

The causes of the Great Recession: mainstream and heterodox interpretations and the cherry pickers

Abstract

The Great Recession of 2008-9 was the deepest and longest capitalist economic slump since the Great Depression of 1929-32. Yet, the official strategists of economic policy in all the advanced capitalist economies did not see it coming; then denied it was taking place; and afterwards were unable to explain why it happened. The vast majority of mainstream economists (both the neoclassical or Keynesian wings) failed to forecast it too.

Afterwards, a bitter dispute has broken out between these two wings on which theoretical model best explained the Great Recession. This paper argues that neither wing has an adequate explanation because both theoretical models are: obsessed with the actions or motivations of individual economic agents; refuse to provide empirical evidence from history (thus have models lacking in any predictive power); and focus only on flaws in the financial sector for the causes rather than the wider capitalist production process.

These failings also apply to a greater or lesser degree to many heterodox economic explanations, ranging from the behavioural or 'animal spirits' versions of the Keynesian model, the Minsky 'financial instability' supporters, to the Austrian 'excessive credit' school.

This paper argues that the Marxist model of capitalism best explains the Great Recession, rooted as it is in the inherent flaws in the capitalist production process and then its indirect impact on the financial sector. This reveals how the proximate causes are related to the ultimate.

The methodological lessons for economists from the Great Recession are: 1) turn to the aggregate and away from the individual in forming economic theory; 2) provide empirical evidence that can be tested and retested; and 3) look at the big picture, not one sector of the capitalist economy.

“To understand the Great Depression is the Holy Grail of macroeconomics”. Ben Bernanke, 2002 speech.

The Great Depression was (and in many ways) remains a great puzzle as there were millions of the world’s citizens who wanted to consume more housing, food and clothing; and producers by the hundreds of thousands who wanted to manufacture more housing, food and clothing and yet the two sides could not get together. Why? What was preventing these economically improving, mutually beneficial exchanges from taking place? What was it that prevented people from working and producing more? ...At this moment, (the answer) remains largely unknown”. Randall E Parker, *The Economics of the Great Depression, 2009*

“There are known knowns. There are things we know that we know. There are known unknowns. That is to say, there are things we know we don’t know. But there are also unknown unknowns. These are things we don’t know that we don’t know. Donald Rumsfeld

How great was the Great Recession?

The Great Recession of 2008-9 really was great. It was the longest and deepest in its contraction of output that the global capitalist economy, as represented by the 30 advanced capitalist nations of the OECD, has experienced since the Great Depression of 1929-32.

From the peak of the previous boom in real GDP growth from 2007 to the trough of the Great Recession in mid-2009, the OECD economies contracted by 6% points of GDP. If you compare global output in 2009 to where it should have been without a slump, the loss of income was even greater at 8% points (1).

At the trough of the Great Recession, the level of industrial production was 13% below its previous peak, while world trade fell 20% from its previous peak. World stock markets fell an average 50% from the peak in 2007 (2).

The Great Recession was also the longest since the Great Depression. Since the Great Depression, the US National Bureau of Economic Research (NBER) has tried to date economic recession with reference to the US economy. There have been 18 recessions on NBER measures since the Great Depression, now 80 years ago. The average length of these has been ten months and on average the US economy grows below ‘potential’ for about 19 months during those recessions (measured by rising unemployment). The Great Recession, still not officially declared as over by the NBER, probably lasted about 20 months, making it more than double the average and the longest by far since 1929-33, which lasted 43 months (3).

The taxonomy of economics

Given its depth and duration, the Great Recession must be one of the most important case studies for explaining the processes of the capitalist economy. So how robust were the various schools of economic theory in predicting and explaining the nature of the largest and longest slump in capitalism since the Great Depression?

The short answer is that economics as a science has egg on its face over the Great Recession. Most economists did not predict the oncoming of the slump and in hindsight have struggled to explain what happened and its cause or causes.

We can look at the various explanations or rationalisations of the various schools of economic theory. We can categorise the economics profession into various schools, with the main division between 'mainstream' and 'heterodox'. Taxonomy, of course, will have its exceptions, as Darwinians will be the first to proclaim in the field of biology.

In the mainstream, we have two great schools with sub-divisions. The first is the neoclassical (and by this we should distinguish from the 19th century classical economists of Smith, Ricardo, Malthus, JS Mill and, of course, Marx).

The neoclassical school is what Marx called the vulgar economics. This school is ideologically committed to a belief in the 'free market' as a starting assumption rather than as a scientifically objective view of economic organisation.

The neoclassical can be sub-divided into the Walrasian general equilibrium analysis; the traditional monetarists (a la Milton Friedman); and the modern 'Chicago school' of 'efficient market' theorists.

Within the mainstream, there is also the Keynesian school, which rejects the microeconomic categories of the neoclassical school as relevant to macroeconomic forces. It is divided again. There are the neo-Keynesians with their synthesis with neoclassical equilibrium theory, namely that slumps are really a product of 'sticky' factors of production, particularly wages. For neo or New Keynesians, slumps are exogenous to the economic model.

And there are Keynesians who concentrate on other aspects of Keynes' theory; that slumps are the result of the lack of 'effective demand', which in turn is induced by 'liquidity preference' in the financial sector or is a product of the irrational movements of 'animal spirits' among entrepreneurs and the behaviour of consumers (this wing of Keynesianism has now migrated into 'in-vogue' so-called behavioural economics).

The divisions between the mainstream Keynesians and the neoclassical school have become very heated in the aftermath of the financial crash and the Great Recession. But both are still firmly agreed on a market-based system as the only viable form of economy.

Then there are eclectics who sit astride both the major mainstream schools and cherry pick what they want to use. They particularly include the frontmen and women of the official bodies of monetary and fiscal policy like the central bankers (Alan Greenspan, Ben Bernanke or Mervyn King) and economists within government like Larry Summers.

The heterodox school of economics can also be divided between those who look to the more radical aspects of Keynesian thought: namely the irrational behaviour of markets and the inherent instability of the financial sector (Hyman Minsky *et al*) as

the benchmarks for the economic crisis: and the Marxist school that looks to the inherent instability of capitalism as a whole, namely in its non-financial sector just as much as, if not more than, the financial sector.

The Marxist school can be sub-divided between those who see the cause of capitalist crisis in 'overproduction' and/or 'underconsumption'; or in profitability. Once again some sit astride these various heterodox schools and cherry pick - so much for accurate taxonomy here.

The official leaders: a complete mess

How did the official leaders of capitalist economic strategy act before, during and after the Great Recession?

Before 2007, no official strategist of economic policy forecast any crisis. US Fed Chairman Greenspan in 2004 told us that "*a national severe price distortion is most unlikely in real estate*". In 2006, he told us that "*the worst may be over for housing*", just the housing bubble burst. US treasury secretary Hank Paulson said the crisis in the overall economy "appears to be contained", March 2007.

During the crisis, in October 2008, the great financial maestro Greenspan told the US Congress, "*I am in a state of shocked disbelief.*" He was questioned: "*In other words, you found that your view of the world, your ideology was not right, it was not working* (House Oversight Committee Chair, Henry Waxman). "*Absolutely, precisely, you know that's precisely the reason I was shocked, because I have been going for 40 years or more with very considerable evidence that it was working exceptionally well*".

Greenspan in hindsight tells us that economists cannot predict a bubble and when it happens there is nothing you can do about it. "*You can only break a bubble if you break the underlying basis of the economy*". October 2007.

Greenspan finally summed up what he had learned in a review of the crisis in his paper *The Crisis*, March 2010. He told us that what happened was "*financial intermediation tried to function with too thin a layer of capital owing to a misreading of the degree of risk embedded in ever-more complex financial products and markets*". So something as simple as the lack of capital adequacy was the cause. You'd think he might have noticed that.

Moreover, the bubble that burst in 2008 came about by a conjunction of events that could not be expected. It was the serendipity of the Fall of the Wall, cheap interest rates and globalisation that came together to create excessive risk taking. Could the crisis have been avoided? No, because of these serendipity factors coming together, "*I doubt it*", he says.

So for Greenspan, it was chance, a one hundred year event. "*The disasters were the results of massive natural forces and they did constitute a perfect storm*". This idea was echoed by Hank Paulson: this sort of thing happens "*only once or twice*" in a hundred years. As economist Daniel Gross commented on the 'chance explanation' of the crisis: what's the difference between once or twice? "*In this instance, several trillion dollars in losses*".

In the aftermath, the official leaders fell back on the argument of Nassim Taleb, that the crisis was a black swan – something that could not have been expected or even known until it was, and then with devastating consequences (4). As Donald Rumsfeld put it during the Iraq war, it was an ‘unknown unknown’.

Greenspan defined a bubble as *“a protracted period of falling risk aversion that translates into falling capital rates that decline measurably below their long-run trendless averages. Falling capitalisation rates propel one or more asset prices to unsustainable levels. All bubbles burst when risk aversion reaches its irreducible minimum.”*

He notes that several Nobel prize winners in economics were embracing profitable market trading models that were successful only as long as risk aversion ‘moved incrementally’. But using only 2 to 3 decades of data did not yield a model that could anticipate crisis if risk moved outside that range.

There was nothing wrong with the Black and Scholes option pricing model: *“it’s no less valid today than a decade ago”*. It is just that the *“underlying size, length and impact of the negative tail of the distribution of risk outcomes that was about to be revealed”* had not been comprehended.

Greenspan now doubts that stable growth is possible under capitalism (5). *“I know of no form of economic organisation based on the division of labour (he refers to the Smithian view of an economy), from unfettered laissez-faire to oppressive central planning that has succeeded in achieving both maximum sustainable economic growth and permanent stability. Central planning certainly failed and I strongly doubt that stability is achievable in capitalist economies, given the always turbulent competitive markets continuously being drawn toward but never quite achieving equilibrium”*.

He went on, *“unless there is a societal choice to abandon dynamic markets and leverage for some form of central planning, I fear that preventing bubbles will in the end turn out to be infeasible. Assuaging the aftermath is all we can hope for.”* (6)

Of course, these official leaders are the paid proponents of vulgar economics. You would not expect them to forecast to the public at large that capitalism was about to collapse or could collapse. The Fed failed to foresee the greatest economic collapse since the Great Depression. And it is not surprising. There is a crude pecuniary connection here. At the *Journal of Monetary Economics*, a much-published venue of mainstream economics, more than half of the editorial members are currently on the Fed payroll and the rest have been in the past (7). There were 730 economists, statisticians and others working at the Fed and its regional banks in 1993, according to Greenspan.

