# FIAT MONEY: CONFUSING THE FORM OF MONEY WITH ITS SOCIAL CONTENT.

*This article is based on a modern reading of Part V of Book 3, Das Kapital, dealing with credit and interest-bearing capital. All quotes belong to the Pengiun edition, 1991 reprint.*

This is not an investigation into the origins of money through its differing functions – as a universal equivalent, or as a store of value, or as a unit of account, or as a standard of price or as a means of payment. Suffice to say that when exchange became generalised because a complex division of labour had emerged, such that individual producers could now only produce a small fraction of their needs requiring the rest of society to provide the rest, and therefore needing to sell in order to live, at that point money had already come to dominate society. Money is therefore not a thing, a metal or a piece of difficult to forge piece of paper, or even an entry on a computer, it is the actual or symbolic presentation of a developed and unavoidable economic relationship.

Money represents social labour, or as Marx describes it in Volume 1, abstract labour. With money, all the labour of society in its myriad of forms, whose sum represents the cultural development of any society, can be purchased. It overcomes the contradiction found in all market based societies, including capitalism, between individual production and social consumption. Through being monetised, the labour of the individual becomes part of the labour of society, and if it does not, it remains wasted individual labour.

THE SUBSTITUTION OF CREDIT FOR MONEY.

Money whether it exists as gold or as a token represents value or more accurately, universal value in so far as it can be exchanged for every other good. If we were to stand outside history in order to simplify it, it could be said that the wealth of a society consists on the one hand, of the value of its commodities in production both sold but not yet consumed or waiting to be sold, and on the other hand, the value of the money that exists alongside these commodities. It could be said further, that as money has to be present at every exchange, the value of money must equal the value of the commodities it circulates.

This incorrect assumption ignores the velocity of circulation of money. Unlike commodities which are consumed and disappear, money is not consumed but recycles, repeating its role as the medium of exchange time and again, passing from the hand of the seller to the hand of the buyer to the hand of the seller again and again. The speed with which it passes from hand to hand completing exchanges is its velocity of circulation. Hence the faster this annual velocity the smaller the sum of money needed for circulation.

The more capitalism develops the more it economises on money. Money always exists as a barrier to capitalist development. If what is produced cannot be sold, if it cannot ultimately be turned into money, then all that production is valueless, it is wasted labour. Money then, is the bridge which crosses the river(s) dividing individual producers from each other and producers from consumers, over which commodities must cross, in order to circulate. It does not matter whether that bridge is built from gold or paper, what matters is that it acts as money. As in all things capitalist, that bridge is private property and its owner only allows its use in return for a toll – interest. The money capitalist uses his money as capital, money to make more money. We are unconcerned at this stage as to what conditions set the rate of interest.

Hence within capitalism there has always been the attempt to circumvent the use of money because of its cost, to link buyer and seller without money, for the seller of a commodity to not only produce the commodity but to provide the means for its circulation. Underneath all of this is the yearning to

transfer use value free of exchange value, thus liberating production from the fetters of private property. "…*with the development of the credit system, capitalist production constantly strives to overcome the metallic barrier, which is both a material and imaginary barrier to wealth and its movement, while time and again breaking its head on it.* (Karl Marx, *Capital,* Volume 3, page 708, Penguin Edition.)

The means to substitute for money is credit. Whenever credit is provided at the time of sale, money is reduced from the means of exchange (immediate payment) to the means of payment (clearing of the debt). No longer are commodities offered only in return for cash but are sold on credit. Money as means of exchange is now limited to the retail sphere. In industry and commerce, credit dominates and money is reserved to extinguish credit on due date, rather than to exchange commodities themselves.

This reduces the need for money in a double sense. Firstly, it gives the buyer time to sell on, or work up, what (s)he has bought before payment for these goods becomes due. For example, if we take three capitalists, A and B and C where A is the supplier of raw materials, B is a manufacturer and C is a retailer. A provides B with materials valued at £1 million payable in 90 days. B uses this material to produce goods worth £2 million which (s)he sells to C on 30-day credit. C has no need for credit, because (s)he sells, as all retailers do, only for cash. After 30 days C pays B £2 million, and assuming that A's credit is now due, B pays from this £2 million, £1 million over to A. In this case, C does not have to find £2 million immediately, nor does B have to find £1 million. Their money capital requirement is reduced by £2 million in aggregate.

This brings us to the second point. If credit reduces money from being the means of exchange to the means of payment, it also reduces through set off, the amount of money needed as means of payment. It is this ability to reduce the need for money through set off, which constitutes one of the two great pillars of the modern banking system. Marx analysed credit money in great detail, devoting three hundred pages to the analysis of credit, money capital and banking in Volume 3. This section of *Capital* is rich with reports from government committees and reports from all the specialist fields of banking, the result of years of thorough and meticulous research by Marx at the British Museum.

On page 655 he analysis the various bank note denominations between 1844 and 1857. He divides the denominations into three. The £5 and £10 notes that generally circulate within the retail sphere as means of exchange. The £20 - £100 notes which are sometimes used in retail and the £200 -£1000 notes which always circulate in industry and commerce as means of payment. Over this time, £5-£10 notes increase 15%, the mid-size notes fall by 3% but the largest category of notes falls by 38%. The smaller notes rise because the economy is bigger and the articles of consumption more numerous, while the largest notes fall, because the development of the credit system and its further centralisation, requires fewer bank notes to act as means of payment. It is this centralisation of the credit system that concentrates opportunities to set-off bills due, against bills payable, thus cancelling each other out, thereby reducing the amount of money needed for settlement.

Marx recognises and quotes approvingly the reports which demonstrate that the bulk of credit money does not originate in the sphere of banking but in the sphere of the production of commodities (industry) and the sphere of their circulation (merchants and wholesalers). In other words, it is the credit generated by industrialists and merchants that produces this fountain of credit which is then centralised by the banking system. "*In every country the greater part of credit transaction take place within the orbit of industry.*" (Marx quoting Charles Coquelin, page 527 ibid.) The banks in their modern form emerge to discount these bills of exchange as capitalism becomes more concentrated and firms larger.

These jobbers discount bills from their clients which overlap. Some of their clients have issued bills and other have received bills. There is thus a chain of commitments. Having discounted all these bills, the jobber needs only sufficient capital to pay the difference between the amounts owing and owed. This limits the amount of capital needed to be set aside to manage credit under normal conditions. On page 526 Marx provides estimates of the amount of money needed to extinguish these overlapping liabilities. He quotes the amount of bills outstanding at any time in 1839 (England) to be £132,123,460 against a maximum of £14 million worth of gold in circulation. Further on the page, he quotes a banker who suggests that because each bill of exchange on average is twice endorsed, they circulate property to the amount of £18 million daily without the intervention of money. In other words, every day more value changes hands than is fixed in gold coin.

Hence those amateur or internet professors, who believe fractional lending or fiat money is a recent phenomenon dating back to the collapse of Breton Woods and the gold standard, are reminded that it was omnipresent the moment capitalism matured, and even before that it was found within international trade. Despite money having to wear golden handcuffs at the time, "*nine tenths of all the deposits in the United Kingdom may have no existence beyond their record in the books of the bankers*" (quoted by Marx on page 533).

It is clear that credit lubricates production and circulation and by reducing the friction of exchange, accelerates the economy. This is a contradictory phenomenon. Without credit, capitalism could not scale the heights it has, but these very heights extend the distance it can fall. The basis of all credit is the ability to sell for more than the commodity costs. And this surplus money or profit, only occurs because workers provide unpaid labour to the productive capitalist, which forms the industrial profits they earn. In turn, the industrialist shares his or her profit with the merchant through a discount and with the banker through interest. Therefore, all these agents, in good times, make sufficient profit to discharge their IOUs on maturity.

Just as the main source of credit money originates from production so too does its ruination. As long as production is sufficiently profitable to yield a rising rate of profit amplifying the incentive to invest, trade remains expansive. So soon as there is a relative fall in the rate of profit dragging on investment, subsequently to an absolute fall in the rate, exchanges which were formerly slowing are now interrupted. Either commodities cannot sell, or if they can, they are sold at a loss. At this point credit cannot be extinguished because obligations cannot be met and a credit emergency breaks out.

It is also at this moment that money becomes "king" (Marx). Suppliers no longer accept promises to pay - IOUs. They demand cash payment up front before they will release their goods. But just when money is most needed, it disappears as it hoarded by its owners to meet their own commitments and emergencies. The whole chain of credit shatters. And it is this abrupt act that makes it appears that the whole circulation has seized up because of the lack of credit, when in fact the shattering of the chain of credit itself needs to be explained. Once again Marx undertakes a detailed examination of the causes and consequences of this contraction in credit which marks the event horizon for any recession.

However, Marx is not one sided in his estimation of the relationship between productive (industrial) capital and moneyed capital. He recognises that sometimes it is money capital that paralyses industrial capital rather than the other way around. On pages 678 and 679, referring to the events of 1844/5, he rails against the power of money capital because of its immense centralisation which allows these powerful bankers to act as disruptive parasites feathering their own nests at the expense of industry and society. Language that would not have been out of place in 2008.

**Confusion over the three forms of banking.**

Seldom has a class whose social power derives from a "thing" expressed so little interest in analysing that thing. That thing is money whose ownership commands the labour of society. One can only assume the capitalist class spend all their time trying to get hold of this thing or spending this thing, leaving no time to theorise about it. A useful resume about the superficiality of the bourgeois view of money is found in an article by Matthijs Krul entitled: *Marx and Monetary Theory*, published 19th December 2010. "*This is the story of money generally presented in high school economics textbooks, where eventually people get tired of having their goods spoil and having to carry heavy items around and decide to mutually accept something tangible and not particularly productively useful, like gold, in order to facilitate exchange. This allows division, savings, and so forth, and thereby is beneficial to this simple economy and helps make it sophisticated."*

This simplicity, which should prevent confusion, but does not, also extends to the understanding of the depositories of this thing, the banking system. For two centuries bourgeois economists have been arguing over whether the main activity of banks is (a) financial intermediation, (b) fractional lending or (c) credit creation. A useful and comprehensive review of the ebb and flow of these arguments, as well as its superficiality, is to be found in the *International Review of Financial Analysis* 36 (2014) 1-19 by Richard A. Werner entitled *Can banks individually create money out of nothing? - The Theories and the empirical evidence.* This is like asking a banker whether he considers his jacket, waist coat or trousers to be the more important garment at work. Surely the two-hundred-year-old banker would feel under-dressed if not undressed, where he to be missing one of the pieces of his suit.

So too with banking which profits from all three activities. Marx never counter-posed these activities. All three are present in banking. If one activity becomes prominent while another subsides, this has to do with the development of the banking system and the state of the economy. But all three were present dating back to the formative years of the banking system.

Financial intermediation. Marx recognised that at the dawn of capitalist production, those who were involved in industry or trade, always accumulated a hoard of money to cover late payments, expansion and emergencies. The banking system or money dealing as it first was, emerges to pool these individual hoards into centralised pools. This "economises" on the size of the overall hoard as it *"does not need to be so great as if each capitalist had to keep his fund separately."* (page 437). Here "money dealing" does not substitute for industrialists and merchants, but mediates between them as clients.

