Demetri Kofinas: What's up everybody. Welcome to another episode of Hidden Forces with me, Demetri Kofinas. Today we speak with Steve Keen. Steve is Professor of Economics at Kingston University in London and one of a handful of economists to correctly anticipate the global financial crisis of 2008. Professor Keen is [00:00:30] also the popular author of Debunking Economics, as well as his most recent and timely book, Can We Avoid Another Financial Crisis?

In this episode, we tear up the textbook of contemporary economics. We dispense with equilibrium, embrace irrationality, internalize externalities, and drop assumptions about the world that do not comport with the reality we experience in our daily lives. We begin our history of economics with the physiocrats, enlightenment thinkers [00:01:00] of the early 18th century who concerned themselves with the question of productive work and where stuff comes from.

We move to through the classical period of economics, exploring the philosophies of Adam Smith and David Ricardo. We stop to question the assumptions of the Newtonian-minded neoclassicists of the late 19th and early 20th centuries, who saw fit to squeeze a complicated world into a set of simple models. Where did our ideas of rational [00:01:30] preference, utility maximization, and market equilibrium come from? And how have these ideas been debunked by the events, insights and theories of the last 100 years?

What was the role of John Maynard Keynes and his Keynesian revolution? Where did he and the Austrian Friedrich von Hayek meet? And where has the evolution of economics taken us since?

What is the role of banking in the economy? How was money created, and how does it circulate? What is the role of credit? [00:02:00] How might this almost godly instrument of wealth creation now be the source of global instability and financial distress?

Finally, Steve and I explore the landscape of the modern economy. We look at China, with its ghost cities and massive state-directed banking system. We explore Australia, Canada and South Korea as possible sources for the next financial crisis. And we examine possible solutions for society and the individual.

As always, you can gain access to [00:02:30] reading lists put together by me ahead of every episode by visiting the show's website at HiddenForces.io. Lastly, if you're listening to the show on iTunes or Android, make sure to subscribe. If you like the show, write us a review. And if you want a sneak peek into how the sausage is made, or for special story lines told through pictures and questions, then like us on Facebook and follow us on Twitter and Instagram @hiddenforcespod.

Now, let's get right to this week's [00:03:00] conversation.

Professor Steve Keen, I'm so excited to have you on. I was just telling you that the last time that you were on my show ... I mean, I did see you in New York recently when you were there, and I've seen you a number of times since Capital Account. But the last time I actually

had you on my show was, I think, in the summer of 2012. And you were in-studio in Washington DC, I believe. And we actually had you answer comment feedback [00:03:30] to the audience at the end of the show with [Lauren 00:03:33]. So I remember all of that. And so it's wonderful having you on, and I'm very excited about it.

Steve Keen: Well, it's great to be here. The trouble is the story I was talking about is one I wish actually wasn't still here, but it looks like it'll be with us for the next two decades.

Demetri Kofinas: Right. That deflation, the black hole. So we're going to talk about this. So this is what I was thinking about, 'cause I don't want to get caught in the weeds. But since I've got you here, and you're really good with this, I do want to spend part one of this interview, I want to do it sort of going through giving people an understanding of [00:04:00] the evolution of economics and economic thinking. So the way I'm thinking about it, there was the classical period, classical economics, and then there was neoclassical economics, then there was the Keynesian revolution, then there was this Keynesian neoclassical synthesis.

And the way I see the classical period was, this was a time when the economics was really primarily a philosophical idea. And then with neoclassical economics came along with the need of the industrialists to sort of [00:04:30] standardize and create systems around which they understood and were able to price goods, etc. But you know what? Instead of me talking, why don't you lay that foundation out for the audience so that we can sort of understand what is the progression of economic thinking from the time of Adam Smith to today?

Steve Keen: Well, in fact, I'm going to go back about 30 or 40 years earlier, because that's where I think economics should have started, with a group called the physiocrats who were based in France. Adam Smith actually went across to study with them. [00:05:00] The classic thing that seems to happen in economics all the time ... we talk about don't throw out the baby with the bath water. Economics tends to throw the baby away and keep the bath water and then try to keep the bath water alive.

So if you look at what the physiocrats were arguing as early as the late 1600's, in fact, what became called the Physiocratic school, actually started off by saying the question, "Where does stuff come from?" And the basic answer was, "Stuff comes from the sun," in the sense that agriculture gets this free radiation [00:05:30] from the sky. And you plant a seed in the ground, and it turns into several cobs of corn with maybe 10,000 times as much corn as you actually put in the soil. They called the agricultural sector the productive class. And so that's where all wealth comes from. And then they referred to manufacturing as the sterile class.

Now, they were wrong about the ability of manufacturing to actually produce more stuff than you put into it, because manufacturing uses energy. It just happens to be solar energy that landed on [00:06:00] the planet about 90 million years ago, got absorbed by an animal

that turned into a fossil, that became a coal and we then burned it later. It is fundamentally ... in both cases we're exploiting fundamentally solar power.

Demetri Kofinas: Organic life, yeah. Organic matter.

Steve Keen: Yeah.

Demetri Kofinas: And so what you're saying is to clarify, you are taking it back to a period about 100 years before Adam Smith where the fundamental dilemma, the philosophical problem that was meant to be addressed, was "where does stuff come from?"

Steve Keen: Yeah.

Demetri Kofinas: Where do things come from that we consume and use and that factor into [00:06:30] our economic life?

Steve Keen: Now the funny thing is, Adam Smith ignored that stuff. He just basically said "No wealth comes from the specialization of labor." As I've just recently argued, this is talking about some new research of mine, the whole idea of labor without energy or capital of that energy is a farce. Labor without energy is a corpse. Capital of that energy is a sculpture. They actually are ways to harness energy, and that was completely forgotten, not just in the neoclassical school, which I criticize, but also the classical school itself.

And then we went through all the other [00:07:00] permutations, the neoclassical synthesis, the so-called Keynesian, which was actually Samuelsonian, and now we get to the modern day. And literally I've just done the work, and I say we should go right back to the physiocrats, put energy the center of our thinking, and then include all the stuff about finance and class that the classical school talked about, and pretty much throw away virtually everything the neoclassicals have done because unfortunately the main purpose of their theory had, when they first devised it, was to [00:07:30] neutralize the threat to capitalism caused by Marx, turning the classical school against capitalism. And the ideas they chose as a foundation, understandable back in the 19th century, turned out to be mathematically impossible of turning into decent theories.

Demetri Kofinas: So, Steve, just to interrupt. And I'm sorry.

Steve Keen: Yeah.

Demetri Kofinas: I want to structure as far as I can forward, because you have such a strong knowledge of this, and you've talked about it so many times. And I want to see if we can do the best possible job with this one.

