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Credit, Indebtedness and Speculation in Marx's Political Economy

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Abstract

This paper contends that Marx develops in Volume III of *Capital* an incisive conceptual framework in which excessive credit creation, indebtedness and speculation play a critical and growing role in the reproduction of social capital on an extended basis; however, given the decentralised and anarchic nature of capitalist production, the credit system does so in a highly erratic and contradictory manner which only postpones the inevitable day of reckoning. The paper also highlights Marx's relatively neglected but highly important analysis of the separation of ownership from management in the advanced capitalism of his day, England, and its modern-day implications for excessive risk-taking and debt-fuelled speculation up until the eve of the crash. More importantly, the paper argues that in Volumes II and III, Marx implicitly connected the expanding role of credit (which he associated with the development of capitalism) to a significant reduction in the turnover period of capital, thereby boosting the rate of surplus-value, and countering in a highly erratic and contradictory manner, the fall in the rate of profit. The growing role of credit has been relatively ignored in the Marxian literature as an important counteracting factor to the law of the declining rate of profit. It is not mentioned at all by Marx in his famous Chapter XIV, Vol. III of *Capital* where he discusses other important counteracting forces to the falling rate of profit, nor by Engels (in this particular context) who edited both Volumes II and III.

Keywords: B10; B14; B24

JEL codes: bills of exchange; capital; credit; crises; fictitious capital; industrial (business) cycle; speculation; turnover period of capital

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I. Introduction

Marx's discussion of credit and speculation and its connection to the reproduction and turnover of capital on an extended basis was left in an unfinished and, at times, confused state for Friedrich Engels to painstakingly edit and organise into a coherent body of work. In no small part this was due to Marx's almost illegible handwriting. Despite its disorganised and unfinished state, Marx's analysis, in Chapters XIII, XIV, XV, XVII, XXIX, XXX and XXXI of Volume III of *Capital,* does represent a compelling, prescient and lengthy discussion of the role of credit (and moral hazard) in nurturing and sustaining the illusion of a smooth and continuous reproduction process of capital up to the eve of the crisis – an analysis that present-day economists and students of the business cycle can profit and learn from. One of the more important, yet relatively neglected, points to emerge from Marx's discerning analysis of the recurring and ever-expanding circuit of social capital in both Volumes II and III of *Capital*, and Engels's presentation of it in Chapter IV of Volume III, is the decisive and contradictory role of credit on both the turnover of capital and in counteracting the law of the declining rate of profit. Marx discussed this 'law' in the context of cyclical crises, and although some Marxist scholars contend that Marx viewed the fall in the rate of profit as the sole or primary explanation for the onset of economic crises (e.g., see Kliman, 2011; Dobb, 1973; Mandel, 1971 [1968] and 1973; and Moseley, 1997), other scholars strongly disagree and argue that Marx had several competing explanations for business (industrial) cycles, including explanations based on disproportions between the various branches of production arising from the anarchy of capitalist production as well as those associated with under-consumptionist tendencies (see Brewer, 1984 and 1990; Foster, 1986; Foster and Magdoff, 2009; Howard and King, 1985 and 1992; Ramirez, 1990 and 2007; Sherman and Evans, 1984; Sowell, 1967; and Sweezy, 1970 [1942]) .

This paper does not address directly the issue of whether Marx subscribed primarily to a supply- and/or demand-based explanation of the industrial cycle, interesting and important as it is, because it would take us too far afield from the main focus of this essay which is the impact of the role of credit on the turnover period of capital and the rate of profit. In what follows, we will operate under the assumption that Marx had a theory of the business cycle that emphasised the importance of supply-side elements, such as a fall in the rate of profit (due to an increasing organic composition of capital) in explaining both the slowdown and collapse of investment, and its eventual eruption into a generalised economic and financial crisis (see Howard and Sherman, 1985 and 1992; and Ramirez, 1990). In other words, we will follow Marx's lead and proceed under the implicit assumption that up until the precise moment of the crisis, the surplus-value produced in the competitive capitalism of his day was being *realised* or effectively demanded (see Dobb, 1973; and Ramirez, 1990). It will be argued that Marx's incomplete (and unfinished) analysis of the law of the tendency of the falling rate of profit and its counteracting effects in Chapters XIII, XIV and XV of Volume III of *Capital* would have benefitted immensely from the *explicit* inclusion of the growing use of credit in the capitalism of his day (in the form of bills of exchange, bank notes and loan advances) in accelerating the turnover period of capital, thus countering the fall in the rate of profit in an often erratic and contradictory fashion. The shortening of the turnover period of capital, and its crisis-prone reproduction on a national and global scale, is both a direct result of the growing use of credit via the 'financialisation' of the accumulation process and the ever-rising social productivity of labour which expresses itself both in a marked reduction in both the time of production and circulation, thus boosting both the rate of surplus-value and profit (see Beitel, 2008; Fichtenbaum, 1988; Foster and Magdoff, 2009; Kliman, 2011; and Palley, 2013).

This article is organised as follows: Section II below discusses the role of credit in the development of capitalism, particularly its direct role in expediting the realisation of surplus-value (profit) as well as its indirect one on the reproduction of surplus-value, albeit in a contradictory and destabilising manner over the course of the industrial (business) cycle. It also highlights Marx's important and relatively neglected discussion of the separation of ownership and management where he implicitly hints at the important role of moral hazard in the excessive speculation that emerges just before the onset of the crisis. Section III examines Marx's analysis of the circuit of money capital and Engels's discussion of the turnover period of capital and the factors that determine its production and circulation periods. Section IV is the conclusion and summarises the main points.