In time experience teaches bankers that depositors do not withdraw their savings all at once except when there is a run on a particular bank. Hence part of the hoard can be loaned out and if not loaned out then notes secured by this hoard can be issued in the name of the bank. Hence fractional lending is inherent once individual hoards become socialised or what is the same thing, centralised. This practise goes back to the forerunner of the banks, the goldsmiths who took in gold for safekeeping, and then issued notes secured by the gold normally resident in their vaults. In time, these notes were treated as good as gold. Most where returned to the goldsmiths for gold only after they had changed hands multiple times.

Fractional Lending. Earlier we discussed how the socialisation of hoards makes part of it available to be lent out in the form of notes or bills, thus increasing the money supply. All that needs to be pointed out here is that the interest which forms the profit from fractional lending is kept by the bankers, incentivising their drive to extend fractional lending. Any increase in lending as a ratio of reserves increases the amount of interest received. There has thus been an incentive for bankers to reduce the fraction of their loans secured by their reserves. On page 674 Marx cites the ratio of liabilities being 8x the money supply in the 1850s which rises to 12x in 1892 cited by Engels on page 604. Of course,

the higher the ratio, the higher the risk of banks collapsing during a run. As a result, government legislation has empowered central banks to regulate the ratio of reserves to loans.

It is of interest to compare the ratios that prevailed 150 years ago to today. According to the New York Federal Reserve, notes in circulation in 2011 amounted to $1.05 trillion (Table WCURCIR). This sum circulates both nationally and internationally as the dollar is a global currency. As we are employing a national ratio, it is important to remove that section of the currency held abroad. In the 1990s, it was assumed that up to 70% of all US currency was held abroad. Figures released this century by the New York Fed puts the figure at 37% for 2011. A more thorough analysis which includes seasonal factors by Edgar L. Feige, puts the figure at under 30%. (*The myth of the "cashless society": How much of America's currency is overseas*? Published by the University of Wisconsin-Madison). If we were to assume that a third is held overseas it means that of the $1.05 trillion, $0.7 trillion circulates within the USA. This compares to $9.2 trillion bank credit (FED Table H8) yielding a ratio of 13.1 compared to the ratio of 12 quoted by Engels in 1892. This plateauing is not unexpected. It results from the further concentration of industrial capital and its growing independence from moneyed capital (which will be discussed thoroughly later). Indeed, current mortgage debt for households now far exceeds bank credit going to industry and commerce.

Credit creation. The better term is credit money. Can banks produce credit money at the swipe of a pen or the pressing of a button. Well if industrialists can and merchants do then who is to deny the use of the magical pen to bankers. Here the main difference is duration. Bank credit money is usually issued for a longer term than that found in production and circulation whose duration is mostly measured in months. Bank credit money creation, setting aside speculation, does not have a life of its own. It does not depend on how many pens the bank has active. It depends primarily on the business cycle and the demand for credit that results from this.

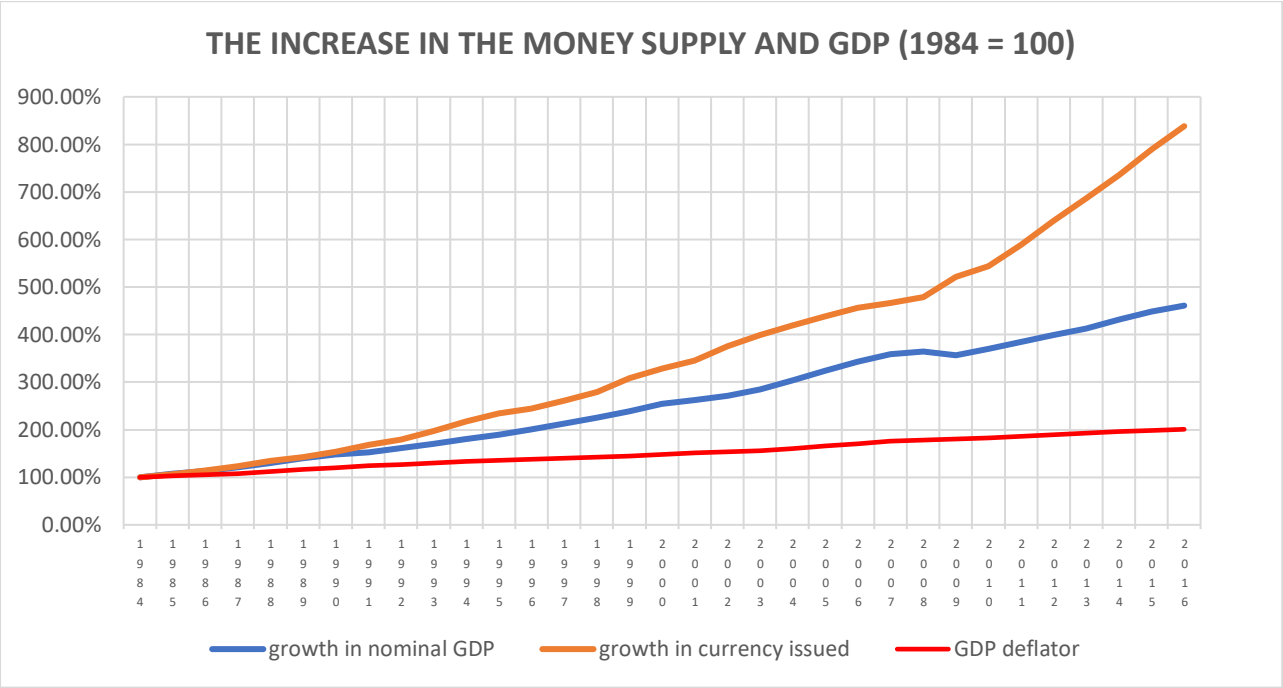
On page 482, Marx demarcates the business cycles into its 6 phases – *inactivity, growing animation, prosperity, overproduction, crash, stagnation, and back to inactivity*. To each of these phases corresponds credit growth or contraction together with associated interest rate movements. Grouping these 6 phases into three allied phases, we find the demand for credit is lowest when circulation is lowest and this corresponds to stagnation and inactivity. Growing animation and prosperity is the time when credit sits in the mid-range between the two extremes. It has grown but not overly. Particularly during prosperity, growing profits provides additional liquidity within industry and commerce reducing the need for credit. (At this time, industrialists/merchants tend to deposit money in their banks). Finally, at the opposite extreme, the demand for credit is highest during the phases of overproduction and crash. As circulation falters, and payments are missed, the demand for additional credit soars to compensate for the slowdown in the circuit of capital. (During the phase of overproduction industrialists and merchants are depositing and discounting I.O.U.s with the banks rather than money. This is one of the alerts that the business cycle is at an end.) *"The banks begin to scent danger as soon as their clients deposit more bills exchange than money."* (Marx page 580.)

**The money supply and inflation.**

One of the major misconceptions, fuelled by the monetarist school centred on Chicago in the 1980s is that it is the supply of money that determines the price level. Hence the greater the money supply the higher potential inflation. This position already found in Marx's time, was categorically dismissed by him. Marx was adamant: it was the other way around. It was the supply of money that responded to the needs of the real economy. *"…we already showed how the quantity of money actually circulating, taking the velocity of circulation and economy of payment as given, is determined by the price of commodities and the number of transactions." The same law prevails in the case of note circulation."* (Marx page 655 and in a more contemporary context by Robert R. Pretcher Jnr in his book *Conquer the Crash*.)

Hence it is the demand for money that determines its supply and not vice versa. This is confirmed by "economic string theory" first quoted in the U.S. Congress in 1935 and later popularised by Keynes. It holds that pushing easy money into the market is like pushing on a piece of string, impossible. Conversely, when the market requires money, the roles are reversed. Now it is borrowers pulling on the string allowing the central bank to pull back. As borrowers pull harder the more credit breaks down, the FED can moderate the tension by adjusting its monetary policy. This proves that the money supply is demand driven and not supply driven. In the graph below this relationship is demonstrated.

**Graph 1.**




(Sources: Table WCURCIR currency issued, Table GDP for nominal GDP and Table USAGDPDEFAISMEI for deflator.)

The top graph is money in circulation. Since 1984 it has grown by 834% which is well above the 461% rise in nominal GDP (second graph), assuming the ratios of internal and external circulation have not changed. Nominal GDP equals the volume of production multiplied by its price increase. The final graph is the broadest rate of inflation, the GDP deflator (bottom graph). We note that while there was some correspondence between the growth in the money supply and price rises between 2004 and 2008, this correspondence has broken down recently. Since 2009 the surge in money circulation coincides with lower rates of inflation (much to the distress of the FED Rate Setting committee).

This increase in the supply of money indicates that either its velocity of circulation has decelerated or more of it is being hoarded because of memories of the financial crash in 2008, more has entered the illegal and black market and most of it is fuelling speculation. In the ten years from 2007 to 2016, nominal GDP grew by $4.15 trillion but the S&P 500, the largest US share index, has added $5.91 trillion even after $3 trillion in share buy-backs. (Sources: siblisresearch.com/data/total-market-cap-sp-500/ for S&P valuation and FactSet for buy-backs.) Currently the S&P 500, which is 20% larger than the value of nominal GDP, is growing faster than GDP. However, when it comes to inflation measures, these speculative gains are not recorded as price gains, correctly so, because they are fictitious, representing only paper profits.

There are two fundamental reasons why inflation is so subdued. The first is the defeats of workers beginning in the 1980s which has depressed the spending power of the working class. *"The ultimate*

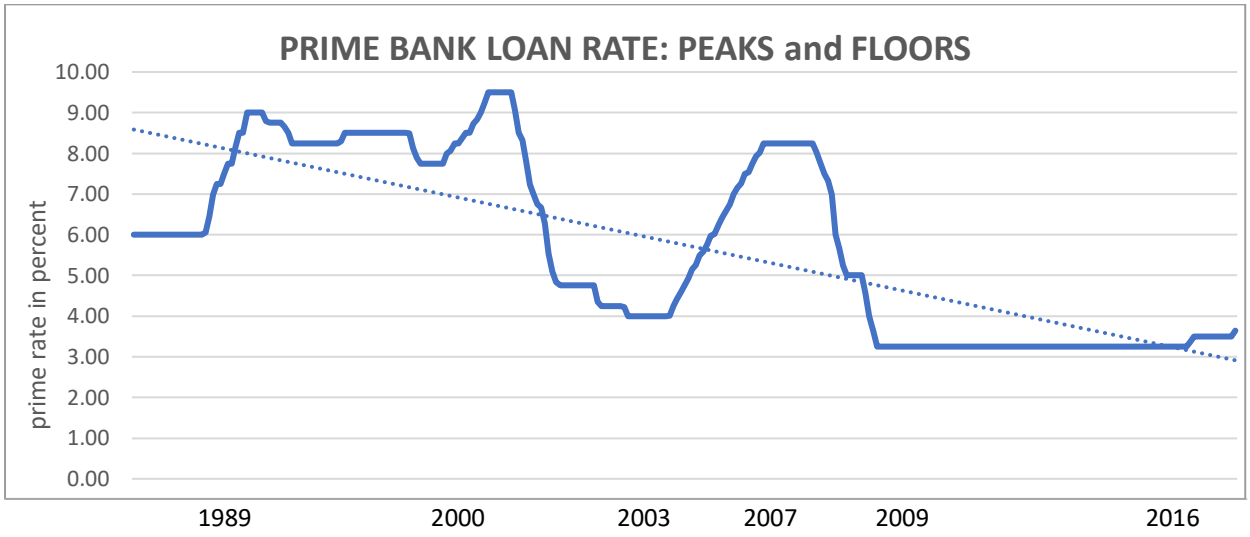
*reason for all real crises always remains the poverty and restricted consumption of the masses,…"* *(*Marx page 615) Inflation is a barometer of the class struggle, it rises when workers are able to defend their living standards and falls when they cannot. What the last 40 years has shown, is that while inflation was initially necessary to impoverish workers, it is unnecessary once they are impoverished.

