MACRO Voices
with hedge fund manager Erik Townsend

Steve Keen: On All Things Macro May 4, 2017

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Erik: **Joining me next on the program is Professor Steve Keen. Steve is of course Professor of Economics at Kingston University in London. Steve has also been probably one of the most prolific and popular guests that we have had on the program. So, if you enjoy today's interview, I strongly recommend that you go back, Steve has been I think either two or three times on the program before and those interviews are as relevant today as they were when they were recorded. So, Steve I think we should start with the French elections because that's been on everybody's mind and you certainly are in the right neck of the woods to cover that. How do you see both the situation with the first election going the way that it did and probably more importantly in terms of the follow-on, how does this frame the overall picture of European contagion risk, you know, are we still looking at Brexit having been the beginning of the end for the EU or would a Macron victory maybe suggest that things are coming back together?**

Steve: No, I think Macron is just a continuation of Hollande by another name and somebody who actually supports the Neo-liberal economic policies rather than being forced to do them, this saline was done by the European Union and its Maastricht treaty rules. So, whatever, because the issues are still there with the Euro, hobbling France over the policies and limitations on government deficits, the attempt to cut spending with austerity and so on and every, when you attempt to save, the very dollar you save is actually a dollar less in GDP because dollar less expenditure is a dollar less income, so it's totally counterproductive policies because Macron is likely to follow those policies and actually enhance them with his ideas to sack large numbers of public servants and try to balance the budget even faster, he will simply amplify the support for Le Pen at the next election if she loses the runoff election and because that's still not necessarily a given because even if the polls called this election very accurately, the next one depends upon who turns up to vote for their less unpopular candidate and they only if Le Pen is guaranteed to have her full support continued, there is no necessary guarantee that Macron is going to pull support either from the centre-right or the centre to extreme left and he needs to do that to beat Le Pen in the next round, so but if he doesn't, she will be back in five years' time stronger than ever.

Erik: **And how do you feel about the prospects for the European Union in general?**

Steve: Oh, I always described this as a suicide pact written by the leaders of Europe when they first signed off the Maastricht treaty. It is a question of how long the suicide takes and what the weapon is going to be of self-destruction, will it be France, will it be Italy, and could it even be Germany because there are so many German, very conservative savers who find they are getting zero returns and they are blaming in on the Euro and quite rightly so, so it's quite possible one of those three factions, the rising right in Germany or any group in France or Italy and particularly in Italy, the Five Star Movement, that could be enough to bring the Euro unstuck and it simply has to go the whole, the ideal of the European Union is wonderful, the execution has been almost the opposite of the ideal.

Erik: **And where do you see the US dollar going from here, a lot of people are starting to say, okay, this is it, the rally is over, US dollar is you know going to roll over and watch out 90 is next. Are we seeing the end of the dollar rally or is it just a pause that is set to resume?**

Steve: I don't like calling short-term movements in the currency, but the strengthening of the Euro because people saw Le Pen probably being defeated in the next round, they are certainly going to be in for volatility on that play when the second round occurs, but my feeling is that once it's obvious, let's say Macron does win, once that happens the Euro is going to weaken. If Le Pen wins, the Euro is going to crash. So, I would be getting ready to short the Euro after not that I am going to speculate in currencies, by the way, but if I was, my position would be expecting the Euro to fall shortly after the election. It could rise for a while with Macron, but once the realization set in that his policies were not going to save France, they are going to actually continue pushing it further down the Euro haul, then the Euro is going to start declining once more.

Erik: **And US equity market, we are looking, we should probably let our listeners know that we recorded this interview several days early, so we may not have the latest data, but we are still just fighting with the previous high of 2400 on the S&P, looks like Donald Trump's tax plan may be the catalyst to push us even to new all-time highs, do you see this equity market continuing or are we getting to the point where maybe we are running out of steam here?**

Steve: Well, the equity market has been powered by quantitative easing until Donald came along and it is becoming powered by Donald easing. Now, it is massively overvalued than any historical trend. If you take a look at Shiller's lagging price to earnings ratios, the level of the S&P right now, it has only got two periods where it has been exceeded, one is the rally, the enormous bubble we now know the 2000 rally was, when the PE hit almost 45 to 1. It is currently 29.41 to 1 and that is almost exactly equal with the only other peak that stands out which is Black Tuesday 1929. So, it's that level of overvaluation but it will continue as long as QE continues. Now, if the Donald rally goes on for a bit longer because of that huge boost to after-tax revenue for American Corporations, but the reserve then tries to tap QE out, I see QE as a pact with a devil, a bit of Faustian Bargain, you can't not continue doing it, if they do pull out, the market will fall because of that regardless of what the Trump rally does, so we are going to see massive volatilities as the Fed tries to extricate itself from a deal, it really can't leave.

