b, p. 337).

Thus:

> The whole controversy as to whether *overproduction* is possible and necessary in production based on capital, is about whether the valorisation of capital in production directly posits its valorisation in circulation; whether its [IV-20] valorisation posited in the *production process* is its *real* valorisation. Ricardo of course also has A SUSPICION that *exchange value* is not value outside exchange, and that it proves itself as value only through exchange. But he considers the barriers which production encounters in this direction as accidental, as barriers which are simply overcome. He therefore conceives the overcoming of such barriers as implied in the very essence of capital, although his exposition of this is often absurd. *Sismondi*, by contrast, emphasises not only the encountering of the barrier but its creation by capital itself, which thus gets itself into contradictions, contradictions in which he glimpses the impending BREAKDOWN of capital. He therefore wants to impose barriers on production from outside, by means of custom, laws, etc., which, as merely external and artificial constraints, would necessarily be demolished by capital. On the other hand, Ricardo and his entire school have never comprehended the real *modern crises* in which this contradiction of capital discharges itself in violent thunderstorms, which more and more threaten capital itself as the basis of society and production.
>
> The attempts made from the orthodox economic standpoint to deny the fact of general *overproduction* at a given moment are indeed childish. To rescue production *based on capital*, the orthodox economists (see e.g. MacCulloch) either ignore all its specific characteristics, all its conceptual definitions, and rather conceive of it as simple production *for immediate use value*. [They] entirely abstract from its essential relations. IN FACT, to purify it of contradictions, they simply drop it and negate it. Or, like e.g. Mill, they adopt a more perceptive procedure (insipidly imitated by Say): *supply* and *demand* are identical, hence they must correspond to each other. For supply is really a demand, measured by its [supply's] own amount (Marx, Engels, 1987b, pp. 337-338).

According to Marx, however, what orthodox political economy forgot in its reasoning, when it asserted there is no possibility of general overproduction, but only overproduction of some articles with underproduction of others, was that:

> producing capital demands not a particular use value but *value* for itself, i.e. money – money not in its role as means of circulation but as the general form of wealth, or as the form of the realisation of capital in one respect, and return to its original dormant state in the other.
>
> The assertion that too *little money* is being produced is tantamount to the assertion that production does not coincide with valorisation, hence is *overproduction*; or, which is the same thing, that it is

> production which cannot be converted into money, hence into *value*, production which does not pass the test of circulation (Marx, Engels, 1987b, p. 339).

Against Ricardo's idea that production regulates itself since it is regulated by the costs of production, and, if capital is not adequately valorised in a particular branch of production, it moves into other branches in which it is more necessary, Marx asserts that:

> quite apart from the fact that the very necessity of evening-up presupposes the imbalance, the disharmony and hence the contradiction, in a general crisis of overproduction the contradiction is not between different types of productive capital, but between industrial and loan capital, between capital as it is directly involved in the production process and capital as it appears as money independently (relativement) outside that process (Marx, Engels, 1987b, p. 340).

Thus, in this passage, it clearly emerges that, according to Marx, the potential deficit of effective demand that engenders overproduction is closely connected with the use of money capital (capital already realised in circulation) by capitalists themselves.

Moreover, dealing with Ricardo's idea of proportionate production, Marx observes that:

> if it is the tendency of capital to distribute itself in the correct proportions, it is just as much its necessary tendency to drive beyond the correct proportion, because it strives boundlessly for surplus labour, surplus productivity, surplus consumption, etc. […] In competition, this immanent tendency of capital appears as a compulsion imposed upon it by other capital and driving it beyond the correct proportion with a constant March, march! (Marx, Engels, 1987b, p. 340).

Where competition is:

> nothing but the *inner nature of capital*, its essential character, manifested and realised as the reciprocal action of many capitals upon each other; immanent tendency realised as external necessity (Marx, Engels, 1987b, p. 341).

Thus:

> Capital is just as much the constant positing of, as it is the constant transcendence of *PROPORTIONATE PRODUCTION*. The existing proportions must constantly be transcended through the creation of surplus values and the increase of productive forces. But to demand that production should be expanded *instantaneously*, *SIMULTANEOUSLY* and in *the same proportions*, is to impose external demands on capital, which in no way correspond to anything arising from capital itself. In fact, the departure from the given proportion in one branch of production drives all the other branches out of that proportion, and at unequal rates.
>
> […] the contradictions which are later released, must be demonstrated as already latent within it (Marx, Engels, 1987b, p. 341).

Moreover,

> we have in the valorisation process only the indifference of the individual moments to each other, that they determine each other internally and search for each other externally, but that they may or may not find each other, balance each other, correspond to each other. The necessary inner connection of moments belonging together and their mutually indifferent, independent existence are already a foundation [IV-22] of contradictions. […]
>
> […] The contradiction between production and valorisation – of which capital, according to its concept, is the unity – has to be grasped more intrinsically than merely as the mutually indifferent and apparently independent appearance of the individual moments of the process or, rather, of the totality of processes. (Marx, Engels, 1987b, pp. 341-342).