Steve Keen: Yeah.

Demetri Kofinas: So when [00:08:00] you mention the physiocrats, and when we're talking about stuff, what you're really addressing, it sounds like to me, is you're saying they were on top of this notion of externalities. And I say it, because we refer to it in neoclassical economics as externalities, things that are actually very important, which are nonrenewable perhaps, are-

Steve Keen: Yeah.

Demetri Kofinas: The resources of the earth, and you're saying we need to bring that back and to incorporate that into our economic models. Is that what you're saying?

Steve Keen: Absolutely. Yeah. We don't get that right, we're not getting nothing else right. So [00:08:30] a large part of my stuff is saying that the classical school, which talked about social classes clashing with each other and fighting over the distribution of income, and Marx talked a lot about money in a very critical way as well. All that stuff is valid, and we should be bringing that back. But we've got to bring back with what the physiocrats had that no particular school of economics has had since, which is weird, because the physiocrats predate physicists discovering what they call the law of thermodynamics. But it's the only school of economic thought that has ever been consistent with the laws of thermodynamics.

Demetri Kofinas: It's interesting. I [00:09:00] don't know, maybe it has something to do with abundance and the increased amounts of perceived abundance or actual abundance that was common certainly in ... Adam Smith published Wealth of Nations in 1776, so maybe there is some correlation there between the type of abundance that exists in the Americas and the ideas around being able to simply put things like that as externalities. But that kind of brings us ... so it sounds like we are going to close that chapter in classical economics.

Steve Keen: Yep.

Demetri Kofinas: The early part, which again was very philosophical. [00:09:30] It was political economy, and now we're moving into the neoclassical period, and this is where this notion of externalities came in to being along with many other things, which was this attempt to model the economy along sort of Newtonian lines. Correct?

Steve Keen: Yeah. And this is-

Demetri Kofinas: Go ahead.

Steve Keen: Yeah. And that particular classical school will argue that the value of something was basically its cost in production. And what the neoclassicals said, it's not the value of something, it is the subjective satisfaction that the consumer gets out of consuming it. [00:10:00] It's a private relationship between a consumer and a commodity. But they then tried to use that as a foundation to model trade, and what they saw capitalism as was the perfect system for trading off consumers' desire to maximize the utility against the

firm's desire to maximize profits. They meet in the middle in equilibrium, and that's the mental picture that they build.

And to handle the concept was very, very ... let's just say very Newtonian, very mechanistic in how it was looked at. It wasn't evolutionary by any stretch of imagination. But what they did to make [00:10:30] that mathematically tractable at the time was to ignore such things as banks, debt, and money, and disequilibrium. Things happening out of balance, in other words. And that, of course ... the real world is full of banks, debt, and money, and everything happens out of balance. So it was a set of what they called simplifications at the time, and given the technology that had at the time, which was basically a sheet of paper, that was a justifiable simplification. Because then you could just draw intersecting lines to work out your theory right way, as Marshall did.

But the reality is we've gone [00:11:00] well past that limitation of paper in the modern universe, and economists are still stuck with the former thinking, which fundamentally is drawing straights lines on a sheet of paper and seeing where they intersect.

Demetri Kofinas: Right. The need to rely on geometrical mathematics as opposed to computational arithmetic, which would not have been possible because we didn't have computers to be able to do that. I want you to keep going. I wanna interject just for our audience in the interview that we did with Brian Arthur on complexity science, the complexity theory. [00:11:30] Professor Steve right now is touching on sort of the opposite of that. The Newtonian models are negative feedback models, because they are tending towards equilibrium. So a shock in a Newtonian model, pardon me, a neoclassical model ... a shock in a neoclassical model always tends back towards equilibrium. There's always a fighting pull to come back towards some stable sort of point of equilibrium in the model. Correct?

Steve Keen: That's what they believe. And in fact, they prove themselves wrong. And this is the weird thing. I think Brian Arthur would appreciate this. They [00:12:00] had models, for example, of multiple markets, each with their own supply-and-demand functions and with people trading in many, many markets. And they thought that the process of what they called tatonnement. So you set a random set of prices, work out the supply and demand balance in virtually every market where there's too much demand, increase price. Where there's too much supply, reduce price. They thought that would shuffle towards reaching the equilibrium vector. And mathematicians in the 1920s proved: "Sorry, guys. No it won't." And then a similar thing was done with consumer theory. They thought [00:12:30] they could extrapolate from the isolated consumer and get a market demand curve out of the characteristics of an individual, and mathematical economist proved, "Nope, sorry. That doesn't work either."

Even today, the models they used to model the economy, the so-called dynamic stochastic general equilibrium models, are based on a 1925 paper, where the equilibrium was unstable. So despite their best desires to get the mathematics to give them results they wanted, it didn't. So instead they just pretended that it did and carried on anyway.

Demetri Kofinas: And there were certain core assumptions [00:13:00] in neoclassical economics. One was this notion of rational preferences and that people's rational preferences could be quantified. Another was that people tended to want to maximize their utility and their profit. There was also a notion in which there was this sort of reality, and somehow financial markets, or markets in general, had a clear perception of that reality and that they tended towards it. And then there was also the marginal revolution. The sort of advancement that have happened since that time that challenge [00:13:30] these core assumptions are primarily behavioral economics and complexity and complexity science, complexity theory. Why don't you talk a little bit about those sort of core assumptions in the core of neoclassical economics? And again, the reason why this is so important, audience, is because neoclassical economics still ... it's not exactly what it was in the 19th century, but this is the core of what we're taught in university.

Steve Keen: Yeah.

Demetri Kofinas: To this day.

Steve Keen: Yeah. Well, the basic idea of this where a market reaches equilibrium is where people draw a little supply-and-demand diagram on a sheet [00:14:00] of paper with a down sloping demand and upward sloping supply and imagine that therefore everything happens where the two lines intersect. And the question is, how do you get to that particular point? Can you actually get there? And the answer is conditional. It depends upon the slope of the lines. And then when you feed in multiple ones, where moving one advantages that I apply in one market causes movements elsewhere also means that you don't necessarily get there.

So if you think about what the neoclassicals would have liked to find, what they would have liked to find is the process is stable, and therefore [00:14:30] you don't have to have particularly intelligent agents. All you need is the markets to ... price goes up where demand is too and price goes down where supply is too high. And that jiggling process was supposed to get you to equilibrium.

They proved that it wasn't, so the solution was to say, "Oh, well. Let's assume ..." and you know the word assume stands for, "Let's make an ass out of you and me." "Let's assume that there are agents who've got the capacity to prophesize where the market should be and work out where that point is in an unstable system and jump there, because we call them rational." [00:15:00] By the word rational, is a rational person has the capacity to on average accurately predict the future. Now that is total crap, okay? But because they were so wedded to the idea of the market reaching equilibrium, when they found it wouldn't reach it by random process of something not requiring hyper-intelligent agents, they simply said, "Well, let's assume hyper-intelligent agents then," without actually telling anybody that what they meant was people who could actually predict the future.