Erik: **Let's move on to the US treasury market and fixed income in general, a lot of notable people have suggested that the 35-year bond bull market is over, ended last Summer, and that it's all uphill from here in yield, but of course in the last few weeks, we have seen what is certainly at least a pullback in yields if nothing else, how do you see this, are we looking at a structural end to the bull market and bonds or are we just taking a pause here as well?**

Steve: I think we are just taking a pause because again what's actually driven the decline in yields which of course arise in course of the value of the bonds is the rising over the private debt meaning that the world economy simply can't tolerate anything much above zero rate of interest and this is what the Federal Reserve itself does not realize because it has swallowed the neo-classical blue pill. It still believes the delusional world is neo-classical economics in which you can completely ignore the private sector level of debt that is irrelevant to macroeconomics in their little matrix world. Now when you know that it actually is a crucial indicator, then when the debt is as high as it is now, any increase in yields is going to make a lot of people unable to service the debts they have currently got, certainly may not want to continue borrowing money, so creditor man will evaporate once more and you will fall back into a swamp again. So, I think the only real, I wouldn't say this is secular shift, I would say it's the proof that America after the financial crisis has turned Japanese and I expect very much a Japanese style history for the bond market from now on.

Erik: **And so that would mean what specifically, we are looking at decades of economic stagnation, slow growth and very low interest rates?**

Steve: Yeah, until such time as we get a real serious political shift to and similar in the sense to what we are seeing and happening in Europe under the Euro and Donald Trump is clearly not that shift as people thought he might be, but yeah, they are going to start putting rates up because the Federal Reserve believes in its own little deluded head that the rate of interest should be 4 percent. That's their target because they believe that there are three magic numbers for the economy, the 2 percent rate of inflation, 3 percent rate of economic growth and a 4 percent of reserve rate of interest and that's what they are trying to target back to. As they head back in that direction, every step they take towards that level will mean that there is more likely to be an end to the credit based rally that's taking place in the states right now and when that's done, that is effectively back down again to dropping rates and yields falling and bond prices rising once more and that's the sequence I see them going through indefinitely because they still don't understand what actually drives the economy.

Erik: **Alright, and the subject to private debt, I know you have done a tremendous amount of work on that subject, how do you see this playing out because while you and I and many of our listeners agree that we have way too much private debt and that's the real problem, it seems like nobody who is pulling the strings gets it**

if you look Fannie Mae just announced that they are going to institute new innovative rules to make it possible for lenders to ignore over-burdened student loan debt and be able to issue loans that they or mortgages I should say that they should not have issued otherwise if they were considering the actual facts. This is the government policy era that we live in. So, it looks like this growth of private debt meanwhile margin interest is at record highs and growing, we are seeing retail coming back into the stock market and buying on leverage, the private debt continues to just be out of control, but how does this eventually end. What is the eventual event or mechanism that causes this to all unwind and how does it look?

Steve: Well to me the mechanism is the government finally learning how capitalism operates, but obviously listening to the neoclassicals, I will never understand that, so what I see happening is effectively I mentioned that the debt sailing in America was actually a serious and real one and that's the private debt ceiling and if you put that at 170 percent of GDP because that's the peak level that was reached back in 2010, it has since fallen to 150 percent, it is now rise 145 percent I think. It is now rising, it's back up to about 150 percent once more, but the closer it gets to that ceiling, the less momentum it has and therefore you can go from rising debt to reaching a peak and then falling back down again and when that decline in the rate of growth of debt occurs, that is the decline in credit, demand will evaporate and all the confidence that the economy is recovering will disappear from the legislators and the regulators. They will then start dropping rates rather than raising them, so this is the game that Japan has been playing with itself 15 years; that's a very unintentional plan, but I will let it hang in the air there. I think that America is going to do the same thing and if I look at the credit dynamics for America right now, I was looking at one of the charts in my ProfSteveKeen website where I have got the older charts for my new book up there plus a few others, that the peak level of credit which has changed in private debt in America occurred in 2008, that was 15% of GDP, it fell from -5% in 2010, it has now hit 7%, but if you look at the data, it is starting to turn back down to negative again or rather declining once more, so it's never going to reach level of credit demand that occurred before the crisis and it will continue fluctuating up and down with the policy being driven in the opposite direction and not quite knowing why they are reversing but being forced to by circumstances.