II. The Role of Credit and the Development of Capitalism

With the development of capitalism (and the rising social productivity of labour), Marx never tired of pointing out throughout the three volumes of *Capital* (and also in Theories of Surplus

Value, *Part II* and the Communist Manifesto), that the compelling forces of 'money-making' and competition would drastically reduce both the time of production and circulation, thus endogenously generating a powerful catalyst to the process of capital accumulation and reproduction (e.g., see Vol. I, pp. 626-628; Vol. II, pp. 124-128; Vol. III, pp. 435-36; and the *Communist Manifesto,* pp. 66-72). According to Marx, with the development of commercial and banking credit, money begins to serve more and more as a means of payment in the sense that commodities are not sold for actual money, but for a written promise to pay at some agreed upon future date (essentially a derivative financial instrument). Marx, and his contemporaries, referred to these 'promises' as bills of exchange, and they were commonly used by capitalists to settle debts, purchase goods, or presented to banks for actual money, albeit at a discount – essentially a bank loan (see Chp. XXX of Vol. III, pp. 479-81). That is, the steel producer gives his iron ore and coal suppliers a promissory note or draft rather than cash payment, and the latter, in turn, redeem these bills at a discount (deducting interest) with their respective bankers. When the promissory note comes due (say, in three months), the steel producer pays the amount stated on the bills to the respective bankers. Thus, the bankers have essentially lent the suppliers a certain amount of money for three months, enabling them to reduce by three months the circulation time of their capital (and also the steel producer who receives credit from his suppliers only because the latter have received credit from their bankers) (see Vol. III, p. 479; and Mandel, 1971, pp. 226-230).

Marx emphasised correctly that the expanded (and widespread) use of credit in the form of (discounted) bills of exchange, bank cheques, bonds, and advances (loans) on current account – the *de facto* 'derivative (financial) instruments' of his time[1] – would reduce significantly the time during which commodities are in transit (circulation time), thus expediting their sale (realisation of surplus-value) and increasing the rate of surplus-value (and profit) (see Chp. XVII of Vol. III; and Chps. XXIX and XXX of Vol. III).[2] In his words,

> 'It is, therefore, the metamorphosis of commodities that is here promoted by credit; not merely C-M, but also M-C and the actual production process… Credit, then, promotes… the transition of industrial capital from one phase into another… as far as the merchants are concerned, the transportation of and transition of commodities from one person to another until their definite sale for money or their exchange for other commodities' (Vol. III, p. 482).

However, as the capitalist reproduction process expands and develops, aided and abetted by the credit system, new forms of money capital make their appearance which Marx dubbed 'fictitious' or 'illusory' capital; 'fictitious' in the sense that the accumulation of money capital or wealth resolves itself into the mere accumulation of titles of ownership that generate interest income and capital gains for their owners independent of 'the movement of value of the real capital for which they are titles… that is their quotation on the Stock Exchange' (Vol. III, p. 477). In Marx's view, once the real wealth of a nation assumes primarily the form of interest-

[1] 'Derivative financial assets' in the sense that the latter derive their value from a more fundamental financial asset which, in Marx's time, is the simplest financial asset, viz., the universal equivalent money in the form of gold or silver (see Brewer, 1984, pp. 15-18).

[2] Without discussing the specific forms that credit assumes (which he discusses in Chps. XXIX and XXX), Marx, in his famous chapter entitled, 'The Role of Credit' (Chp. XVII) argues generally that '…credit accelerates the velocity of the metamorphoses of commodities and thereby the velocity of money circulation.… Acceleration, by means of credit … later the metamorphosis of capital, and with it the acceleration of the process of reproduction in general … credit helps to keep the acts of buying and selling longer apart and serves thereby as a basis for speculation' (Vol. III, p. 436). See also Beitel, 2008, pp. 40-42; Harvey, 2014, pp. 79-85; Kliman, 2011, pp. 19-27; Foster and Magdoff, 2009, pp. 106-109; and Palley, 2013, pp. 17-40.

bearing capital in the form of bills of exchange, bank notes, government bonds and shares of stock, then it appears that any periodic revenue stream is interest on some capital, whether it is *real* or not, thus disguising the source of surplus-value (profit) in the production (labour) process and effectively replacing Marx's circuit of capital, M-C-C'-M', with the truncated (alienated) M-M' form. In his words,

> "The formation of a fictitious capital is called capitalisation… For example, if the annual income is $100 and the rate of interest is 5%, then the $100 would represent the annual interest on $2000, and the $2000 is regarded as capital-value of the legal title of ownership on the $100… All connection with the actual process of capital [production of surplus-value] is thus completely lost, and the concept of capital as something with automatic self-expansion properties is thereby strengthened" (Vol. III, p. 466).

As indicated above, although these paper assets represent claims on real assets such as railroads, the shares of stock themselves are fictitious because the real capital consists of the actual capital invested in rails, locomotives, trellises, etc., and not the capital-value of titles of ownership that are traded continuously in the market and subject to bouts of speculation (see Harvey, 1982; and 2014, pp. 240-45; and Foster and Magdoff, 2008, pp. 54-62).

For Marx, the gains and losses associated with the independent movement of the prices of these titles of ownership

> 'and their centralisation in the hands of railway kings, etc., become, by their very nature, more and more a matter of gamble, which appears to take the place of labour as the original method of acquiring capital wealth and also replaces naked force. This type of imaginary wealth not only constitutes (with the development of capitalism) a very considerable part of the money wealth of private people, but also of banker's capital' (Vol. III, p. 478).