Workers do not have the luxury of not spending. As a recent report by *CareerBuilder* concluded, 78% of full time workers live from paycheck to paycheck and 71% are in debt. ((*Most Americans Live Paycheck to Paycheck* reported by CNBC 24th August 2017*)* Add in the part-time workers and 80% of society, the working class, has no choice between saving or eating or heating or treating. The capitalists on the other hand, because of the size of their income, do have the luxury of deciding whether to spend their additional income on luxuries or not. Hence this rising inequality has weakened aggregate demand precipitating what Larry Summers has called: "secular stagnation".

**The secular fall in interest rates.**

The same forces that have resulted in tepid inflation has also led to a secular fall in interest rates. However, we should be cautious with this statement. The secular fall refers to average interest rates (trend line Graph 2) and does not include the movement of interest rates within the business cycle. In both 2000 and 2007, at the end of their respective business cycles, interest rates spiked in each of the over-production phases. As Graph 2 below shows, what is meant by this secular fall, is that over the last thirty years there has been a progressive fall in the peaks and troughs generated by successive business cycles which is why the average rate has fallen.

**Graph 2.**




(Source: Table MPRIME)

We have deliberately used prime rate instead of the FED's fund rate, though the two are connected, because this is the rate is more commonly used in industry as a reference. These interest rates are at a historic low and have remained there for an inordinate length of time. How do we account for this? Most internet professors blame the FED's stance on the money supply. They do so because they do not understand what interest rates are and how they emerged.

On page 493 Marx deals with the division of the capitalist class into industrial capitalists and monied capitalists. Strictly speaking the division is between industrial capitalists and commercial capitalists (which includes landlords who own structures but not the land) on the one side and monied capital

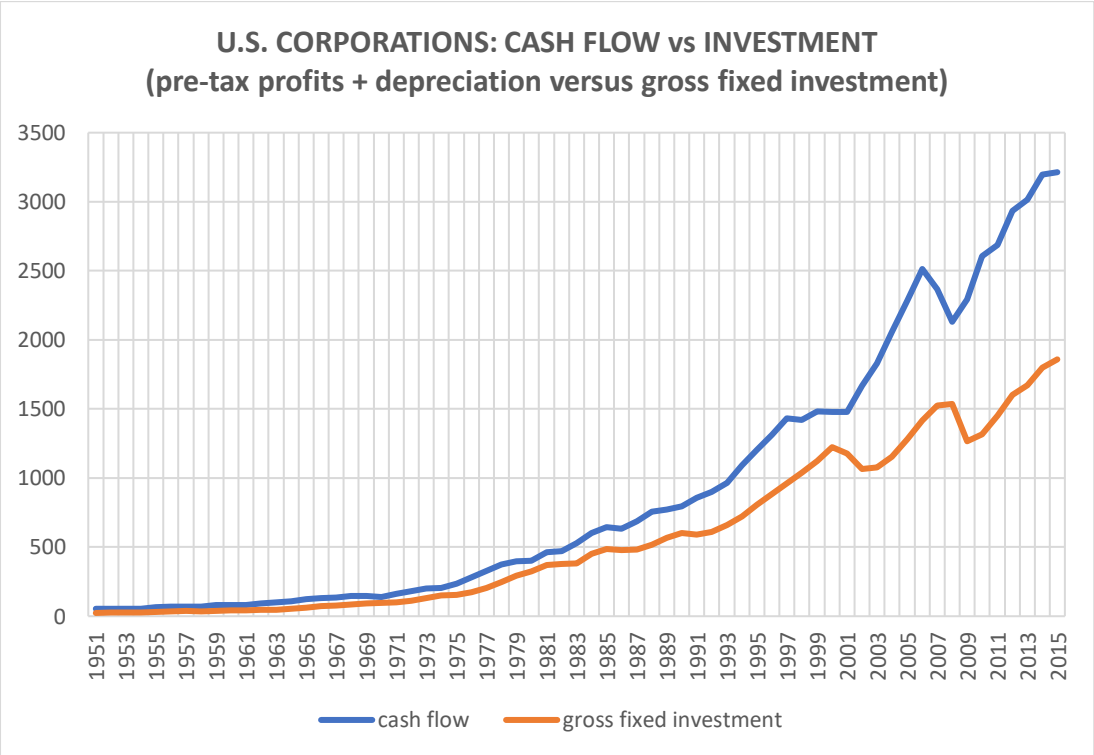
on the other. Having made this distinction, for simplicity, we will only talk of industrial and monied capital. This division of capital results in the division of gross industrial profits into enterprise profits and interest. In other words, industrial and commercial capitalists must part with some of their profits in the form of interest when they borrow loan capital from the monied capitalist.

Further on page 493 Marx goes on to describe the rate of interest being set by the competition between these two kinds of capitalists. In other words, by the demand for loan capital and its supply. As in all things capitalist, competition prevents too many industrial capitalists from converting into money capitalists. (page 501) If there are too many money capitalists, therefore too much supply of loan capital, then the rate of interest will fall so far, that many of these money capitalists will find it more profitable to reinvest in industry converting back into industrial capitalists. Hence competition tends to regulate the proportions between these two kinds of capitalists.

On the other side, the need for loan capital by the industrial capitalists is set by the business cycle. Here we concentrate on the phase of expansion, when production, trade and above all profits are expanding. At this time, much of the circuit of capital within production and circulation is financed internally by trade credit due to the preponderance of profits. This is an observation Marx returns to time and again in Volume 3. Returning to our century, one of the most profound structural changes that has occurred in the world economy, is globalisation, which accelerated in the second half of the 1990s.

The prior defeat of organised workers during the 1980s in the USA, coupled to cheap Chinese exports boosted the mass of profits. Set against the sharp rise in profits, the amount spent on investment by what were now global corporations, fell. In other words, after deducting their fixed investment from their cash flow, these giant corporations retained more and more cash, making them less dependent of money (banking capital). This disparity is detailed in the graph below.

**Graph 3.**




(Sources: Table 1.13 for pre-tax profits, Table 4.4 for depreciation and Table 4.7 for gross fixed investment.)

We see how the cash earned by corporate USA, concentrated in the largest corporations, diverges from what they spend on investment. Graphs like this can be deceptive as the bigger the numbers the bigger the gap appears to be. To compensate, the table below shows relative differences in percentage terms, with ten-year gaps beginning in 1975.

| year | 1975 | 1985 | 1995 | 2005 | 2015 |
|---|---|---|---|---|---|
| percentage | 54% | 33% | 49% | 78% | 73% |

We note the surpluses were at their lowest in 1985 and 1995 and their highest in 2005 and 2015. The former two periods are associated with high interest rates and the latter two periods with the abnormally low interest rates being discussed. The same association was found in Japan before and after its crash in 1991. (We will have cause to return to this observation when we deal with the financial crash in 2008.) Hence what we have been dealing with from 1996, when the surpluses started to increase sharply, despite being interrupted by the 2000 and 2008 crashes, are exceptionally high industrial capital surpluses. This is the primary reason for the low rates of interest.

We have explained the surge in corporate cash flow. But it may be asked why did investment not keep up, for had it kept up, the surpluses would have been smaller and the demand for bank capital higher, raising interest rates. To answer this, we need to return to the question of inequality dealt with earlier. Mention has been made that when income is transferred from workers to the rich, the propensity to consume is reduced in aggregate which is only temporarily offset by increased borrowing by the losers of income. This is well documented in an article Barry Z. Cynamon and Steven M. Fazzari, entitled *Inequality, the Great Recession, and Slow Recovery* where they look at the changes in spending habits between the bottom 95% and top 5%. In postings on this site I have quoted JP Morgan's estimate of the spending habits of the super-rich against their income and how spending has not kept pace with their expansive income.

The result is that the rise in inequality world-wide has reduced aggregate demand which in turn has reduced underlying investment (Note 1) amongst other things. This accounts for the rise in surplus capital within industry, to a corresponding reduction in the demand for loan capital and consequently to low interest rates. This phenomenon has not been understood by the FED which is why its monetary policies have been so inappropriate.

**Low interest rates sparks debt uptake and speculation.**

Low interest rates are the result of the lack of demand by industrial and commercial capital for bank capital to additionally increase production and commerce. This is the main cause. It has however an odd effect. When real interest rates fall towards zero the consciousness of industrial capitalists' changes. As Marx points out on page 494 "*The closer the rate of interest is to zero, if it falls to 1 per cent, the more borrowed capital stands on the same level as capital actually owned."* Low interest rates encourage industrialists to add borrowed capital to their own because it is so cheap. What Marx is saying is that low interest rates means that the additions of this capital has a minimal effect on enterprise profit because interest payments are insignificant. Corporate treasurers begin to load up on corporate debt for its own sake, for share buy backs, for mergers, as a means to speculate and as a buffer for future emergencies.

**Graph 4. Prime Bond Yields**


(Source: FRED table AAA.)

In Graph 5 above we note that prime bond rates have fallen to 3.5%, close to their post war lows of 2.5% in the 1950s. During the post war boom years leading up to 1973, interest as a share of pre-tax profits was under 5% for non-financial corporations. From 1986 to 1996 it was over 30%. Since 2002, despite the surge in corporate borrowing, it has averaged around 15%. Outstanding US non-financial corporate bond debt between 2000 and 2016 has risen from $2.59 trillion in 2000 to $5.84 trillion or by 226%. (Table TDSAMRIAONCUS) In the case of default, it is the bond holders that bear the cost of the default. Recently the benign conditions in the money markets has led to the preponderance of "covenant lite" issuance of bonds. This means that the issuers of bonds have less security lodged against their bond in the case of default and they are therefore more at risk of losing all their capital.

It is these abnormally low interest rates that have encouraged US corporations to issue over $1 trillion worth of bonds annually since 2014. Currently the amount of non-financial US corporate debt amounts to $5,837 trillion in quarter 3 of 2016. In comparison, Japan's corporate debt is just 11.5% as big (having been 50% in 2000) while Germany's is just 3%. The only country that comes close is China at 50% but this figure is understated because of the preponderance of debt in state backed or owned corporations (SOEs). In sum, US corporations hold 50% of the all the debt issued by all the corporations in all the developed capitalist economies.

What are the omens? To put this debt in perspective. The size of US non-financial corporate debt is under 50% compared to non-residential mortgages which stands at $14.2 trillion (Federal Reserve Data for 2016). It was the sheer magnitude of this mortgage debt and its leverage that amplified the financial crisis in 2008. Currently corporate debt ratios measured against equity or asset levels are below previous peaks as is the ratio of interest payable to profits earned. However, it should be noted that the real measure only emerges once the crisis breaks out and equities and assets are devalued.

