Jeffrey Snider: Eurodollar University Part 1

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Erik: Welcome to Part 1 of MacroVoices Eurodollar University with Alhambra Partners CIO Jeffrey Snider. I'm your host, Erik Townsend. There's a slide deck to accompany this podcast and we highly recommend that you download it before listening as we'll be referring to the charts and graphs that it contains throughout this program.

This four-part series came about after listeners to the MacroVoices weekly podcast asked for more in-depth coverage of the Eurodollar system. We'd interviewed Jeffrey Snider from Alhambra Partners several times, and each time Jeffrey had myriad fascinating observations about the signals that he was seeing in the Eurodollars futures market, which enabled him to both make observations and predictions about what was occurring in the global economy.

Our listeners loved Jeff's interviews. But even the finance professionals in our audience told us they needed a primer on the Eurodollar system, its origins, and its history, in order to be able to better appreciate and understand Jeffrey's insights about what the Eurodollar market is telling us about today's economy. So we decided to do a full hour-long show just focusing on the history and structure of the Eurodollar system. But before we knew it, that turned into a four-part series. This is the first installment in that series. So, without further ado, joining me now is Alhambra Partners CIO, Jeffrey Snider.

Jeff, thanks so much for coming back and doing this Eurodollar University with us. Let's go ahead and look at your slide deck, starting I guess with Slide 3: How Does A Dollar Become A Dollar? What's on your mind here?

Jeff: Well, first of all, thanks, Erik and Patrick, for having me back and giving me the opportunity to explain this. One of the most common questions I get is to go into a deeper—whether explanation or even just to detail how these things actually work. You know, the things that we're taking about is modern money supply and modern money in general. It's a global system that, quite frankly, nobody seems to have much of a handle on because it's been languishing in orthodox economics for decades now. And, really, a lot of it takes place in the shadows, far away from where we can actually directly observe what is going on in the monetary system.

So an opportunity to actually explain some of the intricacies and the arcane nature of the way these things actually work is a tremendous opportunity for me, and I think it'll help a lot of people get a better understanding of how we got to where we are and why we're stuck in this state.

Erik: So how does a dollar become a dollar? What is the origin of money, I think is where you're starting here.

Jeff: Well, it's a long journey and it doesn't start as—there's no particular start date, there's no particular end date. It's essentially a qualitative evolution that has taken place over many decades. You know, we talk about the Eurodollar, and the Eurodollar is sort of a loose term, but the Eurodollar itself started out some time in the 1950s. We actually have no idea where they came from, it's just by the 1960s there was this thing called the Eurodollar and it was an offshore market for dollars.

And as technology changed, as the way banking systems behaved changed, the monetary system globally evolved with it, so that the Eurodollar was sort of at its basis. And it has become so much more than just offshore deposits of dollars. It's become, essentially, what is more like a computer network where it's just a system of standards and protocols that allow global banks to conduct financial monetary business with each other.

So that's why I put dollar in quotation marks, because it's evolved from what was a recognizable dollar—you know, a piece of paper that's stamped with Federal Reserve paraphernalia on it—to what is now a virtual currency where there's almost no currency at all, certainly no money because the gold system has been fully dismantled. But the dollar as it is today—this Eurodollar system—is, for money people, unrecognizable as a dollar. And so that's why it's in quotation marks. And it's a very long history that presents a lot of challenges for analysis and understanding.

Erik: And, just to put this in context for our listeners, the Bretton Woods Conference in 1944 at the Mount Washington Hotel in Bretton Woods New Hampshire was where the US dollar became the world's reserve currency, and there was an agreement by treaty to essentially settle all international trade in US dollars. That means, if people have agreed around the world to settle their trade in US dollars, they've got to have US dollars.

So by the 1950s this market had been established to effectively have US dollars outside the United States. Presumably that began with the purpose of settling international trade, but then the US Treasury became the *de facto* favored reserve asset for central banks to hold as reserves. Now all of a sudden, the whole world has to be able to have US dollars.