Over a three-year period, ending October 1994, the Fed awarded 305 contracts to 209 professors worth \$3m. The Fed now employs 220 PhD economists. In 2008, the Fed spent \$389m on research into monetary and economic policy and \$433m was budgeted for 2009. According to the AEA, 487 economists are researching monetary

policy and central banking, another 310 on interest rates; 244 on macroeconomic policy.

The NABE reckons that 611 of its 2400 members focus on monetary and banking. Most of these have worked for or with the Fed. Many editors of prominent academic journals are on the Fed payroll: 84 out of 190 editorial members in seven top economics journals were affiliated with the Fed.

“Try to publish an article critical of the Fed with an editor who works for the Fed” complained economist James Galbraith. Even the now extinct Milton Friedman expressed his concerns about this: *“I cannot disagree with you that having something like 500 economists is extremely unhealthy. As you say, it is not conducive to independent objective research. There is censorship of material published.”*

Asked to be a consultant for the Fed. *“It’s a payoff, like money. I think it’s more being one of part of a club, being respected, invited to conferences, have a hearing with the chairman, having the prestige is as much as a pay check.”* Rob Johnson, Senate banking committee economist.

As Philip Mirowski concludes (8), *“most conventional outlets for economic ideas have become wilfully uninterested in the tangled conflict of interest of the modern economics profession. Does anyone care that Martin Feldstein was on the board of AIG in the runup to its disastrous failure? Or that Paul Krugman once consulted for Enron (and got radicalised after the New York Times made him foreswear such perks)? Is anyone curious about the tangled history of funding and organisation of the Chicago School of Economics? Does anyone care that Larry Summers worked for numerous hedge funds and investment firms before they had to be rescued by an administration that include Larry Summers?”*

Ben Bernanke is the current Fed chairman and presided over the Great Recession. Bernanke is an economist who specialised in the Great Depression. If ever there was an economist who looked at ‘depression economics’, to use Krugman’s phrase, it is Bernanke.

He concluded that depression could be avoided by Fed action. Following his mentor Milton Friedman, he advocated printing money and even ‘dropping it from helicopters’ to the populace to ensure spending is sustained. This monetarist theory led him to concentrate on money supply indicators as a guide to the state of the US economy. *“I would like to say to Milton Friedman and Anna Schwartz regarding the Great Depression. You are right, the US had a Great Depression, but thanks to you, we won’t again”*“, Bernanke, 2002 speech.

But *“Mr Bernanke, the former head of Princeton University economics department, knows all there is to know about a depression except what causes them”* (9). Like Greenspan, Bernanke did not see the crunch coming. *“We don’t expect significant spillover from the subprime market to the rest of the economy from the financial system”*. May 2007. By June, he was saying the losses would be minimal *“between \$50-100bn”* at most. So far, the losses in the global financial system have reached just under \$2trn.

The head of the Federal Deposit Insurance Corporation, a US government agency responsible for regulating and monitoring the banking system, reported in July 2007 that *“the banks in this country are well capitalised and my view is that I would be very, very surprised if any institutions of significant size were to get into serious trouble.”* And lo – we have Bear Stearns, Countrywide, Lehmans, Merrill Lynch etc.

The efficacy of the economics of the world’s financial leaders in the Great Recession has been neatly summed up. *“Central banks have shed the conventional wisdom of typical macroeconomics. But in its place is a “pot pourri of factoids, partial theories, empirical regularities without formal theoretical foundations, hunches, intuitions and half-developed insights.”*

Is this the beginning of wisdom or total bankruptcy (10)?

The bankruptcy of mainstream economics

That mainstream economics was equally nonplussed by the financial crash of 2007-8 and the subsequent Great Recession of 2008-9. The doyen of the neoclassical school, Robert Lucas, confidently claimed back in 2003, that *“the central problem of depression-prevention has been solved”*. And leading Keynesian, Oliver Blanchard, now chief economist at the IMF, told us as late as in 2008 that *“the state of macro is good”*!

But then economic forecasting has not been the strong suit of the mainstream. In March 2001, just as the mild global economic recession of that year began, according to the Economist, 95% of US economists ruled out such a recession. Economists surveyed by the Philadelphia Reserve Bank in November 2007 forecast that the US economy would grow 2.5% in 2008 and employment would rise.

How has mainstream economics rationalised this failure to predict and what explanations has it come up with since for the causes of the Great Recession? Modern vulgar neoclassical economics starts with the assumption (given and not proven) that the market is a perfect reflection of the underlying fundamentals. Asset prices may change often dramatically, but merely as a rational and automatic response to the arrival of new information.

The price of any given asset at any time is completely correct. It cannot be over or undervalued. It is the right price, nothing more nor less. If all public information is available immediately, it is incorporated into the price. So any movement cannot be predicted because it depends on information that is not yet known. You cannot beat the market.

Thus there is the famous (infamous) efficient market hypothesis (EMH). Financial markets always get prices right given the available information. Eugene Fama from University of Chicago first promulgated the EMT. According to Fama, there was no bubble in housing markets because consumers had all the information they needed to buy, so the price was right.

The usual economic joke about EMH is that an economist and his friend come across a hundred dollar bill lying on the ground. The friend goes to pick it up, but the

economist says don't, it's not necessary. If it were a real bill, someone would have already picked it up!

Eugene Fama dismissed criticism of EMH as useless in predicting or explaining the Great Recession (11). He denied that there was any credit bubble that burst. *"I don't even know what that means. People who get credit have to get it from somewhere. Does a credit bubble mean that people save too much during that period? I don't know what a credit bubble means"*.

When asked what caused the Great Recession if it was not a credit bubble that burst, Fama responded: *"We don't know what causes recessions. I'm not a macroeconomist so I don't feel bad about that! We've never known. Debates go on to this day about what caused the Great Depression. Economics is not very good at explaining swings in economic activity"*.

What would be the legacy of the financial crisis for mainstream neoclassical economics? *"I don't see any. Which way is it going to go? If I could have predicted the crisis, I would have. I don't see it. I'd love to know more what causes business cycles."*

But can the market economy be considered efficient after this crisis? *"Yes. And if it isn't, then it's going to be impossible to tell."* Thus the great guru of neoclassical economics sums up his school's contribution to the issue.

Another guru of neoclassical economics but from a previous generation is Robert Solow. He has been much less blase about the failure of mainstream economics to forecast the Great Recession. In a statement to the US Congress in July this year, the 85-year old, was forthright (12): *"the macroeconomics that dominates serious thinking, certainly in our elite universities and in many central banks and other influential policy circles, seems to have absolutely nothing to say about the problem. Not only does it offer no guidance or insight, it really seems to have nothing useful to say."*

In particular, Solow singles out the obsession of mainstream economics with microeconomic behaviour and the motivations of 'representative agents'. Neoclassical economics with its *"one single combination worker-owner-consumer-everything else"* simplified economy *"has nothing useful to say about anti-recession policy because it has built into its essentially implausible assumptions the 'conclusion' that there is nothing for macroeconomic policy to do."*

Paul Krugman, the leading US Keynesian economist and columnist of the New York Times, delivered a blistering attack on the failure of neoclassical economics to offer any explanation of the Great Recession (13). Krugman pronounced: *"admit that financial markets fall short of perfection; admit that Keynesian economics is the best framework we have making sense of recessions and depressions. Incorporate the realities of finance into macroeconomics."*

The Chicago School responded equally sharply. John Cochrane defended the EMT. *"The central prediction of the EMT is precisely that nobody can tell where markets are going – neither benevolent government bureaucrats nor crafty hedge fund"*

managers, nor ivory tower academics. This is the best tested proposition in all the social sciences". Thus Cochrane tells us that the main thesis of neoclassical economics can tell us nothing about the financial crash! Alternatively, the EMT tells us the bleeding obvious: namely, that if someone makes money doing an investment or activity, then other people will copy him/her and whittle away his/her returns over time (14).

For the neoclassical school, asset prices can move out of line with any reasonable expectation of future cash flows (underlying value). This might be because people are prey to bursts of irrational optimism and pessimism. But it might also be because people's willingness to take on risk varies over time and is lower in bad economic times. We just don't know, apparently.

Cochrane criticises those who reckon economics needs some theoretical power in predicting crises. *"Crying bubble is empty unless you have an operational procedure for identifying bubbles, distinguishing them from rational low risk premiums and not crying wolf too many years in a row"*. In effect, Cochrane says that economists don't know anything about bubbles. Unless you can predict when a bubble will burst, stop complaining about the EMT predicting bubbles are impossible!

Cochrane argues that neoclassical economics and the EMT has not been found wanting. *"People say that nobody foresaw the market crash. Well, that's exactly what an efficient market is – it's one in which nobody can tell where it's going to be. The efficient markets thesis doesn't say markets will never crash. It certainly doesn't say markets are clairvoyant. It just says that, at that moment, there are as many people saying it's undervalued as overvalued."* In other words, the EMT tells you nothing!

Keynesian and behavioural economic theory is no better than neoclassical theory in gauging economic crises, according to Cochrane. *"Are markets irrationally exuberant or irrationally depressed today? It's hard to tell"*. As Cochrane says, *"Let's see a measure of the psychological state of the market that could come out wrong. That's hard to do"*. Behavioural economics lacks measurable indicators - but then Cochrane has none himself.

Cochrane thus dismisses any attempt to explain market volatility and collapse. For him, *"it is the central prediction of free market economics, as crystallised by Hayek, that no academic, bureaucrat or regulator will ever be able to fully explain market price movements. Nobody knows what 'fundamental' value is. If anyone could tell what the price of tomatoes should be, let alone the price of Microsoft stock, communism and central planning would have worked"*.

So there we have it. The only indicator of value is the market price and no underlying value can be ascertained – this is the ultimate in vulgar economics. But note the disingenuous words *"fully explain"*. Apparently, we can explain 'something' and thus we could even measure perhaps a fundamental value for something (even if we cannot predict market prices at any one time).

For the neoclassical school, *"the case for free markets was never that markets are perfect. The case for free markets is that government control of markets, especially*

asset markets, has always been much worse". On this vulgar ideological assumption, Cochrane dismisses the Keynesian attack on the EMT, but also the key Keynesian policy prescription for the slump, namely fiscal stimulus.