Demetri Kofinas: Right. Doesn't consider things like the ultimatum game, for example. That's the [00:15:30] famous study with the chimpanzees, and you give the chimp some cucumber, and then you give another chimp some cucumber, and then the other

chimp gets a grape, and then they see that that chimp gets a grape, and then the other chimp basically throws the cucumber back in the researcher's face, because he says, "You know what? I'd rather not have anything than have less than this guy." Which is irrational, according to economics, but is in fact the way that we behave. We don't like to be cheated.

Steve Keen: Yeah.

Demetri Kofinas: And in fact, in evolutionary terms, there's a good reason for that. So there was this first initial, [00:16:00] it seems like to me, and please correct me if I'm wrong, but this sort of revolution in economic thinking, which was an attempt to take a philosophical approach to thinking about the economy within the context of politics, within the context of polity, and morals, and utility, and all these things. There was an attempt to systematize it and to put around it a scientific sort of layer. And then we had the great depression, and we had this sort of Keynesian revolution. [00:16:30] It's my shorthand to describe really the ideas of Keynes in terms of how influential they were. So why don't you give us a little bit of ... and if I miss something important that you want to mention, please do. But why don't you give us sort of an understanding of who Keynes is, because there is so much ideology around Keynes and other schools in economics, and I wanna kind of cut through that, and I just wanna get into the facts of who he was, why he was so significant, and what his ideas meant for our understanding [00:17:00] of economics.

Steve Keen: Yeah. In many ways, he was attempting to bring some realism to economic theory. And what actually happened was, his name was used in vain, so to speak. And I'm sure any religious people know what I mean by that. People calling themselves followers actually subverted his views and put totally different ideas forward. So what Keynes was talking about ... if you wanna see Keynes in a nice, simple summary, they can just search on the web for the General Theory of Employment, not the book, but a little paper that's about 15 pages long that he wrote as a summary [00:17:30] in 1937 after the book came out. And in that, people reading it, if you didn't actually see the name, they might think they were reading something written by Hayek, because it talks about uncertainty, limited information, instability, evolutionary forces, all this sort of stuff, which is actually real world.

But when he wrote the General Theory itself, he was escaping from this neoclassical vision, which he called Marshallian, because he was trained by descendants of Marshall, and all the supply-and-demand equilibrium stuff. And he was trying to escape from that, but he also [00:18:00] was trying to systematize economics in this same way at the same time. And The General Theory of Employment, Interest, and Money, the book in 1936, in my opinion, is a real mishmash. You can read anything you like into it, and that's fundamentally what neoclassicals did. They saw the remnants of it, and they said that he was actually, to use the technical term, a Walrasian. He was somebody building on Léon Walras' idea of general equilibrium and taking it from the micro economic level to the macroeconomic level. That's precisely how John Hicks put it in [00:18:30] an alleged interpretation of Keynes. But that actually became seen as Keynes himself. And Hicks, as it happens later on, recanted and said the model he put forward as a summary of Keynes was something he developed two years before he'd even read Keynes.

Demetri Kofinas: So what was the major insight? I mean, what was the major insight for Keynes or the attempt ... how did he try to regarding-make economic thinking actively, in fact. It wasn't so much that he was doing it as an academic. He was, in fact, very active in this process. He was, I think ... was he not [00:19:00] the head of the Bank of England at some point?

Steve Keen: No, he wasn't that. He actually began in the India, right back when Britain had an empire. He started off in the India colonial office there, but he was also such a recognized intellectual that he was invited as a bureaucrat to be part of the Treaty of Versailles. And he was so horrified by the attempts by the French leader at the time to destroy Germany by putting impossible reparations on top of it, which he said would have worked in a futile society, but he wrote a book called The Economic Consequences of The Peace that predicted the consequences would be a second world war. [00:19:30] And of course, as the developments went in that direction over time, his stature grew as having accurately said what was the consequences of an appalling peace.

But he was very much taught up in policy all the way through.

Demetri Kofinas: Instrumental in Bretton Woods, of course.

Steve Keen: Yeah. And he was undermined by the Americans there, unfortunately. Otherwise we would have the Bank Corps international currency rather than the United States dollar, which is what the Americans wanted and Keynes did not want. But he was very much talking about how we have to make decisions about the future, but depending upon [00:20:00] things that happen in the future, we can't know the future, where it's uncertain. Not subject to risk or chance or anything like that, but simply unknowable. He said in that sense, therefore, we make decisions based on extrapolating current conditions forward, even though we know that's not going to work. It's the only thing we've got to go on. And what you get it for is waves of exuberance and depression coming out of that, affecting the level of investment, and the level of investment then affects the rate of economic growth. See, he was saying, "This is cyclical. There's going to be a tendency towards periods [00:20:30] of depression, and in that situation, the private sector basically amplifies the problem." And he really argued you about have to have the government sector creating extra effective demand when the private sector goes into a slump.

Whereas the neoclassical version was that it's all a whole lot of interlocking seesaws, and if one end's up, the other down, and the average doesn't change. He was saying, "No. There's aggregate demand, effective demand, which can be less than enough demand to employ everybody who wants to work in a job and all the resources we have available, and you [00:21:00] have to manage that effective demand." And in that sense, the government acts like an air conditioning system in an English studio, where if it's cold outside, it's warm inside, 'cause the government does the opposite things from the private sector. So that's the type of general vision he had.

Demetri Kofinas: And so you're mentioning two important things that I do want to continue on in this discussion with. One is the business cycle, which we're going to touch on

numerous times in our discussion, and the other one is this demand side notion of economics. This is obviously counter to the supply side version [00:21:30] that became popular in the late '70s, early '80s under Reagan. And one of the questions I have for you with respect to Keynes that I wanna try to tie in to this notion of balance sheet recessions and debt deflation, which is something that I've always been confused about. Did Keynes see the need for government spending in order to boost aggregate demand as something that was a requirement in order to address the balance sheet recession? In other words, the excessive levels [00:22:00] of debt, private sector debt, that had accumulated on private balance sheets that had caused the economy to spiral into deflation. Was that his attempt to address the debt issue, or was it the way that I was certainly taught in college, what was that he simply saw a certain critical point in which the economy just hit a positive feedback, negative spiral where consumers just did not wanna consume, they just wanted to save, and producers had no pricing [00:22:30] power, and there was this complete spiral. And it was talked about absent the debt, absent the conversation of debt deflation. How did Keynes see all of that?