And so it seems like this market, really, that you're describing evolving in the '50s, kind

of came out of necessity. But, although the Bretton Woods Conference contemplated this decision that the dollar would be the reserve currency, there was really no plan for how everybody was going to get their dollars. And it just sort of evolved through the banking system. Is that correct?

Jeff: Yes, you're right Erik. And in fact there was actually a precursor market to Eurodollar called banker's acceptances. A banker's acceptance is an instrument that goes a long way back. And, again, you're right. The purpose of the acceptance market is to mediate financially global trade needs. Because, you know, a firm in Japan that's doing business with a company in Sweden has to be able to translate one currency into another, and it's not as easy as just going down to the local store and picking up Swedish kronor so that you can buy something from Sweden. You have to have the ability to mediate between what are essentially very different and often very distinct systems. And so the first iteration of a solution, or at least a more elegant solution to global trade in monetary terms, was something called banker's acceptances.

Now, an acceptance was a fully liquid instrument. There was a market for these things that was provided and made stable by central bank intervention. In fact, one of the first tasks of the Federal Reserve, when it was founded in 1913, was to establish an acceptance market for US dollars. And throughout most of the early history of the Fed—we're talking about the 1910s and the 1920s—most of the seasonal variation in the Fed's balance sheet came from buying and selling, increasing or decreasing their holding of banker's acceptances, all in the name of marrying money supply domestically with the need for money offshore in global trade.

Erik: So let me interrupt you there Jeff, because I want to make sure we've defined our terminology before we go on. The definition of a Eurodollar is, basically, any US dollar that's on deposit in a bank outside the United States. And the name "Eurodollar" comes from the fact that originally it was primarily in London and other European markets where people were depositing these US dollars. These days, we've got US dollars on deposit in Shanghai, China, or Thailand, or anyplace else. They're still called Eurodollars just by convention. But it means any US dollar—a dollar issued by the United States—that is on deposit in a bank outside of the US banking system.

Now, Jeff, you just said that banker's acceptances played a role in the evolution of this Eurodollar system. So, referring to Slide 6 in your slide deck here, please explain the role that banker's acceptances played in this Eurodollar system as it began to evolve.

Jeff: Sure. The banker's acceptance market was essentially an interbank market. It wasn't a place where a lot of people or individuals or firms traded acceptances back and forth. And its role was primarily to mediate between different currency systems and to use the major currencies of the day, or what we would call today reserve currencies. Which in the early 1900s was either the pound sterling or, as the Federal Reserve increased the dollar acceptance market, US dollars.

And so it was a way for global trade to take place such that smaller systems wouldn't have to hold large deposits of, say—Japan would not have to hold large deposits of Swedish kronor to allow for Japanese firms to trade with Sweden. Because, obviously, the Swedish don't need yen, and the Japanese don't have a lot of kronor available. So what they would do is use an acceptance market to either buy yen for sterling or yen for dollars and then use the dollars or sterling to translate that into kronor. It was an interbank method to allow for the trade of goods efficiently, or at least as efficiently as possible at the time. And one of the most important parts about that is that these banker's acceptances were bearer instruments that had deposits attached to them, initially. In other words, you had to deposit currency, in either dollars or sterling, in order for a bank to write an acceptance.

A good way to think about it is something like a cashier's check. In other words, you have to present the funds ahead of time in order for an acceptance to come into existence. From there it could be traded back and forth. But these acceptances were instruments that were fully reserved up front. And that's an important distinction in how the Eurodollar market evolved from it. Because having the deposits required at the front of it was one way of introducing inefficiency in what was attempting to be an efficient solution.

Erik: Okay, so at the Bretton Woods Conference it was agreed that US dollars would be used to settle international trade. Of course, it would not be practical if you're buying a whole bunch of stuff—Sweden is selling things to Japan. To actually send large suitcases full of dollar bills back and forth on a ship between Sweden and Japan is not a very good way to settle trade.

So they come up with a system where, essentially, the guy in Sweden is saying let me take some of my kronor, use that in order to buy a bunch of US dollars—essentially a cashier's check that's worth 10,000 US dollars—I'm going to give that to my trading partner in Japan (or vice versa, depending on which way the trade is occurring) and that acceptance is essentially the way that we're translating from local currencies into—not physical US dollars in a suitcase but what's essentially a cashier's check that's issued by a bank that is redeemable for US dollars.