But as Nouriel Roubini (see below) points out, "*Crisis economics is the study of how and why markets fail. Much of mainstream economics, by contrast, is obsessed with showing how and why markets work – and work well.*"

For Cochrane, fiscal stimulus won't work. It can help employment for a while but only at the expense of weakening consumer demand growth eventually. Cochrane falls back on the neo-Ricardian theorem of Robert Barro. Here Cochrane and Barro are on stronger ground as current empirical evidence of previous fiscal stimulus packages suggests that fiscal multipliers in the Keynesian sense are very weak and even negative.

Cochrane argues mischievously that if you are a Keynesian you would have to support Bernie Madoff's Ponzi scam, because it took money from rich savers and gave it to thieving spenders. It does not matter what it is spent on or how you get it as long as it spend it and not save it, according to Keynes, says Cochrane.

Paul Krugman's attack on the failures of the neoclassical school exposed the 'free marketers' in Chicago who deny that any frictions or flaws exist in free markets. Krugman tells us that "*economics as a field got into trouble because economists were seduced by the vision of a perfect, frictionless market system*". This is why they have nothing to say on the Great Recession. For Krugman, only Keynesian theory can provide light where there is dark.

Krugman is particularly upset that the neoclassical school has become obsessed with substituting beautiful mathematical models for truth and reality. They turned a blind eye to human irrationality, to market imperfections. Economists now have to live with messiness, the importance of irrational behaviour and imperfections in markets.

"Economics as a field got into trouble because economists were seduced by the vision of a perfect frictionless market system. If the profession is to redeem itself it will have to reconcile itself to a less alluring vision – that a market economy has many virtues but it is also shot through with flaws and frictions".

Keynesian Barry Eichengreen argues that "*the development of mathematical methods designed to quantify and hedge risk encouraged commercial banks, investment banks and hedge funds to use more leverage as if the very use of mathematical models diminished the underlying risk.*"

"Mathematical rigor has the inherent tendency to conceal the weakness of models and assumptions to those who have not developed them and do not know the potential weakness of the assumptions".

Tony Lawson argues that the fundamental failing of modern mainstream economics is, as Krugman says, is not that it could not predict the recent crisis but that its obsession with mathematical modelling and formalistic models will never produce

any successful predictions (15). Mainstream economics is dominated by this failed approach to economic insights.

But are the Keynesians really saying that maths are not useful in economics. Surely there is not enough maths? Or to be more exact, there is not enough logical analysis as well as empirical data to check. Should we abandon the attempt to compare theories quantitatively against data?

The problem is not the maths but that the neoclassical school builds an economic model on the twin assumptions of rational expectations and individual agents. This is a false behavioural model and a false macro assumption. Human beings may not act 'as expected' and certainly not at an individual level.

The economics profession has a duty to make that clear just as climate scientists do today over their models and assumptions. But economists did not – on the contrary. This shows the vulgar ideological nature of mainstream economics.

More important, the power of the aggregate and history is completely ignored. The aggregate irons out the irrational or the unexpected (even if some wrinkles remain) and history, namely empirical data and evidence, provide a degree of confidence for any theory (the goodness of fit). With the neoclassical EFM, neither is applied.

Carmen Reinhart and Kenneth Rogoff have taken a statistical approach with much more success in revealing the regularity of capitalist crises (16). They complain that *“Research on the origin of instabilities, overinvestment and subsequent slumps has been considered as an exotic sidetrack from the academic research agenda (and the curriculum of most economics programs). This was because it was incompatible with the premise of rational representative agents.”*

“A deeper question is whether economists have any handle on ferreting out dangerous price bubbles. There is much literature devoted to asking whether price bubbles are possible in theory...in theory, rational investors should realise that the chain of expectations driving a bubble is illogical and therefore can never happen. Are you reassured? Back in my graduate days, I know I was.”

“But it all depends on how market participants coordinate their expectations. In principle, prices can jump suddenly and randomly from one equilibrium to another as if driven by sunspots”.

Surely, any study of stock markets would show that they are much more volatile than the standard models of empirical research that Cochrane relies on (17)?

But of course, statistical analysis is also inadequate without a relation to theory. The work of Reinhart and Rogoff lacks that. As Paul Krugman says, *“correlation may not imply causation... high debt is arguably a consequence of slow growth rather than the other way round”.* (18)

David Colander sums up the relative success of the neoclassical and Keynesian schools in explaining the crisis (19): *“the failure of economics is not a failure of*

Classical or Keynesian economics. Instead, it is a systemic failure in the entire economic profession.”

Colander correctly tells us the bankruptcy of mainstream economics is partly because economic models “*fail to account for the actual evolution of the real world economy. Moreover, the current academic agenda has largely crossed out research on the inherent causes of financial crises. There has also been little exploration of early indicators of systemic crisis and potential ways to prevent this malady from developing.*”

Colander goes on: “*systemic crisis appears like an other-worldly event that is absent from economic models. Most models by design offer no immediate handle on how to think about or deal with this recurring phenomenon. In our hour of greatest need, societies around the world are left to grope in the dark without a theory.*”

“What we need are models capable of envisaging such ‘exceptional circumstances’. Instead, macroeconomics is confined to models of stable states that are perturbed by limited external shocks and that neglect the intrinsic boom and bust dynamics of our economic system”.

But Colander wants us economists to retreat to the idea that economics is not a really a science, but an art. “*It’s not the lack of maths or too much. It is that an economy is a complex system and we don’t know how to analyse it. We must start to rely on ‘common sense’.* God help us!

For Colander, the way out, is to admit bankruptcy of mainstream theory and give up on science. “*Economists have had no choice but to abandon their standard models and to produce hand-waving common sense remedies. But common sense advice, although useful, is a poor substitute for an underlying model that can provide much-needed guidance for developing policy*”.

Animal spirits school

The Keynesian school seems to have deserted the old ‘liquidity preference’ element of Keynesian theory for an explanation of this crisis, namely that money gets stuck in the financial sector as individuals hoard cash and banks do not lend it onto the real economy because real interest rates are too high. Krugman prefers to draw on the causes of the crisis in Keynes perception of the animal spirits of capitalism (namely the changes in the confidence of economic agents, consumers and business leaders, to buy, borrow, invest, or speculate.

The ‘New Keynesians’ who reconciled the more radical aspects of Keynes’ theory with the neoclassical model argue that a cut in the interest rate might help raise ‘effective demand’ or consumption now, but lower planned consumption in the future. That won’t end economic recession. So how does a capitalist economy get out of recession? Through pixie dust! New Keynesians must assume that some time in the future full employment will be established. So the old Keynesian cause of recession (an unemployment equilibrium), namely a high real interest rate, is not right. The problem is the lack of a Tinkerbell effect, the magic of confidence (20). Recession is the result of confidence falling and the answer is to restore confidence. It’s as simple as that.

The Keynesians have also deserted their standard 'effective demand' theory based on the lack of consumption. Robert Farmer is a leading Keynesian economist and adviser to various US governments. For him, the key element of a Keynesian explanation is in animal spirits. Demand depends on 'confidence' and that is best indicated by the movement in stock prices. Farmer does not tell us why confidence is subject to such sudden and sharp changes. It just is.

A fall in confidence leads to a fall in stock prices and then to employment, consumption and investment. And the spiral continues until 'confidence returns. Then stock prices rise and the whole process reverses. Thus the crisis is caused not by a lack of effective demand leading to a collapse in wages and employment, but the lack of speculation in stock markets!

Stock markets could stay permanently in a 'bear market'. The answer is not so much to provide fiscal stimulus but for the government and the central bank to intervene through the purchase of stock market indexes to pump prime the investors and restore their animal spirits.

The behaviouralist cul-de-sac

The Keynesians have also looked to behavioural school of economists for better explanations of economic crisis. For some time, this micro motivation approach to economics has been popular with young economists who have turned away from questions like poverty, inequality or unemployment to study behaviour on television game shows.

For example, the young economists at the Bank of England wish to tell us that such is the role of 'uncertainty' in economics (21) (as it is in climate change or the weather) that we must accept "sharp changes in expectations, which is exactly what happened in autumn 2008, with the sudden and synchronous collapse in business confidence around the world".

For them, the way forward is to look much more closely at the behaviour of economic agents. There are four key aspects: 1) consumer or business behaviour can be influenced by recent or personal experience (a depression for example). 2) economic behaviour can depend on how the issues are presented to economic agents (like whether their pensions are assured or not) 3) people tend to follow the action of others (the herd instinct, the wisdom in crowds etc) and 4) people have excessive faith in their own judgements and wishful thinking. Economists are thus faced with a conundrum: they need to provide guidance on the direction of an economy but such is the role of people's expectations and uncertainty, they cannot with any degree of accuracy. Oh woe is me.

Apparently "people do not often make decisions in the rational front of brain way assumed in neoclassical economics, but make decisions that are rooted in the instinctive part of the brain and thus produce herd effects and irrational momentum swings."

According to one source (22), in crises, people know the risks but irrationally decide to ignore them. This view of ‘irrational behaviour’ is the key element of Keynes’ *General Theory* and thus the crisis was more a Keynes moment than a Minsky one!

We even have behaviourists developing computer models where the idea is “*to populate virtual markets with artificially intelligent agents who trade and interact and compete with each other much like real people*” (23). Apparently, these computerised ‘agent based’ models let “*market behaviour emerge naturally from the actions of interacting participants. What comes out may be a quiet equilibrium (neoclassical) or it may be something else.*” Well, that’s helpful! Apparently, when a model of increased leverage is developed with ‘economic agents’ like computerised hedge funds, we find that instability grows, but not gradually but suddenly. There is a tipping point, a qualitative change a la Marxist dialectics. Thus the behaviour of market agents can lead to financial crises by the very nature of markets. This is nothing new, but chaos or complexity theory practised in a virtual world economy.

The heterodox schools

Austrian school

The Austrian school of economics is outside the mainstream (at least according to ‘the Whig interpretation of the history of economics’) (24).

The Austrians start from micro assumptions. This is not the neoclassical view of rational fully informed human agents, maximising their utility and profits. On the contrary, human action are speculative and there is no guarantee of success in investment.

Indeed, according to Carl Menger, the founder of the school, the further out the results of any investment are, the more difficult it is to be sure of success. Thus investment in goods that are for immediate consumption are easier to estimate the returns on than investment in goods needed for capital goods. Saving rather than consumption is a speculative decision in order to gain extra returns down the road.

Austrians reckon that the cost of this saving can be measured by the market interest rate which prices the time involved in delivering future output from savings now. Economic crisis would not happen if it were not for interference in setting that market rate of interest by central banks and governments.

The boom phase in the business cycle takes place because the central bank supplies more money than the public wishes to hold at the current rate of interest and thus the latter starts to fall. Loanable funds exceed demand and then start to be used in non-productive areas, in the case of the boom 2002-07 in the housing market. These mistakes during the boom are only revealed by the market in the bust.

