Jeff Snider: Eurodollar System Overview

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Erik: Joining me now is Alhambra Investments Chief Investment Officer, Jeff Snider.

Jeff, thanks so much for joining us on the program, it's great to have you back.

Jeff: Thanks, Erik, always a pleasure to be back with you.

Erik: Listeners, we've got a real treat for you. As many of you know, Jeff and I did a series called Eurodollar University, which was a chronological introduction to the Eurodollar system. We got from our most astute listeners who really dug into the material a lot of really positive feedback that it was some of the best content that we'd ever done. But we also got a bit of feedback from people who just said, look, I can tell that Jeff is a really smart guy, but this is a little over my head and I'm not really sure what the heck he's talking about.

So what we've been trying to do – Jeff approached me about this in Vancouver, and we've been working together to try to recraft Eurodollar university, not from a chronological standpoint but more from a topological organization perspective.

So, Jeff, I want to start with what I think are some of your biggest and most bold contentions and ask you to address them in today's interview.

We've been taught that the way the international monetary system works is the US dollar is the center of the whole thing. It's the world's reserve currency. And that means the US dollar is used for international trade settlement, and central bank reserve assets are denominated primarily in US dollars. And that puts the dollar at the center of the whole system.

What most people assume is that means the Federal Reserve, the US central bank, is in charge of the whole system. They're the one that oversees and regulates it. And everything that goes on with respect to the creation of US dollar money supply is regulated and managed and overseen by the US Federal Reserve.

You make some really bold contentions, Jeff. You would argue that, really, the US dollar is not the global reserve currency, that the Eurodollar dollar system, which allows international banks operating outside the supervision of the Federal Reserve to create US dollar currency, that that is the real reserve currency.

And you contend that the Fed itself doesn't fully understand how the system works. You think that very powerful international bankers have one up on the Fed and they are actually in control of creating US dollar money supply on international markets through this Eurodollar system. You contend that there are massive amounts of US dollar money supply being created outside of the banking system and, therefore, outside of oversight and regulation by the Federal Reserve.

So, Jeff, as we get into this, you have prepared a fantastic slide deck that will guide our listeners through this discussion. Listeners, I strongly encourage you to download the slide deck. You can find the link in your Research Roundup email. If you're not registered for Research Roundup yet, just go to our home page at macrovoices.com, look for the red button that says "Looking for the Downloads" next to Jeff's picture on the home page.

Jeff, referring to the slide deck, what the heck are you talking about here when you say that the US dollar is not the global reserve currency but the Eurodollar system is actually the world's global currency?

Jeff: Let's start on Slide 2 and go over the basic overview of the things we are contending and what is widely perceived by most people. As you said before, Erik, you're taught basically from Economics 101, even before then, that the central bank is central. And what it is in the center of it is a money-multiplier deposit-based banking system. Underlying that system is a traditional reserve pyramid which fills out the liquidity function for it.

Not only that, we're also taught that individual economies are mostly closed systems. In other words, there is very little linkage between, say, the US economy and foreign economies overseas and between other economies and each other. And that the Bretton Woods gold exchange system ended in August of 1971 when President Nixon closed the gold window and that is what ushered in this age of the US dollar as sole reserve currency. The British pound sterling had already faded into the background by then.

But when we look at the data and analyze a lot of the history and the way things work in the modern age, especially in the 21st century, what we find instead is this credit-based offshore system that is reserve-less, currency-less forms of ledger money. The liquidity function for it is dominated by what are wholesale interbank markets of dynamic bank liabilities.

And because of this system, the economy globally is intricately linked. These aren't closed systems with small links between them. And what replaced gold exchange in 1971 – or actually had begun to replace gold exchange under Bretton Woods long before 1971 – was this Eurodollar system.

Now if we go over to Slide 3 – you know, from the very beginning, this Eurodollar thing has been misunderstood and misconceived. By 1969, the market was already huge and practically nobody knew anything about it.

It was the economist Milton Friedman who in 1969 wrote a very detailed essay about the

Eurodollar system. And he begins that essay by relating the story of how what he called one high official of an international financial organization couldn't come up with any legitimate answer for it.

What Friedman would go on to show was how Eurodollars were served by their own money multiplier – discussed by you and I, Erik, during Eurodollar University – that it was more or less a contained system. And so the net result for a given domestic money supply in dollars, there would be an increase in global money supply or Eurodollars that was predicated solely on banking factors.

Now there was some regulation – myriad incentives for why the banking system globally would turn in this direction, including some regulations. Things like Regulation Q that was left over from the Great Depression, no longer really suitable for the domestic system as it headed toward the Great Inflation. There were capital controls that were imposed throughout the 1960s, ironically, to try and rescue what was left of the Bretton Woods system, or to solve what was called Triffin's Paradox.

In other words, there was a tremendous number of incentives throughout the '50s and '60s that favored the system increasingly going offshore.

If you go to Slide 4, it was William Clarke of the *London Times* who coined the term "Eurodollar" in 1960. But the first international economist – Paul Einzig was called the "dean" of writers of international finance – he was the first one to really write about it in any kind of a widespread fashion.

What he said was he stumbled upon this Eurodollar system almost by accident in October of 1959. And when he told some bankers that he was going to write about it, they emphatically asked him, hey, don't do this. They didn't want any kind of public scrutiny or official remarks, anything to interfere with this offshore dollar system as it was becoming a major thing.