Is that the gist of is?

Jeff: Yes. And it's a derivative interbank instrument that allows these things to happen, again, as efficiently as possible, because it's very cumbersome, as you point out, to put a suitcase full of cash onto a ship and hope it arrives. Or, even further back, where they would use gold, where gold bullion would have to move between locations in what was usually a dangerous process. And so there was always a search for a solution that allowed these things to happen, to allow global trade to happen, but to do so in a method that wasn't so cumbersome and inelegant.

Erik: Okay. So I've got it on the role of banker's acceptances. In those days we didn't have the concept of people in Japan having a US dollar-denominated bank account that they could store US dollars in, but we had banker's acceptances denominated in US dollars that could be used to facilitate international trade. And each of the trading partners could eventually buy or sell those acceptances on an international market in order to get back to their own native currency.

Now, how did we get from there to a market for Eurodollar where there's actually dollars on deposit outside of the United States in banks other than US banks?

Jeff: Well, it's—again, we get back to the genesis of the Eurodollar market, and until this day we really aren't clear about what exactly happened. One of the stories about the Eurodollar creation was that there was a vibrant sterling trade—because, obviously, with Bretton Woods the pound sterling was a co-reserve currency with the US dollar, and Great Britain was dominion over a huge swathe of the global geography, so therefore a lot of global trade was conducted in sterling. But in the mid-1950s we went through a couple of sterling crises, and then of course there was the Suez Crisis, where it became a little bit more difficult to actually transact in sterling for these types of global trade-type arrangements.

And so, because the dollar was a co-reserve currency, and at that time there was a store of dollars in various places for whatever reason—some of the stories say that the Soviet Union was placing dollars in banks in Switzerland to avoid any political ramifications, confiscation from the US authorities—but, for whatever reason, there was a ready supply of US dollars on deposit outside the US so that, when the sterling went into crisis in the 1950s, these merchant banks in Britain didn't have to break a stride. They simply switched, for whatever reason or however they did it, simply switched from using sterling acceptances to Eurodollars.

What a Eurodollar meant was that, unlike an acceptance there didn't need to be deposits of cash up front for these things to work. In other words, they could just be derivative claims on derivative claims. And so that was an even more elegant solution, a more efficient solution, to what is, again, a cumbersome problem. So the Eurodollars, in effect, started to supplant the banker's acceptance market. Not that the acceptance market ever went away. In fact, it had somewhat of a revival in the 1970s. But, by and large, there was this market for dollars outside the US that filled the need for, at first, global trade.

Erik: So now what we've done is we've essentially gotten to the point where, in the banking system, in the global banking system beyond the United States, the concept of a certificate of deposit (a CD) denominated in US dollars, is something that's not only available in the US banking system, but that's also available in the Japanese banking system, and the Swedish banking system, and the Chinese banking system, and so forth.

So that if you have, essentially, the ability to trade certificates of deposit in a bank anywhere in the world that are denominated in dollars, you can trade that CD for a bunch of Japanese motor parts or whatever it is that you're importing from another country. Is that correct?

Jeff: That's largely it. It's the ability to mediate trade needs using what is essentially a global standard. That's why we call it the global reserve currency, because it allows these various systems, these very distinct monetary systems and trade systems, to translate one from the other. And that's what the dollar's role was in terms of the global trade network, was to allow these things to happen in a way that was as efficient as possible. Efficient trade means better economic growth.

Erik: Okay, Jeff, so we were just looking at Slide 7 in the deck, and you're describing how Eurodollars are providing this system. But, wait a minute. Where did the Eurodollars come from? How'd they come into existence? Please help us understand that.

Jeff: That's a point of contention that goes back a long way in its history. Milton Friedman (if you go to Slide 9) Milton Friedman wrote in—well it was republished in 1971 but I'm not really sure when he originally wrote the article—but he wrote what was a very good starting point to understanding the Eurodollar market and where these Eurodollars came from. And essentially he started out with an example of where he was at a talk of these prominent business leaders and bankers. And whoever was speaking was asked the question: Where did Eurodollars come from? And he gave an answer that Friedman basically said was complete nonsense.

