



## Jeffrey Snider: Eurodollar University Part 3

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**Announcer:** This is a special edition of MacroVoices with hedge fund manager Erik Townsend, the premier financial podcast targeting professional finance, high net worth individuals, family offices, and other sophisticated investors. Now, for this special edition of MacroVoices, here are your hosts Erik Townsend and Patrick Ceresna.

**Erik:** MacroVoices Episode 85A was produced on October 20th, 2017. I'm Erik Townsend. Our Eurodollar University series featuring Alhambra Partners CIO Jeffrey Snider has been extremely popular with listeners. We originally planned to air Parts 3 and 4 over the Holidays. But thanks to some generous donations we've received in the last few weeks, we're able to accelerate the release schedule. This episode contains Eurodollar University Part 3.

Today's feature interview with Alhambra Partners CIO Jeffrey Snider was pre-recorded back in July of 2017 as Part 3 of our Eurodollar University project. There's a slide deck to accompany this interview, and we recommend that you download it before listening as we'll be referring to the charts and graphs it contains throughout this program.

Registered users at [macrovoices.com](http://macrovoices.com) will find the download link in your Research Roundup email. If you're not yet registered, just go to [www.macrovoices.com](http://www.macrovoices.com) and [look for instructions to register and get the download](#), above Jeffrey Snider's photo on our home page.

This four part series came about after listeners to the MacroVoices weekly podcast asked for more in-depth coverage of the Eurodollar system.

In Part 1 we discussed how the Eurodollar system came about, how Milton Friedman demonstrated in a series of articles that fully \$30 billion in new US dollar money supply was created by the Eurodollar system in the 1960s, and how this occurred at the stroke of a bookkeeper's pen without a single penny of actual cash issued by the Treasury or a single ounce of gold bullion to back this \$30 billion of new money supply.

In Part 2 we learned about the wholesale component of the Eurodollar system. And we discussed the role that the repurchase market used by banks to secure short-term financing played in expanding the wholesale Eurodollar market.

We discussed why investment banks went on a collateral-buying binge in the early 1990s and how the Fed's policy change to target the Fed funds rate rather than the money supply was

probably influenced by the Fed's inability to accurately measure the money supply creation that was going on in the wholesale Eurodollar market.

The next subject I discussed with Jeff Snider was the role of the Basel Banking Accords on the development of the Eurodollar system.

So, without further ado, let's jump right back in where we left off and hear Jeff Snider talk about the Basel Accords. Here is Alhambra Partners CIO, Jeffrey Snider.

**Jeff:** The Fed flew by the seat of its pants throughout the 1990s. But, because things seemed to be very good and very well behaved (especially inflation), everybody assumed that the correlation was between the economy (especially inflation) and monetary policy. In other words, Greenspan must have been a maestro for doing whatever it is he did.

And, in fact, Greenspan never actually came out and said exactly what they were doing. All he did was raise and lower the federal funds rate. But nobody could really determine – nor did he specify – exactly how they did that. What caused the Fed to raise the rate 25 basis points one day and then the next meeting perhaps lower it. And, in fact, what we know today is that it was a completely discretionary policy that had absolutely nothing to do with money whatsoever.

**Erik:** Okay, Jeff. On Slide 31 you're making the point that, as we've just described, there's a certain set of perceptions that people still have today about what was going on. But you're saying (in big red letters here) how does it really work? I'm sure you're about to tell us.

Let's relate this – I think you've got some slides coming up on the Basel Accords and bank balance sheets – let's talk about how this really works and what was really going on here.

**Jeff:** I think one of the really important points is, again going back to Greenspan, what monetary policy was done under the Federal Reserve only correlated with what they called the Great Moderation. The Great Moderation itself was supposed to be a period of low variability expansion characterized by low inflation. But people just attributed it to monetary policy. Because what else was there?

In fact, during the 1990s of course we had this obvious anomaly that perhaps indicated that there's more to the story here. And of course I'm talking about the dot com bubble. It doesn't fit with the idea of a Great Moderation where we have an immense stock bubble. And of course the housing bubble, too, was in its infancy at that same time period. And it wasn't just in the United States.

So we have an immense monetary imbalance taking place at the same time, supposedly, that Alan Greenspan is a genius and has it all under control.

