



## **Harley Bassman: The Convexity Maven Opines on Macro Themes October 27, 2017**

**Erik:** Joining me next on the program is Convexity Maven founder Harley Bassman. Harley, I think some of our listeners may not be completely aware of your very extensive background in the industry. You were one of the principle designers and creators of the MOVE index, which is essentially the VIX for the bond market, and held some senior roles at Merrill Lynch and PIMCO.

So why don't we start with a little bit on your background. And particularly how the MOVE index came about.

**Harley:** Thank you for your time on the show. The MOVE basically came about a year or so after the VIX. It became obvious that volatility was becoming more and more important in the bond markets. People actually thought of volatility as an asset class to some degree. It's certainly one of the three main risk vectors. Being duration, credit, and volatility. I view myself as a convexity maven; I focus on volatility and that sort of risk.

Duration is when you get your money back. Credit is if you get your money back. And volatility convexity, how you get it back. It's a path-dependent risk.

And so creating the MOVE was a way of basically creating a language for people to look at volatility as an index as opposed to a number. And see if it's high or low relative to where it's been historically.

**Erik:** And I believe you were at Merrill Lynch working on trading desks for about 26 years, and then you held a senior portfolio manager position at PIMCO. Tell us a little bit about what you did there at the "bond king" firm, so to speak.

**Harley:** I was with Merrill Lynch for 26 years. It was a terrific place, a lot of opportunity. I focused on – I was on the mortgage desk from, basically, almost day one when we started there. And I ran the mortgage desk for a while. I did the first subprime deal, which was actually a fine idea – until it wasn't, years later.

But, basically, what I was trying to do is find where securities or risks were mispriced in the market and create opportunities either for speculation or for hedging for our clients.

**Erik:** Now, before we move on to our usual laundry list of macro topics, I want to start with your theory about the relationship between rates, credit, and volatility. Because that seems to be kind of the center of your work.

Referring to Slide 5 in the slide deck – and, listeners, you can find the link to download the slide deck in your Research Roundup email. If you are not yet registered, just look for the [Looking for the Download](#) button next to Harley's picture on our website.

Looking at Slide 5, why don't you give us the whole backstory here. What is your theory about rates, credit, and volatility?

**Harley:** I'd say as a preview, I'm a U Chicago MBA. So I believe in efficient markets to the extent that they are reasonable and realistic, and I believe that all things basically correlate through time. Efficient markets don't mean things happen immediately, but they happen eventually. And this pervades all my views of pricing, investing, inflation, etc.

As I said, you have your three main risks. Duration, credit, convexity. And, in theory, if there were some giant supercomputer allocating portfolios, they would look at those three risks and say where is the best value? Where is the best risk-adjusted return for those three? And, as one got cheap, another one would follow along and go with it.

The chart here shows basically duration being measured as the yield curve, right? Think about the yield curve – in this case 2s, 10s – it's saying, to the extent that it becomes steeper, it means the forward rate is more distant from the spot rate. It's just a pure mathematical function.

And a flat yield curve – so 5% 2-year, 5% 10-year, the year four rates 5%. But if you've a 2% 2-year and a 5% 10-year, year four might be 6%. So therefore there's implied movement, because, unless time can go backwards (which it can't), this spot must become the forward.

Therefore, the steeper, – or, actually, more inverse, either way as long as it's not flat – the more slope there is to the curve the more uncertainty there is in the future about whether rates are going to move up or down. Along with that, volatility, which is the price of uncertainty, the price of risk, should tag along with it. And in this chart, you can see it does.

I don't have the chart with me, although it is on my website – there's a fine chart of yield curve versus credit as measured by any of your standard credit indices or CDX swaps. And it follows right in line. All three of them follow each other up and down on a macro basis.

On a micro basis, I wouldn't recommend this because you could have a lot of wiggle room over the course of time. But in the big picture these things follow.

**Erik:** Let's tie this in to a subject that a lot of people are thinking about, which is this suggestion that's been made that the 35-year bond market is finally over and that last year we saw the final low in 10-year yields.

What is your reaction? And how does that tie in to your theory here?

**Harley:** I tend to believe that prices supply demand, that's fairly simply. But what's been going on for the last 40 years, really, is a demographic story of the market, the US, the world really, Western society, digesting the baby boom generation. And if you look at the bull market we had in stocks, it really kind of lines up with when the baby boomers in 1980 were becoming 30 years old and becoming their most productive and working the most hours and were entering the labor force, so you had this huge growth of people in the economy.