We don't really know where the Eurodollar came from. This was an under-the-radar, clandestine system that started somewhere around the mid-'50s. There's all sorts of origin stories for it, whether it was Soviet or Eastern Bloc countries who became increasingly wary of holding their dollar balances in American banks, fearing political confiscation, so they started holding more dollars in European banks.

There is a story of a company called Midlands Bank, which is a British mercantile bank, which began experimenting with dollar forwards and what really was a very primitive form of cross-currency swap arbitrage. There was an entire British mercantile system that, before the middle of the 1950s, had financed global trade under the sterling block and by the Suez crisis decided that they would switch more and more to dollars.

So, however this Eurodollar system began, what emerged were these dollar money centers in Zurich, Munich, Montreal, and, most of all, London.

If we go to Slide 5, we see that it wasn't until 1964 that anyone in any kind of official capacity finally got around to investigating this thing, even though it was almost a decade old by then. The Bank for International Settlements finally published the first study on the subject of Eurodollars.

Now, US officials were preoccupied by Triffin's Paradox, so they were unable to really appreciate what this Eurodollar system represented. As the BIS said in its study, it held exceptional potential for expansion. But, yet, on the chart that I'm showing you here, there is very little to no mention of the Eurodollar market by the FOMC in the early 1960s. But by the end of that decade, they couldn't stop talking about it because it had worked its way into everything.

If you go to Slide 6, what they were specifically talking about in 1969 was havoc in currency markets, especially the deutschmark. That was arising from US banks suddenly borrowing heavily from European banks in dollars offshore.

And these were interbank transactions, so they weren't the movement of physical Federal Reserve notes in things like armored cars or heavily guarded airplanes. And the European central banks in particular had become apoplectic about how US banks were suddenly intruding into this Eurodollar market because, prior to 1960 and 1967, these Eurodollars were largely a European affair where merchant banks, again, were using this market to achieve global trade settlements.

Slide 7, what we see is that, as this Eurodollar system grew in size and importance as US banks started to participate in it and more than just the US system, it had begun replacing – it had already replaced a lot of the traditional roles of global reserve currencies that had previously been performed by gold and then Bretton Woods. And it was distorting not just the global monetary picture but also the domestic monetary picture.

It had forced officials in the late '60s and, as I'm showing you here in the early '70s, to really begin reckoning their entire monetary understanding. And the reason was because banks were using different sources of funding, outside of both the US boundary as well as traditional definitions of money.

And this would define the dominant trend over the next few decades because the door was left wide open for further evolution in money itself. And then, obviously, further evolution in banking and banking archetypes.

Erik: Okay, to summarize, what this story is really all about is the party line that the US government believes itself and would like the rest of the world to believe is, look, the Federal Reserve is in charge of the US dollar. It's the US, it's our dollar, we're in charge of that currency.

What you're really saying is some of the most important functions of managing and overseeing the US dollar as a currency system – that the Fed thinks it's in charge of – in reality, the international bankers have their own agenda and they've figured out a way that they can literally operate in the shadows outside of the US banking system.

But, by creating these liabilities, essentially paper obligations on balance sheets that are on banks outside of the US regulators' view, they have the ability to manipulate the system, create money supply, do things that only the central bank is supposed to be allowed to do. And you're saying that they, literally, it's almost a conspiracy. They're asking people not to write about, not to tell about it.

And this is not some crackpot conspiracy theory. You've got people like Milton Friedman and Paul Einzig, very highly respected people in finance that no one questions the credibility of, who are attesting that this was actually going on as long ago as the 1960s.

That these international bankers are kind of running the US dollar money supply, almost running their own monetary policy over the US dollar supply globally, by operating in the shadows outside of the US banking system.

Now, before we go on Jeff, I want to clarify something because, if I were just to look up the definition of Eurodollar on Wikipedia, all it says is a US dollar that's on deposit somewhere outside of the US.

So I go to an ATM in New York City, I withdraw $100. I hop on a plane to London. I use that $100 to open a dollar-denominated checking account in London – and, of course dollar-denominated bank accounts are very common in other countries outside of the United States – that's a Eurodollar.

Clearly, you're not talking about that. You're talking about something much bigger and much more interesting. So how, specifically, are you defining this word Eurodollar for our purposes today?

Jeff: Yeah, you're right Erik. We need to be very careful here and emphasize repeatedly that our use of the term Eurodollar is much, much broader than the standard definition, the one that you found on Wikipedia. A Eurodollar, as you said, used to be an account convertible into physical US dollars that were on deposit outside of the United Stated.

Now, the term "euro" long pre-dates the European common currency in our use here. And in front of the word "dollar" simply conveys the notion of offshore. And there are other markets. There is a eurocurrency market of, for example, offshore yen is called Euroyen. Or and there is even something since the introduction of the European monetary union where there is offshore euro, which is called Euroeuro.

But over time, the term Eurodollar more and more it represented this system of interbank liabilities that real economy participants were using, once they connected to it, in order to accomplish real-world activity.

As I'm showing here on Slide 8, Stephen Goldfield, who was a Princeton University economist in 1976, he wrote this paper where he set out to find "missing money," what he called missing money, because he had realized how banks and their customers had come to create and utilize different monetary forms to accomplish real-world transactions. And these were things like repurchase agreements, repo markets, along with these Eurodollar liabilities.