We already have an intuitive sense that there's something else going on here, that maybe the correlation between the Federal Reserve and the end result in markets and the economy isn't

so robust as everyone believes. In other words, maybe it's not causation there. Maybe it's not monetary policy that's really driving things here.

And when we start to look at what actually takes place inside of the global banking system in this modern wholesale format, I think you start to get a sense that Alan Greenspan was an accidental genius.

**Erik:** And where do the Basel Accords on Slide 32 fit into the story?

**Jeff:** Well the Basel Accords are a starting point. And, again, it's another acknowledgement that the monetary system had completely evolved into something that people didn't understand and certainly didn't anticipate.

In other words, bank regulation throughout most of human history, or the history of banking up to that point, had always been focused on the liability side. In other words, how much cash do you have in your vault so that you can meet a run of depositors looking to convert their deposit accounts into cash? And that wasn't an easily definable thing. And it goes along with what everybody conceived of in banking, which is the money multiplier effect. You have a certain amount of cash in your vault and you create deposits and loans based on the liability side of the equation.

By the 1980s, and even in the 1970s, officials realized – and banks, of course, have always looked to get around that constraint – but officials realized that we couldn't really define money. So what good was it to have a regulatory regime that was based entirely upon the money side of it?

And so the Basel Accords switched regulations up, to focus more on the asset side. Going back to the 1930s, whenever there's a bank panic you always have good banks get thrown out into insolvency and you have liquidity with bad banks. And if we could define capital standards that were more appropriate to allowing people to separate which are good banks from bad banks, then if we do have a liquidity problem – because we aren't able to define money – at least we can define the good banks so that they're not eliminated with the bad ones in whatever future crisis will come up.

And so the Basel Accords switched regulation up from the liability or money side to the asset side, partly as a result of the monetary evolution of the 1970s.

**Erik:** Jeff, before we move on, could you walk us through Slide 32 and just explain, for people who may not be familiar with the Basel Accords and what they mean, what the risk weighting and the different blocks that are showing on Slide 32 mean?

**Jeff:** The graphic on Slide 32 is the original Basel Accords. It's the first accords that were voted on of the 1980s and adopted in the 1990s in the United States. Originally, what the regulators decided to do was to carve up a bank balance sheet into four what are called "risk

buckets.” Again, the idea was to try to use the asset side of a bank to describe whether it’s a good bank or a bad bank. And what we mean by good and bad is risky and not risky. A bank who holds 100% of their assets in US Treasuries or cash, obviously, is not the same as a bank who holds 100% of their assets in sub-prime mortgages.

So what the Basel Accords attempted to do was to quantify the difference between those two scenarios. Obviously those are extremes. But a bank could come up at any point on the spectrum between them. At the start there were four risk buckets. The 100% risk weighting simply meant if you initiated a loan to a commercial company for whatever reason, the commercial company wanted to borrow for expanding their plant facilities or whatever, that went onto your balance sheet as 100% risk weighting. Whereas if you used the same amount of money to lend on a qualified mortgage or an asset-backed security rated at A or above, it went onto your balance sheet at a 50% risk weighting.

The risk weighting only applies to calculating the capital ratio. Which is, under the original Basel rules, supposed to be 8% capital.

So if you had a billion dollars in just regular unqualified mortgages you had a billion dollars in risk-weighted assets, which meant that you needed at least 80 million dollars in capital to undertake that investment. Whereas if you had billion dollars in A-rated MBS tranches, for example, that would go on your capital sheet as only 500 million dollars in risk-weighted assets, which meant you only needed 40 million dollars in capital to make that same one billion dollar investment.

You could do the same thing to get down to a 20% risk weighting. And there were also options for 0% risk weighting. But the idea is the same here. From the perspective of the bank, the assets that you choose determine how much capital you have to raise or expose to that investment. And so, from the perspective of the bank, it means a great deal about how you define the risk bucket, ultimately, that your investment goes into.

**Erik:** And of course this was negotiated back in the ‘80s and implemented in the early ‘90s, more than a decade before we learned that, guess what, mortgage-back securities with triple-A ratings aren’t always quite what they’re cracked up to be.

So please explain, as you’re going on and making a point here on Slide 33, what the consequences were of this new set of rules.

**Jeff:** Like I said, the new set of rules that I just went through were just the initial set of rules. Even before the rules were adopted in the US, there were already problems with them. In other words, the risk bucket approach in four broad categories was actually too narrow. And it led to a certain number of problems for the European banks that had adopted them previous to the US banks.