The illusory nature of fictitious capital becomes most evident during stock-market crashes and financial crises when the prices of securities and bonds (and other paper assets) plummet in a matter of days or hours, yet the real functioning capital of the nation in the form of machinery, plant, equipment and warehouses remains intact. As a result, an increasing fraction of the real wealth of the nation comes into the hands of money-lending capitalists (bankers) who, in time of crises, buy up these devalued financial assets in the form of bills of exchange, bonds and securities (see Fine, 1986; Harris, 1976; Harvey, 2014; Hilferding,1981 [orig. 1910]; and Shuklian, 1991). In Marx's words,

> 'Loan capital accumulates at the expense of both the industrial and commercial capitalists… It is at such times (crises) that the money-capitalists buy this depreciated paper in huge quantities which in the later phases regains its former level… It is then sold again and a portion of the money-capital of the public is thus appropriated… And it must grow (accumulation by money-capitalists) with every expansion of the credit system which accompanies the actual expansion of the reproduction process' (Vol. III, p. 502).

In this connection, O'Hara (2000) correctly observes that, although Marx viewed the sphere of money and credit (broadly defined) as relatively autonomous from the sphere of production (where surplus-value is actually created or produced), he nevertheless believed that the development of the credit system had a decisive direct effect on the time of circulation and thus an indirect one on the reproduction of surplus-value (on this, see Barba and de Vivo, 2012; Foster and Magdoff, 2009; Kliman, 2012; Mandel, 1971; and Shuklian, 1991).[3] For example, as indicated in footnote 1 above, '…credit accelerates the velocity of the metamorphoses of commodities and thereby the velocity of money circulation… and with it an acceleration of the process of reproduction in general' (Vol. III, p. 436).[4] Commercial and banking credit not only reduces the cost of circulation by reducing that part of capital value that must be held in the form of money, but, according to Marx, by concentrating the reserve funds of industrialists, merchants and the small idle money savings of all classes in the bankers' hands, it centralises the money savings of society and thus enables associated industrial capitalists (borrowers) to renew the process of production on an ever-larger scale, culminating in the formation of joint-stock companies (Vol. III, pp. 436-37). In Marx's words,

> 'The credit system is not only the principal basis for the gradual transformation of capitalist private enterprises into capitalist stock companies, but equally offers the means for the gradual extension of co-operative enterprises on a more or less national scale. For Marx capitalist stock companies are to be viewed as transitional forms from the capitalist mode of production to the associated one' (Vol. III, p. 440).

In Chapter XXVII of Vol. III entitled, 'The Role of Credit,' Marx is almost prophetic in his discussion of the formation of joint stock companies and the separation of ownership from management, and implicitly hints at the important role of moral hazard in the excessive speculation that emerges just before the onset of the crisis. He writes,

> 'The credit system appears as the main lever of over-production and over-speculation in commerce because the reproduction process… is forced to its extreme limits, and is so forced because a large part of the social capital is employed by people who *do not own it* [my emphasis] and consequently tackle things quite differently than the owner, who anxiously weighs the limitations of his private capital in so far as he handles it himself' (p. 441).

Marx's analysis anticipates, to some degree, Keynes's own insightful observations decades later in Chapter 12 of the *General Theory* where he argues that the separation of ownership and management which characterises organised investment markets tends to generate destabilising speculation because of

> 'the fetish of liquidity, the doctrine that it is a positive virtue on the part of investment institutions to concentrate their resources upon the holding of "liquid" securities… [forgetting] that there is no such thing as liquidity of investment for the community as a whole' (Keynes p. 155).[5]

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[3] O'Hara's (2000) incisive comments on Marx's analysis of money, credit and fictitious capital are made in the context of his critical review of Nelson's (1999) book where the latter criticises Marx's theory of money because 'it is based on the money commodity (gold), and… because [allegedly] he follows a dialectical method that is more idealistic [Hegelian] than materialistic' (p. 84).

[4] Barba and de Vivo (2012) also suggest that Marx 'conceives a possible positive influence of credit on the average rate of profit (e.g., when it allows the capital to circulate more rapidly)' (p. 1486). On this point, see also Beitel, 2008; Mandel, 1971, pp. 237-238; and Palley, 2013).

[5] Kliman (2011) concurs with this assessment and remarks that, 'I doubt if any of this would have surprised Marx. Indeed, he argues that moral hazard is *the* problem that makes the credit system "the

Later, in Chapters XXX, XXXI, and XXXII of Volume III, Marx connects explicitly the expanded use of credit with the development of the productive power of social labour and production on an expanded scale for distant markets (see Brewer, 1984 and 1990; Kliman, 2012; and Mandel, 1971 and 1973). The latter development necessitates that credits must be prolonged (a longer run for bills of exchange) and this, of course, opens the door for 'the speculative (gambling) element' to dominate transactions to an ever-greater and perilous extent. He observes that,

> 'Production on a large scale and for distant markets throws the total product into the hands of commerce; but it is impossible that the capital of a nation should double itself in such a manner that commerce should itself be able to buy up the entire product with its own capital and sell it again. Credit is… indispensable here; credit, whose volume grows with the growing… value of production and whose time duration grows with the increasing distance of markets… The development of the production process extends the credit, and credit leads to an extension of industrial and commercial operations… the speculative element must thus more and more dominate the transactions' (Vol. III, p. 481).