Steve Keen: I think your university education wasn't too far off the mark there, because ... not everything Keynes has written, but there's certainly the General Theory and those 37 papers and a lot else. And he only once referred to debt deflation. He did say it was a factor, and he was arguing that people will argue that you should cut wages. And he said, "Well, if you cut wages in the presence of large amounts of debt for the corporate sector, then the [00:23:00] beneficial impact on the psychology will reduce cost of wages could be offset by the increase burden of debt." So he did make a reference to it. But by no means was that the focus of his thinking. On that front, I don't regard Keynes as the sole important intellect of the 1930s. The other one who was far more important in terms of debt deflation was the man who coined the term. That's Irving Fisher.

Demetri Kofinas: So if you want, we can talk about Fisher, or we can go straight to Minsky and sort of maybe perhaps ... I don't know that we necessarily need to go through the Keynesian neoclassical synthesis. I'm [00:23:30] happy to if you like, which is essentially this-

Steve Keen: That really was Hicks. Hicks developed a way of handling it. There are three markers interacting, using a two-dimensional diagram. And the idea was using what's called Walras Law, which is the argument that if you have N minus 1 markets that are imbalanced, then the N market also has to be imbalanced. And what Hicks did is say, "Well, if you have two part and one market, it's an equilibrium, then three market's an equilibrium. You can ignore the third market and just show a diagram that has two markets inside there." [00:24:00] And that's what became his IS-LM diagram. And that's what people saw as the essence of Keynes. And there were ways in which you could twist this model, as Paul Krugman does, to make it look like it's Keynes' ideas by changing the shape of the various curves.

But what Hicks realized in the late '70s, after having lots of conversations with Paul Davidson, who was the leading post-Keynesian economist. He realized that the idea that if you draw this line, you've got one line representing the equilibrium in the goods market,

another [00:24:30] representing equilibrium in the money market. Only where the two curves cross are they both in equilibrium, and therefore in that point, if there's a third market, you can ignore the third market. But he then realized, "Well, if you're not at the point where those two curves cross, then the other market's not in equilibrium. Therefore your third one has to also be out of equilibrium, and you're totally in an unstable, nonequilibrium world." And Hicks said, "On that basis, I reject IS-LM as anything other than a toy model which should be thrown out as soon as we come up with something better."

So that was the so-called neoclassical synthesis, [00:25:00] was that being taken by Samuelson and portrayed as Keynes. And that's what Joan Robinson called "bastard Keynesian." And that's out of which we then got the monetarists' revolt, and then the so-called dynamic stochastic general equilibrium model after they called the real business cycle. That's all happened in the neoclassical school.

Demetri Kofinas: Right. Okay, so now let's get to, I think, which is the real part of the conversation that I've been wanting to get to, now that we laid out that amazing foundation. Minsky, who is someone [00:25:30] that you talk about often, and we're going to talk about here, he has this great quote. It's not a direct quote, but it's something that you've cited, which is that the fact that neoclassical economic models could not produce a depression with their models ... in other words, you need an economic model that can generate a depression.

Steve Keen: Yeah. Absolutely.

Demetri Kofinas: The fact that they could not was essential problem with the models.

Steve Keen: Yeah.

Demetri Kofinas: So now this sort of brings us forward to where we are today, which is that we've had major [00:26:00] problems in economic thinking primarily ... well, not entirely. One of the other major points as well, as you kind of alluded to it. I should actually say this, which is that neoclassical models didn't really have a place for banking or for money. And in fact, they viewed banks as simple intermediaries and not as money creators, and that's an important point I wanna try to see if I can convey this to the audience. Of course, when you work, you save, you put the money in the bank.

When I go to borrow, I take money [00:26:30] from the bank. But I don't take just the savings that's in the bank. The bank has the capacity to create unlimited levels of savings. There are, of course, constraints that are put onto them at various points from regulations or whatever else. But theoretically speaking, a bank can simply ... it's essentially a Ponzi scheme operation. A bank generates credit, and that credit circulates in the economy as money. If I go to the bank and I get a $100 loan, the bank doesn't have $100 and it issues me a loan, when I go and spend that money, that's effectively money in the economy. That's an increase in the money supply that affects prices, [00:27:00] that affects everything else.

The neoclassical models did not possess that, and I think that is an even more significant problem. And of course it goes hand in hand perhaps with the inability to generate a depression.

But I wanna now sort of get into that, because that's so central, the role of money and credit in not just the discussion we're having here, but in where we are today, how we got here up to 2008, what's been happening since 2008 to today, and what we can expect looking forward.

Steve Keen: [00:27:30] Yeah. Absolutely. That's all stuff which was left out of the mainstream, and the reason that Minsky included it, apart from being just simply more realistic, was the question that Minsky posed for himself was, "Can it happen again," "it" being the Great Depression. And if it can happen, why hasn't it happened between 1945 when he wrote the line in 1982. And he said, "To answer this question, we need a model which makes a great depression, one of the possible states in which our capitalist economy can find itself." If you have a model that can't generate a great depression, you haven't got a model of capitalism. [00:28:00] Now on the other hand-

Demetri Kofinas: Such a common sense idea.

Steve Keen: Yeah. The neoclassicals said, "We can't explain the great depression. Therefore, we call it an outlier. We don't include it in our data, and we fit the data to non-depression periods." And they're even doing it again now. They're trying to get their models to jump over 2008.

Demetri Kofinas: Well, that's a problem in general with so much of the quantification of finance. We are using models. We're using mathematical models in order to expedite economic problems, and we build a lot of assumptions in there that shouldn't be in there. And we end up [00:28:30] having a lot of crashes and a lot of catastrophes. So I wanna kind of get into where we are today. You touched on this notion of the business cycle. There is a larger idea of a credit cycle, and each time of course we have these business cycles, which are periods of investment. Periods of investment correlate with periods of higher credit growth, because of course, an investment opportunity for an investor means that they not only are going to rely on their own savings and capital, but they're going to go out and borrow, they're going to seek investment from other people. [00:29:00] The money supply grows, credit grows during a boom. In a bust, there are liquidations, but not all that is liquidated. And so each time we have a credit cycle, each time we have a business cycle, there's an accumulation of credit. There's an accumulation of debt, and that debt, I think you've said this before, Steve, I think. Or maybe it was Minsky. It's easy to confuse the two of you guys. But this idea that debt on the balance sheet over time reflects the failures of an economy over the period that that's seen. Would that be [00:29:30] an accurate statement?