Erik: **Steve, I want to move on to some of the geopolitical risks that are growing around the world, why don't we start with the North Korean situation, you know, obviously, this guy is threatening the United States openly and alluding to pre-emptive nuclear strikes. A lot of people would like to think that they are not capable of doing that but of course they are doing missile launches and tests, what does this mean for financial markets, what are the potential risks and where do you see the situation with North Korea going?**

Steve: North Korea has always been doing, it has always been belligerent and blustering and it's a bit like the smallest guy in the class throwing a temper tantrum every time the bully comes anywhere near him to tell the bully to back off, you know, get too close, I will smash your knee caps in and that's pretty much what's being said to

America for the last you know 40 years, the sensible thing is the bully has normally thought if I throw a punch on this guy, obviously I will win, but he might actually break my knee cap before that happens, so I will back off. Trump doesn't seem to understand that, so it does scare me that we could actually see something pre-emptive occurring, I don't think it will, I think all the limitations that are set there in terms of when you can declare DEFCON 3 before you can actually launch a nuclear strike that rules out, I hope retribution by Trump. On the other side with the little North Korean hairdo man, equally this is just the usual tactic, be belligerent, threaten Armageddon to maintain your domestic control. I think the best thing you can do to understand this is go and get a copy of 1984 and read what was being said by the various you know the three parts of the world, all the bluster they would do to maintain a power without actually having to go to war with each other. So, I hope that's what happened in that situation. It will just become a sideshow, but because every time he increases the range with which he can throw a missile or throw a weapon, then the more likely it is American, my trust and think foolish like a pre-emptive strike because for everything I understand about North Korea's military capacity and the distance to solve, it could do, it would certainly wound very, very heavily, really would break that kneecap.

Erik: **I agree with you completely and I hope that it stays the sideshow that we wanted to be. I will tell you though the one that concerns me more is the risk of the Syrian situation escalating to the point where it becomes a US / Russia conflict and I am shocked by the number of US politicians that are talking openly about basically wanting to start a war with Russia. I think a lot of Americans have forgotten that when you go pick a fight with you know Afghanistan or something; they are not very able to defend themselves. Russia is quite able to have a nuclear war and I am very concerned they have threatened now. Russia has said that if the US repeats something like the Tomahawk missile strike on Syria which they felt was completely unjustified that they would respond with force. We have Russia threatening to respond to the United States with military force, that scares the heck out of me. How do you see the situation and where do you think it is headed from here?**

Steve: Some of those, I see a match between a checkers player and a three-dimensional chess player and no prizes for guessing which one I think is which, so I am just hoping that whatever provocation happens to happen in Syria, which of course people who have voted for Trump felt that they wouldn't be have to needing to discuss anymore, they would have only having another Hilary, I have whatever provocation Putin is intelligent enough to completely out step them and end it strategically in his advantage without a large loss. That seems to be how he operates but again you are dealing with a total wildcard in terms of what's going to drive Trump's behavior and how much does that fit it into what the military industry or complex actually you know wants to do and maybe they want a military strike there, but it is beyond the level, I mean, how can you actually discuss tribal politics when it comes down to the ego level of a leader who is totally inexperienced in playing games on this scale versus one of course is incredibly experienced and has been quite successful for the last 20 years.

Erik: **Let's go back to economics probably referring that the massive explosion of debt in China that threatens to cripple the economy, that's a pleasant topic compared to Russia and United States, but you are an expert of course on debt and the problems that come from excessive debt, Kyle Bass has suggested that the situation with the explosion of leverage and debt in China since 2008 is setting up a situation that might force the Chinese to devalue the Yuan in a massive way, potentially sending a wave of deflation around the world and of course a lot of different views as to whether or not that's realistic, how do you see this? Is that a realistic scenario that Mr. Bass paints or is he completely out to lunch?**