Here the analysis is based on aggregate levels in the USA. What was true before, and which remains true today, is that the aggregate levels mask a high degree of unevenness within the data. The benign environment has led to the issuance of junk bonds, and the scramble for interest payments has seen a high uptake of these bonds. This is particularly true for sub-prime auto loans with Chrysler the most exposed. Speculators are renowned for their short memories. Riding the cusp of each new wave,

scared to miss the opportunities the wave may offer, they take the same risks that blew up in their faces the last time round. But never mind the profits today always exceeds the losses last time. In this manner, the convulsive credit market drives capitalism upwards despite its explosive deflations.

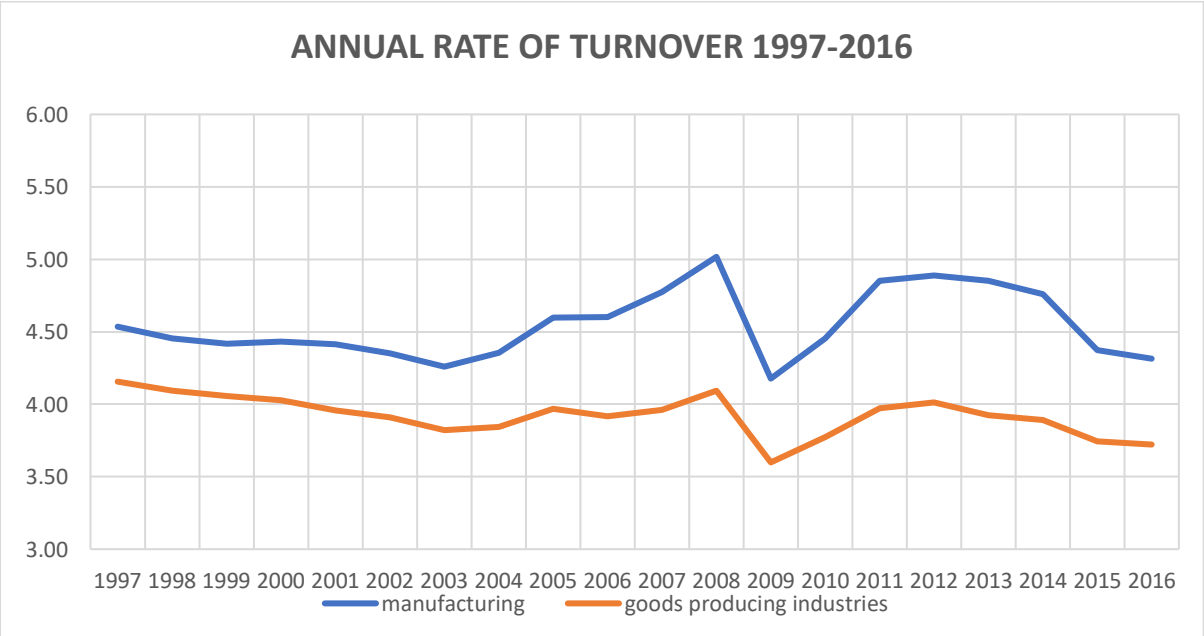
The effect of interest rates on the resolution of the business cycle will be examined in the next session. This section will explain why the fall in the mass of undivided profits from 2014 to late 2015, which was equal to two thirds of the fall leading up to 2009, did not result in a recession. Admittedly, there was a slow-down in growth to 0.4% at the end of 2015 but no outright recession. The difference was the continuation of easy monetary policies by the FED. Graph 7 reveals, that while market rates rose, the FED's rates were frozen keeping the lid on interest payments. Total interest payments were thus held in check and enterprise profits protected, which was not the case in 2000 and 2008.

**2008 myths and facts.**

The financial crash of 2008, the biggest and most damaging crash since 1929 is misunderstood. Michael Roberts one of the more respected Marxist theoreticians who tenaciously defends the linkage between the rate of profit, the rate of investment and the rate of economic growth, ascribes the crash of 2008 to the prior fall in profitability. This is true but only in the narrow sense. The mass of surplus value produced by industry did not fall before the crash of 2008. This was due to the rate of surplus value being propped up by the rapid increase in the rate of turnover of circulating capital before 2008. Graph 5 plots the velocity of circulation of working capital which accelerated without interruption between 2003 and 2008 and which did not fall until after the crash.

An acceleration in the rate of turnover means it takes fewer days to produce the same amount of surplus value. In the case of manufacturing with its annual rate of turnover of 5.02 in 2008, it took just under 73 days to produce one round of profit. This meant that if the same quantum of profit was produced every 73 days, it would be reproduced 5.02 over the course of a year. After the crash in 2009, it now took 87 days to produce the same or less quantum of profit because the annual rate of turnover had reduced to 4.18 turnovers. Put another way, in 2009 there was a total loss of 59 days in which to produce profits compared to 2008.

**Graph 5.**

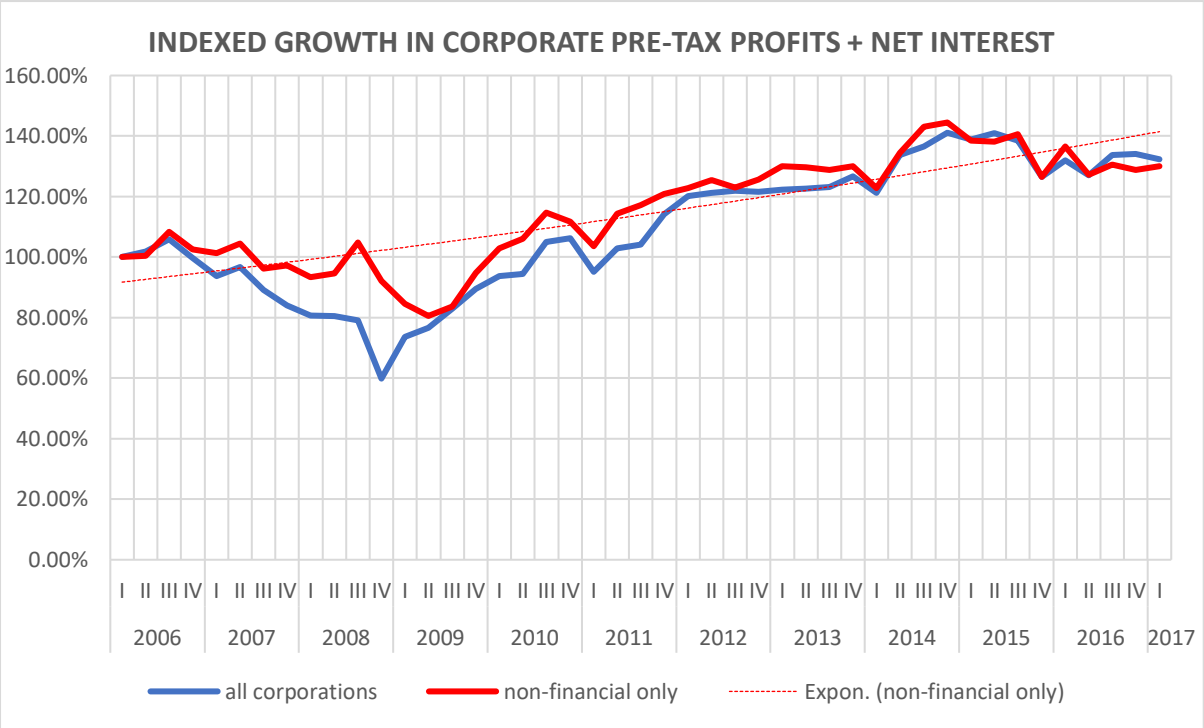



(Source: BEA Interactive Tables, GDP-by-industry, Value Added Tables and Gross Output Tables.)

The increase in turnovers boosted the mass of profits. Graph 6 below shows this to be the case. Here pre-tax enterprise profits are added to net interest paid. The combined value of profit and interest is a better indicator of the mass of surplus value than enterprise profit on its own. This graph is indexed so the relative movement in the mass of surplus value can be seen more easily. The red graph represents non-financial corporations, within which manufacturing and the goods producing sector are located. It shows an insignificant fall between 2006/3 and 2008/3.

The real fall took place in financial corporations, composed primarily of banking and real estate. It produced an overall fall in corporate profits of 20% between the third quarter of 2006 and the first quarter of 2008. In fact, the fall in this period was greater in percentage terms than the actual fall in 2008/9 after the crisis broke out. Certainly, the rise in interest rates reduced enterprise profits within non-financial corporations as interest payments more than doubled in line with the doubling of interest rates from 4% to 8.25% (Graph 2). And of course, there is no denying that enterprise profits are decisive when industrialists decide on whether or not to invest additional capital.

**Graph 6.**




(Source: Table 1.14)

The final consideration is the resumption in profit growth after 2010. The mass of profits rose quickly to peak in the second half of 2014, nearly 40% above 2006. In 2008 from peak to trough, profits fell by 24% for non-financial corporations and in 2014 they fell by 18% roughly two thirds as much. What was different about the two shrinkages in profits was that in the latter case, the rate of turnover had started to fall back in 2012 long before profits peaked. On the other hand, in 2008 turnovers fell only after the crisis itself had broken out. This observation is important. The classical precursor to any recession is the fall in turnovers. As Marx puts it, a fall in turnover is characteristic of the phase of overproduction. The mass of commodities produced can only be sold with increasing difficulty or what is the same thing, by taking longer to sell. A point is reached where some of the commodities cannot be sold or if they are, can only be sold at a loss. This is the moment of crash whose depth is moderated by the absence or presence of Central Bank liquidity. That is the difference between 2015 and 2008.

The 2008 crash represented a structural crisis within the banking system more than it represented a cyclical fall in profitability. Globalisation had enriched the US industrial corporations through their monopolisation of the heights of the international value chain. The same phenomenon enriched Japan in the 1970s and 1980s when Japan dominated global industrial production and in time it will endow China. The growing financial independence of the giant global corporations was to rob the US banks of their primary and most profitable customer.

This forced the giant banks into what is called the retail market, or what is the same thing, the consumer market. They re-orientated their lending towards mortgages, student loans, car loans, credit card loans, cosmetic surgery loans and so on. The view that neo-liberalism simply indulged in the time honoured method of indebting the masses to obtain their obedience, is only partially true. The banks had no choice, they needed to pursue consumers to make up for the loss of their biggest industrial customers, who if they needed credit, were large enough and credit worthy enough to bypass them and go directly to the wholesale markets to sell their paper.

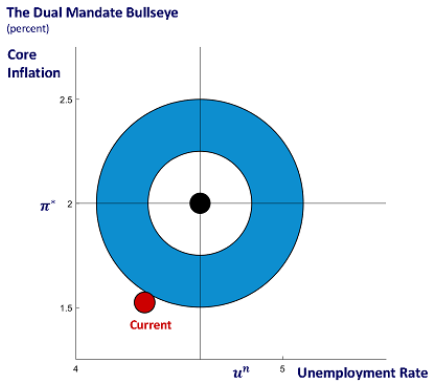
The working class on the other hand, impoverished by the defeat of organised labour (Reagan era) and the effect of globalisation, sought to protect its falling living standards by borrowing. Borrowing was out of necessity not vanity. Accordingly, beginning with the first Clinton presidency, legislation was enacted to promote consumer lending particularly against property. This followed extensive and intensive lobbying by the banking industry. By 2007 fully sixty seven percent of bank lending was real estate lending, while Industrial and Commercial loans only amounted to fifteen percent. (Federal Reserve Table H8 released 5th December 2008.) In contrast, the most current figures are fifty percent and seventeen percent.