Finally,

> To get closer to the point: *d'abord THERE IS A LIMIT, NOT INHERENT TO PRODUCTION GENERALLY, BUT TO PRODUCTION FOUNDED ON CAPITAL*. This LIMIT is two-fold, or rather it is the same limit considered from two different aspects. Here it is sufficient to demonstrate that capital contains a particular restriction on production – which contradicts its general tendency to drive beyond every barrier to production – to have uncovered the foundation of *overproduction*, the basic contradiction of developed capital; or, to put it more generally, to have uncovered that capital is not, as the economists believe, the *absolute* form for the development of the productive forces – not the absolute form for that, nor the form of wealth which absolutely coincides with the development of the productive forces (Marx, Engels, 1987b, p. 342).

5. Links between real and financial crises

In Volume Three of *Capital* there is a long passage quoted from *The Currency Theory Reviewed* (1845), which seems to conform to Marx's thought and provides useful elements to reconstruct his ideas on the connection between financial and real crises.

> In England there takes place a steady accumulation of additional wealth, which has a tendency ultimately to assume the form of money. Now, next in urgency, perhaps, to the desire to acquire money, is the wish to part with it again for some species of investment that shall yield either interest or profit; for money itself, as money, yields neither. Unless, therefore, concurrently with this ceaseless influx of surplus capital, there is a gradual and sufficient extension of the field for its employment, we must be subject to periodical accumulations of money seeking investment, of more or less volume, according to the movement of events. For a long series of years, the grand absorbent of the surplus wealth of England was our public debt . . . As soon as in 1816 the debt reached its maximum, and operated no longer as an absorbent, a sum of at least seven-and-twenty million per annum was necessarily driven to seek other channels of investment (Marx, [1894]1991, p. 543).

A few lines below, another passage is quoted from the same work, in which it is underlined that:

> The bullion in the vaults of the Bank of England has . . . exceeded in amount the treasure held by that establishment since its institution. Shares of every description range at prices on the average wholly unprecedented, and interest has declined to rates which are all but nominal. If these be not evidences that another heavy accumulation of unemployed wealth exists at this hour in England, that another period of speculative excitement is at hand (Marx, [1894]1991, pp. 543-544).

According to Marx, moreover, with the fall of the rate of profit:

> Concentration grows at the same time, since beyond certain limits a large capital with a lower rate of profit accumulates more quickly than a small capital with a higher rate of profit. This growing concentration leads in turn, at a certain level, to a new fall in the rate of profit. The mass of small fragmented capitals are thereby forced onto adventurous paths: speculation, credit swindles, share swindles, crises (Marx, [1894]1991, p. 359).

Thus, the rising mass of profits, which exceeds the possibilities for new industrial investment in periods of prosperity, first accumulates as a huge mass of credit and then ends up taking speculative paths, because:

> It is precisely because the money form of value is its independent and palpable form of appearance that the circulation form *M ... M'*, which starts and finishes with actual money, expresses money-making, the driving motive of capitalist production, most palpably. The production process appears

simply as an unavoidable middle term, a necessary evil for the purpose of money-making. (This explains why all nations characterized by the capitalist mode of production are periodically seized by fits of giddiness in which they try to accomplish the money-making without the mediation of the production process.) (Marx, [1885]1992, p. 137).

Moreover, in periods of prosperity the credit system

> is so much complicated by simple bill-jobbing, and by dealing in commodities with no other purpose than that of fabricating bills of exchange, that the appearance of very solid business with brisk returns can merrily persist even when returns have in actual fact long since been made only at the cost of swindled money-lenders and swindled producers. This is why business always seems almost exaggeratedly healthy immediately before a collapse (Marx, [1894]1991, pp. 615-616).

Therefore, in the first phase of a crisis, the development of credit and financial speculation may temporarily mask the contradictions that have already accumulated on the front line of realisation of value. This compensation mechanism, however, by its very nature, tends in turn to implode suddenly. Indeed:

> In a system of production where the entire interconnection of the reproduction process rests on credit, a crisis must evidently break out if credit is suddenly withdrawn and only cash payment is accepted, in the form of a violent scramble for means of payment. At first glance, therefore, the entire crisis presents itself as simply a credit and monetary crisis. And in fact all it does involve is simply the convertibility of bills of exchange into money. The majority of these bills represent actual purchases and sales, the ultimate basis of the entire crisis being the expansion of these far beyond the social need. On top of this, however, a tremendous number of these bills represent purely fraudulent deals, which now come to light and explode; as well as unsuccessful speculations conducted with borrowed capital, and finally commodity capitals that are either devalued or unsaleable, or returns that are never going to come in (Marx, [1894]1991, p. 621).