Steve Keen: Minsky's vision is the first vision I saw of a capitalist economy that I thought made complete sense, and that's why I used it as a foundation for my modeling since then. Because he said the fundamental instability of capitalism is upwards. The tendency to turn doing well into a speculative burn is the fundamental instability of a

capitalist economy. Whereas most critics talked about this tendency towards stagnation, which I think is nonsense. People like Baran and Sweezy saw this tendency for the greater profit to fall and all this sort of nonsense, and not looking at the financial sector at all.

[00:30:00] And Minsky said instead that firms will, after a period of crisis as you move away from the crisis and you have relatively stable conditions continuing for some time, people tend to forget the crisis itself, and therefore their expectations start to rise. And as their expectations start to rise, they're more willing to borrow money. The borrowing money increases demand, and the economy, as you yourself explained a moment ago, that causes a boom. That then drives up income shares going to other social classes, where workers, raw material producers, as well. And also [00:30:30] 'cause bankers are getting a larger share of output because the increased debt that firms are carrying and because the interest rates tend to rise as well. And we finally get to a point where the profit the capitalist is making are not what they expected, and they start cutting back on investment, and the economy goes into a slump again.

But Minsky's explanation was, the way that I summarize it, there's a tendency for people to borrow money during a boom and have to repay it during a slump with the result that you ratchet up debt levels. Each boom and cycle, you get a high level of debt starting the next boom. But each time [00:31:00] that happens, the amount of head room you have to be able to reduce your costs by a slump is decreasing, because of the debt itself. You can't get rid of the debt except by paying it down or by bankruptcy. And you get to a point where there's so much debt accumulated, the downward tendencies in the aftermath of a slump aren't enough to reduce the debt burden. It continues to compound, and you've fallen to the black hole of debt.

Demetri Kofinas: So that's great. So there are three great points you made there. One is the structural point. So we're talking about this concept [00:31:30] of business cycles, which is so essential and so basic and something that I wasn't taught in school. I majored in economics, and I had a major in economics and a political science, and I was never taught anything about the business cycle. In fact, Steve, I don't know if you and I have talked about this. We probably have. But I was never even taught about how monetary policy operates.

Steve Keen: I know, I know.

Demetri Kofinas: In a fiat money system, which is remarkable. And that sort of is going to get to another point that I wanna get into, which is this notion of a balance sheet hack. How do we sort of hack the balance sheet, because that's the argument that you would make, and others [00:32:00] would make, and it's a reasonable argument for how to deal with the balance sheet recession that we're in, if you agree that we're in one? You do, I do. It's up to the audience to decide that. But you made three great points. One is the structural changes. So a business cycle, a boom creates structural changes in an economy. And there's also an accumulation of debt, and that's kind of partial with that as well, and each time that debt accumulates, so we get more and more. Each time we go through a business cycle, we have an additional amount of debt.

And that there are also winners [00:32:30] and losers during a boom. And so there's also a propensity ... and this is kind of a nuanced argument, Steve, but I wanna make it, and I wanna see if there's some way we can incorporate this into our conversation, which was reflected obviously in 2008. In 2008, prior to 2008, there were any winners who had generated tens and hundreds of millions of dollars of profits for themselves. Those people did not wanna have to give that money up. And so there's an accumulation of winnings that is put in jeopardy during the normal [00:33:00] part of a liquidation cycle in a business cycle, and so there are a lot of perversions that occur that aren't caught in the simple, simplistic model of, "Okay, there's malinvestment. We liquidate that malinvestment, and we start over." So there's much more nuance in there. There's a whole sort of culture of bacteria that sprouts and creates additional stuff.

You mentioned the black hole. Now, I actually looked this up for the interview. I looked this up. So the mass of our sun, from what I understand, the way that we think about black holes is [00:33:30] that we calculate the amount of mass required to generate a black hole based on this notion of solar mass, which is the mass of our sun. So we need about, the estimates are ... again, these are estimates ... but about 25 suns. Sun that is about 25 times the size of our sun is large enough to generate a black hole. Because in order to generate a black hole, you need to have a collapsing sun that's large enough that it can collapse on itself and create singularity, a point in space in which it's so dense that now gravity cannot escape. [00:34:00] That even light cannot escape, the gravity's so incredibly strong.

So that is a great metaphor for describing a balance sheet recession, which is this notion ... I think Richárd Végh is credited with the 150 number, or something like that. There's a general number. Again, these are not scientifically verified. These are estimates. But there is a general number at which that the GDP reaches where economies begin to get stuck.

Steve Keen: Yeah. Unless you have forces [00:34:30] which will reduce that excessive mass. So using the analogy between the mass of a sun that can cause a star that can fall into a black hole, and the amount of debt in the private economy. And Richárd's work was useful for me in putting some numerical handles on my own modeling of this process. But he's right. And it's actually easy to illustrate. I might give it a try. This is something I talk about in the book as well and a little numerical example I give, but it comes down to the important point you made earlier, which the mainstream economic economists flatly deny, and that's that [00:35:00] credit adds to demand.

Now, you mentioned the black hole analogy. They think when you've got a black hole, get a matching white hole that counteracts its effect. In fact, they deny the existence of black holes in economics. And their basis for that is saying that borrowing ... and this is where the model of banking becomes essential. They say banks are just intermediaries. I call them the Ashley Madison's of finance. They look at them. They don't actually screw you. I can use that on your radio show, can I? Or am I pushing my luck a bit in America?

Demetri Kofinas: No, no. You can say that. We've talked about Ashley Madison but in different [00:35:30] context. In fact, we talk about them because of the fact that, like you're

alluding to. So Ashley Madison is the dating site where in fact it turned out that all the women on the site were bots.

Steve Keen: That helps a bit.

Demetri Kofinas: That's what you're alluding to.

Steve Keen: But no, not so much the bots, but Ashley Madison pretends to be a service which introduces you to somebody else who is willing to screw you, and they use you for a fee. But Ashley Madison doesn't actually screw you. That may now be no longer the case when we see what Ashley Madison was actually doing. But that's the analogy that neoclassical economists have. That's how they treat banks, like an introduction [00:36:00] agency between people who are looking to find somebody else who wants to make love to them.

Whereas in fact what they are, my analogy, they're more like the red light district. You pay them a fee, they deliver the service. And in this particular case, the service is, as you say, they can come to them and say, "I've got this great idea for a radio station. I need $10 million." They'll say, "Here's $10 million. By the way, you owe us $10 million." And by doing that, they increase their assets, which is the debt you owe them, and they increase their liability, which is the money they've given you. You then use those liabilities [00:36:30] to trade with other people. You buy the radio station and so on. So that's actually added to demand. But when you go in the opposite direction, if you pay that debt off, then when you pay that money, you're taking $10 million out of circulation and giving it back to the bank again. The liabilities fall. That means the amount of money in the economy also falls. So it's not an introduction agency. It's a creation. I call it "bank-originated money and debt," or BOMD.