And this went for 20 years as the boomers went through. The boomers are now retiring. And they're retiring at a faster rate than the millennials are coming in. And so, in that sense, you kind of have a reverse going on.

And if you look at the boomers, who are average 62 right now, what is their – I don't want to say goal, but what are they thinking about? They're thinking about I have to retire, I have to pay for the retirement, I'm going to live a lot longer than my parents did. And I really can't rely upon Social Security, the government, and other things for my retirement.

So they're going to start to, basically, buy debt. Buy bonds, buy cash flow. As opposed to buying uncertainty, which is in equity. I'm not saying equities are better or worse, they're just less certain. And so I think what you've seen going on here is – a lot of it is perhaps government policy, perhaps reduced productivity for various means, perhaps regulation – the overriding force, the 90% of the iceberg under the water, is just pure demographics of boomers retiring and millennials not coming in that fast.

If you look at Page 2, you can see this declining labor force growth rate. And my suspicion is you're going to see interest rates, Fed policy or not, government policy or not, stay relatively low until about 2023-24-25 when you see this turn-up in labor force growth rate.

Because, remember, what is your GDP in the end? Number of people times number of hours times productivity. Productivity has really not been increasing at all. Actually, it's been decreasing for the last few years. And if you have a declining number of people you're not going to get growth. So it's just that simple.  $A + B = C$ .

**Erik:** And on Slide 3 you're showing that correlation between the ten-year yield and labor force growth. So I guess the question becomes, does this demographic issue with the baby boomers mean we're going to continue to see labor force not growing? Or, potentially, is some of that cyclical economic factors that might turn up to our advantage here?

**Harley:** Well, looking at Chart 3 and Chart 4 – but Chart 3 first (and I thank Gerard Minack for his chart here). This basically shows your labor force growth versus the 10-year rate, going back 50, 60, 70 years. It's not a perfect chart, but it kind of tells you the picture. And, also, you can see where I mentioned in the prior chart about where the upturn in rates happens. If they're going to go up, they're going to go up then. If inflation's going to come back, it'll come back then.

And I would predict for the record you will not see the cash 10-year note above 3.5% for the

next five years, for these reasons. Almost irrelevant of any government policy.

And if you look at Slide 4, this participation rate which people are crying that it's about regulation and about this and about that and government policy – No, it's really about just pure demographics. We're pretty close to what is predicted by just boomers retiring.

**Erik:** And I assume that 2022-23-24, that's when the next generational wave comes through and the millennials start to move into having more money and investing more?

**Harley:** Precisely. The millennials will be entering the workforce, they'll be in their most productive years, ages 30 to 50, there'll be household formation. There is the small fact that household formation is starting later than it used to because people get married later than they used to. So the difference between these red and blue lines really is just our society inevitably getting married later, for various reasons.

I don't see why it's going to be different. People who form households and have children need to buy washers and dryers and cars, and fix their houses, and everything else that we do.

**Erik:** Just a minute ago you touched on inflation, which was going to be part of my next question. Do I understand correctly? If I summarize what I think I heard it sounds like we don't see higher yields or a resurgence of inflation until we get to the next wave. Until we get through this baby boomer retiring wave and into the millennials coming into their highest earning years.

Is that right?

**Harley:** As I said, I'm a U Chicago MBA. I don't think it's possible to pump four trillion dollars in the US or 20 trillion dollars in G4 Western society, without getting inflation. You can't print money faster than overall growth of the economy without getting inflation.

If it was the case that you could do that, then, over the course of the last 5,000 years, somebody might have actually invented the idea of printing whatever the coin of the realm is – rocks, shiny stones, sticks, whatever that might be – and giving it to the people and then everyone is no longer poor. The fact that I haven't read about that yet indicates either it never happened, or maybe it did happen 3,000 years ago and it was recorded in the Library of Alexandria which burned down. But I think I would have read about this.

The fact that we haven't had inflation doesn't mean that it's not going to happen. It just means that it takes a longer process to occur. The inflation of the late '70s was Johnson's guns and butter as well as demographics hitting at the same time. I don't see why that won't happen again a little later on.

The classic counter-argument of inflation is, look at Japan. My pushback on that is not that governments – the idea of Japan being that a government cannot create inflation, which is kind of a pushback on Milton Friedman – I would say about Japan, Japan is not proof that you can't

do it, but Japan is proof that they didn't try hard enough. Because when they did try hard enough, about five years ago, the yen depreciated by 50% – we've seen what's happened there. So, if you try hard enough you could do it.