Ultimately, as discussed below, a process of capitalist reproduction which rests upon an ever-increasing use of credit in all its forms (e.g., bills of exchange, bank loans, shares of stock, bonds, etc.) must end in a payments crisis; in Marx's prophetic words,

> 'At first glance… the whole crisis seems to be merely a credit and money crisis… But the majority of these bills (of exchange) represent actual sales and purchases, whose extension far beyond the needs of society is, after all, the basis of the whole crisis. At the same time, an enormous quantity of these bills… represent plain swindle, which now reaches the light of day and collapses; furthermore, unsuccessful speculation with the capital of other people; finally, commodity-capital which has depreciated or is completely unsaleable, or returns that can never be realised again' (Vol. III, p. 490).[6]

In Chapter XXXI Marx explicitly connects the expansion of credit to the accumulation of loan capital and argues that during different phases of the business cycle it reflects both actual

principal lever of overproduction and excessive speculation". He also suggests that moral hazard is not a defect created by any financial system but an inevitable by-product of credit as such, since debtors inevitable take risks with creditors' funds, even when they do business directly, instead of through the intermediation of financial institutions' (p. 20).

[6] Rudolf Hilferding's monumental analysis of the role of (bank) credit and the joint stock company in accelerating the process of concentration and centralisation of capital draws on Marx's work in Vols. I, II, and III of *Capital*, but further extends and modifies it to show that the separation between industrial and financial capital which was characteristic of competitive capitalism disappears in the era of finance capital; the latter represents for Hilferding a fusion of industrial and financial (bank) capital in the epoch of monopoly capitalism (circa 1905). However, contrary to Marx and the analysis undertaken in this paper, he believes (based primarily on the German experience) that the concentration of banking and industrial capital leads to the spreading of risk (via new financial instruments), the export of capital and the lessening of commodity speculation. Thus, banking and financial crises *per se* become less severe in the monopolistic (cartelised) stage than in the more competitive phase of capitalism. As argued in the next section below entitled, 'Credit and the Industrial Cycle,' this is not the position taken by Marx or this author. If anything, the increasing and speculative use of credit only serves to mask the severity of the overproduction of capital up to the eve of the sudden and acute crisis. For further details, see his major work, *Finance Capital* (1981 [orig. 1910], pp. 288-310; and pp. 331-333.).

(real) accumulation of capital (predominantly in the initial phases) and fictitious or speculative accumulation (accumulation for its own sake) during the later (boom) phase of the cycle. He writes,

> 'If for no other reason, that accumulation of loan capital is inflated by such circumstances, which are independent of actual accumulation but nevertheless accompany it, there must be a continuous plethora of money-capital in definite phases of the cycle and this plethora must develop with the expansion of credit. And simultaneously with it, the necessity of driving the production process beyond its capitalistic limits also must develop: over-trade, over-production and excessive credit. At the same time, this must always take place in forms that call forth a reaction' (Vol. III, pp. 508-508).

Credit and the Industrial Cycle

It is readily apparent from the textual evidence presented in Volume III (and in Volume II of *Capital*) that Marx viewed the credit system as playing a critical (and contradictory) role in shortening the turnover time, as well as expanding both the scale of domestic production (via joint-stock companies) and the circuit of capital beyond national borders. He also believed, correctly, that credit and indebtedness would assume a more important and decisive role in the various phases of the industrial (business) cycle as capitalism developed, and in so doing, also become a conduit for the transmission of crises internationally (contagion) (see Vol. III, pp. 491-93). However, in Marx's dynamic and disequilibrium perspective, it would occur in a highly contradictory and chaotic manner; that is, the excessive and speculative use of bank and commercial credit enables capitalist production to expand (momentarily) beyond its natural limits (as determined by the financial needs of productive accumulation) before the inevitable and often unexpected crisis occurs; that is, the 'financialisation' of the economy via excessive credit intermediation nurtures and sustains the illusion of a smooth and continuous reproduction process of capital up to the eve of the crisis.[7] The 'sudden stop' and crash is mistakenly attributed to financial causes such as a banking crisis or speculative bubbles when, in reality, it is primarily the result of the reproduction process being strained beyond its capitalistic limits in terms of both demand and supply-side factors, thus culminating in a crisis of overproduction ('a superabundance of industrial capital').[8]

In fact, it is precisely at this critical juncture in Chapter XXX that Marx asks the reader to conduct a thought experiment and consider an economy comprised of only workers and industrial capitalists devoid of price fluctuations and 'the sham transactions and speculations' associated with the pervasive use of credit. Under these conditions, Marx believes that a generalised crisis can only arise as a result of a disproportion of production between

[7] O'Hara (2000) concurs with this assessment when he states that 'money and credit relations [in the Marxian system] respond to this limit or barrier (contradiction) by seeking to go beyond this limit in order to propel capital to the required extent. The sphere of circulation must thus expand over and above value and *equilibrium* by growing on a world level… A tendency [thus] exists within capital to try (temporarily) to surmount production' (p. 88). See also Mandel (1971), p. 238

[8] In this regard, Kliman (2011) observes correctly that the crisis of overproduction 'is also more severe than it would otherwise be' *precisely* because the credit system (and fictitious capital) '…allows the economy to grow more rapidly for some time than is warranted by fundamental economic conditions such as profitability and the production of new value (p. 19). See also Kotz (2015) who argues that 'the common belief that the financial crisis [2007-08] caused the Great Recession by cutting off funds for the real sector finds no support in the data which show huge increases in cash in the hands of financial and nonfinancial corporations from the start of the crisis. However, the financial panic worsened profit expectations further, accelerating the decline in business investment and contributing to the severity of the recession [depression]' (pp. 543-544).

branches I (consumption goods) and II (producer goods) and/or a disproportion between the consumption and production of capitalists. As matters stand in reality, he seems to suggest towards the end of Chapter XXX that the reproduction of capital is primarily dependent on the 'consuming power of the non-producing classes', that is, money lenders, financiers, bankers and a rentier class who live on fixed incomes. Yet Marx shrewdly observes that the effective demand of 'the unproductive classes and of those who live on fixed incomes' is severely undermined on the eve of the crisis and is a contributing factor in the downturn because 'during the inflation of prices which goes hand in hand with over-production and over-speculation… their consuming capacity diminishes relatively, and with it their ability to replace that portion of the total reproduction which would normally enter into their consumption' (p. 491).