And so there were always ways – and of course banks are always looking to find ways to do this

– to be able to soften these categories and give banks more flexibility in how they defined assets according to the risk bucket approach.

And one of the ways that even the original rules allowed was that if you could take, for example, an unqualified residential mortgage that would otherwise go into the 100% risk bucket, and pair it with what “claims or guarantees” provided by “qualifying” banks or entities – and originally in the US system they meant that for largely GSEs like Fannie Mae and Freddie Mac – but if you could get a claim or a guarantee paired with a residential mortgage, you could move it from the 100% bucket into another bucket.

In other words, you could reduce the capital charge based on the fact that you have an outside guarantee for that particular asset. Which, we’re assuming, makes it less risky.

And, of course, Erik, you’ve already foreshadowed or forecast what this actually meant down the road: once banks were given the ability to start manipulating their accounting systems to further manipulate the risk bucket approach so that they could more efficiently manage their capital charges, it kind of got out of hand. And it would get out of hand really quickly.

But you’ve got to understand what we’re talking about here. What we’re talking about here is essentially a multiplier effect of leverage. That banks could have the same capital ratio, but be at completely different amounts of leverage. And often in quite risky securities that were all defined by these various methods of claims or guarantees provided by qualifying entities.

**Erik:** Moving on to Slide 34, I see that JP Morgan comes into this story, as do things like value at risk, which was a new way of measuring risk that was very popular at the time, and it’s still in use today.

Fill us in on the rest of this story. What’s happening on Slide 34?

**Jeff:** What we’re really talking about here is bank balance sheet construction and the ability of banks to better define the characteristics that allowed them to shift assets between buckets. Always of course in their favor, with the idea that they could reduce capital ratios by doing so, and therefore expand the leverage in their balance sheets.

But in order to do that they had to define quantitatively the characteristics of these assets. And most of these asset classes, like residential mortgages or even some of the mortgage bond tranches that they were buying even in the early days, were illiquid. In other words, they couldn’t really quantify exactly what the risks were on each of these assets.

Well, JP Morgan had been developing for many years throughout the 1980s and into the early 1990s a very extensive catalog of behavior and risk characteristics of certain asset classes.

What they did in 1995 – obviously they felt that it was mature enough to release to the public – allowed the rest of the banks to use their extensive database in order to further quantify the

assets on the asset side of the balance sheet for the very purpose of defining the risk characteristics of the assets so that they could better manage their balance sheet in more highly efficient ways and with greater leverage, according to the Basel bucket approach.

**Erik:** Jeff, I can't help but reflect to some of the other stories that were popular in that era. Because when you're talking about these risk buckets, we're talking about the construction of a balance sheet. Now, in theory, in accounting a balance sheet is supposed to accurately represent how much assets somebody has and how many liabilities they have. But, of course, so-called off-balance sheet accounting was the big craze at the time.

And I see you've got Roger Lowenstein's famous book, *When Genius Failed*, that talks about the long-term capital management debacle, on the next slide here on Page 35.

How does that fit into the story?

**Jeff:** What we're really talking about when we talk about better-defined assets on the balance sheet, we're talking about derivatives. When we talk about derivatives, LTCM was the pioneer in this space. And almost all of what they did took place off their balance sheet.

In fact, there was a famous discussion – famous for people who actually spend their time reading FOMC documents – it was a discussion in September 1998 after the Fed gathered all the bankers in New York to bail out LTCM. They were aghast at what was going on. And Chairman Greenspan at one point asked if anybody had a balance sheet for LTCM. And the Fed vice chairman McDonough basically said, you don't need one because there's nothing on there that is of any use. It's all off-balance sheet.

So LTCM in a lot of ways was a pioneer in doing these kinds of things. And among the things that they were doing was, as we quantify assets using various databases and determining risk characteristics, what we can then do is shift to an even more derivative accounting regime where we're looking at the present value of future cash flows.

And the present value of future cash flows, as anybody who's taken a Finance 101 course should know, opens up a lot of other variables to be manipulated so that we can show different kinds of characteristics and behavior in the assets that allow them to be – manipulate is maybe too strong a term, because a lot of this stuff has a legitimate basis. But, as with a lot of other things, it tends to get overused and overextended.