Steve: No, I think it is actually pretty much on the money there because the only thing that got China through the crisis back in 2008 was an incredible increase in private credit. If you look at the first impact of the global financial crisis on China, it was something like about a 40 percent fall on its exports volume, exports volume very, very rapidly and what that meant was that the factories which were mainly along the coastal cities in China were forced to lay people off and when they laid them off, most of them didn't have work permits to actually be in those cities. They are forced back to the countryside, so the scale of political chaos that meant for China was enormous and they had to get a rapid stimulus in then and what they did was because the state banks are pretty much actually government owned banks and also because in China if somebody, if an official tells you to do something, it's very good for your health to follow the instructions, so the level of credit in China as a percentage of GDP was about 20 percent when the crisis began, it fell as it would have done because if the lack of demand for investment in that stage towards 15 percent and then the directive hit and it went from 15 percent of GDP to 38 percent of GDP in one year. That was the increase in credit. Now, it has fallen back from that peak, but it still after peaking at almost 40 percent of GDP in 2010, it has never fallen below 20 percent of GDP and it is now bouncing between 28 and 30 percent of GDP. That's given China, it's debt levels has gone from about 100 percent to 200 percent in just about 8 years and an enormous scale, one of the probably the biggest bubble in financial history in terms of the volume of money we are talking about here. Now, that's reaching, well, it has gone well past capacity. There were lots of loss making ventures in China now courtesy of that enormous level of leverage and it has to end. You won't go see China going much beyond reported level of say 225 percent of GDP as its private debt level is currently about 210 and when that happens the credit based demand disappears and we are talking about demand equivalent through roughly one-quarter of the size of the world's second largest economy. Now, that's huge, that's like two and half trillion dollars of demand will disappear from the global economy as that decline in credit starts and can the Chinese government counteract that with its own spending, now it's far more likely to move into that than any western democratic nation because they just the legislative and parliamentary limits on their behavior and it's also has been a centrally directed systems so to go to back to government spending being the driving force is like returning to mama, so I can see them doing it, but they can't avoid a credit crunch in the meantime. Now, that means that in the next one or two years, you are likely to see a serious decline in China comparable to what happened at the time of the global financial process itself and then attempts to reverse it and in that situation the currency going down and the government actually trying to assist that along its way by selling its own currency which has an enormous capacity to do, then you could see that deflationary shock come through the rest of the global economy starting around say 2020.

Erik: **So, it sounds like a credit crisis in China could indeed be the catalyst that might lead us to another financial crisis or another global systemic situation, that of course begs the much broader and overarching question of can the world avoid another financial crisis and it is of course timely that we ask you that question because you have just published a book by that exact title, 'Can We Avoid Another Financial Crisis', that is available right now on Amazon in the UK only and it sounds like about mid-May before it will be available through order through Amazon in the United States. We will get an email out in our weekly research roundup email when it is possible to order that book in the United States, we will send the Amazon link at that point to our listeners, so our US listeners will have the ability to do it, but let's get a preview right now for those who aren't able to see the book yet, can we avoid another financial crisis, our listeners who have heard your prior interviews know the answer is no, but let's give them a little bit more for their money than that, why is the answer no?**

Steve: Okay, the answer is no because it's actually, it's a complicated no. If it's a straightforward no, I would have written two-word book rather than a 25,000 word one, but the basic cause is that total demand in the economy is the some of the turnover of existing money plus credit and eventually like I have told you, you can ignore credit, that's why they couldn't see the financial process coming is why I did see it coming. Now, if that's the basis, the turnover of existing money plus credit is your subtotal expenditure which therefore becomes income, then if you have a rising level of private debt to income at some point for a range of reasons and I elaborate these in the book, you then have people not willing to take on any more credit, credit to the income level plateaus and when it plateaus, credit which is the change in debt goes to zero and of course if you are have people trying to pay their debts down or they are going bankrupt, then credit actually becomes negative, so what was a positive contribution to demand in the lead up, once you reach the saturation point becomes either zero or negative. America had that classic experience of going from credit being 15 percent of GDP to minus 5 percent over a two-year period. Now, once you have done that, if you try to reduce your debt by paying it down by earning more by growing faster, yatayatayata, you find you can't do that and what then happens is each attempt to reduce your debt level by paying debt down actually destroys the money that you repay the debt with and that reduction in capacity to spend reduces your income almost as much or lower in some cases given massive, given large levels of deflation reduces your income more than it reduces your debt level, so your debt ratio either remains constant or rises and you can be stuck there without a little event like for example a second world war and you can be stuck there indefinitely. Japan gives us the best instance of that. Japan had its crisis in 1990 because of the momentum of debt still rising and GDP actually falling at that stage. The debt ratio continued to rise till about 1992 or 3, peaked it to 225 percent of Japan's GDP, it's down to about 165 percent, so they cut it by roughly a quarter but that still gives at a debt level which is probably one and a half times as much that economy should be carrying and therefore nobody wants to borrow money for investment. The investment is less than it needs to be because the economy to grow or to have the financer being able to finance innovation and the economy becomes stagnant. Now America joined that same situation 18 years later with this process in 2008. Several other economies did the same thing the Netherlands, obviously, Spain, very obviously, Ireland so, the UK though it didn't actually realize that it had done this and they are all what I call the walking dead of debt. They are carrying so much debt, private debt that they are not investing, they are not growing, they therefore stumble on with only one real source of demanding all the turnover of existing money and that because of the situation of a – all they – that happens even more slowly again. So, even that turnover slows down. So, they are the walking dead of debt, but there are countries that appear to get through the crisis in 2008 with flying colors, South Korea and Australia, being the two most outstanding examples because they were the only two, I will say the nations not to record technical recession to two consecutive quarters of negative growth. They got through it by increasing their leverage, so Australia is running it about having hit about 180 percent when the crisis occurred, it is now about 210 percent. It has got the second most over-indebted households in the world, the only one to beat them is the Swiss and with that level of debt, they are going to hit the ceiling in the next two or three years, well, likely one year for the housing sector and that's the end of credit demand there. They will go from being what I call the or they managed to cheat the crisis but not what they call the zombies to be and in terms of the countries identified, the major countries, China obviously, Canada almost certainly, South Korea, Australia and then a range of unexpected countries like Belgium, Norway, Sweden, Netherlands and so on. The Netherlands has got the capacity to both be the walking dead of debt and a new zombie all at once.