It was this tectonic shift in the plates between Industrial and Banking capital, induced by globalisation, that was at the heart of the 2008 crash, rather than the financial strangulation of industry and commerce at the end of the business cycle. At the time of crash, the world economy and world trade was still growing. Global Output increased by 3.9% (2006) and 3.8% (2007), and trade volumes by 9.9% and 7.2% respectively. (Source: *World Economic Situation and Prospects 2008 Update as of mid-2008* United Nations) East Asian economic growth, which includes China, increased from 8.1% to 8.5%.

**The FED issuer of the last resort not the first resort.**

What we call financialisation, Marx called capitalisation. (page 597) It is low rates of interest that gives rise to high rates of speculation and not the other way around. To repeat, the low rates of interest that prevail, has been due to the lack of demand for money capital by industry and commerce made possible by the proceeds of globalisation and rising inequality. "*The cheapness of capital gives facilities to speculation, just in the same way as the cheapness of beef and beer gives facilities to gluttony and drunkenness."* (page 532) The banks have centralised industry's growing hoard and unable to lend it back to industry, have provided it for the purposes of speculation.

It is in this paradigm that the FED finds itself. Its critics blame it for all the ills of the economy, many even seeking to abolish it by reverting to the golden age of metallic money (or shall we say – golden garrote). The mandate of the FED is to weave a path between the economy overheating or cooling off. On the up-side, its mandate is to prevent over-production reaching a critical point. In other words, to douse the economy with higher interest rates when markets become over-extended. Its two key trigger points are inflation rising significantly above 2% and unemployment falling below 4.8%.



(Source: Chicago division of the Federal Reserve)

On the down-side, it seeks to raise employment and prices by means of easing monetary policy should they both fall significantly below target. As the bull's eye above shows, the goldilocks scenario it strives for is inflation at 2% (just the amount needed to rob workers of their productivity growth) and unemployment at around 5% (ensuring there is a sufficient reserve army of labour to keep a lid on wages but not too high to provoke social unrest). But its mandate does not include curbing speculation because its inflation mandate excludes it. In other words, its inflation target deliberately excludes asset price rises when these are not caused by rising production costs, but by speculation.

It therefore has an impossible balancing act. If asset price rises were included in its inflation mandate it would collapse the economy because current inflation would leap to double figures. If interest rates rose in step, it would significantly damage enterprise profits as interest rates would now stand well above the level competition between industrial capital and money capital would normally precipitate.

The second reason is predicated on the first. Interest rates are low because the relative increase in investment is subdued due to inequality undermining effective demand by the bottom 80% of society. Therefore, and secondly, demand growth is concentrated in the top 5% of income earners, the primary beneficiary of asset bubbles. In 2010, the changing habits of this top tier was reported by Moody's Analytics, custodian of the wealth of rich. Not only did this 5% spend as much as the bottom 80% on consumption that year, but their splurge in spending resulted from pent up demand following the Wall Street Crash, which had caused them to save some of their wealth rather than spend it. (Wall Street Journal, blogs.wsj.com/wealth/2010/08/05/us-economy-is-increasingly-tied-to-the-rich/) It was only in 2010, when income and asset prices were rising, that they felt confident enough to boost spending.

Given the preponderance of spending by this 5%, anything which makes them feel poorer is bound to impact on their spending. And one thing that will make them feel poorer is the absence of bubbles or what is the same thing, constantly rising asset prices. It is only their spending that has put any strength into the economy, not the illusory growth in jobs. The President of the American Automobile Association reckons that the top 5% is responsible for all new car sales. He obviously does not include as sales, low end cars leased with sub-prime loans.

There is of course an interaction between higher interest rates and the share market. Low interest rates prop up share prices and the differential is being used to justify current lofty valuations. Despite all the share buy backs and paltry new share offerings, the value of the share market in 2016 was two hundred and twenty six percent of GDP against its traditional level of around fifty eight percent (data.worldbank.org/indicator/CM.MKT.TRAD.GD.ZS). Any rise in interest rates or fall in profits would topple the share market together with housing. (It is worth noting, that the current outlook for continued profit growth has dimmed because annual comparisons are less flattering due to the sharp rise in profits in the second half of 2016. The result is a subdued share market which will take its toll

of retail, and through it, of production.) This dysfunctional credit based economy, orientated to the top 5% of consumers, survives only on low interest rates.

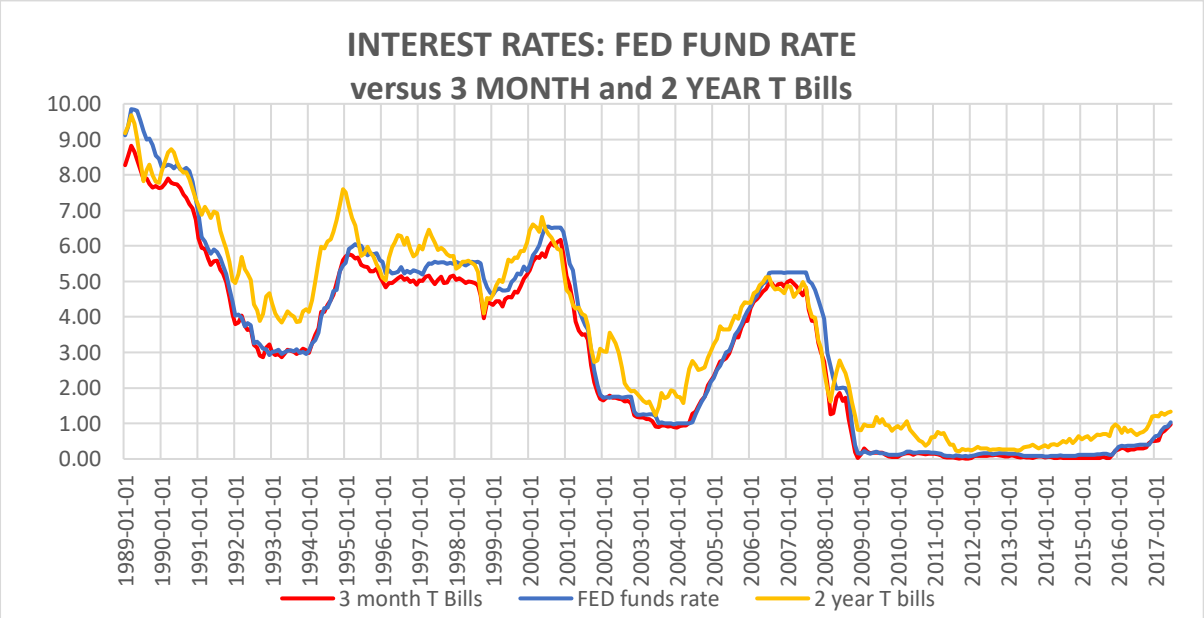
The second problem facing the FED is inappropriate fiscal policy. The same forces that defeated the working class continue to press for reduced government expenditure, for lower taxes and less state regulation. However, it is perfectly clear that what is required, when a parasitic class like the capitalist class is over-incomed, is to raise the level of taxes they must pay. If they can't spend it they should lose it. Instead the clownish new President and his imbecilic party suggests the opposite. Trump proposes reducing taxes even further than Bush did.

Hence the FED is in the invidious position of being part of a government that is exacerbating the fracture in the economy rather than mending it. Reducing tax on the rich won't translate into more spending except at the lower end. Reducing the tax on corporations will not encourage them to invest more. Instead the corporations will indulge in more share buy backs, putting money into the pockets of those who will not spend it. In the mean-time the real economy will be damaged. Even Trump's $200 billion annual infrastructure stimulus needs context. This stimulus is of a minor order. The US budget deficit is expected to be $108 billion larger this year or half of Trump's stimulus and it has barely affected the economy (reported by the CBO Monthly Budget Review for July 2017.)

Interest rate policy cannot compensate. The "Trump Bump" showed what happens when interest rates rise. The key 10-year interest rate rose to 2.62% in March dragging the 30-year fixed mortgage market with it to 4.3%. Within months the housing market and the auto market was disturbed. Following these disturbances, the 10-year rate has fallen to below 2.2% and the mortgage rate to below 3.9% (still above the 2016 low point of 3.2%). This answers the question: "can the real economy withstand higher interest rates? It cannot". The FED is thus caught in a dilemma. It cannot find a level of interest rates that restrains speculation but does not hurt the economy because fiscal policy does not allow it.

It is also an open question whether FED interest rate policy leads the market or is led by it. The graph below partially answers that question. It shows that outside the periods or phases of overproduction and crash, Fed interest rates follow market rates.

**Graph 7.**




(So0urces: FRED tables FEDFUNDS, TB3MS and DGS2)

Focusing on the blue graph, we notice that on three occasions, coinciding with the period immediately preceding the crash or recession in 1989, 2000 and 2006, the FED rate eclipses the 2-year rate due to the FED tightening monetary policy. In the early stage of the new cycle, as the FED eases, FED fund rates fall earlier and faster than does the 2-year rate. The opposite happens when interest rates rise as the cycle matures. Now the 2-year rate rises first and fastest. In the most recent case it began to increase in 2014, a full two years before the FED fund rate stirred. The two-year T bill is chosen, not only because it is a highly sought-after government IOU, but by being relatively short-dated it offers some insight into what investors predict will happen in the immediate future.

Generally, it is felt that the FED fund rate takes its cue from the 3-month T bill which most closely mimics current monetary conditions. Except for the mid-90s, they move in lockstep, with the 3-month T bill leading the FED fund rate on the way down and lagging on the way up. In reality, far from not fighting the FED, it is the FED which is reactive except at the end of the business cycle and the beginning of the new cycle. For the rest of the time it follows the market ensuring that banks can profit by borrowing from it at a rate that allows lenders to make a profit when lending out this credit.

The biggest test the FED has faced in its hundred-year existence as a note issuing central bank was in 2008. Here it is useful to return to Marx and his analysis of the first modern banking crisis of 1857. Marx was very critical of the Bank of England's restrictive monetary policies at the outbreak of the crisis. This deepened the financial crisis until the Bank eased its monetary policies and pumped liquidity into the market lifting the financial emergency.

In 2008 both the Bank of England, the Federal Reserve, Bank of Canada, the European Central Bank and the Swiss National Bank acted to pump liquidity into the global credit markets which had effectively seized up. To begin with they acted as prudent central bankers lending short term only against prime IOUs, but later with quantitative easing, they started purchasing broad tranches of bonds. Alongside their efforts, governments started bailing out insolvent banks and corporations. In this way the emergency was overcome, but at a cost of trillions to those who had not been the recipient of the earlier splurge in credit that yielded such fantastic paper profits to its recipients.

Central Bank Action, hesitant at first, then more robust, prevented an event in the housing market, which is a minor part of the world economy, but which was amplified by extraordinary leverage, destroying the global economy. The central banks did what central banks need to do in a credit emergency, use their resources and their state monopoly to inject liquidity into the credit markets. The real problem occurred after the emergency was over. The banks which had proven too large for the needs of the real economy should have been progressively cut back, some of their assets should have been nationalised to compensate the government and a good number of these greedy and arrogant swindlers should have been jailed for doing such grievous bodily harm to society.