The money wasn't missing. It was these liabilities and wholesale funding techniques that just didn't fall under official definitions. So there is no real Eurodollar. It's not a **thing** like there is a dollar bill. It is a **system** of financing and accomplishing monetary and financial ends that was just very different from how it had ever been done in the past.

Slide 9. In the 1970s, authorities at the Fed and elsewhere had simply made a choice and decided that they were going view this Eurodollar system as nothing other than an investment option for domestic banks.

Despite the urging of several officials – many prominent former high-level government people, people like Robert Triffin himself, Robert Roosa who was the former Treasury Under Secretary for Monetary Affairs in the Kennedy and Johnson administration – these people were urging Federal Reserve officials and central bankers and whatever contemporary officials to really appreciate that these what Robert Roosa called new networks of interbank relations, they needed to be incorporated into the monetary picture. But their warnings were never heeded.

The official doctrine that was written in the late '70s for how Eurodollars, again, must be treated exclusively as investments, it was thought that, because they were primarily at the time using certificates of deposit, that these Eurodollars were mostly a store of value function of money and not acting as a medium of exchange.

Going into Slide 10, we have to ask what if that wasn't ever the case? What if this Eurodollar stuff actually was a medium of exchange? Monetary evolution that was unleashed during the '50s, '60s, and '70s – Stephen Goldfeld's missing money – it kept evolving once it was let loose into its own ecosystem offshore. There was as much qualitative expansion as there was quantitative expansion.

Throughout the 1990s, for example, Alan Greenspan would lament often in his speeches how money was no longer a simple topic. Everybody around my age remembers his 1996 "irrational exuberance" speech. But nobody really heard anything outside of those two words. I guess it was the dot com bubble we were all preoccupied with.

But what Alan Greenspan was really saying was money supply trends had veered off-path so many years ago, how would we even know if it was rational or irrational? And he wasn't just talking about asset bubbles or the stock market or dot coms or anything – the much broader question about the economy itself.

By June of 2000, which is the quote I'm showing you here on Slide 10, Greenspan would privately admit that this "proliferation of products" that was being used as money had made a definition of it effectively impossible.

And so the missing money of the '70s was never really found. Instead it was encouraged by these shadows and, therefore, in them had grown stranger and more exotic still. And that's the Eurodollar that I refer to. It's a currency-like system based around the banks scattered all throughout the world who participate in it.

Erik: Okay, so when we talk about Eurodollars, we're not really talking about something different from the US dollar. We're talking about US dollars, but what we're referring to is a system that operates in the shadows and creates supply of US dollars and creates all kinds of complex transactions in US dollars that the US central bank, the Federal Reserve, doesn't really know about because it's outside of their regulatory purview, and doesn't really understand exactly what's going on and how it really works and what these bankers are up to.

But I could imagine, Jeff, some of our listeners saying, wait a minute, why is this even that important? Because people who understand this concept of the money multiplier effect already know that a commercial bank like Citibank can create US dollar money supply.

If Citibank makes a hundred million dollar loan to Caterpillar to build new plants and equipment, they're creating US dollar money supply by lending it into existence. And it sounds like maybe all you're saying is, okay, it's also possible for a French bank like Société Générale to make a loan to, let's say, Unilever so they can build plants and equipment. And if they make that loan in US dollars, okay, the Fed doesn't really see that in their reporting because that loan is being made outside of the banking system. But it really is effectively creating US dollars.

Okay, big deal, it's the same thing as Citibank loaning to Caterpillar. Why should we care that SocGen loans to Unilever? How is that any different or significant than Citibank creating US dollar money supply when it makes a loan to Caterpillar?

Jeff: Erik, let's go back to Milton Friedman in 1969, which I'm showing on Slide 11 here. As Friedman showed half a century ago, the use of these Eurodollars is theoretically unlimited is given by what Robert Roosa in 1984 called new networks of interbank relations.

Originally, these weren't largely time deposits and they were held largely by corporate non-bank accounts. But around 1967, 1968 they started shifting and played a very large role in provoking and amplifying the global currency crisis we talked about before.

Now, what large banks in New York did in response to losing what were primarily CDs was bidding for those dollars back from the Eurodollar market and booking those liabilities, instead, as borrowing from the foreign subsidiaries that they began operating out there in the offshore places.

Now, Milton Friedman showed how this actually worked, something we talked about in Eurodollar University. It was, again, an increase in dollar supply outside the US, but what also amounted to unappreciated transformation.

Again, in its earliest form, this interbank offshore accounting system transformed what used to be deposit liabilities into interbank borrowing. Now you add to that the communications technology revolution, you have financial innovations in the form of standardized derivative contracts in the 1980s – things like interest rate swaps and Eurodollar futures – and even the term "interbank borrowing" itself becomes exponentially more complex.

So you have this flexible creative vacuum upon which globally connected financial institutions can all on their own choose how to participate and how to fill in what is the vitally important role of global reserve currency, like I'm showing on Slide 12.

Unlike the gold exchange system under Bretton Woods, this Eurodollar system could supply what was needed, how it was needed. And it could do so largely without politics and official interference, or even public scrutiny.

It was the economist Paul Samuelson who in the early '70s called this the doctrine of benign neglect. It was almost like the banking system wanted to do this, the official sector wanted them to do it because they didn't want anything to do with figuring out how to replace the Bretton Woods system. So that's what defined benign neglect.