But LTCM, what they were doing was using this future accounting of the present value of future cash flows of derivatives, and putting it off of their balance sheet. And, rather than be a cautionary tale to the rest of Wall Street and the rest of global banking, most of the other banks around Wall Street looked at LTCM and said, we want to be them. They figured, well, LTCM just did it wrong, we'll do it right.

And so what you see from that point forward, the middle of the 1990s, is we have a confluence

of a lot of these different things. We have offshore Eurodollars, we have this wholesale liquidity management, and now we have this balance sheet quantitatively-determined management technique that was dependent upon what we're really talking about here, derivatives.

**Erik:** To tie this all together, Jeff, the way that this fits in with the Eurodollar story is that when we look at what LTCM was doing with their off-balance sheet accounting. And what the banks were doing, manipulating these Basel Accords in order to be able to move things around into different buckets, manipulating their capital requirements in ways that might not have been in accord with the intention of the Basel Accords.

These all are different ways, different techniques, of conjuring money out of thin air that doesn't end up showing up in the accounting for the money supply the way it's supposed to. But you're still conjuring money out of thin air and it's getting used in different ways.

It looks like, in Slide 36, you're starting to walk us through the mechanics of that. Please explain exactly what's going on here and how it works.

**Jeff:** Erik, you're absolutely right. Alan Greenspan talked about this throughout the 1990s, how monetary demand and monetary supply forecasts were just not holding. When we go back and look at the missing money of the 1970s, the money wasn't missing. It was only missing in the official and traditional definitions of it. The economy was using other forms of money to meet economic and financial needs.

The same thing happened in the 1990s, but in a more weird and arcane fashion that was even harder to understand and get a handle of – exactly how this was taking place and how much it was taking place.

The graphic on Slide 36, I actually adapted from a paper that was written, I believe, in 2009 by the Federal Reserve Bank of New York. It attempted to show under quantitative easing the impact of the Fed buying securities in their QE programs, and what happens in each of these banks. What I've adapted it to do is to show this balance sheet mechanical evolution in the 1990s and afterward, to get an idea of actually how this stuff works.

I have to say at the outset that these are stylized examples. They're not drawn to scale, they're not real-world representations. They're very much simplified examples so that we can intuitively understand the concepts at play here.

And the difference between Bank A and Bank B on Slide 36 is that Bank B is attempting to turn some of its \$50 in cash into either a loan or security. And the way that they have arrived at that cash balance is they've borrowed \$40 from Bank A. Bank A had a surplus of cash themselves and decided, rather than lend in the market (for whatever reason), they were going to lend short term to Bank B, so that Bank B could do it.

One of the arguments for interbank markets is that it's supposed to allow efficiency in this

manner, whereas if Bank A doesn't have an opportunity to lend, it can then lend to Bank B. And then Bank B will undertake the lending or the security process.

**Erik:** Okay. Looking at Slide 36, this seems pretty innocuous so far. The transactions you're describing don't appear sinister, to me at least, in any way. I've got a feeling, though, this is headed someplace else. What happens next, as we move on to Slide 37?

**Jeff:** On Slide 37, Bank B that now has an additional \$40 in reserves now has a choice to make. Obviously, it can buy whatever it wants. It can invest that \$40 any way it wishes. However we have these Basel constraints about capital ratios that it has to pay attention to.

And if we assign those \$40 to the various risk buckets, which are options for Bank B in lending or buying securities, it has a very big impact on what happens to Bank B's capital ratios. For example, if it uses the whole \$40 to just do unqualified mortgages, that will be assigned – using the initial Basel rules – to the 100% risk bucket. Which means its risk-weighted assets will increase by the full \$40. And that will reduce its capital ratio.

So Bank B has this option where it's not strictly investing based on risk and return characteristics. It also has these other dimensions to take into consideration, including the Basel capital targets. Because it wants, as every bank always does, to increase its balance sheet as much as it possibly can while still maintaining good capital ratios and good regulatory standing.

So there's enormous difference to putting that \$40 into whichever regulatory risk bucket.

**Erik:** And now it seems to me that we're on the cusp of that very, very common phenomenon where some well-meaning government regulation backfires and causes people that might otherwise be rational actors to act irrationally. Because what you're saying, really, is Bank B is not incentivized here to make an intelligent decision about how to allocate its capital between Treasuries and mortgage-backed securities and various other categories.