Instead the opposite happened. A few bankers had their wrists slapped and some timid legislation was enacted. Bonuses and super profits soon re-emerged. What the FED is guilty of, in concert with all the other governmental banking oversight bodies, is a continued failure to regulate and police the credit markets. This is well documented in *Conquer the Crash*. This informative book records how the FED mismanaged the reserves the banks were required to hold and how it misused the discount window to flood the market with new money. If Trump gets his banking legislation through, the few barriers put in the way of credit creation after 2008 will be removed and the bad old days will be back.

The other failing of the FED was its mismanagement of the more exotic derivatives that flourished up to 2008. Understanding this second-tier fictitious paper is not rocket science though much of this paper was put together by rocket scientists using their mathematical acumen. They represent in their

diverse, novel and exotic forms, nothing more than leverage. First tier fictitious paper is paper secured by tangible assets, for example shares which offer title to the future stream of profits from the company that issued them or government bonds which offer title to some of that government's tax revenue. But second tier instruments are bets on bets. They are bets on share price movements, bond price movements, exchange rate movements, mortgage price movements etc. These futures, options, CDOs and other synthetics which represent leverage in the market should be red flagged by central banks not green flagged as was the case. It is comical to hear the excuse by Greenspan and others bankers that they were blind to the nature and therefore the threat this paper represented. When listening to the answers given to investigative committees by these senior bankers, it seems the higher up the ladder they were, these less they could remember, the less they were informed, the less they understood the risk. Who says well connected lying mediocrity is not well paid?

While the bankers were reimbursed, the rest of society was robbed. The result was that the inequality which had given rise to the crash of 2008 (sub-prime mortgages) has been further exacerbated. It is the victims of this inequality who have been forced to shoulder the losses of the bankers through higher taxes and fewer government services. By 2012, between 4 and 5 million homes had been repossessed in the USA. This is equivalent to the loss of housing caused by a limited nuclear exchange (based on the much-studied report of a 100-missile strike between India and Pakistan). Economic crashes often do more damage than do actual wars and certainly diminishes more lives, and it is this fact which underlies the old communist adage: *the enemy is at home and nuclear weapons will not protect us from the greed of Wall Street or the City of London*.

Looking to the future, the FED is in a weaker position than in 2008. Interest rates are lower and its balance sheet is engorged. The FED should have raised its funding rate in 2013 when the two-year rate started rising because the economy was much stronger. In the second half of 2015, when the economy weakened, it should have reduced the rate again but not back to the level set in January 2009. This would have prevented it needing to raise its rate so frequently in 2017 and it would have taken the edge off speculation. It is now playing catch up to offset what it sees as potentially unbalanced stimulative fiscal policies and asset bubbles.

However, it is unlikely that the FED has more interest rate rises up its sleeve. While declaring the economy is growing modestly it recognises that this increase is fragile and highly dependent on the state of the world economy and the dollar exchange rate. It also recognises that price increases in the share and housing markets are slowing. The only event that could spark life back into the speculative bubble is if Trump and the Republicans pull a tax rabbit out of the federal hat, without adding to the already widening budget deficit.

**The increase in debt.**

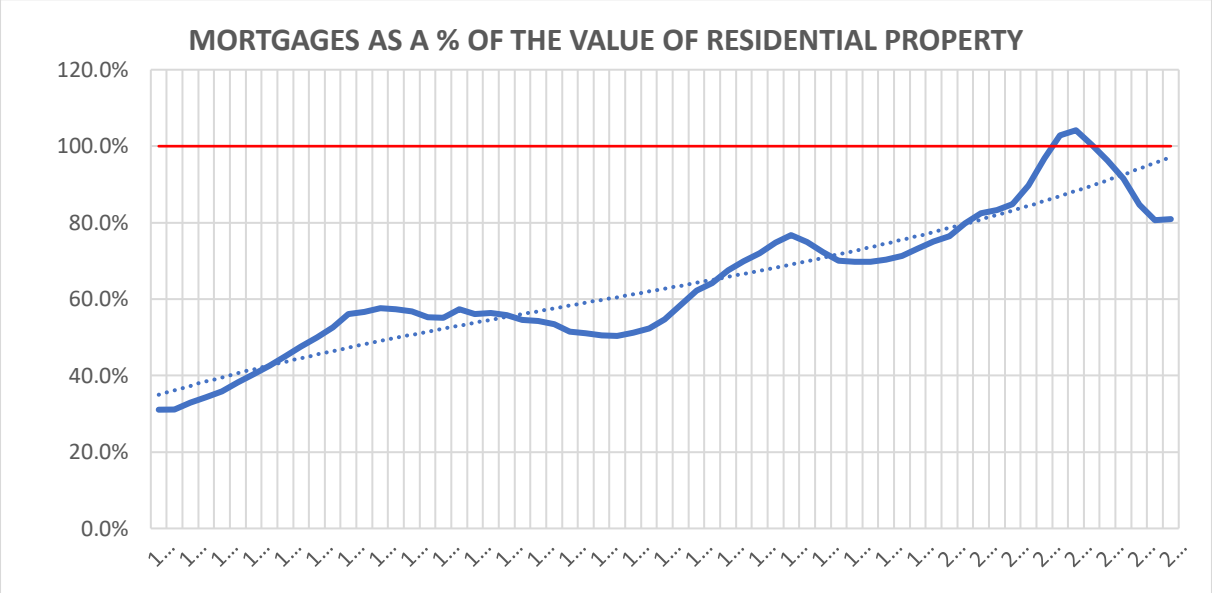
Since the 1980s, the amount of global debt has increased exponentially. Since 2008, global debt has risen by a further 20% measured against GDP. This needs to be explained.

The first reason for this rise is the impoverishment of the lower 80% of society because of lower real wages and the withdrawal of government services. The US working class did not want to take on debt. It was forced to do so. Rising health costs and co-payments, rising tuition fees, the need to own a car to get to work, rising house prices all forced them to visit their banks. The result was a sharp rise in personal borrowing including mortgages.

In the graph below we examine the growth of mortgages. Today mortgages are the single biggest component of borrowing equal to publicly owned Federal Debt and currently growing even faster. The graph shows that after the War, it took forty years for mortgages to exceed 60% of the value of all

residential properties in the USA, but it took only twenty years for them to exceed 100% in 2008. The 25% (measured in terms of GDP) jump in mortgages from the aftermath of the dotcom crash to the 2008 crash is unprecedented testifying to the housing frenzy that almost ruined the world economy.

**Graph 8.**

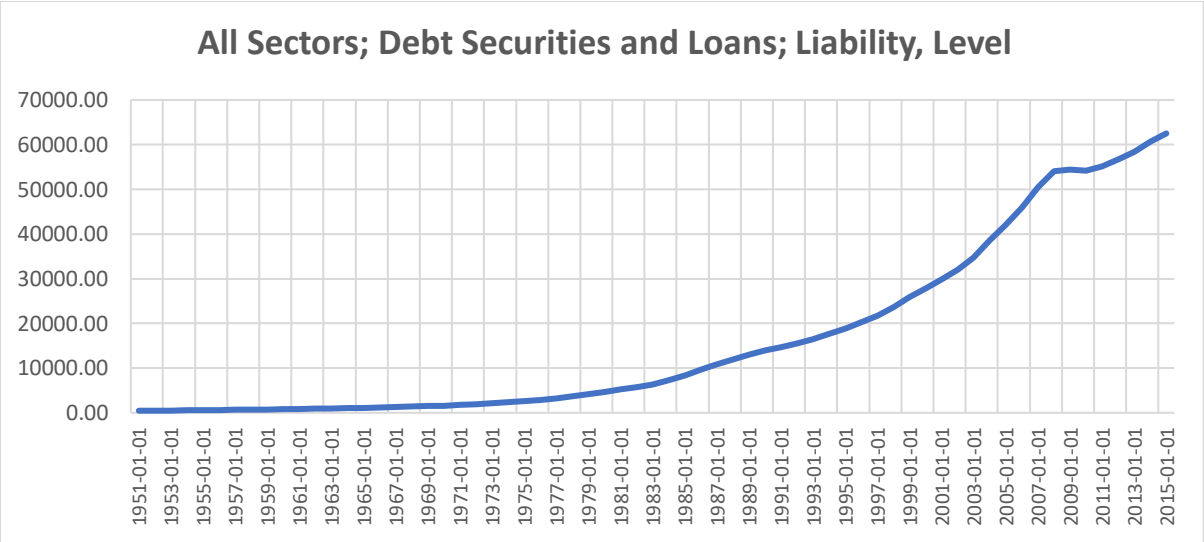



(Sources: BEA Table 5.1 Current-cost net stock of residential fixed assets and Table MDOAH for mortgages.)

The second reason is that many more products are no longer bought outright but on hire purchase. With interest rates low everything from smartphones, to washing machines to cars are bought on low monthly payment plans. This is particularly true for the car industry where a sub-prime auto loan crisis is brewing. More customers are found than would be the case if products had to be bought outright, but consumer based credit demand is always precariously balanced on interest rates.

Thirdly, and most importantly, is leverage. Leverage takes two forms. The former is margin. A small reserve is put down to buy either Primary or Secondary Fictitious Paper. The latter when money or credit is used to buy secondary or tier 2 fictitious paper. The scale of leverage is captured in the graph below, commonly used by our internet professors who rail against the iniquity of fiat money.

**Graph 9.**




(Source: FRED Table TCMDO discontinued in 2016)

To restate the difference between primary and secondary fictitious forms of paper. Primary paper is directly secured on the ownership of assets or on a revenue stream. For example, shares and bonds are primary sources of fictitious capital. The holder of this paper has title to assets or a share of the future stream of profits and interest from the corporation or in the case of government bonds, to a share of future tax revenues. Secondary fictitious paper is a bet on a bet. It is pure leverage. It is a bet on the movement in the prices of shares, bonds, interest rates and exchange rates. (There are other minor areas it focuses on as well.) The reason that debt has soared, as indicated in the graph above, is due to the leverage fuelled by a reduction in margin and plentiful cheap credit, which has enabled speculators to amass a growing inverted pyramid of secondary fictitious paper.

This graph has been criticised, but in fact it does reflect the true scale of liabilities. Credit Suisse in its Global Wealth Report in 2015 provides the mirror opposite by analysing the amount of financial assets held by US households in 2015. In 2015 total assets amounted to $85.9 trillion (page 45) of which 69% were held in financial assets (fictitious capital) amounting to $59.3 trillion. This approximates the liabilities found in 2015 of $62.5 trillion (Graph 9).

At this point it is worth measuring this pile of debt against the existing money supply. It turns out that this debt is 89 times the size of the money supply or 7.5 times bigger than all the outstanding bank credit or 6 times larger than the publicly owned Federal Debt. Most of it is fictitious, consisting of IOU's in one form or another with differing expirations.

Looking at the matter more closely. In 2015, the value of all private structures in the USA was $31.6 trillion and that of equipment $6.4 trillion. Together they were worth $38 trillion. To make this comparison more concrete, the $2.4 trillion worth of inventories at the end of 2015 (Table 5.8.5B) needs to be added in. This brings the total to $41 trillion. If every dollar of these assets had corresponding paper issued against it such as shares, bonds, or mortgages and this was done at 100% of face value, total assets would come to only $82 trillion. This leaves a shortfall of $7.9 trillion.