Workers, on the other hand, cannot be relied on to solve the deficiency in aggregate demand because the rise in the workers' wage share takes place in the late expansion period of the boom, viz., when the reserve army of the unemployed diminishes to such a point that the bargaining power of labour is temporarily strengthened and workers are able to obtain higher wages and better working conditions. However, the lower rate of exploitation (or higher wage share) reduces the amount of surplus-value available for accumulation, thereby causing a steep and sudden fall in the general rate of profit and a collapse of investment (see Howard and King, 1992, pp. 12-14; Ramirez, 1990, pp. 162-63; and Weisskopf, 1979, pp. 341-378). In Marx's words,

> 'As soon as capital would… have grown in such a ratio to the labouring population that neither the absolute working-time supplied by the population, nor the relative surplus working-time, could be expanded any further… at a point, therefore, when the increased capital produced just as much, or even less, surplus-value than it did before its increase, there would be absolute over-production of capital… there would be a steep and sudden fall in the general rate of profit not caused by the development of the productive forces, but rather by a rise in the money-value of the variable capital (because of the increased wages) and the corresponding reduction in the proportion of surplus-labour to necessary labour' (Vol. III, 251-52).

It is in this particular context that one must come to terms with Marx often-stated but misunderstood sentence, viz.,

> 'The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses as opposed to the drive of capitalist production to develop the productive forces as though only the absolute consuming power of society constituted their limit' (Vol. III, p. 484).

Obviously, the capitalist reproduction process, aided and abetted by an ever-expanding credit system, is constrained by the *relative* (and absolute) consuming power of society, namely, one whose antagonistic class-based nature can only profitably serve industrial capitalists as long as it does not reduce the amount of additional surplus value available for accumulation, and thus threaten the *raison d'être* of the capitalist mode of production.[9]

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[9] Beitel (2008), drawing parallels with the onset and aftermath of the subprime debacle of 2007-08, also concludes *a la* Marx, that the main contradiction of mature capitalism is that it is a system that '…has no endogenous means to guarantee an adequate level of private investment, yet by the same token, cannot tolerate any rise in [relative] wages that would erode the profits of the owning classes. This has left the system dependent upon… credit-driven booms and bubbles followed by crisis once the

In Chapters XXX- XXXII of Volume III, Marx analyses the role of loanable money-capital and the movement of interest rates over the course of the industrial cycle. Although some of the discussion in these chapters, as well as others dealing with the role of commercial and bank credit is in an unfinished and, at times, confused state, it does contain the outlines of a coherent framework of analysis for understanding how credit, in a contradictory manner, both promotes and retards real capital accumulation over the course of the business cycle. Marx, at first, poses the important question of whether the mere accumulation of loanable money-capital, as reflected in the movement of the interest rate, represents an abundance or scarcity of real capital accumulation. He answers negatively by pointing out that in the period immediately following an economic and financial crisis, the rate if interest is at its minimum and there is a plethora of loanable money-capital precisely because '…the spirit of enterprise is paralysed… as a result of [the vast] contraction… of industrial capital' (Vol. III, p. 485). On the other hand, Marx notes that when interest rates are at their highest, during the crisis period proper, huge quantities of commodities are unsaleable, factories are closed and credit is almost non-existent; he writes perceptively that following a crash

> "…everyone has products to sell, cannot sell them, and yet must sell them in order to meet payments; it is not the mass of idle and investment-seeking capital, but rather the mass of capital impeded in the reproduction process, that is greatest when the shortage of credit is most acute... nothing is more erroneous… than to blame a scarcity of productive capital for such a condition. It is precisely at such times that there is a superabundance of productive capital, partly in relation to the normal, but temporarily reduced scale of production, and partly in relation to the paralysed consumption' (Vol. III, p. 483).

A shortage or scarcity of real capital, according to Marx, can only arise in developed capitalist nations such as England as a result of '…general crop failures, either in the principal foodstuffs or in the principal industrial raw materials' (Vol. III, p. 484). In Marx's view, the only phases of the business cycle where a relatively low interest rate (above its minimum) coincides with real capital accumulation are, first, in the period of prosperity and growing confidence associated with the initial recovery from the crisis, and, second, that phase of prosperity 'which precedes that of overexertion [and crisis]' when the 'rate of interest reaches its average level, exactly midway between the minimum and maximum' (p. 489). That is, during the second stage, the credit system (and fictitious capital), via over-trading and the formation of speculative bubbles, both accentuates the booms and busts of the business cycle.