The real question for the Fed, or for government policy in general, is not creating inflation, but creating moderate inflation. Creating 10%-12% inflation is pretty easy. Look at Zimbabwe. You can do that. But, of course, you destroy your country. The hard part is creating 2% and 3% inflation, getting right in the middle, which is what the Fed's trying to do. That's a challenge.

**Erik:** Let's move on to the stock market, Harley. One of the things that all of the bears have been saying is look at the CAPE ratio, the cyclically adjusted price/earnings ratio Robert Shiller famously crafted. People are saying, look, from any reasonable measure we are at ridiculous nosebleed levels on the stock market. It's time for it to crash.

I think you've got a different view, and perhaps see some shortcomings to the design of the CAPE ratio. Please elaborate.

**Harley:** I'm not going to challenge Professor Shiller on any of his work per se. Clearly, he's one of the most qualified people in the world to opine about this. Nonetheless, I think what he's missing here is an input for interest rates. And I guess the pushback from that side has been that there's no reasonable correlation if interest rates to CAPE to stock market performance.

That doesn't quite convince me, seeing that they've a relatively short period of whenever we're looking at. I think any reasonable person is going to say, okay, I have a pile of money in front of me. And I want to invest it somewhere because I'm not using it tomorrow. Because all money is a store of wealth, a store of future spending, so I want to put it somewhere.

I'm going to have opportunities to do things. I could do it in equities. I could do it in debt. I could do a lot of things with it. If debt, which is a sizable size of the investment universe, is a possibility of options to invest, why wouldn't someone look at that and say, well, I could earn this on debt or that on equity. What am I going to do? P/E is your inverse equity return. And so if rates are at 1% and you could earn 4 or 5 points over that in equity – unless you think vols are going to be radically higher, what's wrong with that?

I think this whole thing ties into what the Fed's whole plan was. I think the Fed did a fine job in, I guess, saving the world. They went and printed money. The plan was to reduce the front-end rate by strict policies, pull the back-end down via QE, and then reduce volatility via moral suasion (Fedspeak).

And as you reduced all your safe investments– Treasuries, mortgages, swaps, futures – money had to go somewhere else. And it went to riskier assets. Equities, junk bonds, real estate, art, gold, whatever it might be. And the logic is – once again, the Chicago background –  $MV$  (money times velocity) equals  $PQ$  (price times quantity) equals GDP.

But they took the M up by a lot, the V went down but not too bad. And so their problem was how do they get that V to maybe not go up but at least stop going down, so the increase in M would push on through to GDP.

And this was the purpose of QE: If you take rates down enough, and short low-risk investments down enough, people will move their assets around. And the hope was that asset velocity – moving money from bonds to stocks or risky assets – would create monetary velocity. That was the master plan.

It kind of worked. I mean, we got stocks up and credit tighter. But it really didn't increase monetary velocity. So in that sense it's been flawed. And, of course, there's been the public policy problem that the benefits of this policy accrue to people who owned assets, which tends to be the wealthier people as opposed to the middle class.

So I would say, it kind of worked but kind of didn't work. And I think you could probably look at today's policies and politics and see the result.

**Erik:** Another concern about the stock market that some people have voiced, and one that I give a little bit more credibility to than the CAPE argument, is so much of this rally has been fueled by corporate buybacks. Basically, corporations borrowing in the junk bond market, using the money to buy their own shares, rather than investing in the growth of their business.

Moving on to Slide 6 in your slide deck, you've got a chart here showing us buybacks and the very strong correlation between that activity and cumulative flows into equity funds.

Do you think that buybacks are the principle driver of this market? And what could go wrong? I mean, at some point if interest rates go up, I would assume that that has to slow down.

**Harley:** Hold that question for a second. Let's look at Chart 7, which basically proves my point about the baby boom demographic moving out of riskier assets to safer assets. And so this chart here (thank you Bank of America) basically shows you retail investing in equity and in bonds.

And, despite this massive bull market over the last nearly decade, there's been no net money going into equities from retail people, mutual fund investors. It's all going into bonds. And this makes sense if you think about the classic retail stock broker rule: You put your age into bonds.

So if you're 70 years old you put 70 into bonds 30 equity. If you're 25 years old you put 75 equity 25 bonds. And, you've seen the ads on TV of 10,000 people retiring every day, there is a natural slow process of money moving out of equity and into bonds. Not because people are bullish or bearish, but because they're just getting older. I would not advise my 85-year-old mother to have all of her money invested in Google, despite the fact that it's probably a good investment. That's just what you do.