Of course, we are assuming that US residents own all the US fixed assets and have no assets abroad or what US residents own abroad balances what foreigners own in the USA itself. This is true for direct investment (currently $7.4 trillion on both sides) but not portfolio investment which is mainly in the financial sphere e.g. Wall Street. (Source: BEA's *US Net International Investment Position)* Hence we may proceed with this simplification to draw out the extra-ordinary leverage in credit that is found in the USA today. It is exceptional for every real asset to have paper secured on it and it is also highly unlikely that this paper would be issued at 100% of asset value leaving the lender with no security against price falls. Given these facts the amount of secondary fictitious capital must be at least double the undetermined figure of $7.9 trillion stated above.

Secondary fictitious paper can take many forms: puts, options, forwards, swaps and so on all of which go under the heading of derivatives. The global net value of derivatives exceeds $15 trillion (Bank of International Settlements Table D5.) The bulk of the derivatives in this table are interest rate contracts, 80%, followed by foreign exchange contracts at 16%. The notional value of these contracts quoted by our internet professors of over $550 trillion or 6 times larger than the world economy is not the decisive figure. The netted-out figure is the more important. If all the derivatives went up in smoke, the loss would be the figure of $15 trillion, not the $550 trillion which would put an end to capitalism once and for all. After sorting out and setting off who owed and was owed the maximum loss would be $15 trillion. This was seen in the case of Lehman Brothers whose net loss of $130 billion after bankruptcy was far, far less than the value of the global derivatives to which it was exposed totalling $35 trillion or 5% of the world total at the time. (Michael J. Fleming and Asani Sarkar - *The Failure Resolution of Lehman Brothers.*)

**Can central banks prevent credit crisis altogether?**

*"…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. 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 nominal values.* (page 621) Here Marx is raising the question in order to dismiss it, as to whether or not central banks are willing and able to reimburse the losses of the swindlers and non-swindlers by means of the printing presses.

The FED cannot bail out the swindlers without the Federal Reserve System becoming "*the laughing stock…if it's 'assets' consisted of defaulted mortgages, bonds of bankrupt companies and municipalities, IOUs of shaky governments and stock certificates no longer in existence? Can you imagine the panic that would ensue to escape a monetary system with such assets as its reserves?"* (Conquer the Crash, page 374, summary written in 2003, my emphasis)

No state can guarantee the stability or convertibility of its currency while acting as a fence to the swindlers by converting their losses into the state's losses. Fiat money rests on credibility and the state would shed its credibility were it to invest in worthless paper. This is the sentiment behind Marx and the contemporary Mr Prechter Jnr. Neither anticipated the exact events that were to befall the world economy in 2008 and the response by the US banking authorities to it, when in fact they bailed out the whole rotten credit system and the wealthier swindlers who gained from it.

In the run-up to 2008 household wealth had increased by $22 trillion. Between June 2007 and the end of 2009, household wealth shrank by $14 trillion wiping out two thirds of this increase (*The Great Crash, 2008, A Geopolitical Setback for the West* by Roger C. Altman) On the other side of the ledger, the US government and the Federal Reserve pledged $13.9 billion to prop up the system of which $6.8 trillion was ultimately spent in the US and abroad. In the end, after the paper dust had settled, and some of the holdings were sold (sometimes at a profit), the US government was saddled with $4 trillion in extra Federal Debt. With the exception of two failed banks, most senior bondholders and shareholders were reimbursed while the rest of society paid the price. It was as if the casino regulators had reimbursed the losers at the tables only to deduct these losses from the wages of the casino workers.

However, as soon as the emergency was over, the FED returned to type. It would now only deal with higher quality paper as it proceeded with Quantitative Easing in November 2008. The FED was followed by the Bank of England and the ECB. Central Bank purchases were confined to a mix of higher grade bonds and mortgages, some of which were government bonds and guaranteed mortgages and some that were not. The selectivity of these purchases meant the option to sell them back to the market remained open maintaining the credibility of the Federal Reserve.

It is important to note that the FED acts on behalf of the capitalist class and not as a substitute for the capitalist class. It does not lend to the public to compete with the banks. It does not ordinarily buy its own bonds thus depriving a whole layer of rentiers of their interest. It manages the banking system and it protects the integrity of the federal reserve money supply, but that is all. If it goes beyond this in a credit emergency, as was the case in 2008, that was to protect the banking system from itself, that is all.

However, it is important to put Quantitative Easing into context. It amounted to approximately $3.6 trillion over the five and a half years ending 2014 or about $650 million per year. Share buy backs, or

**Corporate QE**, on average (excluding the 30 months beginning with the second half of 2008 up to the end of 2010) amounted to $450 billion or two thirds the annual size of QE between 2005 and 2017. In aggregate therefore, because Corporate QE has run for so much longer (and will continue to run) than the five and a half years of QE, it has and will inject far more money into the economy.

These large-scale purchases by the FED had a secondary effect. Normally the FED can only influence short term rates through its Fed Fund Rate, the discount rate and open market operations. What Quantitative Easing allowed the FED to do, was dominate longer-term interest rates, the ones that mostly influence investment decisions. It achieved this by driving up the prices of a mixture of term bonds, and in so doing it drove down longer-term interest rates.

The resulting rise in the price of bonds conferred a capital gain to any holder of these bonds, many of whom were the original crooks who had engorged themselves in the run up to 2008. The rise in the price of bonds thus increased inequality by increasing the wealth of bond holders. It made the rest of us poorer, by killing the interest rates ordinary savers earned. In turn, these low interest rates acted as a subsidy to the banks. The motive behind Quantitative Easing and the injection of cash into the economy was to increase effective demand and therefore improve the economy. In so far as it did, its effect was limited to the top 5% who today consume 40% of all retail sales equal to the bottom 80%.

The most dangerous effect of low interest rates induced by the FED's actions was to add fuel to the fire of speculation. History will record that instead of raising interest rates which were already low because of the lack of demand by industrial capital, the FED helped reduce them even further. The result is an economy driven by bubbles lurching from one credit crisis to another. If today's GDP growth is weaker than pre-2008, this is only because the current credit bubble is not and cannot be as intense as the one that drove the economy up to 2008.

No analysis of credit can be complete without examining the Chinese economy. Of all the countries that rapidly amassed debt, none did so more quickly than China. Between 2005 and early 2016, China was responsible for between 37% and 50% of the growth in world credit ratcheting up its share of global debt to at least 17%. (Bank of International Settlements' statistics suggest it was responsible for 37% of the growth in world credit giving it a share of 17% of world credit.) Some authorities put it at 25%. Non-Financial Credit rose from $3.3 trillion to $27.5 trillion at the end of 2016 an eight-fold increase. (Bank of International Settlements. Source: *Long series on total credit to the non-financial sectors*). Most importantly the balance sheets of Chinese Banks increased six-fold to three times the size of GDP resulting in China hosting four of the top five global banks.

As dramatic as these developments are it is worth weighing this growth in credit against that of the USA. At the end of 2005, total credit in the USA stood at $28.1 trillion or 8.5 times the $3.3trillion found in China. By the end of 2016 total credit in the USA had grown to $46.95 trillion compared to China's $27.49 trillion, making it now only 1.7 times bigger. (BIS tables ibid) Over that period, the US had amassed $18.85 trillion and China had amassed $24.19 trillion or $5.3 trillion more than the USA despite China's economy being half the size on average during this period.

As China's GDP growth over this period was many times faster than the USA, it is worth measuring debt against GDP. At the end of 2005, the ratio in the USA was 214.7% and China's was 142.6%. By the end of 2016 the ratio in the USA had grown to 252.9% and in China to 257%. While the USA's debt grew by 38.2% that of China grew by 105% relative to GDP. The US figure of 252.9% today has increased from the 230% figure at the time of the 2008 crash due to higher leverage.

However, in comparing GDP ratios it is worth pointing out that the Chinese economy is more muscular than the USA with a bigger industrial heart. If we strip the comparative fat from US GDP figures, we

find it spends 10% of GDP more on healthcare, and an additional 10-15% on its unproductive financial and household sector. We may therefore assume in qualitative terms, that the US economy is overstated by at least 20% relative to China. Reducing the US's 2016 GDP by 20% yields a comparative figure of $14.85 trillion. This reduces the gap in GDP between the two countries, measured in current dollars, from 63% to only 30%. More importantly the comparative debt/GDP ratio in the US now rises to 329% far higher than China's 257%.

While these comparative figures are interesting, in the end, support for this leaning tower of credit depends on the flow of profits. Here the comparison is between pre-tax non-financial corporate profits in the USA and Industrial Profits in China. In the USA, non-financial pre-tax profits amounted to $1.224 trillion and in China industrial profits amounted to $830 billion dollars at an exchange rate of 6.7 yuan to $1. (Sources: BEA Table 1.14 and National Bureau of Statistics of China) This yielded a ratio of 38.4 in the USA and 33.1 in China. In terms of credit secured against industrial assets, US corporate assets (fixed plus inventory) amounted to $19.24 trillion in 2016 and in China to $16.6 trillion yielding a ratio of debt to asset of 244% for the USA and 166% for China (Sources BEA Tables 4.1 and 5.8.5B, China ibid).

By all measures it is the USA that is more leveraged. It is more indebted in terms of revenue and in terms of assets. And yet, despite these ratios and the USA almost bringing down the world economy in 2008, while China rescued it, it is China that is continuously under the debt spotlight.

The forced expansion of production by means of credit does not rely on the relative values between countries expressed above, but on the absolute values found at any time. In other words, how much credit is being generated in terms of value output (part of which forms profits). The normal measure for this is the growing debt/GDP ratio which the BIS terms "credit impulse". A growing debt/GDP ratio is indicative of over-production, because it is a clear indication of forced production. Put another way, as the circulation of capital decelerates in this phase, it requires more capital to finance circulation because sales are delayed or absent. Fewer sales makes it harder to meet payments, that is the conversion of credit back into money. In this phase, new credit is not used to circulate commodities, but to pay off old credit.

For Marx, the resolution of over-production, which is production beyond its profitable limit, is an explosive one. It leads to a collapse in production, a fall in prices and deleveraging. In early 2016, it appeared that China was entering a classical contractionary phase, the antidote to the forced expansion that preceded it. However, while the Chinese economy weakened, while profits fell and capital haemorrhaged out of China, there was no explosive resolution of this overproduction. Instead of the market flushing out unprofitable production, it was the state that quietly restructured industry.

Nor was there deleveraging. Total Chinese credit continued to increase according to the above BIS tables, from $23.4 trillion (2014) to $26 trillion (2015) and up to $27.5 trillion at the end of 2016. In the most indebted corporate sector in the world, credit rose more slowly during the same period: from $15.5 trillion to $17.3 trillion to $17.8 trillion. The most rapid area for credit growth was personal borrowing which shot up from $3.7 trillion to $4.1 trillion to $4.7 trillion rising by 10% of GDP to 44.4%.

Instead of financial deleveraging there was instead government led industrial restructuring. This was particularly true for heavy industry where state corporations are concentrated. The state set out to cull the less efficient producers (often under the pretext of reducing pollution) just as competition would in a market economy. The extent of the cull can be seen in the steel industry. China produces half the world output of steel, and in both 2016 and 2017 it will have culled around 45 million tons of

capacity. This annual reduction in output is equal to the output of steel in the world's seventh biggest producer – Germany.