And the reason was because Triffin's Paradox had been that gold was never conceived to be a solution for a globalizing world, because it lacked – as Robert Solomon, who was another one of these high officials – Robert Solomon was the international monetary expert for the Federal Reserve throughout the '60s and '70s – what he pointed out over and over was the global exchange system under Bretton Woods lacked both liquidity and adjustment functions to maintain under this kind of demand.

So all Bretton Woods had going for it was only **confidence** that US dollars were backed by gold. But even that was more and more challenged throughout the 1960s. Again, Triffin's Paradox.

What the Eurodollar offered was liquidity and adjustment to demand but, paired in denomination with US dollars, it also gave it the confidence that this shadow money would easily supply financing for a globalizing world.

Slide 13. We're not talking about Citibank creating a loan for Caterpillar to build something in Illinois or whatever. We're really talking about, for example, Deutsche Bank creating US dollar liabilities by offering currency swaps on a market in Hong Kong, which HSBC then relends to Mitsubishi in Tokyo, that then get repoed out to the Agricultural Bank of China so that some Chinese corporate can purchase raw materials on global markets.

Not only do we have to be aware of all of the liabilities in that chain in terms of risk and potential bottlenecks – and these are liquidity and monetary risks – we also have to understand and appreciate what that does to the local system where that output comes out.

Erik: Okay, now we're getting somewhere. So when we talk about these Eurodollar transactions, we're not just talking when we say that they create US money dollar supply. We're not just talking about a commercial bank making a loan, like SocGen making a loan to Unilever to buy plants and equipment.

We're talking about major international capital flows between countries, which potentially have geopolitical ramifications and so forth. Presumably, if we were talking about US banks making loans to China, to Japan and so forth, presumably people in the US government would want to be involved in that process and deciding whether or not it is in the US national interest for US banks to be making loans to China, to Japan, and so forth.

You're saying that, effectively, the US dollar, although it's regulated by the Federal Reserve, it's only regulated by the Federal Reserve in the United States. And a huge amount of this overall global US dollar system operates in the shadows, outside of anyone's regulation. And it's all controlled by international bankers.

So now we're really getting somewhere. But I think it's important, Jeff, that we focus on the systemic dependencies that this creates. Because in a few minutes we're going to get to how this Eurodollar system broke down in 2009.

Before we go there, I want to make sure our listeners understand: How does the global economy and the global financial system depend on this Eurodollar system? And we can't obviously understand what the consequences of a breakdown would be until we understand how it supports the global economy.

Jeff: You're right, Erik. Alan Greenspan said the words "proliferation of products" in June of 2000. So, already we know there was massive qualitative expansion throughout the 1990s. As I'm showing you on Slide 14, when it reached its zenith was in the first decade of the 21st century.

Now, because this is all shadow money, we have to be careful. Any kind of statistics or estimates that we have, they all come with caveats attached to them. These are, at best, rough estimates simply because, going back to Stephen Goldfeld's missing money of the '70s, officials decided this Eurodollar system was just an odd investment choice rather than some reserve-less global currency design and therefore nobody kept track of what was really going on in these offshore places.

However, in the aftermath of 2008, some people decided maybe we should go back and look at this thing. Maybe we should start to piece some of these things together and match up some quantities for all of these offshore qualities that we're observing throughout the period.

Now, the Bank for International Settlements in October 2009 noted that there was, suddenly, in the decade of the 2000s, banks, especially in Europe, had binged on what they called international assets. By the end of 2007, these had ballooned to – again, according to the BIS estimates – a mindboggling $34 trillion. And you have to ask, you know, how was all that offshore credit creation funded?

Slide 15. And obviously it wasn't Alan Greenspan and Ben Bernanke, because the Fed throughout this missing money period had produced little to no bank reserves. The most Alan Greenspan or Ban Bernanke had done was move the Federal Fund target around a quarter point here or there, maybe 50 basis points, every once in a while.

I'm oversimplifying a little bit, but quite literally this Eurodollar system created its own forms of liquidity, its own forms of reserves that were, again, these long chains of interbank liabilities that stretched all the way around the world and back.

And the same BIS study from 2009 – again, keeping in mind this is pretty primitive data – its researchers figured that the world was short of what they called a "funding gap" anywhere between 2 and 6.5 trillion US dollars on the eve of panic.

And what I mean by "short" is not short like shorting a stock. A dollar short is not betting that the dollar goes down in price. A dollar short, what I mean by that is it's a material mismatch between several credit dimensions including maturity as well as geography whereby some bank in Europe, for example, who has been repoing its holding of structured US mortgage obligations or emerging market Eurobonds, suddenly has very limited monetary recourse when the global repo market suddenly rejects its collateral.

If you're a European bank, what do you do then? They go and find US dollar funding.

On Slide 16 we see this massive offshore buildup was not unnoticed by the official sector. US policy makers like Ben Bernanke for example had great trouble reconciling this Eurodollar system with its orthodox convention, which, again, as we said in the beginning, was that the US economy was a closed system therefore the dollar system should have been closed as well.

In 2005, what Bernanke would propose was what he called a global savings glut. In other words, from his perspective, he saw that there was something – something – going on out there in the world and it was distorting the US dollar system, including what seemed to be a perpetual bid for US government bonds, US Treasuries including GSE paper.

But to Bernanke this all had to be global savings because his convention left him no other option that, for example, foreign baby boomers suddenly getting ready for their retirement by increasing their savings and allocating their savings to US dollar assets for non-specified, unknown reasons.