So if you go back now to Slide 6, what you see is the primary, the net buyer of almost all equities over the last 5–6–7–8 years has been corporate stock buybacks. I don't think the risk is higher rates per se that will change this, because I don't think – as I said before, rates aren't going to get high enough up. You're not going to see a 6% 10-year or a 5% fund rate. I think you're going to cap out at 3-ish, maybe.

What would be a problem is tax policy. If it comes to pass that they change the regs so borrowed money at the corporate level is no longer tax-deductible, well that would massively alter the capital asset allocation process for firms. And it may not be as interesting to borrow money to buy back their stock. So I'd put that as one of the three – if I'm worried about one of three things happening in the world, tax policy is one of them.

**Erik:** You mentioned earlier that you don't think governments really can do much to increase rates in this environment. But, at the same time you also said that a resurgence of inflation in the next few years was actually likely because of all of the money printing that's occurred with quantitative easing.

So does that mean that we're looking at a negative real yield environment? And what does that mean for precious metals, particularly gold?

**Harley:** Well, "few" is an interesting word. I usually wouldn't even talk about few for an FOMC meeting if few means two or three. I would think about few being, right now more like five or six as far as when you'll see inflation occurring again, because that's when the flexion point of labor force growth starts to turn over.

That notwithstanding, bringing up gold – I'm not a gold bug. Although I guess if I had a few cocktails I might get closer to it. As I wrote about in one of my favorite pieces, "[Rumpelstiltskin at the Fed](#)," which is on my site, Warren Buffett – notwithstanding he's the richest guy in the world – is wrong about gold.

Gold is not an asset. Gold's not – you can't compare gold to owning shares of Exxon or owning acres of farmland. Gold is an alternate currency. And to that extent – and it qualifies as a currency under all the various ways we think about it – and if Western currencies are being debased by money printing, then at some point one might want to own something that has limited ability to expand in quantity, which is gold.

Bitcoin, which you did not ask about but I'll say it anyways, I think it's too loose. I don't understand the idea – I get alternate currency. I believe in that. I believe in diversifying your savings. But bitcoin doesn't qualify to me because it can be created in any quantity you want. And I would not call it secure, exactly. I mean, if the Russians can hack into our elections and the North Koreans can hack into Sony, I suspect somebody can hack into bitcoin also. Notwithstanding blockchain being the best thing since sliced bread.

**Erik:** Let's move on to another subject that has gotten a lot of attention lately, which is risk

parity strategies. Now, supposedly, you have the right allocations of both stocks and bonds, and, because they're inversely correlated, nothing can go wrong. What could go wrong?

**Harley:** A few things here we could think about. If we're into -- one of my write-ups recently, "Rambling near the Edge" -- I think what's happened in the last 10–15 years, the biggest concept has been the flow of active to passive money. And it kind of makes sense, because, basically, money managers haven't beaten the index for quite a while. And so why should we pay higher fees and not make money. You might as well pay Vanguard a dime or so, and basically get the index and not worry too much.

In line with that, you've seen risk parity, which is you buy stocks and bonds because they're self-hedging. Along with that, you've done things like low-volatility portfolios. All these strategies have a common theme, which is -- too technical for this call -- is that they're effectively selling optionality. They're creating short convexity profiles.

Now this has done quite well in the last five years as the vols gone straight down and we're at the lowest readings of the VIX, like, forever. I think I saw, of the 50 lowest VIX days, 30 of them have been in the last few months. So if you've been in a short convexity, short vol. short optionality profile, you've done well. So, yeah, they've all done well.

The problem is, people in general do not appreciate the risk profile of short convexity. Risk profile is that, as things get worse they get worse at an accelerating pace. So, for example, if you own a stock that goes down a point you lose a point. If it goes down one more point you lose another point, etc. If you're at short convexity, first you lose a point, then you lose two points, then you lose three points -- that's not quite right but it catches the idea -- is that things go against you at an accelerating pace.

What worries me is that, if you have this broad swathe of the population invested in these various short convexity profiles, I'm not sure that they are prepared for the market-to-market risk of if things go south and vols go up. And then portfolios go down at an increasing rate. And that worries me.

And I think this is very similar to portfolio insurance. These ideas, like portfolio insurance, didn't cause the crash of '87. They just made it worse. Your various mortgage-structured assets didn't cause the problem. They just made it worse because the market was short convexity.

So I tend to think that most great losses on Wall Street or finance come from short optionality as opposed to some other risk vector. Because of the non-linearity of the pay-up profile. So that's my worry.

If you go to Page 9, what you kind of see here is why risk parity worked, or has worked, since the Fed began financial repression, and why it may turn around. So this is the correlation of the returns of the stock market versus the returns of the bonds and yields.