By showing the latent tension between the simple function of money in the credit chain as unit of account and that of «individual incarnation of social labour, the independent presence of exchange-value, the universal commodity», Marx notes that:

> This contradiction bursts forth in that aspect of an industrial and commercial crisis which is known as a monetary crisis. Such a crisis occurs only where the ongoing chain of payments has been fully developed, along with an artificial system for settling them (Marx, [1867]1990, p. 236).

Of course, as we saw above, well aware as he is of the richness and variety of reality Marx does not rule out the possibility of autonomous financial crises as a pure matter of chance.

Finally, as regards the role of financial institutions, Marx observes that:

> Ignorant and confused banking laws, such as those of 1844-5, may intensify the monetary crisis. But no bank legislation can abolish crises themselves. It is clear that this entire artificial system of forced expansion of the reproduction process cannot be cured by now allowing one bank, e.g. the Bank of England, to give all the swindlers the capital they lack in paper money and to buy all the depreciated commodities at their old nominal values. Moreover, everything here appears upside down, since in this paper world the real price and its real elements are nowhere to be seen, but simply bullion, metal coin, notes, bills and securities. This distortion is particularly evident in centres such as London, where the monetary business of an entire country is concentrated; here the whole process becomes incomprehensible. It is somewhat less so in the centres of production (Marx, [1894]1991, pp. 621-622).

6. Conclusions

Finally, the Marxian concept of the cycle can undoubtedly be considered, from the standpoint of contemporary epistemology, to have a deterministic nature, but it outlines the evolution of a complex system in which unpredictable chaotic dynamics are determined (Foley, 1986, 2001, 2005). According to Marx, in today's words, the real economic system is too rich in nonlinear dynamics and singularities and is too sensitive to initial or boundary conditions to allow for a regular and predictable description of its evolution. But this does not mean that it is not ruled by immanent and ineluctable laws, whose driving forces and tendential directions can be identified. The *disproportion* between sectoral demands and supplies, due to the anarchy of entrepreneurial choices, the structural antagonism between wages and profits, as well as the tendency of the rate of profit to fall, and even the under-consumption of increasing masses of wage workers, all constantly and contemporaneously work together. Every time it is difficult to say which one will end up prevailing in triggering a new phase of breakdown of the accumulation process and contraction of economic activities. But, once the triggering cause is identified, its nature can help to understand how the crisis will evolve and how the system will be able to recover.

According to Marx, crises are destructive or catastrophic solutions to the accumulated contradictions that occur when the latter are not able to find a new dialectical form in which they can coexist (synthesis), but they always entail "creative destruction", during which new technical and institutional devices are invented. And the latter will give new drive to new phases of accumulation on an expanded scale.

Therefore, Marx probably did not elaborate a systematic crisis theory because he believed that crises were not a particular phenomenon of the capitalist mode of production, the mechanics of which had to be separately analysed. Rather, he believed that crises were simply the empirical and periodic manifestation of the intrinsic contradictions of the capital accumulation process. Hence he saw them merely as the empirical confirmation of these contradictions, which had to be analysed, as he did, in their structural nature and independently of the actual occurrence of the crises themselves. The latter, in turn, even though arising on the basis of the same structural contradictions of the capitalist mode of production, always manifest themselves as particular historical phenomena, each with its own features and peculiarities. In them, however, regardless of their historical features, it is always possible to recognise the constant action of all the contradictions inherent to the processes of accumulation and circulation of capital.

According to Marx, moreover, financial crises are only phenomenal effects of the accumulation of the typical contradictions of economic crises within developed credit systems, and they can only anticipate and amplify the economic crisis effects. The constant tendency of the rate of profit to fall periodically brings about decreasing industrial investments and search for speculative outlets, which increase credit system instability and the chances of a financial crash. From this point of view, Marx's analysis is a very interesting explanation of the structural tendencies towards *financialization* and the role of the latter in opening the way to financial crises.

In conclusion, according to Marx, crises are the result of interruption of the normal capital circulation process. This interruption, in turn, is the result of two major phenomena: hoarding and increasing surplus-value immobilised in quantities of use values that exceed the social need for them. The former is the consequence of the dynamics of rotation of capital, but also of the uncertainty produced by the chaotic dynamics of the accumulation process. The latter is the result of capitalist competition and the social anarchy it produces. Both are cumulative processes in which the typical contradictions of the capitalist mode of production accumulate quantitatively until they are transformed in a qualitative leap: i.e. crisis.

Any partial explanation of crisis, therefore, as in all dialectical processes, can only be partially true. Every actual crisis can only be understood, quoting Marx once again, in the unity of «the real movement of capitalist production, competition and credit» (Marx, Engels, 1989, p. 143).

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