Erik: **Steve, you did your Ph.D. thesis modelling Hyman Minsky's economic models and you are obviously one of the leading experts in the world on this whole Minsky cycle, so what I would like you to do is first for anybody who may not be familiar with Minsky's work, give us a quick overview of the Minsky model, but particularly what's always fascinate me people talk about the so called Minsky moment when all of the sudden there is a tipping point and everything changes, what causes that boom bust cycle to switch from boom to bust and that Minsky moment to be triggered, is there something that you can look for or are there signals in the economy that tell us when it's coming, how do you know how to interpret this?**

Steve: Yeah, good question. The starting point is asking what question did Minsky ask himself that led to his hypothesis and this is one thing I will start the new book with by talking about the attitude that mainstream economists had to the economy believing not only they understood how the economy operated, but they were managing it so well that there will never be another crisis and leaving pronouncements like that up to and including June of 2007 two months before the crisis actually began. So, Minsky rather than, the reason I reached the answer by the way was they thought that important economic question is can we drive macroeconomic theory from microeconomics, that's what occupied the minds of so-called leading noble prize winning economists for the last 40 years. Minsky asked himself a completely different question. He posed at first really in the 1950s and that was can a great depression happen again and if so why hasn't one happened so far and he is writing in the 1950s, 60s and 70s and to me that was a far more sensible question to ask about capitalism and having asked it, it makes you focus upon elements of the real world that the mainstream completely left out of their theories. So, to make the theories more attractable, simplistic not in essentially mathematics, they think it is sophisticated, they left out the existence of money and most people think economists must be experts on money, know that they persuaded themselves you could ignore money and model capitalism and derive your monetary variables as extension of the real phenomenon, you think are happening with money just being barter. So, they left out money, they left out banks, they left out debt and they therefore completely blindsided when it crosses course by money and banks hit them in 2007, but Minsky's perspective is to say, well, capitalists was inherently cyclical. Now, that itself is a shift because the neoclassical say capitalism is in equilibrium which is not a capitalism I have experienced in my lifetime, but that's their vision, start from equilibrium. Minsky said it is always cyclical. They then said let's leave banks, debt and money out. Minsky said banks, debt and money are crucial. So, he said how do banks, debt and money interact with an inherently cyclical nature of capitalism and his idea was very, very simple. It's beautifully easy to portray unlike neoclassical theory which involves talking about utility curves and all that sort of nonsense. So, Minsky said take some point in history, shortly after there has been a financial crisis when the economy appears to be doing okay in the aftermath. The longer you go from the crisis's point itself with tranquil economic conditions, the more people tend to forget the previous crisis and think, oh, thank God, that's over and then start to revalue assets on the basis of extrapolating for this period of relative tranquility and as they do that, they are more willing to borrow money and when they borrow money, the extra money causes the economy to grow and so there is a positive feedback between that change in expectations as you forget the previous crisis to growth. So, what Minsky said with the fundamental instability of the capitalist economy is upward, the tendency to turn doing well into a speculative boom is the fundamental weakness of the capitalist economy and that is a very different vision, a critical vision of capitalism which criticizes on the basis of one of its strengths and that's not what the usual critics do. They normally focus on what they see as some sort of weakness, but Minsky said, no, because capitalism will both generate signals that give you an increasing desire to invest and provide you with a means to finance that investment, then it has this positive feedback what these engineers would describe at least bubble forming out of a period of relative tranquility. So, that's pretty much what you can see happening, say back in 1992 at the end of the last great recession before the really great one and off you go on a bubble at that point. Now, what then happens is that as firms begin to borrow more money to invest, they cause the economy to grow more rapidly. That reduces unemployment, it also makes resources more essential and the prices of labor and resources start to get bid up, at the same time as firms have taken on additional debt to finance investment, so their debt levels have gone up as well. So they are suddenly forking up more money to three other social groups, resource, producers, workers and bankers and right the profit they were expecting to get when they began doing this investment is less than they anticipated and the fact that increased costs of those three increased costs can actually eliminate their profit margins, so almost the peak of the boom, they stop investing because they are losing money or they are not getting the return they wanted, investment slows down, that slowdown in the investment finally translates through with a lag to the change in process for commodities and for labor and as the decline goes on now as you go from a boom to a slump and declining share going to workers and going for raw materials resources, part of the return to bankers doesn't fall as much because it is based on the increase in debt that has come out of the bubble, so the debt levels risen. They are getting a larger share of incomes as the other two social classes see their share decline and then when you get and that reaches a new point where the rate of return to capitalist has got back to the level that stimulated them to invest in the first place, but that now involves a larger share going to bankers and back to a smaller share going to workers and to raw material providers, so another boom takes off again, but it starts from a high level of private debt, so that keeps on happening several cycles and you finally get to the point where there is such a level of private debt taken on such a reduction in income going to workers in particular and also prices for raw material suppliers that when the boom starts and with this much, much higher level of debt, the increase in the share going to the raw material producers and the workers can eliminate that profit very rapidly and therefore at that point firms again try to go through the same old process, but they owe so much money having accumulated all this debt compared to income through a series of booms and busts, they can't deliver, they can't pay down their debt and you go into a period where there is declining nominal debt but rising ratio of debt to GDP unless you have a massive scale of bankruptcies wiping out that debt or some government spending to make up for the decline in private cash flows, you have a great depression and that's the Minsky moment. It's when you reach that point where so much is going to the bankers that what's left over for capitalists after they have paid their wages and their raw material costs is actually possibly negative and the economy would just continue descending in to a crisis.