Thus “*the Great Recession is not a product of the greed of laissez-faire capitalism, it is the unintended consequence of very significant interventions in the operation of the market process: the Fed’s expansionary monetary policy and a set of policies that artificially reduced the costs and risks of home ownership enabling the creation of highly risky loans which themselves then lead to even riskier innovations in the financial industry.*”

From an Austrian perspective, the eventual collapse of the house of cards built on inflation (of credit) represents not a failure of capitalism, but a largely predictable failure of central banking and other forms of government intervention.

The Great Recession was a product of the excessive money creation and artificially low interest rates caused by central banks that on this occasion went into housing. The recession was necessary to correct the mistakes and malinvestment caused by interference with the market pricing of interest rates. As the Austrians correctly point out, *“the recession is the economy attempting to shed capital and labour from where it is no longer profitable”*. And no amount of government spending and interference will help to avoid that correction.

Within the Austrian school, there is general agreement that business cycles are primarily caused by periodic credit expansion and contraction of central banks. Business cycles would not be a feature of a ‘truly free market’ economy. As long as capitalists were free to make their own forecasts and investment allocations based on market prices rather than by bureaucrats, there would be no business cycles!

Cycles are due to the manipulation of credit by state institutions. This differs from neoclassical/monetarist school which sees recessions as minor interruptions from growth caused by imperfections in market information or markets not busts caused by artificial credit booms.

On that basis, putting more credit into the economy to solve the recession is like giving more alcohol to a drunken man. As Krugman says about the Austrian school, they reckon that a recession is like a hangover after a heavy night of boozing.

But if the market was left to set the interest rate and allow capitalists to make investment decisions unfettered or misguided by the state, would that end the cycle of boom and slump?

The Austrians are perceptive in their highlighting that a credit bubble can appear that artificially extends any boom beyond any growth based on real values. That credit boom can be created by government and central banks desperate to sustain growth when profits appear to be waning (Ricardo) or consumption and investment weakening (Keynes).

In Marxist terms, it means fictitious capital is dramatically expanded to compensate for a slowing of the accumulation in real capital. The result is that ‘excess capital’ is even greater at the height of the boom and, in the subsequent bust, the reduction in overinvestment, malinvestment or excess capital must be even greater (25). This produces a Great Recession as opposed to any recession.

For the Austrians, the answer to boom and slump is to do away with central banks and state stimulus and let markets decide the rate of interest (26). *“the rate of interest is one of the most important signs of price signals in any economy. Anything which acts to distort that signal will produce unintended real economy effects that will eventually have to be corrected by downturn and recession. In the short term, these effects can be ameliorated or offset by faster growth in credit, but eventually these will lose*

traction. Malinvested capital is then exposed and economic activity turns down as a result.”

But is the rate of interest the driving force of capitalist investment and the price signal that capitalists look for to make investment decisions? As Marx explained, interest is just one part of surplus value and it is the latter that is key to investment. Value and surplus-value are created in the production process, in particular in the exchange of money for labour and through the productivity of labour using capital goods.

What the Austrian school do not explain is why ‘excess credit’ eventually does not work. Apparently, there is a point when credit loses its traction on economic growth and asset prices and then, for no apparent cause, growth collapses.

The Austrians ignore the fundamental flaw in the capitalist process identified by Marx in his law of profitability. For the Austrians, as for the mainstream economic schools, there is no problem with capitalist production for profit – the problem lies in imperfect information and imperfect markets (neoclassical); the periodic lack of effective demand due to mercantilist hoarding and/or the volatility of animal spirits (Keynesianism) or excessive credit created by the state (Austrian). None of these schools has anything to say about the flawed nature of the social organisation of production.

Left Keynesian school and Minsky

Also outside the mainstream is a subdivision of the Keynesian school, namely those who look to an inherent instability in capitalism to be found in the financial sector. In the 1980s, Hyman Minsky argued that Keynes had been misunderstood by the revisionists of Keynes, who had incorporated his ideas into the mainstream.

In contrast, Minsky reckoned that Keynes had shown capitalism to be inherently unstable and prone to collapse: “instability is an inherent and inescapable flaw of capitalism”.

This instability is to be found in the financial sector. *“The flaw exists because the financial system necessary for capitalist vitality and vigour, which translates entrepreneurial animal spirits into effective demand investment, contains the potential for runaway expansion, powered by an investment boom.”*

For Minsky, there is no flaw in the capitalist production process – the real economy – but only in the ‘veil of money’ and financial intermediation between production and consumption. As debt accumulates, it brings uncertainty and instability into the process. There are three sorts of borrowers: hedge borrowers, speculative borrowers and Ponzi borrowers. The first borrows and pays back the principal and interest; the second services the interest only and rely on asset prices to rise to pay the principal. The third group pays the interest only by borrowing more.

In a boom, the first group declines in proportion and the latter rises as a share, opening up the risk of instability when the pyramid of debt starts to crumble. The actual trigger for this debt crisis could be in the property market as in 2007 or in equities as in 2000. The greater the reliance is on leverage and debt to finance investment, the greater is the likelihood of collapse. Once house prices stop rising

enough to cover the servicing of debt, there can be a sudden aversion to risk and a desire to deleverage – this is what has now been described as a ‘Minsky moment’, as in 2007.

Minsky supporters will accept that the Great Recession did not follow his depiction of a financial crisis but argue that the Minsky’s way of looking at an economy would best reveal the cause of the Great Recession, namely in a pro-cyclical burst of credit in financial sector-dominated economy. Systemic risk in the financial sector eventually collapses into debt deflation (27).

Steve Keen has won the award from the Real Economics Review as the economist who best forecast the financial collapse on 2008 (see below). Keen draws on Minsky for his theory endogenous money and also on Marx. For Keen, Marx has a Minskyan view of the role of money in capitalist cycles and in the power of the credit system to disrupt production (28).

“For Marx, as with Fischer and Minsky before him, the essential element giving rise to Depression is the accumulation of private debt” says Keen, referring to Fischer’s comment that deleveraging can spiral into debt deflation as the nominal value of debt is outstripped by a fall in prices. For Keen *“capitalism is inherently flawed, being prone to booms, crises and depressions. This instability, in my view, is due to characteristics that the financial system must possess if it is to be consistent with full-blown capitalism.”* Minsky Journal of Finance, Vol 24 1969

For Keen, it is Marx’s distinctive contribution that the cost of borrowing, the market rate of interest, will generally be governed *“by the average expectations of the profit of the capitalist class”*. That differs from the Austrian school’s view that the market rate is determined by the duration of the investment. However, Keen denies any role for profitability in the crisis: the crisis is the product of insufficient demand when capitalist expectations of realising profits are not met.

The cherry pickers

Nouriel Roubini is the darling of the financial press, apparently for being alone in predicting the credit crunch and the subsequent crisis. He dismisses the Taleb view greedily endorsed by Wall Street bankers and Alan Greenspan that the financial crisis was a fat tail event that could not possibly be foreseen in a hundred years.

This idea of the media fostered by Roubini even on the cover of his latest book is good spin (29). But there were several others who warned of an oncoming asset price crisis or financial crisis. According to Real World Economic Review, the Revere ward for economics voted on by 2500 people for the three economists who warned the world went to Steve Keen, the Australian economist, with twice as many votes as Roubini who finished second, while Dean Baker from the CEPR came third.

Others who could claim to be prescient include some from the animal spirits school, like Robert Shiller who talked of the housing bust as early as 2006. From the Austrians, William White was warning of excessive credit back in 2004. Even your humble self proposed as early as 2005 of the dangers of a housing bust and in 2006 reckoned on the basis of Marxist theory and empirical evidence that a deep recession

was due in 2009-10. It came a year earlier. Of course, we don't carry the media clout of Roubini.

Roubini correctly argues that financial crises are more like a succession of white swans, known unknowns; in the sense that the crisis follows a pattern that has happened before with financial crises. *“Crises are neither freak events that modern economics has made them seem nor the rare black swans that others have made them out to be. Rather, they are commonplace and relatively easy to foresee and to comprehend. Call them white swans”*.

“Most crises begin with a bubble in which the price of particular asset rises far above its underlying fundamental value. Crises are not black swans but white swans: the elements of boom and bust are remarkably predictable.”

Roubini, an eclectic, follows the Austrian school in looking at excessive credit as the indicator of future crises (see White and Borio). But he follows Minsky for his instability idea.

Roubini ridicules the EMH of the neoclassical school. But for him *“as always, pragmatism informs our choices”*. Keynes is here, as is his most radical interpreter, Hyman Minsky, but so are the economists of other camps: Robert Shiller, one of the most visible proponents of behavioural economics; Joseph Schumpeter, the grand theorist of capitalist creative destruction and economists of historical bent, from Charles Kindleberger to Carmen Reinhart and Ken Rogoff. Their disparate strands inform our idiosyncratic approach”.

“In the history of modern capitalism, crises are the norm, not the exception. That's not to say all crises are the same. Far from it, the particulars can change from disaster to disaster and crises can trace their origins to different problems in different sectors of the economy.”

Roubini tells us that crises cannot be avoided under capitalism. But they can be prepared for and then mitigated by regulation and reform. For him, that means controls on derivatives markets, better rating agencies, capitalisation of the banks, with no bank too big to fail, and international economic governance through the likes of the IMF.

But he quotes Hyman Minsky: *“There is no possibility that we can ever set this right once and for all. Instability will be having tested one set of reforms, will after time, emerge in a new guise”... nothing last forever and crises will always return*”. However, Roubini is optimistic: at least severe instability only comes along infrequently every 80 years – from Great Depression to Great Recession. *“If we strengthen the levees that surround our financial system, we can weather crises in the coming years.”*

Less known to the financial media, but perhaps more discerning in his analysis of crises is William R White, formerly at the Bank of International Settlements, but now chair of the OECD's economic review committee (30). For White, mainstream economists have missed the key ingredient that leads to systemic crisis, the build-up of debt. Drawing on the arguments of the Austrians and Minsky, White criticises the

traditional Keynesian view of the economy as a series of flows and wants economists to concentrate on the economic balance sheet and debt stocks in particular.