But – flip to Slide 17 – we see that that's really not what had been going on during that time. Again, noting the BIS study, there is no way this was a global savings system. Especially after 1995, the Eurodollar system really hit its stride. It was the marriage of all its defining characteristics which could then spread unfettered all over the world.

And, in fact, it was welcomed by most people because what they saw were only the benefits of globalization – growth in the worldwide economy, emerging market economic miracles, and global trade which seemed to be at the center of it – and all of it seemed to enhance all of these economic systems as they were becoming more closely tied together by this global monetary arrangement.

Now, the Eurodollar system had, in fact, just overdone it – which is one thing that you and I, Erik, spent a lot of time discussing in Eurodollar University. Even as the crude BIS numbers suggest, it got way out of hand.

Erik: Okay, so the essence of all this – everybody understands that the most important currency system in the entire universe, on the planet, is the US dollar. Most people assume that, since the US dollar comes from the US, most of the really big transactions, the international capital flows in dollars, those must all originate in the US because that's where the system is headquartered.

What you're saying is, nah, it doesn't work that way. The bankers are a little bit smarter than that. The bankers have figured out that if they originate major transactions in the US, they're under regulatory scrutiny in the US. But they actually have the ability to create these massive, massive loans and structured products and swaps and all kinds of elaborate derivatives in the shadows outside of the US banking system where they're essentially unregulated and can get away with doing whatever they want.

And you're saying that they do these things to the point that they literally don't want anybody to know about it. And we've got people as credible as Paul Einzig and Milton Friedman coming out and saying, hey, I try to find out about this stuff and the bankers ask me not to write about it because they're trying to keep it secret.

So we've got an entire global economy which the bankers are running in the shadows, outside of the view of regulators, as we discussed in Eurodollar University Season Two.

So Jeff, you're saying that the entire system broke down August 9, 2007, almost without explanation. And, what I think is even more important, is almost everybody assumes that the catalyst that got the whole Great Financial Crisis going was subprime mortgages.

You think it's not really subprime mortgages. Maybe that was a catalyst that kind of got things rolling, but you think the real problem was the breakdown of the offshore Eurodollar system, which nobody is talking about. You think that was the primary cause of the Great Financial Crisis.

So you're actually saying, not only is there this sort of clandestine Eurodollar system that the bankers are running in the shadows outside of regulation, but the breakdown of that system, you think, is the real cause of the Great Financial Crisis. Certainly the Financial Crisis Inquiry Committee, they didn't conclude, hey, this is all about Eurodollars.

What are you talking about? How did it break down? Did it really cause or contribute to the Great Financial Crisis? And is it fixed now? Or is it still broken?

Jeff: Erik, I think that's a good place to start. Let's start with the conventional explanation for the panic of 2008. (Slide 18 here.) Everybody has heard – the official government response was that it was a bunch of greedy Wall Street bankers who were taking on ridiculously absurd risks in the form of these subprime mortgages.

As you mentioned, the FCIC, which was the official government report, they interviewed something like 700 witnesses. They examined millions upon millions of documents. And the majority's lengthy financial report that they published in 2010 mentions the word "Lehman" 556 times, which is something that you would expect given the way things unfolded. The name "Bear Stearns" is in there 218 instances, for example. And it also says the word "subprime" 784 times. So, yeah, I think they were trying to emphasize something in their report.

Yet, as I'm showing here on Slide 18, even Ben Bernanke had to testify before that very commission that something else was going on. For all the focus on subprime, it wasn't subprime which actually imperiled Lehman Brothers or Bear Stearns or AIG or any of the somehow nationalized banks that were scattered all throughout Europe and elsewhere, not just Europe.

On Slide 19, the minority dissent from the FCIC doesn't begin very strongly either. But, setting politics aside, at least the dissenters note that this wasn't an American failure alone. However you want to call it, the Great Financial Crisis or whatever, it might more aptly be renamed the Great Global Monetary Crisis.

Because there were variations in financial systems all across the globe, some of which didn't rely on securitization and therefore weren't heavily exposed to US subprime mortgages at all. But, more than that, these were large, complex financial firms that had failed or nearly failed in many different countries around the world. As Bernanke said, subprime didn't do this.

Now it didn't, apparently, dawn on anybody on the FCIC to ask why, during the worst of that period, as I'm showing here on Slide 20, why was the Federal Reserve's largest contribution to the systems lacking rescue in the form of US dollar swaps with foreign central banks? During 2008, the Fed's balance sheet swelled not because of specific bailouts or domestic liquidity auctions. By far the most that was added was through these foreign currency swaps.

Now ask yourself, why was it that the US central bank had been handing out more than half a trillion in US dollar funding to overseas entities during the worst part of the worst banking panic in four generations?

The better question approaches it from the other side: Why were foreign banks domiciled elsewhere so desperate for US dollar funding that they were begging, knocking down the doors of their local central banks and demanding that their local officials bail them out in US dollar terms? The answer is this offshore US dollar short, or the funding gap as the BIS called it.

Even when the Fed finally stepped in with their swaps, it was a poor and ineffective substitute for these dynamic networks of Eurodollar relations. Ironically, I think that's why there is so much focus on subprime mortgages, because it's much easier to understand – especially for the public to understand – and blame greedy Wall Street bankers than it is to get into these deep and overwhelming shadows.