What they're going to do is they're going to take advantage of the opportunity to get away with leveraging up their balance sheet by what may be essentially allowing them to make a decision that is not prudent risk management, that doesn't really satisfy the desire to make the system stronger and better, which is what the Basel Accords were supposedly all about. But it instead leads them to do something like invest in triple-A-rated mortgage-backed securities (which everybody knows nothing can go wrong with there, right?)

**Jeff:** Yeah, that's kind of the problem here. The Basel Accords themselves are a top-down way of assigning risk in broad terms to what banks do. And what banks do doesn't easily lend itself to such a cookie cutter approach. There's a vast difference between these assets. And banks were correct in saying that they needed more latitude in defining what their assets were. And you're right, also, to point out that that there was some nefariousness to it, as we know from the middle 2000s.

Regardless of the intent, this is what the system evolved into, and this is how banks approached it. Because they now had considerations that were regulatory in nature by the very fact that that's how the regulatory system evolved out of what was essentially a monetary problem.

You can understand why Bank B might approach the situation the way they might have, theoretically. In real-world examples, they took a look at sub-prime mortgage tranches and decided that it was worth the investment, for no other reason that it could be manipulated into a risk bucket that allowed them the maximum amount of leverage.

**Erik:** And it's no surprise I see on Slide 38 that you've highlighted those mortgages that fall into the 100% category, the so-called risk-free mortgages where nothing can ever go wrong because they're in a triple-A rated tranche.

**Jeff:** Yeah, and the effect of going into the 100% risk weighting is that it reduces the capital ratio by a great amount. You know, we started out in the first slide where Bank B had a capital ratio of 10%. And so, by investing that \$40 in the highest risk-weighted asset category, which was unqualified mortgages, that would have reduced their capital ratio to 7.14%. So from 10% to 7.14%, while leverage goes up to a 14:1 ratio.

However, Bank B can say (on Slide 39), rather than doing all unqualified mortgages, I'll do them all in qualified residential mortgages, which go into the 50% risk bucket. And at the 50% risk bucket, the capital ratio only falls to 8.33% from 10%. While, again, leverage ratio stays the same at 14:1.

And in Slide 40, Bank B can choose instead a double-A-rated or a triple-A-rated MBS at the 20% risk bucket. And there, their capital ratio only falls to 9.25%, barely distinguishable from the 10%, while, again, the leverage ratio is still 14:1.

And then the last option, obviously, is something that goes in the zero bucket, which is either holding cash or buying US Treasuries or other sovereign debt – where the capital ratio will stay at 10% while the leverage ratio goes up to 14:1.

The point of these slides is to demonstrate that, based on the risk bucket approach, there is a vast difference in what bucket you actually end up putting these assets into. And so your point, Erik, about this other consideration that doesn't incentivize banks to – I hate to use the words “make the right choice” but you know what I mean – they're making choices based on considerations that are not purely financial.

I guess that's probably the best way to put it. And then that is an important consideration for, again, how this particular angle of the Eurodollar system evolved. Especially in the 1990s.

**Erik:** So, Jeff, at this point in the story, as I'm looking through Slide 40 and 41, we're just seeing the various different effects on the capital ratio if we play this game with different

buckets of assets and, as you say, we can use mortgage-backed securities to get an artificially low risk weighting on what really were not real-world low risk.

I know this story gets even more complex as credit default swaps come into play. So, on Slide 42, what's the next chapter of this story?

**Jeff:** Anybody who's listening can anticipate where we're going with this. Because banks have an incentive here to try to manipulate the risk buckets. And, again, they were more complicated as the Basel standards evolved and allowed banks more latitude in doing so.

But, even in this simplified example, they are incentivized to put assets in the lowest risk bucket as they possibly could. Because doing so would reduce their capital ratios the least while expanding their leverage the most.

And one of the ways that they could do that, which we referenced earlier, was to use qualified counterparties to issue guarantees and claims that essentially made what were otherwise risky assets into what looks like less risky or even risk-free assets.

So the example on Slide 42: If we assume Bank A gave Bank B, or wrote for Bank B, \$40 in gross notional credit default swaps on what were otherwise unqualified mortgages, that would have allowed them to reduce the risk bucket from 100% down to 20%. Even though, without the credit default swap, they would have been put into the full risk weighting of 100%.

And so what Bank B does – paying Bank A a premium on those credit default swaps, which were obviously pretty low – were economical enough for Bank B to do it, and certainly enough premium for Bank A to want to write this default swap. And so then Bank B could, again, expand their leverage portion as much as possible while affecting their capital ratio as least as they possible could.