For White, it is significant that in Krugman's attack on mainstream economics, he mentions debt only twice in 6000 words and then only to about sovereign debt. But *"debt is the central problem. When debt to income or debt to GDP doubles, triples or quadruples, you have doubled, tripled or quadrupled the amount of future earnings you are using today. That necessarily means you will have less to spend in the future. It's not rocket science."*

White is not relying on assertion or theory. Indeed, as early as 2002, BIS economist Claudio Borio made empirical estimates of the correlation between credit to GDP ratios and subsequent banking or financial crises (see below).

For White, the theory of rational expectations from the neoclassical school is shown to be flawed when asset prices can move so far out of step with underlying values. If the market is so efficient, why is unemployment or the prices of many key commodities like energy unable to adjust?

White is no more enamoured with Keynesian thought – at least in its mainstream (31). *"They have never been good at forecasting turning points in the business cycle"*. The animal spirits idea has more validity in explaining volatility. But *"the Keynesian framework has all its fuzziness and uncertainties implicit in the principal functional forms being subject to animal spirits. No wonder, no empirical forecasting by the mainstream economic bodies can show so much shortcomings."*

For White, the crisis is both financial and real. *"The associated concern that weakness in the financial system could feed back into the real economy through tighter credit conditions also feeds the perception that it is only a financial crisis"*.

For him, a credit crisis only becomes a crisis if it feeds back into the real economy – from the credit crunch to the Great Recession. *"One tendency that must be resisted is to see this work on imbalances as related solely to 'financial stability'. In part, this tendency is related to the misconception that our current problems are limited to those of a financial crisis."*

That is surely right: not all financial crises lead to economic contractions or slumps. But he offers no explanation of how this process from the financial to the real might work.

The need for testing

"Prediction can be very difficult, especially if it is about the future". Niels Bohr.

There are some methodological lessons from all the above, whether from the mainstream or the heterodox. If economists want to understand the causes of financial and economic crisis, they need to look away from individual behaviour or models based on 'representative agents' and instead look to the aggregate: from the particular to the general.

And they need to turn back from deductive *a priori* reasoning alone towards history, the evidence of the past. The history may not be a guide to the future, but speculation without history is even less based in reality. Economists need theories that can be tested by the evidence.

Mainstream economics does not seem to have any predictive power. *“I’ve been forecasting for 50 years and I had not seen any improvement in our capability of forecasting”*, says the great maestro, Alan Greenspan (32). Christine Romer, key economic adviser to Obama argues that: *“economists cannot predict recessions and economic discontinuities because they are inherently unpredictable”*. *It is impossible to see the shocks coming”*. But is that really so? *“Predictions involve modelling. The difference is that for many people the models are poorly specified, based on little information and cannot be tested. Those who rail against models and the ‘folly of forecasting’, while still making predictions, are still doing modelling but doing it very poorly”*. (33).

If we desert data, economists will head into a virtual world. Some have already done so (34). *“Many macroeconomists abandoned traditional empirical work entirely, focusing instead on computational experiments. Researchers choose a question, build a theoretical model economy, calibrate the model so it mimics the real economy along some key statistical dimensions and then run a computational experiment by changing model parameters to address the original question. The last two decades have seen countless studies in this mould, often in a dynamic stochastic general equilibrium framework. Whatever might be said in defence of this framework as a tool for clarifying the implications of economic models, it produces no direct evidence on the magnitude or existence of causal affects. An effort to put reasonable numbers on theoretical relations is harmless and may even be helpful. But it’s still theory.”*

Macroeconomics has taken a turn to theory in the last 10-15 years. *“Many young economists are more comfortable with proving theorems than with getting their hands on any data or speculating on current events”* (35).

Sure, every situation is different but *“anyone who makes a living out of data analysis probably believes that heterogeneity is limited enough that the well-understood past can be informative about the future. The process of accumulating empirical evidence is rarely sexy in the unfolding but accumulation is the necessary road along which results become more general.”*

Claudio Borio was among the few economists in a major financial institution to look empirically for indicators of oncoming crises. He found as early as 2002, that unusually strong increases in credit and asset prices have tended to precede banking crises (36). This work is testable and thus has significant predictive power. Borio and Lowe looked at the long term relationship between credit growth in the G10 economies and the movement of asset prices. They found that there were 38 crisis episodes between 1970 and 1990, spread over 26 countries. When credit as a share of GDP grew to 4-5% pts above trend, it was followed by some form of financial crisis on nearly 80% of occasions within one year.

Similarly, Carmen Reinhart and Kenneth Rogoff did empirical work for over 60 countries since 1820 and found that debt crises come in waves like earthquakes. And

we appear to be in another wave right now (37). However, Irons and Bivens argue that the causal direction is the opposite of the Reinhart and Rogoff's conclusions. It is a financial crisis and a contraction in national output that causes debt to rise, not vice versa (38).

Marxist school

For the Keynesians, whether of the animal spirits school, the financial instability school (Minsky), the flaws of capitalism lie in the financial sector only. Modern Keynesian economists usually ignore Keynes' other hint at the cause of capitalist crisis, namely a falling 'marginal efficiency of capital', the closest Keynes comes in his neoclassical model of 'diminishing returns' to Marx's analysis of declining profitability in the capital production process.

Keynes wrote: "*A more typical, and often the predominant, explanation of the crisis is, not primarily a rise in the rate of interest, but a sudden collapse in the marginal efficiency of capital*". (39). The marginal efficiency of capital, stressed Keynes, depended upon "animal spirits" as much as real factors such as the causes of actual profits. However, this suggests that Keynes, like Marx, saw crises as originating in the real economy - and in attitudes thereto - more than the financial system, which means it's not clear that our current crisis is especially 'Keynesian'. As we know, Keynes never read any Marx and Keynes did not provide any explanation of this approach and how it would work in a long term unemployment equilibrium that Keynes also posits (40).

Marx posits the ultimate cause of capitalist crises in the capitalist production process, specifically in production for profit. This is an aggregate theory, not a microeconomic one. "*If it is said that over-production is only relative, this is quite correct; but the entire capitalist mode of production is only a relative one, whose barriers are not absolute. They are absolute only for this mode, i.e., on its basis. How could there otherwise be a shortage of demand for the very commodities which the mass of the people lack, and how would it be possible for this demand to be sought abroad, in foreign markets, to pay the labourers at home the average amount of necessities of life? This is possible only because in this specific capitalist interrelation the surplus-product assumes a form in which its owner cannot offer it for consumption, unless it first reconverts itself into capital for him. If it is finally said that the capitalists have only to exchange and consume their commodities among themselves, then the entire nature of the capitalist mode of production is lost sight of; and also forgotten is the fact that it is a matter of expanding the value of the capital, not consuming it. In short, all these objections to the obvious phenomena of over-production (phenomena which pay no heed to these objections) amount to the contention that the barriers of capitalist production are not barriers of production generally, and therefore not barriers of this specific, capitalist mode of production. The contradiction of the capitalist mode of production, however, lies precisely in its tendency towards an absolute development of the productive forces, which continually come into conflict with the specific conditions of production in which capital moves, and alone can move.*" (Capital, vol. III, p. 366)7.

In short this law goes: as capitalism develops the amount of constant capital rises in relation to variable capital. Because labour power purchased with variable capital is the only part of capital which produce surplus value, the amount of surplus value falls

in relation to the cost of the capitalists, this depresses the rate of profit unless there is an accelerating increase in the rate of surplus value. The law has many counteracting features (cheapening of the means of production is one of the most important ones) which we will not discuss here, but Marx proves in chapter 13 and 14 that it will assert itself sooner or later as concrete reality.

Marx links this directly with the idea of overproduction: *“The so-called plethora of capital always applies essentially to a plethora of the capital for which the fall in the rate of profit is not compensated through the mass of profit — this is always true of newly developing fresh offshoots of capital — or to a plethora which places capitals incapable of action on their own at the disposal of the managers of large enterprises in the form of credit. This plethora of capital arises from the same causes as those which call forth relative over-population, and is, therefore, a phenomenon supplementing the latter, although they stand at opposite poles — unemployed capital at one pole, and unemployed worker population at the other. Over-production of capital, not of individual commodities — although over-production of capital always includes over-production of commodities — is therefore simply over-accumulation of capital.”* (Capital, vol. III, p.359)

That does not mean the financial sector and in particular, the size and movement of credit does not play any role in capitalist crisis. On the contrary, the growth of credit and fictitious capital (as Marx called speculative investment in stocks, bonds and other forms of money assets) picks up precisely in order to compensate for the downward pressure on profitability in the accumulation of real capital.

A fall in the rate of profit promotes speculation. If the capitalists cannot make enough profit producing commodities they will try making money betting on the stock exchange or buying various other financial instruments. The capitalists all experience the falling rate of profit almost simultaneously so they all start to buy these stocks and assets at the same time driving prices up. But when stocks and assets prices are rising everybody wants to buy them – this is the beginning of bubble on exactly the lines which we have seen them again and again since the Tulip Crisis of 1637.

If, for example, the speculation takes place in housing this creates an option for workers to loan and spend more than they earn (more than the capitalists have laid out as variable capital) and in this way the realization problem is solved. But sooner or later bubbles burst when investors realize that the assets are not worth what they are paying for them. The realization problem reoccurs in an expanded form compared with before the bubble: now the workers have to pay back their loans and this with interest, they have to spend less than they earn. The result is even greater overproduction than was avoided temporarily in the first place. While consumer credit only increases demand, producer credit also increases supply.

The basic problem is still the fallen rate of profit which depresses investment demand. If the underlying economy were healthy an imploding bubble needs not cause a crisis, or at least only a short one. When workers and capitalists pay interests on their loans, this money does not just disappear, some finance capitalists collect them. If the total economy is healthy and the rate of profit is high then the revenue generated from interest payments will in one way or another be reinvested in production.

The crisis is necessary to correct and reverse the falling rate and mass of profit. *“The periodical depreciation of existing capital — one of the means immanent in capitalist production to check the fall of the rate of profit and hasten accumulation of capital — value through formation of new capital — disturbs the given conditions, within which the process of circulation and reproduction of capital takes place, and is therefore accompanied by sudden stoppages and crises in the production process.”* (Capital, vol. III, p. 358). In this sense, the cause of crisis for Marx is not just in the anarchy of the market, but in the anarchy of production (41).

Joseph Choonara has provided a very useful account of the various Marxist explanations of the Great Recession and, in particular, the debate about whether the crisis is a product of the financial sector alone, or the real economy or a dialectical relationship between the two (42).

Carchedi attacks the financial sector-only argument and doing so gives the underconsumption thesis of crisis another working over (43). For Carchedi, the flight of money to the financial and speculative sectors of the economy is really a ‘countertendency’ response to the falling rate of profit in the productive sectors. A higher rate of profit can be generated for a while in these unproductive sectors, helped by the monetary authorities keeping the basic rate of interest low and stimulating credit.