Many of the firms closed in steel, cement, coal mining, other mining, glass manufacture and so on are either privately owned or owned by local government. Clearly these closures represent losses to their previous owners and bondholders, and yet despite the scale of these closures bad debts have barely risen, at least as far as the state banks go. In fact, it is inordinately difficult to detect never mind assess the scale of the losses (bad debts) and who is bearing them.

Not only have losses not been registered but profits have gone up because the prices of the above commodities have risen sharply due to diminished supply. Again, this represents a paradox. The fall in prices in the crisis/stagnation phases play an important role in restoring profitability by cheapening capital. Yet here we have rising prices for circulating capital and a general rise in the mass of profits. It would be expected that if input prices were rising, profit would fall in those industries employing these inputs. This would be the case even if most of these inputs ended up in infrastructures and buildings as these would lead to losses on contracts already signed. Hence profit increases on one side of the ledger should lead to loss of profits on the other side, but this has not been the case, begging the question as to the quality of the profits announced by the Chinese Statistical Bureau. Perhaps it is the case, that the Chinese state has pulled off the feat Gordon Brown strove for but never achieved, overcoming the business cycle by ending boom and bust.

It is unlikely. The evidence suggests that China, in typical Stalinist fashion, has sought to create a placid economic pond prior to the yet to be announced Congress. Given the recent slowdown in activity from July onwards it is likely that most of the stimulus for 2017 has already been spent leaving the rest of the year vulnerable to a slowdown. It is thus too early to say whether the Chinese state, with its state banks and its state companies, has ended the business cycle and avoided the associated credit crisis.

Should it not avoid a credit crisis the question posed is whether the Chinese state has the capacity to withstand a 2008 event. Most commentators nod in the affirmative pointing to the lowish 46% debt/GDP ratio in 2016. This central government debt, is however different to the Federal debt found in the USA. When the Chinese authorities set out to privatise the economy, or capitalise it, they sought to avoid an implosion on the scale of the USSR. To achieve this, the Chinese Communist Party knew that the privatisation trough into which the bureaucratic pigs would put their snouts, had to be wide and shallow rather than narrow and deep as had happened in the USSR. This would allow more bureaucrats to feast on smaller parcels of state property. Accordingly, they devolved privatisation to the regions and localities so regional and local bureaucrats could benefit from the process. The result is that it is in the regional and local states where assets and debts are concentrated, not in the centre. The extent of these debts will only become clear after a financial crash, because the toxic brew of privatisation and corruption has produced a haze as murky as the pollution found there.

In the event of a credit crisis, with the state having to centralise the losses to bail out the regions, it will turn out that the Chinese state was more indebted than first seen. In addition, one area of credit growth is of particular concern - the growth in consumer debt. Between 2014 and 2016 measured in Dollars, while Chinese GDP added only $0.582 trillion (tradingeconomics) consumer borrowing increased by over $1.0 trillion or 43%. In 2012 research by the Economist magazine concluded that of all the risk factors portending recession, the rapid growth in personal indebtedness was the most serious. The myth that the Chinese are frugal, spending only what they have, has been shown to be that – a myth. With wage growth slowing, house prices rising and surrounded by all manner of electronic offers of credit, Chinese consumers are on a borrowing binge that will end badly.

**Financialisation or strangulation?**

Financialisation or capitalisation as Marx termed it, because it is money seeking to act as capital by earning more money, creates two polar effects. In the first case, regarding articles of consumption, it expands production and consumption. This can be seen in the case of the car industry where innovative 3. 5 and 7-year loans have revolutionised the industry, but at the cost of potentially bringing down the most exposed car companies like Chrysler (which is why Chrysler is desperately trying to sell itself).

However, our concern is directed to the other case, where financialisation strangles production or supply for the purposes of leverage. Here we think of the primary areas of speculation - bonds, shares and housing. Before concentrating on housing, it is necessary to deal briefly with bonds and shares. It was the FED's purchasing of bonds that limited their supply and drove up their prices and it was corporate share buy backs that limited the supply of shares helping drive up their prices too.

But it is in housing that the human cost of limiting supply has been highest. Financialisation in housing is contingent on rising house prices. These price rises can only become systemic when the supply of housing is severely restricted. This can be seen in the highly leveraged US and UK housing markets. Housing peaked in the USA at 2.5 million units in the 1970s falling to 1.1 million today. Adjusted for floor space which has increased recently, that translates into 1.25 million equivalents or just half the quantity produced 40 years earlier when the population was 105 million smaller. Per head of population, the US used to build 1.15 homes per 100 citizens compared to only 0.39 homes today. In other words, it is only building one home today for the three it built in the 1970s, and most of today's homes, given the rise in floor space have been built for the rich or their speculators.

The same thing has happened in the UK only worse. As in the case of the UK only half the homes are being built compared to the 1930s, but they are only 52% as big, and they are being built for a population that is 40% larger. Hence adjusted for these factors per head of population, only about one house is being built for the five that were built in the 1930s or six in 1936 when 350,000 homes were built. The result in both countries is that housing has become unaffordable for the bottom 80% of society who do not already own or will not inherit a home.

Housing is a right, not the privilege financialisation has turned it into. Leverage is always finite. 2008 showed that all bubbles in the end need to be lubricated by revenue. Once again revenue has been stretched to breaking point. Rents have risen from 30% of income to as high as 70% of income and while the speculators see 100% as the limit, corpses do not make good tenants. Beginning in London because of Brexit, this financialisation of housing is unwinding. This time around the defaults will not be concentrated in the USA, but will embrace the whole world because house bubbles are evident everywhere from Australia in the south to Canada in the north and California in the west to Hong Kong in the east.

The final open question is whether the prevalence of leverage is a symptom of economic decline or the cause of this decline. Whether it is the speculators sucking the last bit of moisture from a withering economy or whether they are causing the decline by investing in froth rather than in the living economy. The answer in the end is a bit of both. In the USA it is more of the former, and in China more of the latter.

**Conclusion.**

The apostles of Von Mises, Hayek and Ayn Rand may bemoan the absence of gold money. They may blame the ills of society and the basis of authoritarian states on that state's freedom to issue fiat

money. "*Through these means of finding government revenues outside of directly taxing the population, we see then that fiat money allows for an extension of government activities unconnected to the willingness of the population to actually support revenue increases. In turn, the government's rule becomes rule by elites such as central bankers and financiers rather than rule by the taxpayers, and the government's ability to spend becomes more dependent on the ability to access fiat money than the ability to convince the citizens to accept a higher tax burden."* (Mises Daily Articles: *The Cultural and Political Consequences of Fiat Money* 11/20/2014 Jörg Guido Hülsmann)

We have seen that the basis of fiat money has its origins in credit money. Credit money in turn has its origins in industry and commerce before its subsequent centralisation by the newly emergent banking system, which provided them with the means to issue their own - larger scale - credit money. Perhaps it was the freedom to issue credit money by these industries and merchants that gave them such autocratic power over their workers, a contagion that was to spread to the state itself. What nonsense!

The opposite is the case. If the intention is to reduce the state so that it lives within its means on the taxes democratically agreed by society, that will not make the state more democratic. One can imagine the political auction at every election as competing political parties try to outbid each other on tax reductions. This is this logic behind the flat earthists who all subscribe to a small state and who all call for a single tax rate. Lowering taxes was Trump's trump card in the elections enabling him to win the election with the support of many of the wealthier sections of society. That is why his rallies were filled with the odd mixture of fur coats and denim jackets.

The fact is that a small state favours the capitalist class, not the working class. The reason is obvious. The value added in society is composed of wages, undivided profits and taxes. If wages and taxes are reduced it follows that profits are increased regardless of whether it is taxes on profits or on wages. Generally, a reduction in wage taxation is taken into consideration when setting future wage rates which tends to reduce them.

Capitalists, which of course includes the central bankers and financiers, have always sought to keep taxes low, particularly their own, in order to maximise profits. But what is good for capitalists is never good for workers. A small state is one which does not have the resources to inspect production, defend consumers or protect the environment (remove red tape and you end up with red flames as the unnecessary disaster at Grenfell showed). Nor is it a state that can redistribute wealth to fund housing, health, education and social care for workers both employed and unemployed.

But say the Von Mises brigade, this should all be paid out of wages not benefits. Possibly, but then wages would have to shoot up undermining profits. And wage earners can only drive up wages when they have the freedom to organise unopposed by the state and its police. This implies there are no restrictions on their right to organise, to unionise, to strike and to engage in solidarity strikes. But, object the Von Mises brigade, that is intolerable because these bargaining rights will form a monopoly interfering with the freedom of the labour market to discover the real price of wages. It would lead to a rigid rather than the flexible labour markets which allow the capitalist class to hire and fire at will.

This brings us to the root of the problem. There is no universal or people's freedom under capitalism. There are only class freedoms. Giving freedoms to the capitalist class means taking them away from the working class. The record of neo-liberalism is clear and it is a negation of working class freedoms. A reduction in the size of the state, particularly its welfare side, has impacted the lives of all but the richest, those living below the median wage directly and those living above the median wage indirectly. This is graphically demonstrated by the issue of housing which should be a right not a privilege. The reduction in social housing has not only removed decent housing from poorer sections of society, but by driving up house prices, it has impacted more and more layers of society. It

underscores the maxim, that what is bad for the working class, is bad for society. This is well illustrated through the issue of inoculation. Inoculation or herd medicine is not a medical issue, it is an economic issue. As Sweden showed, eliminate pockets of poverty through a comprehensive social net and it removes the reservoirs of infection that makes most inoculations necessary.

In the end, to free the market the state needs to imprison society because of the desperation and discontent this unleashes. Neo-liberalism has kindled a fire. It has become the best "recruiting sergeant-major" for revolution. The super-rich, those who benefit from it, know it. They have no illusions about what will happen as a result of another financial crash. The wiser among them know that the next financial crash will add to the legacy of 2008 making a social explosion inevitable. It is for this reason they are rushing to buy up remote New Zealand, there to build their safe shelters to ride out the coming storm.

In the end money is social power. It does not matter what form it takes. It does not matter if it resides as gold in a vault or as electronic money on a smartphone. Marx himself considered cheques displacing bank notes. The fact that money is becoming more intangible as society goes more cashless, does not alter the tangible property of money: its ability to purchase the commodities produced by the rest of society including labour power. Above all the property of it becoming capital - money making more money - when sufficient money is exchanged for labour power.

**Note 1.**

At first glance, it appears contradictory that the level of investment can be influenced both by effective demand and the rate of profit. This is a superficial contradiction. A patient can suffer from a chronic condition for years, but it is only when this condition becomes acute, qualitatively elevated, that the condition can kill the patient. While it is true that the chronic condition weakens and ages the patient, it is only the acute phase that is life threatening.

So too with the link between profits, demand and investment. With the advent of inequality, investment has suffered from a chronic condition. It has underperformed leading to an anemic world economy. This is the underlying longer-term condition. Within that condition the business cycle operates. Here it is the rate of profit which determines whether or not this chronic condition subsides or becomes acute. A chronic condition will not precipitate a recession, only the acute phase can, and that phase is defined as an absolute fall in the rate of profit leading to an absolute fall in the rate of investment. Here the absolute fall replaces the reduced rate of investment, leading to the actual contraction of production, a recession.

Brian Green. August 2017