Erik: **If you look at the housing markets in Canada and Australia in particular, a lot of people feel that they are in bubbles and you know out of control in terms of excessive valuations. Certainly, in some US cities that is true, San Francisco has seen so much money coming out of China that their property values have been pushed way up. So, what actually causes housing bubbles to pop, is it just a relationship of personal income to affordability of debt service or is it something else?**

Steve: It's more complicated. I mean, the wildcard of that enormous demand coming in from China is something which we haven't had to deal with before and the scale of increase in profit, the scale of wealth that is being generated there is so great that people have got a strong encouragement to buy in what they see as politically safer areas and also buy in cities that actually have blue sky but rather than smog everywhere, so that's initial wildcard, but the basic causal mechanism that drives house prices is actually mortgage debt and this is why we get trapped by a little trick in mortgage debt which leads the causation of house price bubbles forming and then also them bursting to be the opposite of what people actually think they are. So, this is slightly hairy logic but I will see if I can talk it through on the radio. If you imagine what the monetary demand for housing is, it is fundamentally new mortgages more than 90 percent when you particularly get into a bubble, more than 90 percent of the money that used to buy a house is borrowed money, that is new mortgage debt which is therefore change in the level of existing mortgage debt. Now, if you want to convert that into how many, what's the flow of demand per year for standardized houses, you divide that by the price index, so the new mortgages which is change in mortgage debt divided by the price level gives you the number that the flow of demand the houses per year, one particular point in time. Similar thing I can do on the supply side, but I will leave it at that, the demand side now. So, you get a relationship between change in mortgage debt and the level of house prices, takes a bit of mathematics to work it further than this, but the final punchline is that what causes rising house prices is change in mortgage credit with mortgage credit is change in mortgage debt, so you get a relationship between acceleration of mortgage debt and change in house prices and what it means is that you now have to look at the acceleration of mortgage debt to know when there is going to be a turning point in house prices. Now, here I am going to getting really hairy, so I hope people cope with this logic. If you imagine that there is some base level of mortgage debt to GDP which is when there is totally stable economy, you might have said the ratio of mortgage debt to GDP being say 20 percent. So, mortgage debt is 20 percent of GDP. If you hit a peak level, America was below 100 percent, but let's say the peak level is say a 100 percent of GDP. Then, if you connect the two overtime from the 20 percent low level to the 100 percent peak, you get an elevated S and the slope of that S is the rate of change of mortgage debt. Now, that will peak halfway up the hill if you are starting in the valley at 20 percent rising to the plateau at 100 percent, then halfway up that slope is the maximum rate of growth of mortgage debt what change in new mortgage is, but it's actually the acceleration that actually drives house prices. Now, the acceleration is the slope of that change in mortgage debt, the change in mortgage debt if you had that S slight slope for the ratio of mortgage debt to GDP, then the change in mortgage debt, the new mortgages will peak at the halfway point on the S curve and then go down, so you got a pimple there. Now, it's not the shape of the pimple that actually gives you the bursting of house, it's the slope of the pimple itself. So, the maximum point on that pimple where you get those going up the hill and then coming back over in terms of the rate of change of mortgage debt, that's where house prices change its peak and that's the acceleration peak before the change of peak which is before the plateau. So, when that happens, you then have house prices start to fall, when house prices start to fall, that discourages people from taking out more mortgage debt, that means the amount of demand being created in the overall economy by credit, mortgage credit declines and with that decline, you set off a decline in total demand and that causes the rise in unemployment. So, this is one reason why asset markets tend to move ahead of the physical economy, it's because of the acceleration is what drive asset markets whereas change is what drives the real economy. So, when the housing bubbles burst as they did in America for example in 2006, it's sometime after that the economy itself falls over and Canada, Australia, South Korea, Norway by the looks of it, Sweden quite possibly, Belgium are all going to repeat that experience in the next one to three years.