An artificial and temporary inflation of profits in the unproductive sectors helps sustain the capitalist economy and resist the impact of a falling rate of profit in the productive sectors. The increasing share of debtors who cannot finance their debt (Minsky’s debtors) eventually causes default and the crisis erupts in the financial sector. *“The basic point is that financial crises are caused by the shrinking productive base of the economy. A point is thus reached at which there has to be a sudden and massive deflation in the financial and speculative sectors. Even though it looks as though the crisis has been generated in these sectors, the ultimate cause resides in the productive sphere and the attendant falling rate of profit in this sphere”*

Some Marxists have argued that the credit crunch of 2007 and the ensuing Great Recession is not a classical Marxist crisis of profitability (44). Marx would have also seen the crisis as financial in cause. It’s true that Marx distinguished between different sorts of monetary crisis *“The monetary crisis defined as a particular phase of every general industrial and commercial crisis, must clearly be distinguished from the special sort of crisis, also called a monetary crisis, which may appear independently of the rest and only affects industry and commerce by its backwash. The pivot of these crises is to be found in money capital and their immediate sphere of impact is therefore banking, the stock exchange and finance”*.

Going further, some argue that the crisis was the product of a brand new development in capitalism: the globalisation of finance capital and its now overwhelming dominance of the capitalist economy. Crises can now take place in that sector alone and cause economic recession. Marx’s law of profitability is no longer relevant.

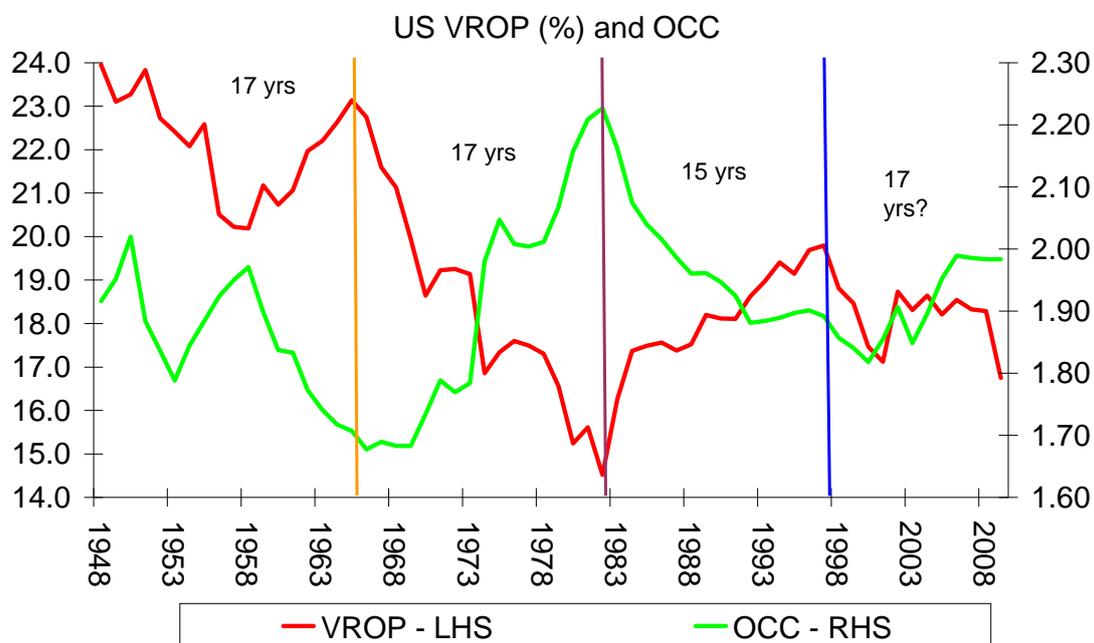
But financial globalisation is nothing new: In 1875, banker Karl von Rothschild assigned the banking collapse then to *“the whole world becoming a city”*. The interdependence of stock markets and credit to the ‘real’ economy is not new.

It's true that the share of US gross domestic income accruing to finance and insurance rose dramatically from 2.3% in 1947 to 7.9% in 2006. But as Greenspan said, can we say that the growth of the financial sector was the cause of the Great Recession if it had been expanding for six decades without a crisis of proportions of 2008?

As Mick Brooks puts it: *“Movements in the rate of profit have their effect on the financial sector. This is particularly the case in the modern era when the very predominance of finance capital and the sheer scale of fictitious capital mean that bubbles are constantly being blown. Bubbles tend to begin as profits revive after a downturn. They wax fat in the good years. As crisis impends, capital panics and takes flight. The bursting of the bubbles seems an accidental affair, but accident is the manifestation of necessity. In other words, financialisation adds another complicating factor in our analysis, but does not fundamentally change the overall picture (45).”*

A cyclical view

In my book, *The Great Recession*, I approached the question from a different angle that can reconcile Marx's law of profitability with the growth of the financial sector, the credit bubble and its eventual bursting. I started with the data. I generated a series of data based on the US economy to measure the Marxist rate of profit to see if it can provide a causal explanation of the Great Recession and previous slumps in capitalism. In the graph below, VROP stands for the value rate of profit and OCC stands for the organic composition of capital. The methodology and sources for the data can be found in my book, *The Great Recession*, pp305-10.



For the period since 1948, the data confirm Marx's law of profitability, namely that the profitability of the US capitalist economy moved inversely with the organic composition of capital. As early as late 2005, this approach yielded a forecast that US capitalism was now in a cycle of downturn for profitability which would eventually lead to series of deeper and longer economic recessions. In addition, I argued that

other economic cycles (housing, employment, investment and inventories) were coinciding at their troughs which would produce a significantly large economic slump around 2009-10. This proved to be out by one year as the Great Recession started in 2008.

The thesis (drawn from the data) was that the underlying causal drive of economic cycles under capitalism was the movement of the rate of profit. But there are other laws of motion under capitalism; like the domestic construction or the housing cycle, the employment business cycle and the shorter 'business inventory' cycle along with the even longer prices of production cycle (Kondratiev). They were all combining to reach troughs around this time, as they had done in the Great Depression period.

According to my data, the US rate of profit moves in cycles of about 32-36 years (with more or less equal up and down phases) from trough to trough. In the post war period, that is from 1946-64 (up phase), 1964-82 (down phase), 1982-97 (up phase) and in the current down phase that should end by 2014-16. I also found that the stock market cycle follows a similar cycle with a lag of about one to two years behind the profit cycle. If right, this suggests that we are in what the investment houses call a secular 'bear market' that won't end until about 2018, a couple of years after the trough in profitability, having peaked in 2000 in the last bull market phase.

If Marx's law of profitability is cyclical in this way, it can significantly help in the debate about whether it is relevant to the Great Recession or whether that was just a financial crisis. On my data, profitability peaked in 1997, fell back to a low in 2001; then rose again to 2006, before starting to fall again.

If the cyclical approach is correct, it would suggest that after the Great Recession, profitability will recover until about 2013 before it heads down to a new cyclical low by 2015 or so. At no time, will profitability exceed the peak of 1997, although there have been shorter duration rallies after each economic recession (2001) and now (2008).

First, we are still in a down phase for profitability that began in 1997 and won't end until 2015 or so. That means another recession is in the offing before capital is sufficiently devalued (and in the case of labour weakened) to create the environment for rising profitability. On my data, the rate of profit did rise from 1982, suggesting support for the 'financialisation' supporters of the causes of crisis. But it has been falling since then (the 1997 peak has not been surpassed). Despite a short rally between 2002 and 2006, the rate of profit in the US economy was lower in 2006 than in 1997 – and for that matter way lower than in 1964.

As Marx puts it: *“The main damage, and that of the most acute nature, would occur in respect to capital, and in so far as the latter possesses the characteristic of value it would occur in respect to the values of capitals. That portion of the value of a capital which exists only in the form of claims on prospective shares of surplus-value, i.e., profit, in fact in the form of promissory notes on production in various forms, is immediately depreciated by the reduction of the receipts on which it is calculated. Part of the commodities on the market can complete their process of circulation and reproduction only through an immense contraction of their prices, hence through a depreciation of the capital which they represent. The elements of fixed capital are*

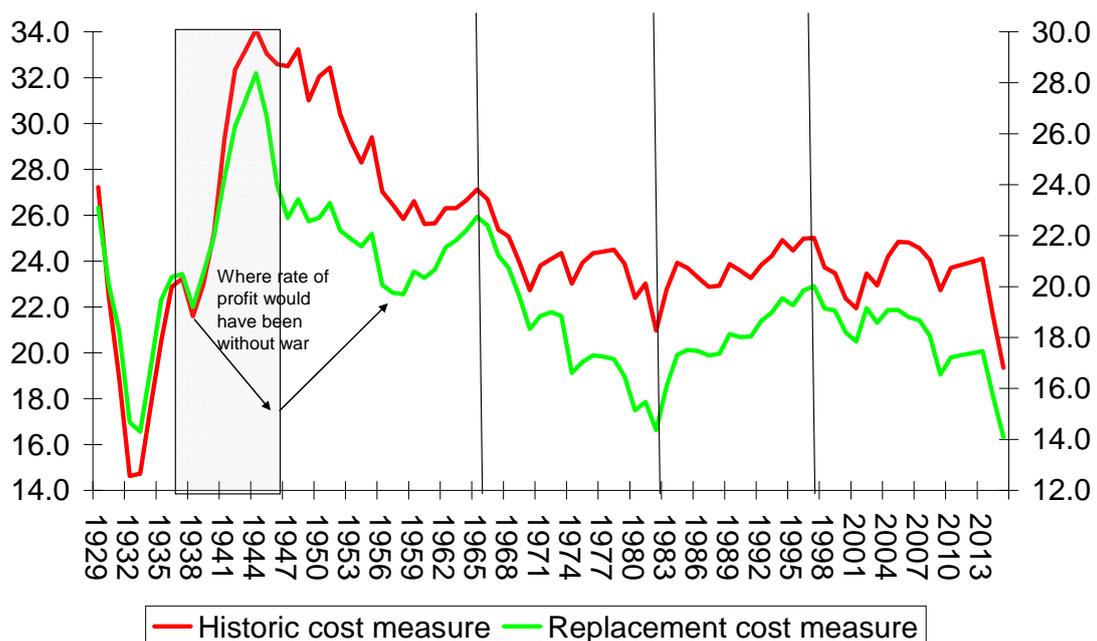
depreciated to a greater or lesser degree in just the same way.” (Capital, vol. III, p. 362-3)

If we extend the data back to 1929, there is a significant rise in profitability from 1938 to 1944. After that profitability falls to 1964, which does not match my argument that this was an up phase for profitability! Of course, this period covers the second world war. The mechanism of the cycle is a rise in the organic composition of capital and a fall in profitability eventually leading to a slump or recession. That crisis drives down the cost of capital leading to a rise in profitability. After every slump since the second world war there has been a recovery in profitability for at least a few years.