To summarise, at the beginning of the cycle, a low rate of interest and superabundance of loan capital coincides with a contraction of industrial capital; this is then followed by a period of recovery and prosperity during which money and loan capital are readily available to meet the growing requirements of industrial capital and the rate of interest reaches its average level. The final phase of the cycle takes place when the crisis sets in, credit suddenly stops, payment are suspended and the rate of interest reaches its maximum; the reproduction process comes to a standstill and a superabundance of industrial capital

expansion of financial claims [ends abruptly]' (p. 42). In a similar vein, Harvey (2014) argues that 'Much of the compound growth realised until the financial crash of 2008 was achieved by way of speculative gains out of successive bubbles (the dot.com boom and bust of the 1990s followed by the property market boom and bust of the 2000s)…. But what this means is that more and more capital is being invested in search of rents, interest and royalties rather than productive activity' [p. 241].

arises alongside an absolute scarcity of loan capital (see Vol. III, p. 488). In other words, an abundance of or scarcity of loanable capital should not be confused with an abundance or scarcity of real industrial capital.

For Marx, excessive credit creation, indebtedness and over-speculation, fuelled by moral hazard and the financial innovations of his time in the form of discounting bills, bank notes and making advances (loans), played a critical and growing role in the reproduction of social capital not only in any one country but internationally as well; however, given the decentralised and anarchic nature of capitalist production, it did so in a highly erratic and contradictory manner which only postponed the inevitable day of reckoning. In Chapter XXX of Volume III Marx's writes that,

> 'the whole [credit] process becomes so complicated, partly by simply manipulating bills of exchange, partly by commodity transactions for the sole purpose of manufacturing bills of exchange [speculative excess], that the semblance of a very solvent business with a smooth flow of returns can easily persist even long after returns actually come in only at the expense partly of swindled money-lenders and partly swindled producers. Thus business always appears almost excessively sound right on the eve of a crisis.… Business is always thoroughly sound and the campaign in full swing, until suddenly the debacle takes place' (pp. 484-85).

Moreover, the crisis is transmitted via the world market (contagion) when a massive drain of gold resulting from an unfavourable balance of payments in England (the epicenter of the crisis) is transmitted to every other commercially-developed nation (see Harvey, 2014, pp. 242-44; and O'Hara, 2000, p. 88). Marx writes discerningly that

> 'it then becomes evident that all these nations have simultaneously over-exported (thus over produced) and over-imported (thus over-traded), that prices were inflated in all of them, and credit stretched too far. And the same breakdown takes place in all of them. The phenomenon of a gold drain takes place successively in all of them and proves precisely by its general character 1) that gold drain is just a phenomenon of a crisis, not its cause; 2) that the sequence in which it hits the various countries indicates only when their judgment-day has come' (p. 492).

This inherent tendency of a bank-based system of credit intermediation to create periodic cycles of excessive credit, indebtedness and speculation that are decoupled from the real accumulation of capital at the peak of the boom is a hallmark of mature capitalism. It arises, in part, when profits from new investments cannot find profitable realisation outlets in the real economy, thus placing the burden on the financial sector to absorb the ever-growing hoard of fictitious capital in increasingly frivolous and unproductive ways. At this juncture, one is struck by the parallels between Marx's and Keynes's own discerning analysis of the progressively important role assumed by excessive credit and speculation in mature capitalism; e.g., in Chapter 12 of the *General Theory* Keynes distinguishes between 'enterprise' or investments made on the basis of the long-term prospective yields of the asset over the life-time of the investment and 'speculation' which is primarily concerned with 'the influence of mass psychology, three months or a year hence' (p. 155). As indicated above, Keynes believed correctly that with the evolution and development of capitalism, the predominance and influence of speculation would increase as 'the proportion of the equity in the community's aggregate capital investment is owned by persons who do not manage and have no special knowledge of the circumstances…of the business in question' (p. 153). He believed that without proper regulation and taxation via 'a substantial Government transfer tax' on stock market transactions such as the current 0.5 % stamp tax imposed on each trade in the London Stock Exchange, investment markets in mature capitalism would degenerate into a frenzy of speculation and economic instability such as that witnessed by the 1929 October crash and ensuing Great Depression. In his words,

> 'Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes the by-product of the activities of a casino, the job is likely to be ill-done' (Keynes, 1936, p. 159).[10]

Marx did not remain content to just analyse the pernicious effects of excessive credit, debt and speculation in an advanced capitalist economy such as England, but his dynamic and dialectal approach led him to identify during the course of the business cycle both supply-side (falling rate of profit) and demand-side (underconsumptionist tendencies) constraints that set up real barriers and limits to the further expansion and reproduction of industrial capital. At the height of the boom, the growing financialisation of the economy via excessive credit creation and speculative bubbles enables the capitalist system to surmount these barriers momentarily, but one that calls forth a strong reaction in the form of a sudden and devastating crisis (see Vol. III, pp. 507-508; and Foster and Magdoff, 2009, pp. 106-109). It is, in the pertinent words of Harvey (2014), nothing but 'fictitious capital feeding off and generating even more fictitious capital [via the purchase and sale of various financial assets] without any concern for the social basis of the trading' (p. 241). But these crises of ever-greater intensity are incapable of resolving the fundamental contradiction of the capitalist mode of production which is its tendency to develop the social productivity of labour regardless of the conditions under which capitalist production takes place; thus, the financialisation of the economy is a major and novel method by which capitalists production checks the fall in the rate of profit and/or the strong underconsumptionist tendencies that endogenously arise via the relative and, at times, absolute impoverishment of the active part of the working class (see Brewer, 1990; Foster, 1986; and Foster and Magdoff, 2009). Still, as Marx is quick to point, this is all for naught because,

> 'The *real barrier* of capitalist production is *capital itself*. It is that capital and its self-expansion appear as the starting point and the closing point, the motive and the purpose of production… The limits within which the preservation and self-expansion of the value of capital resting on the expropriation and pauperisation of the great mass of producers [which] come continually into conflict with the methods of production employed by capital for its purposes, which drive toward unlimited extension of production… towards unconditional development of the social productivity of labour' (Vol. III, p. 250.)