Demetri Kofinas: Right. In other words, the banks are central at the very core of money creation.

Steve Keen: Absolutely.

Demetri Kofinas: Not just that creation, and [00:37:00] they're essential in that process. Now I wanna keep going, and I wanna stay on where we were going with this balance sheet recession, because it's where I wanna head us to. So the term "balance sheet recession," if I'm not mistaken, came from Richard Koo. I think he coined that term, and ... if I'm mistaken, please correct me, but it came from the unprecedented boom in credit that we saw in Japan in the 1980s and the subsequent lost decades in the Japanese economy, the massive levels of deflation. [00:37:30] It seems to me, and I'd love to hear what you have to say on this. It seems to me that Japan was the leader in this sort of paradigm. The U.S., Europe to a greater degree, and some other countries, are somewhere in the middle, and Australia, Canada, and China ... oh boy. China is at the very end of the bus. I look at China's debt-to-GDP numbers. I look, more than anything else, Steve, [00:38:00] I gotta say, you have some interesting charts, and so I read your most recent book, Can We Avoid Another Financial Crisis. That's your book. And you've got a chart in there among many, and the

chart is China credit and GDP. And what you see in that chart for the Chinese economy, which is so different than ...

So in the U.S. economy and in other economies, there was at the very least a hiccup. Even in Australia and Canada, there was a hiccup in 2008. In China, because of the tremendous [00:38:30] level of control that the Chinese state has over the banking system, 2008 was a point of inflection in credit.

Steve Keen: Yeah. They started off though, in most of the previous 10 to 15 years, they had a roughly recorded level of private debt to GDP of about 100%. And that's banding together household debt, which is actually quite small in China, and nonfinancial-sector corporate debt. That runs at about 100% of GDP, and the figures they give to the Bank for International Settlements. Then the crisis hit in 2008, and what that really did to China was it destroyed [00:39:00] its export market. So the export volumes they had collapsed by something close to 40%, and the effect of that was a massive migration of workers from the coastal cities back to the country provinces, because they were not actually supposed to be residents. They didn't have residential rights to stay inside the cities. They couldn't get social security. They didn't meet the right for accommodation frankly, and they started moving back in a rather unhappy mood, back to the countryside. And that was a huge political challenge to the power of the communist party.

So their solution was basically to tell the [00:39:30] banks ... and of course, if you get told by the Chinese Communist Party official to do something, it's very much your health does depend on doing exactly what you're told. They were to lend with anybody with a pulse. And in that first year, 2009 I think it was, when they really started turning on the credit spigots, the increase in private debt in that year was about 40% of GDP. Absolutely huge increase in credit. And that is what then gave them a huge stimulus, which led to us talking about those-

Demetri Kofinas: How freaking crazy is that?

Steve Keen: Yeah, yeah.

Demetri Kofinas: I mean, how crazy is that, that in the midst of a [00:40:00] contraction, in the midst of a global credit crisis, the Chinese government saw fit through its banking system to expand credit creation to that degree. I just wanna have people sort of recognize what that means. That means that there are lost opportunities for economic growth and economic investment globally, certainly in its major trading partner, the United States. And so the Chinese economy, in order to counteract that for political reasons, extends credit, which is going to go towards the building [00:40:30] out of productive capacities that are bound to create larger amounts of malinvestment that could otherwise have been possible. Did I summarize that correctly?

Steve Keen: Reasonably well. The thing is, a lot of China had been doing is monumental public investment as well, so building a coal-fired power station virtually two or three a week at one stage. High-speed rail. A far better high-speed rail than America has.

Now going for solar power as well. A huge amount of public investments are taking place there as well. But they gave enormous amounts of money, and as usual when you give huge amounts of credits, [00:41:00] who takes how it comes out and says, "I'll take that. Thanks very much." Property speculators.

I've been to several cities in China. One them I'll mention is a city called Deyang, which is on the outskirts of the capital of Sichuan province. And that's a town of about 1 or 2 million people. I think a third or fourth tier city, in China's definition. And it's quite a comfortable middle sort of second-world, third-world level, on the way towards first-world level in terms of their comfort and so on inside the city itself. [00:41:30] But all buildings a bit run down, which have been expanded rapidly. Then on the periphery, you'd drive about 10 kilometers out, you find these enormous towers about 30 or 40 stories high with apartments that look great, and they look absolutely fabulous.

You get closer, and you find, well, the soil hasn't actually been turned properly for the gardens. There are twelve people working on the soil for about 30 buildings, each about 30 or 40 stories high. And you go inside, and there's bare concrete everywhere. If you want to go and check out your apartment, and I'm talking literally about visiting a [00:42:00] friend's apartment there, you knock or you bang on the door of the lift. Let that sink in. You bang on the door of the lift. The lift operator comes down, puts the Nintendo machine down, and takes you up to her floor, and you're let out on the floor. You then find yourself with bare concrete again, and inside the apartment block, it's also bare concrete. The glass is there. Some of the pipes exist, but everything else is bare concrete. And that scale of development was going on in China.

These people were buying them, because they were getting such lousy returns out of bank accounts that they really regarded buying these properties as a form of savings [00:42:30] for the future. And the prices would rise because of the sheer volume of borrowed money turning up both in building them and in buying them. And that was effectively how they were on the other side of government making the credit system create that amount of money. That's how the Chinese buyers were seeing themselves riding a speculative bubble as a form of savings. And that's a classic Ponzi scheme.

Demetri Kofinas: And that's also a classic example of what happens when you expand credit. It goes somewhere, and the notion that it has to go only into consumer prices is absurd. And of course, [00:43:00] we've seen in the United States and other places, asset bubbles form when you expand credit. Of course, we've seen that in neighboring Australia, not just within Australia and the way that the Australian government supported its housing market after 2008 in order to keep that bubble going, which I think in some ways similar to Greenspan in 2001, stimulating a mortgage refinancing bubble. But the Chinese are also pumping money into Australia, pumping money to here into New York City, so that does affect real estate prices.

[00:43:30] And now that I mentioned Australia, so you kind lump Australia, China ... China's obviously a much bigger kahuna, 'cause you're talking about ghost cities there, those apartment buildings. That's something that I don't think we've seen anywhere else. But

you've got China, Canada, and Australia. Those three economies. What do you see? How do you see this? I assume you consider it a credit bubble. I derive that from your work. How do you see that bursting?

Steve Keen: Well, it actually bursts under its own momentum. [00:44:00] By the way, the second biggest economy that's caught up that way is actually South Korea, then Canada's number three. Australia's about number four, then you have Belgium and Norway, a few others that are all in the same story.

Demetri Kofinas: Even scarier that South Korea's in that situation. Okay. Go ahead.