I think it highlights the difficulty people have with these—the concepts of the Eurodollar market and these offshore currency markets—is that we don't really have any good basis of knowledge for where they come from. We can understand pretty intuitively why they exist, you know, that's what we just discussed with the evolution from acceptances to Eurodollars. We know why they exist, because there is a need to translate global trade on like terms. But where did the Eurodollars actually come from?

And that's kind of one of the things officials and monetary authorities—throughout the 1960s, if you go back in the FOMC meetings in the decade of the 1960s, in 1960 and the 17 FOMC meetings that took place that year, which produced 941 pages of discussion, the Eurodollar wasn't mentioned a single time. The following year, 1961—there was a lot of talk about short-term capital outflows and what became Triffin's Paradox or Triffin's Dilemma—the Eurodollar was mentioned exactly once that entire year. In 1962, for example, the Eurodollar was mentioned 15 times.

The Eurodollar started to make an impact in monetary policy so that by December 1968 the FOMC was talking about the Eurodollar 28 times in just that one monthly meeting. By April 1969 they had mentioned the Eurodollar 62 times. There was an evolution

taking place in the market as well as an evolution in official understanding of what actually was happening out there in this offshore marketplace for dollars.

And there was a great deal of confusion, especially in the late '60s and early '70s, about what was actually going on because this was, in a lot of ways, a radical transformation of monetary behavior. It was a bank-centric system that was evolving outside of all of these official definitions and official statistics, even official understanding. So what Friedman's point was was that there was a great deal of confusion about the Eurodollar, because, largely, nobody knew what was going on.

Erik: Well that begs a question, Jeff, because in those days, under the gold standard, stock analysts tend to look for macro cues more than anything else from the US federal government's official data on the money supply. Now, the money supply as it was measured then was the US banking system's money supply. So it sounds like you're saying there was actually this global money supply of US dollars that nobody completely understood at the time, even though it was probably very, very important. Is that right?

Jeff: That's correct. And part of not understanding what it is means you don't know how many dollars are out there, how many Eurodollars are out there. And so it was a source of great consternation, officially and otherwise, about what was going on.

Especially with these London dollar markets where interest rate differentials played a big role, as well as factors beyond just global trade, where banks were shifting liabilities all throughout the world in dollar terms and—as Friedman pointed out in his 1971 article—the source of these Eurodollars were not actual physical currency but the bookkeeper's pen. In other words, these were, like I said earlier, these were interbank markets of ledger balances. They were just transactions between banks that didn't actually have suitcases of cash, nor did it have a bearer instrument like a banker's acceptance. It was simply bank liabilities traded back and forth.

And one of the things that Friedman provided in his article was several examples of ways that we can understand how these Eurodollars came into existence and how that market grew. And even the effects of it on the domestic money supply.

Erik: So, as you've highlighted on Slide 9, there was an official that supposedly had said where Eurodollars came from—balance of payments and dollar reserves of non-US central banks, proceeds of Eurodollar bonds—and Friedman was outspoken in saying that that answer was complete nonsense. So, obviously, that begs the question: What's not nonsense? What's the right answer? And you're getting into that on Slide 10. Please explain.

Jeff: Yeah, and I think Friedman's point was, this was not somebody who was a layman. This was somebody who was a high official of an international financial organization. Somebody who ran, probably, a global bank. And it was global banks operating in this

market, and here was this official of a global bank who was giving what Friedman called a nonsense answer. Essentially highlighting the difficulty with even people within the system understanding where it was these Eurodollars actually came from. And his answer, that I give on Slide 10, is that the source of Eurodollars is the bookkeeper's pen. Which is, again, the interbank market of traded bank liabilities.

And if we start on Slide 11, Friedman was kind enough to illustrate several examples of how he believed the Eurodollar deposits actually became Eurodollar deposits and what the effects of those were on the domestic and global supply of dollars.