[10] For further discussion of the influence of Marx's work on Keynes's economic thinking on the role of money (credit) and the business cycle in an entrepreneur (capitalist) economy, see Brandis (1985) and Ramirez (1990, pp. 159-166).

III. The Turnover Period of Capital

The full importance of the role played by credit in the Marxian reproduction scheme cannot be understood unless the reader realises from the outset that the turnover period of total money-capital comprises *both* the time of production of surplus-value and the time of circulation of commodities, including labour-power (L) and means of production (MP). In Marx's notation, the circuit of money capital is: M—C (L & MP)…P…C'—M', where M and C denotes money and commodities, respectively, and the dots indicate that the process of circulation is interrupted by the production of surplus-value; 'and C' and M' designates C and M increased by surplus-value' (see Marx, 1885, Vol. II, p. 23).[11] The whole point of capitalist production is to continuously reproduce and expand the circuit of capital-value in the form of money to such a degree that '…The process of production appears merely as an unavoidable intermediate link, as a necessary evil for the sake of money-making' (*Ibid.,* p.56). It should be emphasised that it is the entire continuous, repeating and expanding circuit of money-capital that defines capital-value; in other words, capital is a *process* and not a thing embodied in particular use-values such as tools, machinery and equipment (in the manner in which the present-day economics profession treats the concept). Only if these use-values (including money) are used or function in a manner in which they generate surplus-value through the exploitation of labour-power (the capacity to work) – during the labour process – are they denoted as capital-values or money-capital; the latter term is consistent with the way in which most business people use the term 'money' when it is intended to make more money.

Marx, to his credit (no pun intended), devoted the better part of Volume II of *Capital* to analysing the various metamorphoses of capital and their individual circuits (e.g., the circuits of productive and commodity capital), and although it would take us too far afield to discuss them in any depth in this paper, it is important to note that he believed that with the development of capitalism both the time of production and circulation would be shortened significantly. For example, he correctly observes in Chapter XIII of Volume II that the time of production is – due to interruptions in production and physical and chemical changes – inherently longer than the actual working time (labour-process) during which surplus-value is actually created or produced; anything, therefore, that decreases the time of production, such as investments in new plant and machinery (fixed capital) as well as technical and chemical improvements, will *ceteris paribus* shorten the turnover period of capital, thus boosting the creation of surplus-value and profit. Insofar as the time of circulation is concerned, he contends that when capital-value is tied up in the form of money-capital or commodity-capital, the length of the turnover period is lengthened and the creation of surplus-value and profit is thereby reduced (since it takes place only in the sphere of production, more precisely, the labour-process). Improvements in transportation and communication, as well as any institutional innovations that reduce the time and labour required to buy and sell commodities, such as the expanding use of credit in the form of bills of exchange bank notes, shares of stock and loan advances (as discussed above), will not only shorten the turnover period of capital but enable it to be undertaken on a much larger scale, thus boosting the creation of surplus-value, *ceteris paribus* (see Marx, 1885, Vol. II, Chps. VI and XIV).

[11] In Marx's work surplus value (M'- M) is divided into three major components: industrial profit, interest and rent (see Chp. XXIII, Vol. III, pp. 372-375; and Chp. XLVIII, Vol. III, pp. 820-822). With the development and maturity of capitalism an inherent and growing conflict emerges between financial and industrial capitalists (as well as landlords) over the distribution of the surplus value generated in the sphere of production which, at times, can either retard or promote the turnover period of capital, thus impacting not only the rate at which surplus value is generated and accumulated as capital, but also the course of the business cycle (see Fine, 1986; and Harvey, 2014, pp. 244-45).

More specifically, Marx outlines in Chapter XVII of Volume III the decisive role of credit in shortening and expanding the circuit of capital via three major channels: first, it plays a pivotal role in equalising (averaging) the rate of profit by helping speed up the flow of capital from one industry to another; second, as indicated above, it reduces the costs of circulation by speeding up the circulation of commodities and shortening the turnover time of capital; finally, credit acts as a powerful lever for expropriating the capital of small capitalists by big ones – it accelerates the concentration and centralisation of capitals via the formation of stock companies which, in turn, further stimulates the scale of production and the creation of surplus-value (profit) and the development of capitalism on both a national and international scale (see Vol. III, pp. 435-38). However, Marx is quick to observe that it does so in an highly erratic and contradictory fashion, punctuated by recurring and ever-growing crises, because it sharpens the basic contradiction of capitalism, viz., that between the social character of production (concentration of thousands of workers in giant enterprises) and its private capitalist form of appropriation (now primarily in the form of interest, i.e., as mere compensation for owning capital that is now divorced from the function of the capitalist manager (see Vol. III, pp. 436-7)).

Engels, who, except for the title, edited all of Chapter IV, Volume III of *Capital,* observes that the turnover period of capital has been significantly reduced via improvements in the

> 'methods of producing steel iron and steel, such as the processes of Bessemer, Siemens, …etc., [which have] cut to a minimum at relatively small costs the formerly arduous processes. The making of alizarin, a red dye-stuff extracted from existing coal-tar, requires but a few weeks, and this by means of already existing coal-tar dye-producing installations, to yield the same results which formerly required years' (Chp. IV, Vol. III, p. 71).