And so in the example here, Bank B achieves 10:1 leverage with only a 9.25% capital ratio, with what are otherwise unqualified risky residential mortgages.

**Erik:** Before we move off Slide 42, Jeff, I see that basically Bank B is buying credit default swaps from Bank A. Doesn't that mean that Bank A takes something on their balance sheet? Or is that another off-balance sheet exposure? How does that affect this whole story?

**Jeff:** By the traditional accounting conventions, or the accounting conventions that are in force, no, the gross notional of the credit default swap stays off-balance sheet. And all Bank A is required to report on its balance sheet is the market value of that default swap, which is usually a fraction of what has been written. And so Bank A will run through its balance sheet only the changes in the market value of the default swap, not the actual guarantee that goes with it (which for Bank B, as we see by this example, is substantial).

If we relate this to real-world experience, during the 1990s and the 2000s credit default swaps

were low-risk instruments. Because, from the perspective of Bank A, there was no default risk. Especially on some of these things that were – even the more exotic mortgage instruments, or even corporate credit instruments, single-name CDS and whatnot – they were written with low premiums because Bank A expected to collect premiums and never have to pay anything out.

And so they were only required to report on their balance sheet a very small part of what they were actually doing with their guarantees. And so a lot of what Bank B was doing, in terms of achieving its leverage with high capital ratios, was hidden from view, off in the notes of the section of Bank A. And of course in the real-world complications, we would have no idea that Bank A was trading with Bank B at all, because a credit default swap of this nature was bilateral and bespoke. And so Bank A would show in its notes that it had \$40 in gross notional CDS, but we'd have no idea who it was written to or for what purpose.

**Erik:** So through Slide 42 here, we've taken this original \$40 of capital and we've played all kinds of games with it to see how high we can get the leverage ratio, and what we can do to manipulate our Tier 1 capital ratio.

I always used to think, back in the '90s, when you'd see all these highfalutin banker guys, I thought that they were really smart people that were efficiently allocating capital to where it made the most sense in the economy. And, I realize now, these guys were just cranking through how to manipulate these regulatory government-specified ratios in order to get some outcome to happen that allowed them to lever up their balance sheet. It's just amazing.

But I guess the question that begs is: What happens if more capital comes into this system? And I think you're starting to show that on Slide 43.

**Jeff:** Yes, because we can add all sorts of dimensions and elements of complexity that go beyond even just the simple examples here. If we go to Slide 43, for example, we can assume Bank B was so happy with doing the original transaction that they want to do it again. And so they go to Bank A for another interbank loan, which would either be a repo or something of that nature, for an additional \$40.

And of course they want to turn what are risky assets into what are, for regulatory purposes, less risky assets. So that, in this example, the \$80 increases their leverage on their balance sheet to 18:1, even though the capital ratio only goes down from 10% to 8.62%.

Now where I've added complication here is where does Bank A get the additional \$40? Because Bank A is now lending \$80 to Bank B, which increases their leverage as well, so that's a liquidity element to the increase in leverage. I'm assuming here that they're getting it from Bank C.

Bank C appears in Slide 44.

**Erik:** Okay, so I see Bank C comes into play on the bottom of Slide 44. Talk us through the story. What happens next?

**Jeff:** Here at Bank C we're going to add another wrinkle to the whole process, where I'm assuming Bank C is either a Japanese bank or a Japanese money market fund. So their \$40 are actually originally in yen. How does Bank C get its \$40 to Bank A so that Bank A can forward another \$40 to Bank B so that Bank B can then use the additional \$40 to do this balance sheet manipulation where they can have high leverage and a high capital ratio at the same time?

The way that I've arranged it here is Bank C engages in a currency swap with Bank D. And, again, as in our credit default swap example with Bank A, the currency swap doesn't go on the balance sheet of Bank D or Bank C. It only goes on the balance sheet in both places as, again, the market value of those derivatives.

And so Bank D, which might not have either the dollars or the capital, has given an off-balance sheet arrangement to Bank C so that Bank C can turn yen into dollars which then can be lent to Bank A, which Bank A then lends to Bank B, and then Bank B turns risky mortgages into what appear to be, for regulatory purposes, less risky mortgages.