Erik: Now, hang on a second Jeff, because the whole supposed benefit of the gold standard—when we still had a gold standard, before 1971 when President Nixon took us off of that standard—the whole idea was you can't create dollars out of thin air. There has to be a physical piece of gold backing every single dollar in the system, and that connection to gold is what basically assures that the dollar's value doesn't get inflated away through money printing, what we now call quantitative easing and what central bankers these days think is a good idea.

So it seems like you're saying before we even came off the gold standard we were conjuring US dollars out of thin air through fancy accounting tricks, is that right?

Jeff: That's correct. The Bretton Woods system, in my mind, actually defaulted in 1960 not 1971. And one of the reasons for it was this weakness that was contemplated all the way back at the Bretton Woods meeting in 1944. The gold exchange system was created with this inherent weakness in it where, actually, central banks could circumvent all of the protocols that were supposed to keep US dollars and pound sterling into a specific value range. And, in fact, the history of the Eurodollar market in the 1960s is one where central banks were actually and actively using specially swapped transactions to do that.

In other words, they were undermining the Bretton Woods system themselves through the Eurodollar market and use of Eurodollars as a way to accomplish domestic monetary policy, because central bankers had never wanted to be constrained by gold, going back to the early days of the system.

So, you're correct Erik, there was supposed to be a gold backing to the dollar system, and the sterling system in particular. But even by the middle 1950s that was increasingly not the case.

Erik: So this is sort of like Bill Clinton saying he never violated the drug laws of the United States. We've got these rules set up that US dollars in the US banking system have to be backed by gold. Let's go get stoned in Europe, basically. Let's go and conjure a bunch of money out of thin air, and, as long as we call these deposits Eurodollars and keep them outside the US banking system, we can circumvent all of the protections that were designed in Bretton Woods to try to assure the gold convertibility and the true value of

the dollar.

Is it really that extreme, or am I exaggerating to say that?

Jeff: I think in one sense it's that extreme. But there's also this other sense where confusion reigned. So nobody had an idea exactly how it worked, and they also had no idea how big it was. So I think that's one of the reasons why they fell into Triffin's Paradox, the idea that there was something going on outside the US, and we don't really know what it is, therefore we're going to kind of be concerned about it, but we don't know if it's a violation of the Bretton Woods standard or not, because we don't really know what it is.

And it took a long time for people to start to come to terms with actually what was happening. And that was one of the reasons why Friedman was asked to write this article. Because, again, there was so much confusion about this Eurodollar system that, by 1969 at least, had become enormous. In today's dollars, 30 billion sounds like nothing, but that's just 30 billion in 1969 dollars. That they knew of.

And so they had a sense even then that there was something big going on outside the US, this offshore dollar market, even if they weren't really sure what it was. And Friedman's contention was, as you alluded to Erik, that these were dollars that were conjured out of thin air. In fact it was a money multiplier system in parallel to the domestic system.

Erik: I want to walk through the math on Slide 11 and understand what's going on. But, before we go there, since you mentioned Triffin's paradox, Robert Triffin was a very prominent economist in this same timeframe, in the 1960s, and he wrote about this paradox that has to do with the US and its role as the issuer of the world's reserve currency. Please explain, for our listeners who may not be familiar, a summary of Triffin's Paradox and what that means before we move on to going through the details of Slide 11.

Jeff: What Robert Triffin was talking about was essentially—and he called it a paradox because it's two competing tensions that were created by the Bretton Woods system. In other words, the Federal Reserve and US monetary authorities had to be responsible so that it would maintain the gold exchange standard. Yet, because the dollar was the global reserve currency, any rise in global trade had to be met by a rise in money supply of dollars in these offshore markets. And so there was a natural tension between supplying dollars for rising global trade and the ability of the United States to back those dollars by its gold reserves. And so he called it a paradox because the two were set in opposition to each other.

Erik: So, essentially, the US dollar was chosen as the world's reserve currency because the US was the strongest credit in the world. And what does having reserve currency status do for the United States? Basically gives it a free license to borrow and spend beyond belief

without suffering consequences that a nation that's not the reserve currency issuer would normally face. Hence the paradox.