Steve Keen: They all got through the crisis by borrowing more money. The Australian government encouraged first-time buyers in first of all, then they had the borrowing by the business sector for all the investment around the minerals boom to feed minerals with those Chinese high rises, and now when that started running out of steam before they thought it would, they encouraged investors in. So I called them [00:44:30] speculators, into the housing market. So that way, they all level out their level of private debt, and what it now means is they're all carrying, rather than 150% danger level that Richárd Végh talked about, they're carrying 200% plus. Australia's about 210% of GDP. I think Canada's 220% of GDP.

So what it means is when the downturn comes, it comes because there's no possibility of having an infinite amount of debt compared to GDP. Because if you have an infinite amount of debt, you'd have a [00:45:00] servicing cost which is infinite. Your income is finite. You simply can't pay the interest. So there is a ceiling. And look again, and looking empirically, no country with a population of more than 10 million people has sustained a debt level above 260% of GDP. I think the highest actually was the Netherlands, running about 240, 250% of GDP. Japan topped out at 225%. America topped out at 170%. England was 195%. So you see this range where the level of debt tops out. Now [00:45:30] what that means is, if you're getting a ceiling level of debt to GDP, then the change in debt heads towards zero. And as that heads towards zero, the demand from credit also goes towards zero.

And if you've been relying upon to employ your productive resources, relying upon demand both in the turnover of existing money plus credit, if the plus credit is of the order of 10, 15, 20% of GDP, when that becomes zero, your demand falls back to a fifth. And this is what happened for America back in 2008. So the level of credit, [00:46:00] which is the annual change in private debt, in 2008 was 15% of GDP. It then fell to -5%, which was the depth in 2010, and that was the first time credit had gone negative in America since the great depression.

Well, all of Australia, China, Canada, South Korea, etc., etc., are running with debt levels of 200, 240% of GDP, and they are relying on credit being between 10 and 30% of GDP per year at the same time. Now when they reach that stabilization [00:46:30] point, at the very least, credit becomes zero. If it goes negative, then you can talk about ... let's say your level of demand was 20% of GDP coming from credit alone. It can go from +20% to -10, and that is a huge turnaround level of demand in the economy. That's what causes a crisis.

Demetri Kofinas: Okay. So the most important point you touched on there is the inexorability in so far as the market mechanism cannot extract the economy from the debt spiral [00:47:00] that it will find itself in should the government not ... and we didn't say this explicitly, but we'll say it now. Should the government not expand fiscal spending. In other words, there's a big difference here. The U.S. monetary authorities, the Central Bank in other words ... and this happened in Europe and other countries and in Japan as well after the bubble burst. They didn't initially enact fiscal spending in Japan. There's a significant difference between government spending, in other words the government taking on liabilities, issuing debt in order to spend money into the economy, [00:47:30] and the monetary authorities expanding their balance sheet.

The monetary authority expanding its balance sheet solves issues of liquidity. The balance sheet expansion of the federal government can solve problems of-

Steve Keen: Demand.

Demetri Kofinas: Yes. And not just demand, not only liquidity, in any case. So this is the balance sheet hack issue.

Steve Keen: Yeah. It's a good expression.

Demetri Kofinas: Which is that ... this is something, and now in the limited time we have, I wanna see if we can tough on this. You've talked about it often as debt [00:48:00] jubilee. I must say, Steve, you did a great job in your chapter six, final chapter of this book. I think you did a great job of being very honest about the challenges in a way that I found very, very, very refreshing, 'cause I think it is a very difficult situation that the world finds itself. And I wanna contextualize this for our audience, then I wanna let you run with it.

Steve Keen: Okay.

Demetri Kofinas: It's not a simply concept. In other words, let's say my father has been saving for retirement. And I'm now a college student. I wanna go to school. And I ask my [00:48:30] father to give me money to pay for my college fund. My father says, "If I give you my savings, then I have no savings to retire. You need to take out a loan." So I go to the bank, and I take out a loan. I go to the bank. Although we talked about with banks creating money, I'm also taking my father's saving. My father's getting X amount of interest on his savings. I'm paying X amount of interest on my borrowing. That's a mismatch that the bank exploits in the spread. The bank is profiting off this dynamic.

Steve Keen: I'm going to contradict you there.

Demetri Kofinas: Okay.

Steve Keen: The bank doesn't [00:49:00] need to use your father's savings at all to lend to you. That's the old line of-

Demetri Kofinas: No, no, no. It doesn't need my father's savings. But my point is-

Steve Keen: But it's his finances that are the difference in the spread, this here. It's making profit on the debt, yeah.

Demetri Kofinas: But my point with that is to say simply this. That when it comes to addressing the debt jubilee and some of the ways that you've described it, and then I'll give you the floor here. If we were to simply give checks out to each person, what I'm saying is that in order to address the debt, that we help debtors [00:49:30] and we punish savers. And in this scenario, and this is what you did in your book, which I thought was great. There is no way to do this without causing victims. In other words, I think that's something that's so important for people to understand. We've messed up the financial markets and the global economy so much that no solution will be close to fair.

Steve Keen: Yeah. That's the basic problem. You wanna have a solution which means you get out of the debt trap, but if you do it in many ways, you're going to have to [00:50:00] make some people unhappy. And the ones you'd make most unhappy frankly are the ones who actually caused the problem in the first place. I'm not too worried about them being unhappy.

Demetri Kofinas: Well, what about all the retirees though, for example?

Steve Keen: Well, this is why I talk about a modern-day jubilee. So you mentioned earlier that banks are not warehouses. That's the image we have of them. They're actually money factories. And when you think about them as a warehouse, you want them to be very responsible and hand its stuff out carefully and watch it carefully, etc., etc. That's partly our attitude towards having to repay any debt you take comes from. [00:50:30] When we see them instead as factories, then they can produce too much of the stuff, and we in turn write some of it off occasionally.

That's more the factory point of view that I wanna talk about now, because banks are one of two money factories in the economy. They create money by lending out more than they get back I repayments, and with that extra demand. Government creates money by spending more than it gets back in taxes. It's equally capable of creating money.

But of course when you get government money, if you were a welfare recipient, that doesn't come with a tax bill equivalent to what you get given. But if you're a borrower, [00:51:00] then you get a debt level which is equivalent to exactly what you're given. And that means that with the private sector debt, you're actually more encumbered than you are if the government creates the money itself. So calling it a hack, the potential illusion of a balance sheet hack is a very good idea, because the government, if it spends more than it gets back in taxes, that creates money. And you can direct that money with the complicity of the central bank. You can say, "Let's inject money into everybody's bank accounts, an equal amount to everybody." Let's just for sake of argument say $10,000 [00:51:30] per person. If that goes to your father, who didn't lend you that money and said you've gotta go borrow it from the bank. He gets the $10,000 cash injection. You, on the other hand, if you

borrowed $100,000 from the bank for your education, you get $10,000 of that reduced. So you benefit by a smaller level of debt, but your father also benefits by getting cash in the savings account.