Erik, on Slide 21, you and I spent a lot of time in Eurodollar University going over the panic itself. We talked at length about how it was multidimensional, how we could observe its cross-border nature. So we'll just briefly summarize what went on here.

Beginning on August 9, LIBOR and Federal Funds uncharacteristically jumped. On August 10, we saw why. LIBOR went higher while Federal Funds plunged below the target. And for much of the crisis that's the way it stayed, especially during the worst parts of it. Higher LIBOR rates were signaling offshore US dollar distress, while Federal Funds that was often considered below the Fed's target was telling us that banks were hoarding liquidity in domestic terms.

Milton's Friedman's 1969 interbank pathway had broken down starting on August 9.

On Slide 22, the other parts of the Eurodollar system, this wholesale system, they followed in much the same pattern, much the same way. ABS commercial paper – we spent a lot of time on that in Eurodollar University – it was one of the primary innovations of the Eurodollar system. And it was also, therefore, one of the primary points of contagion as it spread across the globe.

It utterly collapsed in the wake of August 9. And nothing the Federal Reserve did, which would include reducing the Federal Fund rate, – there were TAF liquidity auctions, there were collateral swaps, there were those dollar swaps, there was even a commercial paper funding program, a money market commercial paper funding program – nothing that the Fed did, which was considerable, nothing that the Fed did would rescue these shadow markets.

And even the more real esoteric stuff, so derivative stuff – Slide 23 – credit default swap markets, which were hugely important, not because of subprime mortgages but because of something called regulatory capital relief – another thing we spent a lot of time on in Eurodollar University. These credit default swaps and other derivative markets were shut down and they could not have been restarted no matter what the Federal Reserve, ECB, the Bank of Japan, the Bank of England, the Bank of Canada, etc – none of the central banks nor their coordinated responses could get this Humpty Dumpty Eurodollar pieced back together again.

And we could go on and on and on and on with essential market indications – things like interest rate swaps, which to me are a huge important part of – especially balance sheet capacity and these dynamic bank liabilities. But, you know, all of them, they all recognized the same factor. The system that broke down on August 9, 2007 was very, very different because it had focused on bank capacities and bank liabilities.

Erik: Okay, I really want to focus now on bringing this down to the consequences and implications that this has. You've made a very good argument and shown us very clearly with data. August 9, 2007 it all falls apart, it breaks down.

I can observe, just from knowing you a few years, that you get a lot of very useful insight out of this. And I think back to our US Dollar Endgame series where Luke Gromen made some incredibly compelling, very well-founded arguments. He was bearish the US dollar at that time.

And you actually agreed with a lot of his structural arguments about where the US was headed. But you had a bullish view on the US dollar because of your understanding of this Eurodollar system and the dollar short that exists.

And, needless to say, the dollar index was in the 80s when we taped that. It's in the high 90s now. So you've been proven right. And I know Luke Gromen, even, is tactically bullish at this point on the US dollar.

So you've got the ability to translate this understanding that you have of the Eurodollar system into practical tradable themes. So what are the consequences and implications as we look forward? It's still broken, as you've described it.

What are the consequences and implications of that? And how does it play out in markets? And what do investors need to be thinking about as a result of that understanding?

Jeff: If we go back – 2008, if you look about subprime mortgages and everything is forgiven and forgotten. The world doesn't have a subprime mortgage problem anymore and it's probably never going to have a subprime mortgage problem again, certainly not in our lifetimes.

But if 2008 was instead a Eurodollar panic, or a global monetary system panic, then perhaps money still lurking in the shadows might still be a problem, even ten-plus years later.

Now there's a story behind each and every one of the charts that we're going to include here, as well as the dozens, Erik, that you talked me out of including into the slide deck. But all of these speak to a unique angle as to what's going on in certain parts or areas of the Eurodollar system. And we could talk at length about each and every one of them, because there's a lot of incredibly important detail and nuance that's worth mentioning and diagramming.

But that's not our point here. That's not what we're trying to do here. We're just going to give an overview and summation. What I hope people will notice and what they'll really comprehend from the few that we've added here is the consistency and therefore the overriding message in each.

Before 2008, which was really August 9, 2007, the system grew. It often grew very rapidly, very quickly. I mean, in fact it got Ben Bernanke's attention to call it a global savings glut. After that point, after that break, however, there's been no growth at all. Including plenty to indicate that it's shrinking.

Now this has been accomplished by what amounts to very clear, further episodes which pertain to the dollar short or funding gap and what amount to intermittent dollar shortages. Now, I call them Eurodollar squeezes because of the effect that they have on the global system.

The chart I'm showing you on Slide 24 as well as the one on Slide 25, these were drawn from the US Treasury Department's TIC data. The one on Slide 24 was derived from statistics about US banks and their various cross-border dollar activity. Therefore, that's a proxy for what they might be doing in concert with these unseen foreign counterparties related to this Eurodollar activity, or lack of activity.

The one on Slide 25, that's the headline data, so to speak, or how foreigners – not just foreign banks but all foreigners – respond to the conditions in this Eurodollar system. Now, as you might imagine, given a dollar shortage in a pre-determined funding gap, if you can sell US dollar assets in lieu of Eurodollar-based funding, that's what you do. So, unsurprisingly, foreigners tend to sell a whole lot of US dollar assets during these periods of global financial strain or what I call these Eurodollar squeezes.