I want to come back now, though, to the math on Slide 11. Let's just walk through this. What was going on, all the way back in the 1960s when the world is supposedly on a gold standard where a dollar is supposed to be guaranteed to be redeemable for a certain amount of gold—and you're basically showing here how European deposits of dollars are being created that are not backed by anything.

Jeff: Yes. To be clear, I'm using Milton Friedman's example from 1971. And what he said in his narrative—he imagined an oil sheik from a Middle Eastern country who decided that he could get a better dollar rate on his CD in a London account, or what Friedman called Bank H of London.

The sheik started out with his million dollars at Morgan Guarantee (and he used Morgan Guarantee as the example because that's where he was giving his speech at the time). So what happened in the dynamics between how that sheik's money transferred from New York City and Morgan Guarantee and Bank H of London—what Friedman said was that—assuming that Bank H also has a dollar deposit account at Morgan Guarantee as well, the million dollar check goes from the sheik's account in New York City to the sheik's new account at Bank H in London.

Bank H in London now has a million dollar credit in deposits, and it also has—keeping with what was thought to be prudent liquidity practice of a 10% reserve—it now had $900,000 in free cash that it could put to use someplace else.

What Friedman further hypothesized was that Bank H in the UK would lend it to what he called UK Limited to engage in trade with some US firms about whatever kind of trade transactions they might engage in. So what happened on that is, UK Limited, which is his corporate example of the firm doing the trade, is give a check drawn from Bank H's Morgan Guarantee account.

So the net result in terms of domestic money is zero. Even though a million dollars from the sheik's account goes outside the US into London, it comes back in the form of this trade in dollars, this $900,000 check in trade in dollars to UK Limited, plus the $100,000 that remains on deposit with Morgan Guarantee as part of their reserve requirement for liquidity reserve.

While the net supply of US dollars is not changed, now the world supply of US dollars has increased by $900,000. That is the million dollars of the sheik's deposit that goes to Bank H in London minus the $100,000 reserve that remains at Morgan Guarantee on behalf of Bank H. So, in other words, the US money supply doesn't change at all while the global dollar supply increases by $900,000.

Erik: And if we take all of the similar transactions to this in aggregate, the global supply of US dollars increased to the tune of 30 billion, which was a huge, huge amount of money at the time. And not only does that defeat the intended purpose of the Bretton Woods system, which was to keep the US dollar as essentially being as good as gold, but it does it in a way that probably very, very few people at the time—and only a few more today—even were able to understand what was happening. Is that right?

Jeff: That's correct. And we also have to remember one of the chief reasons for it to start taking place as much as it did was that US banks were constrained in what interest rate they could pay out to depositors, by regulation. There was no such constraint in London or Zurich or Montreal or Tokyo; they would all offer dollar deposits at a rate that was much more competitive than what domestic banks could offer.

That's, I think, one of the reasons Milton Friedman used the oil sheik in his example, was that anybody who was a global agent or a global firm that had dollar deposits had no preference for keeping them either in a New York City bank or a London Eurodollar bank. They only cared about, for the most part, what interest rates they could obtain. And the best interest rates could be obtained outside the US because of regulations inside it.

Friedman's point was this was a fractional reserve system taking place outside of a fractional reserve system.

Erik: So that covers the example on Slide 11. What is being described here on Slide 12? It looks like you're showing, effectively, how this can grow as more and more transactions accrue. What is the net result of this in terms of the supply of dollars to the world and to—I'm sure that it basically undermines the gold standard. Isn't that beautiful?

Jeff: Yeah, and what Friedman suggested here was that we have essentially a money multiplier system in Eurodollars that was in parallel to the money multiplier system in domestic dollars.

And what he theorized, here in his first example, taking it to the second example, was that Bank H in London still lent the money to UK Limited, but, instead of making a dollar loan to a US domestic firm, they instead bought some Russian timber. And so now the Russian firm had dollars that it deposited at Bank R in London. Assuming Bank R also maintained the same 10% reserve requirement (or liquidity reserve), that, essentially, this process would continue to repeat until it reduced down to the lowest possible number based on that 10% reserve requirement.