Similarly, the rising productivity of labour has reduced the time during which commodities are in transit via dramatic improvements in means of communication and transportation. He notes that,

> "The last fifty years have brought about a revolution in this field, comparable only with the industrial revolution.… On land the macadamised road has been displaced by the railway, on sea the slow and irregular sailing vessel by the rapid and dependable steamboat… and the entire globe is girdled by telegraph wires. The Suez Canal has fully opened East Asia… to steamer traffic. The time of circulation of a shipment of commodities to East Asia, at least twelve months in 1847, has now been reduced to almost as many weeks" (Chp. IV, Vol. III, p. 71).

More precisely, if we have two capitals (A and B) with the same value composition (c/v), equal rates of surplus-value, and equal working-days, then 'the rate of profit of the two capitals are related inversely as their period of turnover' (*ibid*., p. 72). A numerical example, borrowed from Engels' exposition in Chapter IV, Volume III will elucidate this important idea. Suppose that capital A is composed of a value of 80c + 20v =100C, and rotates twice per year with a rate of surplus value of 100 percent. At the end on year, the total value produced is: 160c + 40v + 40, and the profit rate over the advanced capital, 100C – not the turned-over capital of 200 – is 40 percent. Capital B, on the other hand, has the same rate of surplus value and value composition as capital A, viz., 160c + 40v= 200C, but is turned over only once per year, and yields a profit rate over the advanced capital of only 20 percent, half as much as capital A. The analysis can also be easily modified to include fixed capital so that only a portion of the existing fixed (e.g., machinery, warehouses) constant capital (as opposed to circulating constant capital), say 10 percent, is transferred to the commodities produced in any given number of turnovers of capital (see Vol. II, pp. 293-4).

Engels, through his meticulous editing of the unfinished and almost illegible scattered manuscripts left behind by Marx, is also more precise and consistent than Marx was in Volume III (Marx actually wrote Volume III before Volume II) in laying out algebraically an alternative formulation to Marx's formula for the rate of profit below,

$$p' = s'v/(c + v) \qquad (1)$$

where p' is the rate of profit, s' the rate of surplus value (s/v), and v in the numerator is the variable capital advanced in each turnover (a flow variable), while the v in the denominator is variable capital *initially* advanced (a stock variable). In this formulation, the two v's are only equal if the turnover time is precisely one year and Marx in Volume III was not always altogether clear or consistent about this. Engels' more precise formulation for the profit rate, based on Marx's analysis of the annual rate of surplus-value in Chapter XVI, Volume II of *Capital,* is given in Chapter IV, Volume III, p. 74 as follows,

$$p' = s'nv/C \qquad (2)$$

where n refers to the number of turnovers and C is the total stock of capital initially advanced, *including* fixed capital. The product s'nv represents the surplus-value produced during a given time period (year), and, *ceteris paribus,* the greater the number of turnovers, the greater the amount of surplus-value generated per year and thus the higher the profit rate. By comparison, in Marx's formulation given in Chapter XVI, Volume II of *Capital*, the annual rate of surplus-value produced during a given time period is calculated relative to the variable capital initially advanced, *viz.*, S' = s'nv/v, and Marx observes that

> 'Only when n is equal to 1, that is, when the variable capital initially advanced is turned over once a year, and hence equal to the [variable] capital employed or turned over during a year, the annual rate of surplus-value [S'] is equal to its real rate [s']' (Vol. II, p. 305).

It is likely that had Marx lived to re-write Volume III, he would have adopted Engels' more precise formulation of the profit rate which is consistent with his own analysis in Volume II for the annual rate of surplus-value (for further details, see Brewer, 1984; Mandel, 1968, pp. 236-238; and Ramirez, 2014, pp. 65-67).[12]

IV. Conclusion

This paper has discussed Marx's unfinished, compelling and, at times, prophetic views on the role of credit in the development of advanced capitalism, particularly its part in expediting the realisation of surplus-value as well as its changing and ultimately destabilising effect on the

[12] Brewer (1984) notes that 'Marx's treatment of turnover is very weak throughout volume three; the manuscript of this volume was actually written *before* the parts of volume two that deal with turnover time' (p. 130)

industrial (business) cycle. The discussion also highlighted Marx's relatively neglected but highly important analysis of the separation of ownership from management in the advanced capitalism of his day, England, and its modern-day implications for excessive risk-taking (moral hazard) and debt-fuelled speculation up until the eve of the crash. The analysis further showed that Marx did not remain content to just describe the pernicious effects of excessive credit, debt and speculation in an advanced capitalist economy such as England, but he also tried to identify both supply-side (falling rate of profit) and demand-side (underconsumptionist tendencies) factors that set up real barriers and limits to the further expansion and reproduction of industrial capital over the course of the business cycle. Moreover, Marx's analysis was not just confined to any one nation, but, far ahead of his contemporaries, he viewed the business cycle and the recurring crises as a world-market phenomenon and outlined how contagion took place in the commercially advanced nations of his day, viz., England and France. Next, the paper discussed how the expanding role of credit in the course of capitalist development acts as a powerful but contradictory lever countering the 'law' of the declining rate of profit; this is an important and neglected countering factor to the so-called law of the falling rate of profit, viz., the effect of the turnover of total capital – comprising both its production and circulation periods. It is shown that Marx did not explicitly include the turnover of total capital as a counteracting factor to the falling rate of profit in his famous Chapter XIV of Volume III of *Capital* where he discusses other prominent offsetting forces; nor, for that matter, did Engels who failed to include an explanatory note in Chapter XIV when editing the work for publication, despite his own thorough discussion of the turnover period in Chapter IV of Volume III.

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