Erik: **Okay, if we look right now at the US housing market, we are actually seeing that the price levels have turned around. We are seeing a recovery in US housing prices, but it's happening at a time when mortgage debt is actually falling. So, is that because of this acceleration ratio that we are seeing what seems like a counterintuitive relationship?**

Steve: Yeah, and that's why it's so tricky because imagine you use a car to think about how do you handle acceleration versus velocity, you can be, your acceleration can be falling as your velocity is rising because you are reaching the maximum speed the car can actually do. So, we have this period where there can be acceleration is still positive, you are going faster per unit of time than you were beforehand, but you are going faster more slowly. So, you can have rising velocity with declining acceleration. Then, on the other side, if you are now tapering down and through the safe through the new mortgages in America, you can have the level of new mortgages falling, but falling more slowly and therefore accelerating. So, it's really quite a tricky dynamic and if you then do this analysis which I have done and I am publishing a paper on this front I hope next year with…and …is our econometrician. We have done the cause of relationship using very limited but nonetheless indicative linear mathematics called range of causality, we have shown that it's acceleration of mortgage that causes change in house prices, not the other way round. When you graph it for America as I have done on my ProfSteveKeen website, you will see, it looks like there is no relationship you can really discern between the level of mortgage debt and the level of house prices, when you look at the acceleration of mortgage debt and the change in house prices, it's almost like you got a glove, a hand inside a glove that fit so well and at the moment, mortgage debt in America is accelerating even though it's ratio to mortgage debt is flat lining only slightly rising and that's what is giving you the rise in house prices and they have actually gone past the previous peak.

Erik: **Wow, well, Steve, every interview with you is like drinking economics from a firehose, I will use that but before that I will use, but I want to ask you a question on a totally different topic because I really enjoy your perspective and how down to earth and connected to reality your views are as opposed to the neoclassical economics crowd that doesn't seem to be in touch, but I was actually shocked watching the real vision television interview where you were on the other side of the microphone interviewing Dr. Michael Hudson who also is a PhD in Economics. In theory, the two of you guys, you are both PhDs, you kind of representatives of academia in a sense. At one point, Hudson quips that he basically has his Ph.D. because it's the union card as he put it that you need to be taken seriously, but he goes on to say that he learned nothing useful in studying for his PhD. and everything useful that he knows he learned by actually working in financial markets and I know that you have had some very outspoken views. The neoclassical economists are just not in touch with reality, what is the root**

cause here. How is it possible that academic finance could be so out of touch with the real world and what's the cause and how could we fix it?

Steve: Well, it really goes back to ideology in 19th century, conscious over capitalism versus socialism because when you had, if you wanted to swing the prices of capitalism these days, you would have seen the capacity of capitalists to innovate, that's clearly the advantage they had over the Soviet system, but when you go back to the 19th century, Karl Marx was criticizing capitalism on the basis of exploiting workers taking the previous classical theory as the basis for doing that, the neoclassical began in the 1870s, they stole some ideas from earlier researches or earlier ideologs back in the early 1800s, so particularly Jean Baptiste Say, but also Acuano, they argued that capitalism is all about maximizing utility of people and it's all about reaching equilibrium and they left out to actually do the mathematics to try to work out whether a multimarket system could reach equilibrium on its own left out non-equilibrium trades, left out money etc., etc., but what he saw was the vision of a perfectly self-regulating economy with no concentration of power and no need for coercion, now fundamentally that is a vision of amicus society saying the market is the ultimate amicus governing system, you don't need politicians, you don't need regulations, you don't need compulsion, leave it to the market which reaches lovely equilibrium and that becomes a beautiful seductive vision for young meticulous male, nerdish men who end up going into doing an economics degree and they actually love that vision. They become dedicated to it. They really become zealots for that vision of capitalism rather than analysts of what actually exists as capitalism and given that nature, they drive out anything which is an alternative perspective, so if you read Schumpeter who talks about the instability of capitalism, if you read the evolutionary economists in general if you read Marx in particular, you get a vision of capitalists that they don't like and they drive that vision out. So, what you get is inculcation of a vision based on incredibly stylized model which emphasizes stability and equilibrium as the major attractions of capitalism when in fact instability and innovation are its main features and strengths and that religion is what you learn if you do the university degree. You only learn the other stuff if you go looking in the netherworld, you look for the people on the bookshelves in economics, they don't put onto the reading lists and that's where you find the good value. I was a bit luckier than Michael. I had a brilliant historian of economic thought called Ted Wheelwright who was my lecturer in my third year as undergraduate and just exposed me to this enormous range of writing that I hadn't learnt through my mainstream courses and I have read further in that area, Michael in a similar sense got a couple of leads in particular in America's case learned about the regional protectionist lobe in America which really was their success and policies really why America managed to industrialize so well in the 19th century and he learnt that literature, so we taught ourselves out of school so to speak and anybody gets taught in school and swallows the stuff is lost to reality.