But war adds a new dimension to ‘creative destruction’. Physical destruction of the stock of capital accompanies value destruction. This produces a dramatic fall in the cost of capital. War is an exogenous event that can sharply interfere in the endogenous law of profitability.

Marx considered the impact of physical destruction on values. *“This is most clearly seen in the physical destruction of commodities. This can even happen indirectly in the form of stoppages: Although, in this respect, time attacks and worsens all means of production (except land), the stoppage would in reality cause far greater damage to the means of production. However, the main effect in this case would be that these means of production would cease to function as such, that their function as means of production would be disturbed for a shorter or longer period.”* (Capital, vol. III, p. 362)

What would have happened to profitability without the world war of 1939-45? The rate of profit was turning down in 1938. Without war it may have dropped to a cyclical low by, say 1946, before entering an upward phase up to 1964. If that is right, then the 1946-64 period is an upward phase. The graph below suggests how that might look using two different measures for constant capital (historic and replacement cost).

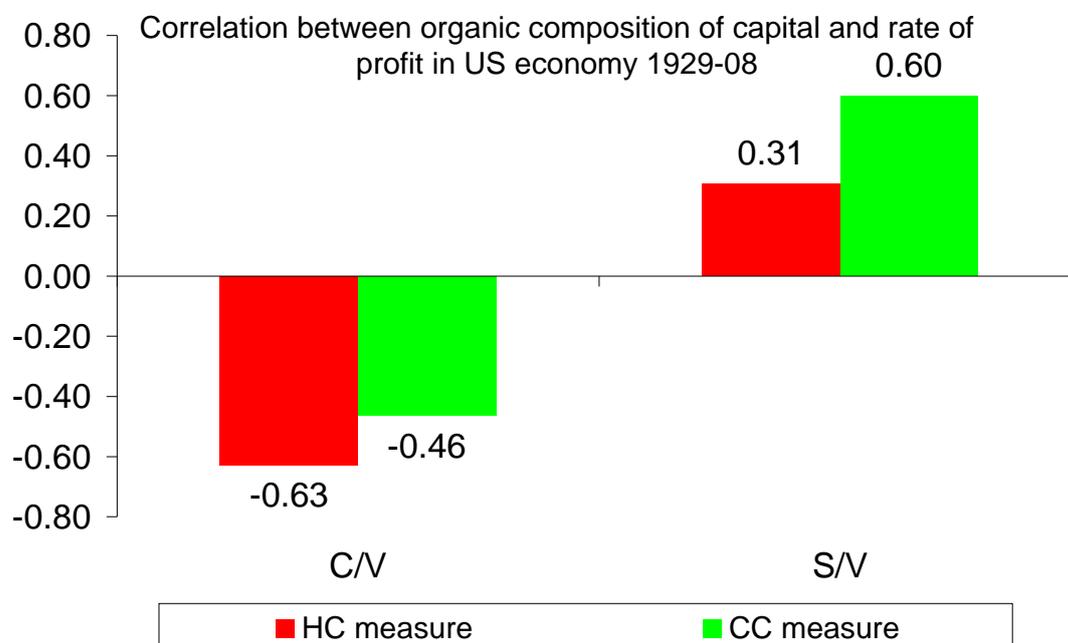


The correct measurement of the rate of profit is obviously key. Before going further in this empirically based explanation of the relation between the rate of profit, the mass of profit, the role of credit and the Great Recession, it is necessary to refer to an important debate about how to measure the rate of profit.

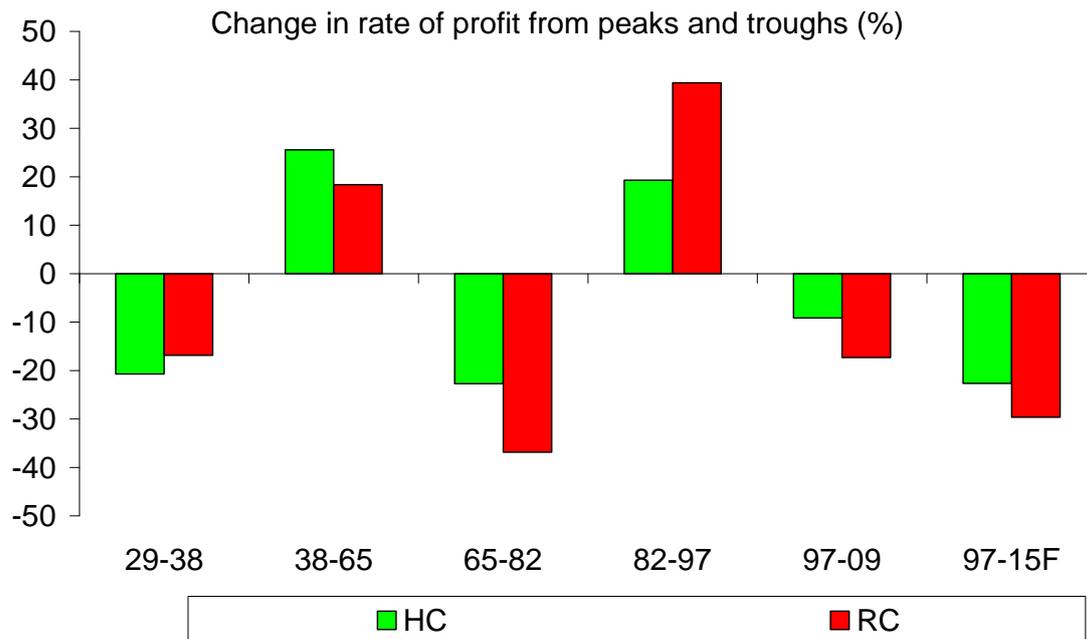
Andrew Kliman has produced a powerful piece of empirical work that shows that the rate of profit never rose between 1982 and 2005 (46). Thus Kliman concludes that the argument that Marx's law was irrelevant to the crisis is misplaced. He also makes a compelling theoretical argument that the Marxist rate of profit should be measured against the historic fixed costs of constant capital and not the replacement or current costs. If that is not done, then it does look as though profitability rose right up to the start of the crisis in 2007 and it would seem to prove that the Marxist law of profitability is irrelevant after all.

If you accept that Kliman is theoretically correct about historic costs, and there are compelling reasons to do so, then it is essential that you use historic costs in measuring the value of fixed capital. So I have revised my data to use historic costs. My data do not significantly differ from Kliman's if I do this, although there are other differences in the way we measure post-war profitability in the US.

What remains confirmed is that Marx's law of profitability, namely that the organic composition of capital moves inversely with the rate of profit over the long term is confirmed. It does not matter if the measure of constant capital is on an historic or current cost basis.

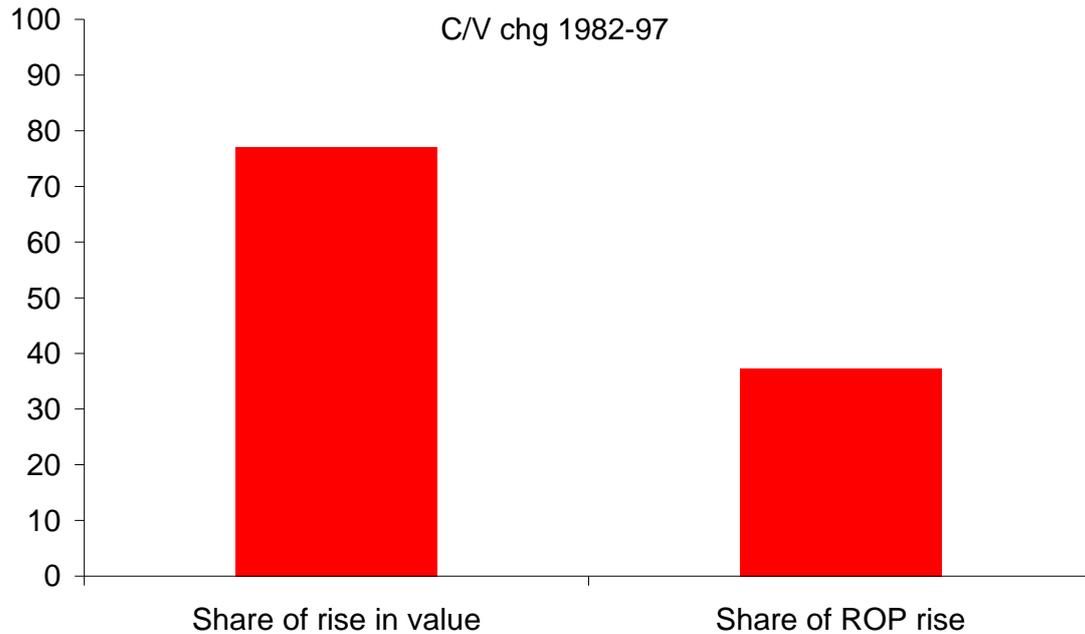


So using the historic cost measure does not invalidate the cyclical view. There is still a discernable rise in profitability between 1982 and 1997 and a subsequent decline. The cyclical nature of Marx's law is still visible if you use historic costs (HC) and not current costs (CC).



Those Marxist economists who support the ‘financialisation’ thesis as the cause of the Great Recession argue that the rate of profit did not fall after 1982, in contradiction to Kliman’s data. In this period, they emphasise that a sharp increase in the rate of exploitation took place, driven by a ‘neo-liberal regime’ that conducted an offensive against the working-class. But what’s new about that? When the rate of profit falls to a low as it did in 1964-82, the capitalists as a class must act to correct it. Under Marx’s law, that means the counteracting influences that act to keep the rate of profit come into play and even dominance for a while.

In particular, there was a sharp rise in the rate of surplus value and increase in profits for US (and European) companies accrued from overseas investment through ‘globalisation’. But also, the value of constant capital fell through new technological innovations in the hi-tech sector. That is something ignored by the neo-liberals. According to my calculations, a falling organic composition of capital contributed over 75% of the increase in total value from 1982-97 and nearly 40% of the rise in the rate of profit.