And if you follow with all of those, essentially, follow-on transactions, what you'd get was, again, no change in the calculated money supply of the United States. But outside of the US the total change in dollar supply available to the world is an increase of nine million dollars. What Friedman's point was, essentially, was that entire nine million

dollars was all drawn from a single check drawn on Morgan Guarantee.

In other words, the deposit basis for this Eurodollar system was, in many ways, unknown to these other counter-party transactions. As these Eurodollars got multiplied further and further away from the original transactions, they were all based on the original transaction which was the sheik moving a million dollars to London from Morgan Guarantee.

And so, again to your point Erik, these are dollars conjured out of thin air through a multiplication process.

Erik: So these example that we've seen on Slides 11 and 12, Jeff, what you're showing me is that Morgan Guarantee transfers a million bucks to Bank H of London, and Bank H of London does all kinds of tricks, and, before you know it, there's nine million more US dollars in the global money supply than there was before. Thanks to one guy with just one million bucks.

I know how bankers think, though. I've got to believe the Morgan Guarantee guys are not going to want Bank H of London to have that business. They probably want to figure out how to keep the business in-house so that they can be the ones to multiply this money and defeat the intended purpose of the Bretton Woods system. It looks to me like Slide 13 is where you're going to tell me that's exactly what they do.

Jeff: And you're absolutely right, that's exactly what they did do. And it was easy enough for these US-based banks to set up subsidiaries in London or Zurich, or wherever outside the US, in order to capture (or actually to maintain) these deposit liabilities, but do so outside of the US domestic system.

And what Friedman went through was another example where he hypothesized that a New York bank and its London subsidiary, where, instead of a one million dollar check going back and forth, we now have a ten million dollar CD coming to Morgan Guarantee. But the sheik doesn't want to renew it because of the better rates in London due to Regulation Q.

So what happens in this situation is that Morgan in London acquires the time deposit at its London subsidiary, being credited ten million dollars only in a bookkeeping transaction with its New York City parent. Now on a consolidated basis nothing happens because it's money moving from a New York parent office to its London subsidiary and then the ten million dollars being borrowed back from London.

So, from the point of view or the perspective of both Morgan Guarantee and the US monetary system, nothing changes. However, that ten million dollars is now out there in London, which provides a better rate for Morgan Guarantee's customer, the oil sheik.

But in moving the CD, in transferring the liability to its London subsidiary, the New York City head office now books, instead of a deposit account, a borrowed account. In other words, they're borrowing ten million dollars from their London subsidiary that's providing them a Eurodollar financing conduit. Now, they get a couple of different benefits from doing so, because, back then, reserve requirements were a big deal, and a lending transaction or an interbank loan transaction between the London subsidiary and the parent office was free from reserve requirements.

So in Friedman's example, Morgan Guarantee would save about $600,000 in reserve requirements by switching, essentially, from a CD to an interbank loan. And so we see the potential for transformation from a depository-based money multiplier system to a short-run or a short-term borrowing-based interbank system where dollars can be moved back and forth from offshore to onshore to both avoid regulatory consequences but also to do things that they couldn't do under the domestic regulatory constraints.

So it was the idea where banks could use the Eurodollar system as a way to enhance all of the things that banks want to do, which is to increase their balance sheets and to cheapen their funding rates, and to make it much more efficient for however they want to operate.

Erik: And of course all of this happens, Jeff, without any suitcases full of dollars moving across the ocean. The whole thing happens in accounting tricks on a ledger someplace.

Tell us where you're headed with Slide 14 where you say that not a single reserve note moves anywhere. Everything happens with interbank liabilities. What are some of the ramifications—the consequences—of that?

Jeff: It gets back to what Milton Friedman was saying about how the true source of Eurodollars was a bookkeeper's pen. Which means these are ledger balances that banks use to trade back and forth between each other that used to be done by either banker's acceptances, or—as you've alluded to constantly—the suitcases of cash, or even gold bullion.