Now, over the last five years in particular, it has been the official sector – foreign governments and central banks, especially in Asia, especially in China – who tend to sell when their connections to the Eurodollar system find themselves desperately in need of dollars. Again, notice the overall general pattern: massive growth before the summer of 2007 and nothing but periodic trouble since then.

And that includes, I should point out, the last year or year and a quarter or so where it was just an emerging or actually pretty well-established fourth Eurodollar problem which you've probably noticed in market behavior over the last couple of months.

Slide 26 – we could go on and on and on – here we see the big money dealer banks and the guts of the Eurodollar system, which is their derivative books. These domestic banks as well as their foreign counterparts were all about getting bigger before 2008. And now their main thing is only shrinking. So a system that once worked, or at least appeared to work, now it's only one that goes the other way.

Slide 27. Now these further Eurodollar problems which – #2, #3, and #4 – we talked a lot about that in Toronto – these aren't just something that we know from statistical artifacts. We can observe them in real-time market data. Basic money market hierarchy breaks down during these very periods.

You know, an unsecured interbank rate like Federal Funds should not trade consistently below a secured interbank rate like repo. Yet we see that there are times when this upside-down condition, not only does it happen, it persists. And these times when it persists, not coincidentally do they match up with reduced US cross-border bank activity, also the heaviest dollar selling by foreign counterparts, and all sorts of other indications of what just a couple of years ago Yellen's Fed tried to call overseas turmoil. It's not really overseas, but it's offshore.

You mentioned the US dollar index. Slide 28 – this includes the tendency of the dollar's exchange value to rise during these periods when everyone is convinced it should be falling, these Eurodollar squeezes.

Again, we can see in 2018 and so far in 2019, the Eurodollar #4 falls into each one of these categories. It does seem to be another squeeze that's developing.

Slide 29. Unfortunately, a permanent breakdown in the function of what is a global monetary system results in the same thing for the global economic system. Before 2008 – again, the pattern. There was growth.

After – now GDP might be positive, and it's persistently positive too – but it clearly isn't the same thing as growth. As of Q4, 2018, real GDP in the US is more than $4.7 trillion less than what it should have been had the Great Recession actually been a recession. So something is keeping economic growth under wraps, dating back specifically to Eurodollar #1.

As you can see on Slide 30, since this is a global currency system, it's not just the US economy which has fallen further and further behind as if it's being dragged down by some unseen shadowy force.

Slide 31. Even the heretofore invincible Asian miracle economy – those which emerged from the great Financial Crisis or Eurodollar #1 largely unscathed, or seemingly unscathed – they've been dragged down into more and more of the same problems, the same rot, whatever you want to call it, following especially Eurodollar #2 in 2011.

The more these overseas economies are forced to sell their US dollar assets – again, referring to the TIC data – the less economic growth which seems to result.

Slide 32. One of the most dominant features of the last decade has been consistently low interest rates. All across the world these are described as a puzzle. Or they are attributed to quantitative easing. They're not a puzzle and neither are they attributable to quantitative easing. Low bond rates are telling us exactly what is wrong.

If we go back one last time to Milton Friedman, persistently low interest rates on the whole signal tight money in the real economy. But which tight money? Recall Alan Greenspan's proliferation of products. The official sector can't define money. Therefore, how would they know otherwise?

Meanwhile, the real economy doesn't care about the definition. Instead, it has to perform based on what's really going on whether it shows up in the text books or not.

Erik: Jeff, I know that many of our listeners are going to want to focus on how to translate these very fascinating ideas to actionable trades that they can profit from. So, certainly, one that jumps off the page to me is you were very prescient when we did the Dollar Endgame series.

Even though you agreed with much of what Luke Gromen had to say about the reasons that the US is going to face a lot of problems going forward with de-dollarization and so forth, you still, being informed by an understanding of this Eurodollar system, understood these Eurodollar squeezes that occur and you still felt very bullish on the US dollar relative to other currencies. You've been proven right in that.

You just mentioned a few minutes ago, and I'm sure many of our listeners noticed it, that another #4 Eurodollar squeeze has begun in the last couple of months. Is that likely to continue from what you're seeing? And am I correct to assume that that means dollar should outperform other currencies, dollar index should move up? It's time to be long dollar index futures if you're inclined to speculate on such things?

And how long do you think it would last? Is there a price target? And what are the factors that might cause it to reverse?

Jeff: One of the things I hate most is they say that you're bullish on the dollar – it's not really bullish, because what we're talking about – and I think that's the thing that we all agreed on on the Dollar podcast that we had way back in 2017 was that this is a dysfunctional system, so we're not really positive about any of this stuff. And the rising dollar value during these Eurodollar squeezes is another negative indication.

So it's not really something that you're bullish about, except that it happens to work out into a higher exchange value of the US dollar against various other foreign currencies.

The data that I see, I expect that that would continue. Though it's hard to say how much higher the dollar might go. Regardless, what we're seeing is that these squeezes tend to take on multi-year dimensions. These are not short-term things.

It's almost like trying to turn around a large ship. Once it gets going in a certain direction, it's going to keep going in that direction. Everything that we've seen from real-time market data to these esoteric cross-border banking statistics, bond rates, economic data from all of these various countries, all of it tells us that, yes, this Eurodollar #4 that's going on right now, I think it's just now getting started.

It's been going on for the last year, year and a quarter or so already. But, again, these are long-term processes that take time to play out. We're just really starting to see really the meat of it emerge in a lot of different places. And that creates a lot of different opportunities.