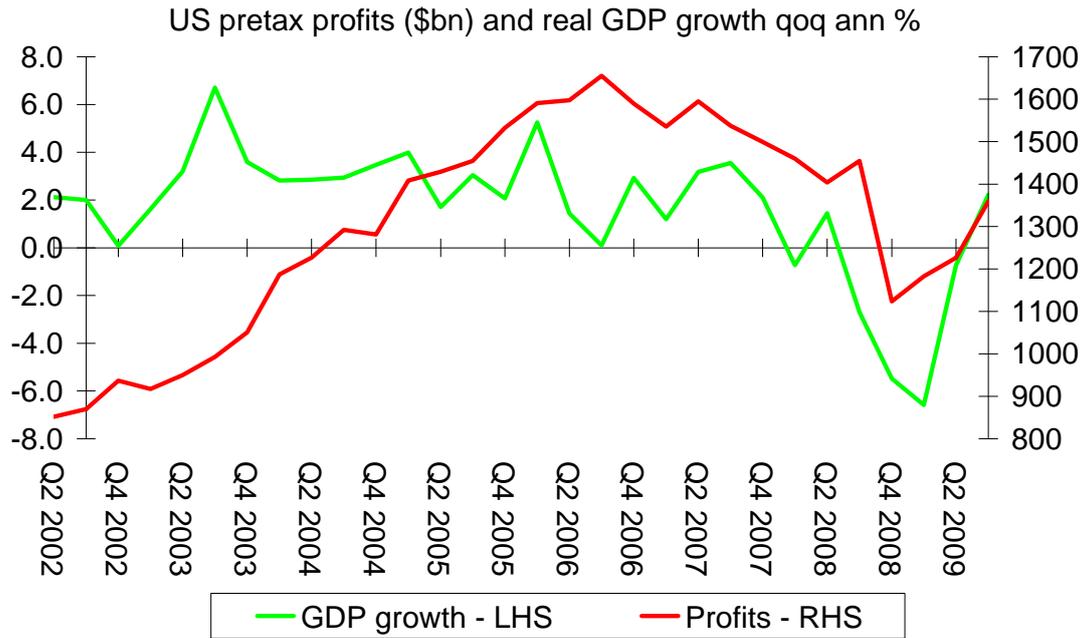


Thus the ‘classic’ Marxist law of profitability still applied in the period from 1982 onwards and there is no need to fall back on an ‘underconsumptionist’ explanation of the Great Recession as the consequence of a failure to ‘realise’ profits, as some do (47).

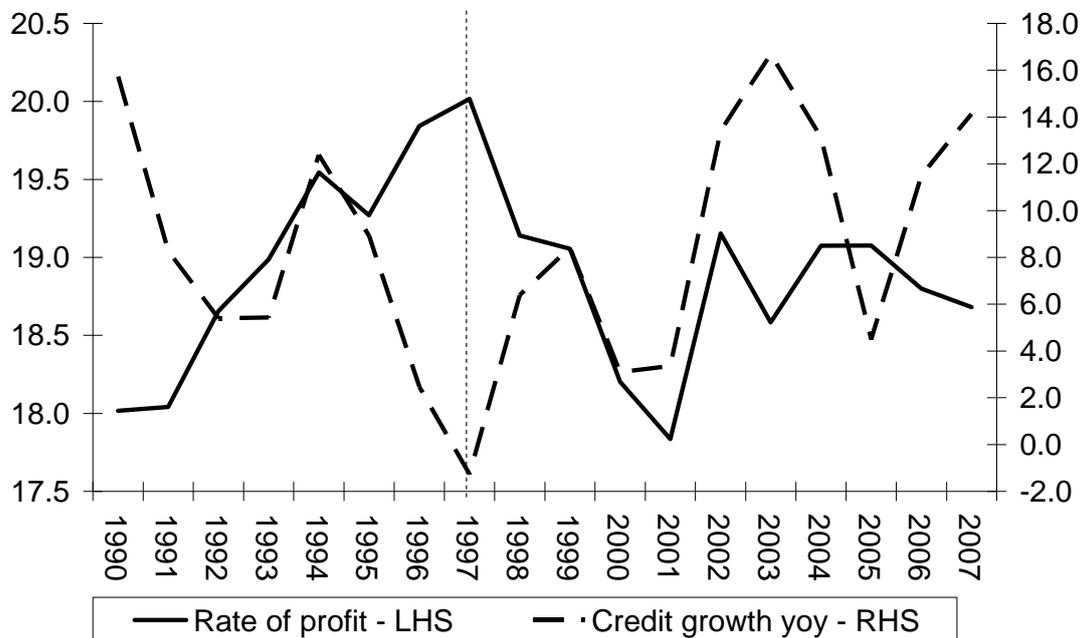
Marx never argued that the rate of profit was the direct cause of economic crisis and slump. Instead, it provided the underlying pressure, up or down, in the economic cycle of capitalism. If the rate of profit was in its down phase, then at a certain point, the falling rate can turn into a falling mass of profit. It is this that sets the trigger point for economic collapse.

Again, the data for the US economy show that connection. The US rate of profit peaked in 2006 and began to fall from there. As we know, the US economy continued to grow well into 2007, just as the falling profit from 1997 did not immediately deliver an economic recession until 2001, after a stock market crash.

We can use strict ‘Marxist’ data to show the mass of profits, but we lack quarterly data to do so. If we use the official pretax profit figures against GDP, we can see how the mass of profit starts to fall before the US economy went into recession. The mass of profit started to contract at the end of 2006. Real GDP growth started to slow a year later and then contracted from the beginning of 2008. Profits recovered from the end of 2008, but GDP did not expand until a year later.



What about credit? An acceleration of credit growth is the response of capitalists to a falling rate of profit. From 1990 to 1997, as the US rate of profit reached a peak, global credit growth generally slowed and even fell below zero. From 1997 in the downward phase for the rate of profit, credit growth accelerated into double-digit growth before the credit crunch of mid-2007 and the ensuing economic slump (48).



Costas Lapavitsas argues that there is no causal connection between Marx's law of over-accumulation (as he calls it) and the financial crisis of 2007-9 (49). One of his main arguments is that there is no evidence that the rate of profit fell before the crisis: *"no significant decline in profit rates occurred on the approach to the crisis. Profitability among manufacturing and other firms appears to have held even in the*

depths of the recession of 2009.” So, he argues that “the crisis of 2007-9 has little in common with a crisis of profitability as in 1973-5, as is apparent from the extraordinary role of credit and the indebtedness of poor workers” (p18).

Lapavitsas cites Dumenil and Levy as his reference for this, saying that “*Dumenil has stated categorically at two RMF conferences (May 2008 and November 2009) that the crisis of 2007-9 is not due to falling profitability.*”

I don't know where D-L get their evidence for this assertion or how Lapavitsas reaches his conclusion about profits holding up. My evidence is clearly to the contrary. My measure shows that the rate of profit in the US economy began to fall well before the financial crisis began in summer 2007. On an historic cost basis, the Marxist rate of profit actually peaked in 2005 at 24.84% and fell by 3% to trough in 2008-9.

These are annual figures, so they don't reveal the story as well as quarterly ones would. If you use the BEA official figures for corporate profit that are quarterly, you get a clearer picture. The mass of corporate profit (pretax adjusted) peaked in Q3'06 at \$1655bn, falling 32% to a trough in Q4'08 of \$1124bn, before recovering. That seems pretty *significant* to me.

You get the same result if you break down the profits figure by non-financial and financial. On that basis, financial sector domestic profits peaked at \$447bn in Q206 and dropped 73% to a trough of \$122bn in Q4'08! But non-financial sector domestic profits also plummeted, peaking in Q3'06 at \$988bn and then falling to \$629bn in Q1'09, a drop of 36%. Only profits from the rest of the world held up, at least to the beginning of the crisis (Q4'07), before slipping 30% to a trough in Q2'09.

We can use a rough measure of the rate of profit by looking at the profit to GDP ratio. It's the same story here. The overall profit to GDP ratio peaked in Q3'06 at 12.3% before dropping to 7.8% in Q4'08. The domestic financial sector profit to gross product ratio peaked as early as Q1'05 at 43.4%, before collapsing to 11.7% in Q4'08. The non-financial domestic profit to gross product ratio peaked later in Q3'06 at 14.5% and then fell to 9.4% in Q1'09.

Anyway you want to measure it, profitability and/or the mass of profits fell well before the financial crisis began, which at least suggests the direction of the causality is the opposite of what Dumenil claimed and also puts in doubt Lapavitsas' argument that there is no causal relation one way or the other.

'Excessive credit', stock market speculation and the expansion of fictitious capital in all its new and exotic forms was a response to falling profitability in the productive sectors of the economy. It delayed the inevitable but eventually made the crisis deeper and longer as a result.

In this way, the tools provided by financial engineering used as instrument to hedge risk are turned into weapons of financial mass destruction; as Warren Buffet pointed out.

Conclusion

In sum, the dominant mainstream neoclassical school of economics and the official economists of the finance capital were non-plussed and noncommittal about the financial crisis and the Great Recession. They did not predict it and they could not explain it – it just was not a good fit. In hindsight, they fell back on the aphorisms of Donald Rumsfeld, black swans and serendipity.

The mainstream Keynesians were little better. They did not see it coming and could not explain it, apart from some fuzzy stuff about the volatility of animal spirits. The trouble with this effective demand theory is that it is only effective in hindsight. In hindsight, the Keynesians only cry was that Keynes was right. But they remain devoid of explanation of the cause of the Great Recession and the right policy prescriptions for avoiding another.

Only some pragmatic cherry pickers sitting astride the Austrian theory of excess credit and the Minsky instability thesis were able to forecast a financial crisis, or a ‘Minsky moment’. And some empirical researchers did provide some indicators of a likely crash in advance (although their work was published after the event).

Within the Marxist school few predicted a crisis except that to say that crisis is always inherent in capitalism as the underconsumption theory supporters would say. The financialisation explanation seems to lead to that too. The more orthodox Marxist profitability explanation remains the most powerful in predictive value.

Three lessons for economists emerge. First, mainstream obsession with the behaviour or motivation of individual economic agents should give way to power of the aggregate; from the subjective to the objective.

Second, economists’ obsession with theoretical models should be rebalanced with the need for empirical data. Let us use history, preferably with some predictive power.

Finally, both the mainstream and heterodox have focused too much on the financial sector, dismissing the contradictions in the capitalist production process on which Marx focused as an explanation of capitalist crisis. That is not to deny the importance of the credit system and inherent speculative nature of the financial sector.

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