Erik: **Well, it's really depressing that if you want to learn all about economics that relate to the real world, it is so hard to learn that from the university system, but I am very interested to know more about what you are doing, because I think you describe yourself as perhaps the world's first crowd funded economist with the**

new work that you are doing to basically provide economics education on Patreon, so please tell our listeners what that project is about?

Steve: Yeah, well, it's really is, it's quite funny, I think in some ways, finally winning the war over the theory of capitalism with the fight over the neoclassical and the success of the non-orthodox monetary of non-equilibrium approach that I take and that Michael also takes, but as we are winning the war, we are losing one of the crucial battles and that is the only way that non-orthodox economics survived the push that's being pushed by the mainstream over the last 40 years is we get jobs in the low rank universities where they couldn't be bothered getting positions anyway. So, ironically, if you want to get a good education in economics, go to a poorly rated university such as like the University of Utah for example, University of Missouri, Kansas City, the American ones, I am using either New Scope of Social Research and the University of Massachusetts Amherst. Those are about the only places you will get a non-conventional education in economics in America. Now, what's happened in the English, in the Anglo world the Australia and England in particular is that neoliberal policies have dominated education reform and actually a better word for reform is deform and these policies have said, well, let's turn it more into, let's turn university into a market place, so what they have done, first of all in Australia back in 2012 and they repeated in England in 2014 whilst they were control set by the bureaucrats on how many positions each university could offer for humanity subjects, science subjects and so on and in an attempt to make it "more like a market," the bureaucrats said let's abolish those controls and the university to decide how many positions they want to offer. Now, market to be a genuine market requires informed consumers, high school students are the ones who buy university degrees they haven't got a clue what a university is about, they only ever going to buy one in their lives. They haven't sampled 500 to know they prefer you know they haven't got the content informed consumers at all, so their response to that was to say high ranked university offers me a position, it must be better than the lower ranked university, so what that meant was the tenuous hold on academic positions that not orthodox thinkers like I had in universities like Kingston was eliminated and because students were approached by the higher rank universities in the UK, so Kingston's intake has gone from 22000 students to 15 over a three or four year period. It is now financially stretched. It can't afford the expense to having me do my public intellectual role in economics. So, I faced either four times teaching load which would eliminate my capacity to extend the theory and to educate the public or I had to fund my three-quarters of my own salary, so I am doing that with Patreon and the intention ultimately is to build an on-line education service for people who really want to learn about economics from a non-orthodox point of view and don't have time to go to university and won't go of course to the lower ranked ones anyway, so I intend setting up an online what I am calling Keen online realistic economics program using Patreon and it's off to a reasonable start. I have got about one-third of the way that I need to go before I can become completely independent of the university sector and then beyond that start developing Minsky software and beyond that start hiring other members of the non-orthodox community to really, really teach the economics well and critically on the web.

Erik: **Well, I think that's an absolutely fantastic idea, I think the entire university system should be replaced by web-based online learning that relates to the real world. So, I think you are doing pioneering work and I am very excited to check it out myself. Unfortunately, we are out of time, so let's go very quickly the website is profstevekeen.com. We will have a link in the research roundup email to that. The book is "Can We Avoid Another Financial Crisis" by Professor Steve Keen available now in the UK only, soon to be available in the rest of the world. We will get a link to the order page on Amazon as soon as it is available to the rest of the world and for the new online education through Patreon, what's the URL Steve in order for our listeners to find out more?**

Steve: These are www.patreon.com/ProfSteveKeen.

Erik: **Steve, I can't thank you enough for another fantastic interview and we look forward to getting you back on the program in a few months. Patrick Ceresna and I will be back as MacroVoices continues right here at macrovoices.com.**