But I just hate using the word bullish because bullish connotes a positive view of something when it's really a negative view of pretty much everything.

Erik: Okay, so the expectation is for a secular short squeeze in the US dollar to continue to move the US dollar higher against other currencies. If anyone is inclined to trade that by being long the dollar index, what would the risk factors be that they watch for that would tell you, hey, this thing is about to change directions and go the other way?

Jeff: Well, it's not too easy to tell these inflection points either up or down. In fact, it takes a lot of study of a lot of different, a very broad cross-section, a very deep survey of what you think is going on in this offshore US dollar system.

And, again, it goes back to our difficulty in defining the Eurodollar. There aren't any direct statistics for the Eurodollar system. What we're really doing is trying to piece together what may be going on in these offshore shadow money spaces, based on the effects that we're seeing in all of these different things.

It's almost like in physics – we talked about this in Toronto – nobody's ever observed a quark. It's a fundamental property of matter, we know it's there. But we only know it's there because of indirect indications of how it makes other things move and the effects it has on things around it.

So we're essentially trying to do the same thing. It presents a number of difficulties in terms of turning this into an investment strategy because we can't directly observe the Eurodollar system.

And so it takes a lot of study, a very broad survey as I mentioned – to try to figure out what's going on today and then try to piece together some kind of forecast about how that might change in the future. So right from the very start, you start from acknowledging the fact that it's a very difficult thing because we're not directly observing it. There's no direct data for what's actually going on in the Eurodollar system. Therefore, it leaves a lot of subjective interpretation.

Erik: So to summarize the whole discussion, the US dollar is still the most important currency on the entire planet. And its functions and operations are not as governed by the Federal Reserve as everybody thinks.

The international bankers, including US banks that have international subsidiaries, have figured out how to do some of their most complex and sophisticated financing transactions in the shadows, outside of regulatory oversight and control. Nobody really knows, at least most of us, other than the most privileged bankers, don't really fully understand exactly how the details of this work.

But the analysis that Jeff has done tells us that it appears we are at the beginning of another major dollar squeeze event which could push the US dollar higher relative to other currencies, with the caveat that Jeff does not see that as bullish for the US dollar or the US economy. It's an indication of a problem which is going to manifest itself in the form of a dollar short squeeze.

I'd like to shift gears now and switch to what we would like from you, our audience. Because the way that today's podcast came about. Jeff approached me in Vancouver at MacroVoices Live and said, look, Erik, the feedback that I'm getting and you're getting is a lot of people seemed to think there was some value in Eurodollar University but not everybody understood it. We need to simplify it. We need to make it so that more people understand it. And I've been working with Jeff behind the scenes to try to make that happen.

So if you're one of those people who tried to listen to Eurodollar University and it didn't all make sense to you and you weren't really sure what the point was, we're hoping that today's podcast shed some more light on it. And we very much want your feedback because I'm trying to work with Jeff to reorganize Eurodollar University away from the straight chronological format into something that's more topically oriented. And we could really use some feedback.

We did the first presentation of this slide deck at the end of March at Harvard Business School, got some really great feedback there. And we'd like your feedback as well. The best place to do that is on [Twitter](). If you're not on Twitter, you can also email us at [info@macrovoices.com]().

We do read all of the emails. We can't reply to all of them because we just don't have enough time. But we do read them all with interest and we're trying to do our best to take this very, very complex puzzle of how the international US dollar liquidity system really works. Not the way the Fed thinks it works, but how it really works. And distill it into something that's more understandable. And we would very much appreciate your feedback.

The other thing that I'd like to mention here publically – and I asked the same thing at Harvard University, because that certainly is a very esteemed audience – I don't know how I could possibly tell if Jeff were wrong about all this stuff. I certainly am not qualified to know that.

If there is anyone who knows anyone who knows as much about Eurodollars as Jeff does and thinks that Jeff has it all wrong and has botched the analysis and is missing the real point of what's going on here, we'd absolutely love to hear from you. I would love to have a counterargument from someone who knows just as much about Eurodollars as Jeff does.

I've reached out to my network. I've talked to several other people in financial media and said, hey, who could we tap to do the opposing op-ed against Jeff Snider? And they just laugh at me and say nobody knows what Jeff Snider is talking about, never mind how to form an opposing opinion.

I would be very interested to discover if there is someone out there who really has a contrasting view to what Jeff has said and is able to back it with all of the data and graphs and charts that Jeff has backed his arguments with. It would be fascinating to hear another side of this story.

We're going to leave it there in the interest of time. Jeff, I can't thank you enough for coming and joining us on the program. Before I let you go, why don't you tell our listeners what you do there at Alhambra Investments?

Jeff: I'm the head of global research at Alhambra. We're a registered investment advisor based out of Florida. We do portfolio management services. And you can find me at alhambrapartners.com. I publish quite a bit there as well as different places around the internet. And thank you very much, Erik, for having me and taking the time to try to put this Eurodollar University stuff into better focus and much more accessible terms.

Erik: Well, it's my pleasure, Jeff, and I really hope that our listeners will give us their feedback and help us to craft a new Eurodollar University which is a little better organized and hopefully makes this very complex message more understandable to a broader audience, which is what our goal is.

We have already gone well beyond our usual time limit, so we're going to leave it there. Patrick Ceresna and I will be back as MacroVoices continues, right here at macrovoices.com.