So there are so many different elements and dimensions to this process, whereby there are all of these hidden factors that allow this – again, what we were talking about before, a money multiplication process where all of these banks are essentially conjuring – I don't even want to call them dollars, and that's why the whole presentation is entitled *How Do We Go from a Dollar to a "Dollar"?*

And this is exactly it. This is the nuts and bolts of it. We have all of these complicated things going on, most of which don't show up on the bank balance sheet, any bank balance sheet. And what does show up doesn't exactly tell us a whole lot about the nature of all of these things happening.

And so, from our perspective in 2017, what we need to appreciate is all of these various processes are not just complicated monetary expansions, they're also potential failure points. Which is what happened when we get forward into 2007 and 2008. I hope you can appreciate just from these simple examples the reasons why the Federal Reserve failed time and time again during the whole period of the crisis as well as the aftermath. Because the Federal Reserve is not set up to intervene in these various spaces.

**Erik:** I can't help being struck by this whole story, Jeff, in that what is the purpose of banking? Why do we have banking in our society in the first place? The answer is supposed to be because banks are responsible for this very, very important job. And that is to take money that is savings and investment that people have saved from hard work, and figure out how to most efficiently allocate that capital so that it can be used to grow other businesses and create employment and advance society.

But what I'm realizing is that all through the '90s bankers weren't doing that version of banking. What they were engaged in is, essentially, a lot of really smart people figuring out the most

effective ways to undermine and circumvent the intended purpose of accounting rules and manipulate them in order to achieve the maximum possible leverage ratio. While at the same time keeping the maximum on-paper capital ratio, even though it didn't have any realistic connection to the real risks that exist on the books of these banks.

And it just blows my mind that regulators are so strict and so overwhelming in – if you've ever had to deal with a review by a regulator, they really put you through the ringer – but it seems like they're not even looking at the right subject matter in terms of how they're regulating the banking system.

Am I exaggerating to describe it in those terms?

**Jeff:** I think we want to keep in mind that, over time, this behavior evolved more and more at the margins. And, originally, you're right: The role of banking society is to manage savings. And throughout this evolution of the Eurodollar system, that role or that intention became eroded and replaced by what really is a bastardization of the entire idea of not just banking but money itself.

And so that stuff still went on. Banks were still lending to companies so that they could invest in their vital operations and do productive things with it. But the old, the whole concept of savings itself was obliterated and replaced with what is essentially a system unto itself. In fact, I think in the housing mania portion of the middle 2000s it came to that kind of an extreme. Where this financial system just – for no other reason than just expansion for the sake of expansion.

Your point about regulators and a regulatory review is well taken. But, by their own standards, these banks were behaving according to regulatory standards. Nothing we see here is illegal. This is not illegal. It's just a very poorly-designed system where the flaws apparent in it that are very apparent today weren't readily anticipated at the time.

**Erik:** And on that upbeat note, it's time for us to wrap up Part 3 in our series.

To summarize what we discussed in this part, Jeff described Alan Greenspan as an accidental genius, suggesting that what seemed at the time to be organic economic growth through the 1990s may really have been bolstered to a great extent by new money supply creation that was occurring in the wholesale Eurodollar system. And of course that money creation has a stimulative effect similar to what quantitative easing was intended to accomplish in the great financial crisis.

We discussed the role that the Basel Banking Accords played in enabling banks to increase their leverage considerably while maintaining the same on-paper capital ratios. Thanks to provisions of the Basel Accords that allowed some collateral, including mortgage-backed securities to enjoy a discounted reserve ratio requirement.

This led to increased demand for mortgage-backed securities to serve as collateral to fuel the

growth of the wholesale Eurodollar system. And that extraordinary demand may have contributed to the overall failure of the investment community to realistically price default risk in those mortgage-backed securities.

Off-balance sheet accounting further enabled growth and expansion of the wholesale Eurodollar market. And Jeff walked us through a series of hypothetical examples illustrating how this process occurred.

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

**Jeff:** 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 ten years (even before that) has been incredibly difficult because – as I hope your listeners have appreciated through the presentation here – the world doesn't look the way it's supposed to look.

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 hope that what we've done here will help people understand that as well.

**Erik:** We're going to leave it there for this episode. Please be sure to tune in for Part 4. Because that's where we're going to set aside the hypothetical examples and dive into some actual real-world examples of companies and events that occurred during the expansion of the wholesale Eurodollar system.