In other words, we've moved from a system that's based on deposits toward one that's more of an interbank liability system where all that's traded is a bunch of numbers on a computer screen. Even back in those days, where they did a lot of transactions through telephone wires and things like that, it was essentially a ledger system where we're getting away from actual deposits of dollars to an interbank traded system of whatever liability each counter-party would accept.

So, one of the things that we have to be aware of is that the word Eurodollar, as I said before, is not a technically precise term. At least the way I use it is not a technically precise term. I use it as a catchall to describe what is, essentially, a radical monetary evolution, away from the traditional format that was based on deposits of dollars,

toward the more indescribable and ill-defined interbank market of these bookkeeper's pen ledger balances moving back and forth.

And so the wholesale part of it is just as important as the offshore part of it. I think we want to describe in a little more detail what we mean by wholesale finance.

Erik: And I see that the next several slides in your deck dive into to details of the wholesale aspect of the Eurodollar system. But, since that's a change of topic, I think this is an excellent place to wrap up this first interview in our four-part series. We'll dive into the wholesale aspects of the Eurodollar system in Part 2.

But before we close this first part of the series, I'd like to review the key points that I took away from this part of our conversation.

The story begins in 1944 when the US dollar was chosen to serve as the world reserve currency at the Bretton Woods Conference. Because this meant that the dollar would be used for all international trade settlements around the world, all the other nations around the globe needed dollars in order to contract international commerce.

By the 1950s an offshore market for US dollars had been developed in the form of banker's acceptances. Effectively, a banker's acceptance was like a money order or cashier's check payable in dollars. These dollar-denominated IOUs were the first incarnation of the Eurodollar market.

By the 1960s there was a full-fledged Eurodollar market operating entirely outside of the US banking system and therefore without US regulation. But the Federal Reserve didn't even gain awareness of what was going on in the Eurodollar market until about 1962 when the phrase "Eurodollar" starts to appear regularly in FOMC minutes.

Throughout the 1960s, the Eurodollar system created new US dollar money supply out of thin air at the stroke of a bookkeeper's pen with no backing by gold or by physical cash issued by the US Treasury. All of this happened in the 1960s when the US was still on the Bretton Woods gold standard system.

In a series of articles, Milton Friedman demonstrated how the Eurodollar system had created 30 billion dollars of new US dollar money supply out of thin air without gold or physical cash backing. Because all of this was happening outside of the US banking system, it was exempt from regulation that would have otherwise prevented it from occurring inside the US banking system.

Not wanting to be left out of the profits that were being made by offshore banks, the major US banks established European subsidiaries so that they too could participate in this opportunity to conjure money out of thin air without gold backing.

And the key point to remember is that through all of this the new money was being created at the stroke of a bookkeeper's pen somewhere in Europe. There was never an ounce of gold required to back the 30 billion dollars of new money supply that was created during the 1960s. And it was all exempt from oversight or even awareness of US regulators.

In Part 2 of our Eurodollar University series, Jeff and I will dive into the wholesale aspects of the Eurodollar system. And, if you thought the information in this interview was shocking in terms of how little US regulators knew about what was going on at the time, you're going to want to put your seatbelt on for what you're going to learn in Part 2.

Before we close, though, let's just give our listeners a quick rundown on what you do at Alhambra Investment Partners.

Jeff: Well, I basically focus on dollars and Eurodollars. Alhambra Investment Partners is an investment advisory firm, a registered IRA. And what we do is try to make sense of the world so that we can invest intelligently and prudently.

And, unfortunately, trying to do that in the last 10 years—even longer before that—has been incredibly difficult, because, as I hope your listeners have appreciated through the presentation here, the world doesn't look like the way it's supposed to look. And so there's a lot more to this story that is very much relevant to 2017.

Somebody once said that you can't know the future without studying the past. I believe that wholeheartedly. And I think—at least I hope—that what we've done here helped people understand that as well.

Erik: And we'll have to end Part 1 there, in the interest of time. Be sure to tune in for Part 2 in the series where Jeff and I dive into the wholesale aspects of the Eurodollar system in full detail.