Demetri Kofinas: Yes. And this is all contextualized in the fact that this is a problem that needs to be addressed. But there are two things there. On a net basis the inflation [00:52:00] hurts the saver, and in addition to that, Steve, and this is so essential. I'm sure you recognize this. Financial markets are always going to find a way to game this type of a policy decision. In other words, if the government comes out with this balance sheet hack, which is meant to address ... and this is how we're ... to make it clear what you're saying here ... we're able to let off the steam in the private debt collapsing environment through the inflation in the currency, which is the way that we would sort of hack that balance sheet.

Steve Keen: Doesn't actually have to be that way.

Demetri Kofinas: No?

Steve Keen: It's possible to do it [00:52:30] slightly more cleverly, and that is that you're seeing inflation coming out of increasing amount of money in circulation. A large part of what's happened is corporations have taken on too much debt, as well. These will reduce not just household debt, but corporate debt. And one thing I mentioned in the book, of course, is all the various securitized debts and debt cabinets and so on would cause a legal minefield for this sort of thing, so I know it's not straightforward. But it would be feasible to say to people, there are two possibilities. "If you are in debt, you get a cash injection, which will reduce your debt level. But if you are not in debt, you get [00:53:00] cash which you can use to buy corporate shares. And the corporations that receive those shares are required to pay their debt down." So you'd actually have a way of--

Demetri Kofinas: That's interesting.

Steve Keen: Democratizing capitalism to some extent through this change.

Demetri Kofinas: These are very difficult concepts.

Steve Keen: Yeah. But what it means is, you therefore wouldn't get that money necessarily turning up in large amounts of consumer demand. You'd fine tune it. You'd cause a bit of it, 'cause you do want some stimulus. One of the reasons Donald Trump got elected is lots of people who don't have jobs that did have jobs back in 2007, so you do want [00:53:30] to stimulate the economy to some degree.

But you don't want to have a runaway situation, even with inflation, because for a start, it'll give the right wing, the financial sector a reason to say, "Let's get back and let us take over again, because we managed to get rid of inflation." So there are all sorts of reasons to be careful about doing this. I would not do it in an open swoop. I would not try to completely solve the problem in one go. In that case, America should have, in my opinion, a private

debt level of about 50% of GDP. After the crisis it got about 150%, so I'm talking about one whole year's GDP worth of [00:54:00] debt cancellation I want to cause. But I don't want to do it in one go, and I don't want to do it without testing, and I don't want to do it without considering what the bad side effects might be.

Demetri Kofinas: So Steve, in the interest of time, given that we only have a few minutes left, I would highly urge our audience ... so your new book is a wonderful, very small ... it's probably the most manageable economic textbook I've ever seen that I would call ... not a textbook, sorry. That's a misnomer. Little pamphlet, practically. And it's intermediate. I wouldn't call it too simple, but I [00:54:30] would call it intermediate, and I would call it very valuable for anyone who has any sort of basic understanding of economics that would like to be able to capture some of these ideas better. In the context of what you're saying, and this is what I wanna ask you now, because we unfortunately can't go into the depth of the jubilee that I would like, so there are two things I'm interested in, but they're all basic based.

And if you are able to in some way give some suggestions to the audience. And if you can't, that's fine. You're not an investment advisor. But I'm curious how you, [00:55:00] as an individual, would want to protect yourself, given what you've seen. Guys like Jim Rickards, for example, who you know. We both know Jim. He's a believer in gold. I know that you're not, or you're skeptical about it. But Jim is a believer in gold for this exact reason, I think, which is the fact that this is a problem that's going to have to get addressed one way or the other, and so I think people that believe in gold, or believe in alternative currencies, or are trying to find places to stash their money outside of the banking system, or really just trying to find [00:55:30] a way to get out of the game that's going to have to resolve itself. How do you ... do you think about this? You must think about it at least even intellectually. How do you sort of prepare yourself for this scenario?

Steve Keen: Well, it partly comes in of what I expect politicians to do, and I don't expect them to solve the problem. I expect them to make it worse in many ways. So I'm more expecting crashes to occur at various points in time. In that case, gold is a speculative commodity that does well during financial crises and during currency crises. I'd [00:56:00] also be looking at countries which are likely to have massive devaluation of their currency. That would definitely include China, and Korea, and Canada, and Australia. And I'd also be looking at the possibility, when a household crash occurs, of having people who are desperate for money, because they've got a debt to pay without which they go bankrupt or they lose their assets completely, and there are going to be fire sales. So you need to be liquid, and you need to be looking at what a safer currency has been, if you can actually make a choice between currencies. And in that situation also, things like [00:56:30] gold work well because when the crisis occurs, their prices will rise. But it's all gambling. I'd rather get away from a world where we gamble at that level and get back to where we innovate instead.

Demetri Kofinas: Yeah, exactly. Which is the point about the government addressing it. But what you're basically saying is on the horizon, there's a real deflation, and the point is how do you stay liquid in a currency or in some type of asset that you can use in order to

buy assets that are less valuable after the bust? But there's so much of your work is devoted [00:57:00] to this notion of solving it with government policy, and I think it's the best work I've ever found on the subject for years since I've been following you, and you've been talking about it for a very long time. And I've always hoped that people, certainly politicians, would read your stuff, Steve. I don't know that you've gotten them to hear you.

Steve Keen: I wrote it short to make it possible for them to read it. I know what politicians are like. They don't read anything long, the worst of all being Donald Trump, but some of them actually read books. This is a 25,000-word, 140-page, [00:57:30] half a full-sized book, so I hope it's something that's quite readable, even in one day.

Demetri Kofinas: So Steve, thank you so much. It was a great pleasure to have you on. I really enjoyed it. I really went hard on you here. I had these notes, 'cause I knew I'd want to keep these shows under an hour now, so I really went at you here with some really great information, and I feel like we really packed a dense supernova, if not a black hole, in this conversation.

Steve Keen: That's the idea with the book, as well.

Demetri Kofinas: All right, Steve. Thank you so much for coming on.

Steve Keen: [00:58:00] Thanks, mate. It was good to talk to you again.

Demetri Kofinas: And that was my episode with Steve Keen. I wanna thank Professor Keen for being on my program. Today's episode was produced by me and edited by Stylianos Nicolaou. For more episodes, you can check out our website at hiddenforces.io. Join the conversation at Facebook, Twitter, and Instagram at @hiddenforcespod or send me an email. [00:58:30] com. Thanks for listening. We'll see you next week.