And what you see is when financial repression started 2007–08–09, this correlation kind of – it's stocks up, bonds down. Prior to that, there was no correlation. So I kind of think that this good feeling of this hedging process working is a function of the Fed, not a function of economics.

And what is more frightening is that – if you go to Slide 10 – in theory, on a day-to-day basis, you're seeing stocks up, bonds down. But on the macro level, we now have stocks and bonds almost at forever highs. So I think the next big risk will be that stocks and bonds both go down. At some point. How it happens, unclear. This is what I'm kind of thinking about how it might play out.

And one of three things will then drive that: Either immigration policy, trade policy, or tax policy. One of those three things will be the trigger for this.

**Erik:** That brings to mind another kind of thought experiment that I've been struggling with, which is – as we've discussed off the air – there is this tremendous popularity these days with the short VIX trade, where people are really just capturing contango yield. It's not really a speculation on the changing VIX, it's a speculation on the term structure of VIX futures.

It seems to me that, if that makes cheap tail hedges available to institutional investors, if that's who's on the other side of the trade, doesn't that kind of give free license for those investors to use a lot more leverage because they can buy the hedges? And what could go wrong if eventually that leverage has to be unwound?

**Harley:** Lots to the VIX. One, its general level. Two, what it actually means to vol for be it, you know, 8–9–10. vs historical 16%–17%. I think the buyers of the VIX, because you cannot buy the VIX, you can buy futures on the VIX.

And the problem with these buy-the-VIX products is the negative carry in them is kind of hidden. It's not like an option where it ticks time decay, or a stock where the dividend is less than your bank rate. It's a kind of hidden process.

And the sellers recognize this negative carry and they're realizing it. How it plays out? It's unclear. To some degree, you're picking up pennies in front of a steamroller. On the other hand, Fed policy is not changing any time soon. So it's unclear to me. I'm uncomfortable with it – I mean, the comfort of the sellers of the VIX products is that the term structure of the futures is very steep. So they're earning a pretty penny while this is happening. And so they're taking advantage of people who are buying the VIX for whatever various reasons it might be.

I think there's other products out there that are a better hedge vehicle than buying the VIX. That's kind of where I'd leave it.

**Erik:** Before we close, I'd like to touch on your website. because you've got some fantastic free content there that I know is going to interest our listeners. In the Research Roundup email that went out with this episode we have linked several articles, and there's quite a few more

that we didn't link. But why don't you give us just an overview of what our listeners can expect to find from your commentary called "How High Is High."

**Harley:** "How High Is High" is really – it was written a few years ago, but it hasn't really changed. It's the underlying support for the notion of why rates can't go up by that much. And it has to do with labor, it has to do with productivity, and so it's kind of a fundamental support of that idea. And also the idea of why you'll see higher rates six or seven years down the road. But that's kind of what that is.

A lot of this writing is what I did over my career. Much of it was trade-focused to encourage clients to make certain investments. But a good number of them was just basic educational. There's no trade at the end. It's just a thought piece about an idea and a way to explain the investing process.

And that's in the section called the Maven's Classroom. I recommend your listeners go look at that, and that covers a wide variety of various ideas. My most recent piece, that I put out last week, deals with more efficient ways to buy stocks, for non-institutional people using the option market. It doesn't change your risk. It's just a better way to execute the same risk.

**Erik:** And you also have a 2017 model portfolio commentary. Is that basically suggesting a model portfolio for investors for this year? And is it still current?

**Harley:** I will tell you that that model portfolio is pretty close to my personal portfolio. I have been able to invest in all of these kinds of products. Most of these products on there are institutional and they're not retail. That said, the themes underlying them have not changed too much, and to that extent they are viable.

And I think the most interesting idea right now, really, is on Chart number 8 on your packet here. The relationship between rates and the dividend yield. What we have here, really, is almost the whole story behind financial repression going back, basically, almost 40 years.

You can see that in general you have equities having a lower yield than bonds. And so, basically, to buy an equity, you have negative carry. Negative cash flow, where what you could get if you bought a bond where you have a sure cash flow. I would kind of think of that as a call option. If you think about it, most people would think of the stock as being a call on a company, where the strike price is the value of the bonds.

Because, if everything goes well, you make all the upside, the bondholders get back par. And if things go down, all you can lose is your investment. So you have limited loss, unlimited gain. And you should probably have to pay for that. You pay for that by getting a lower return – a lower cash flow. A lower dividend.

Here, what's happened in Europe, is you now have the bond rate being zero and the dividend yield being 3.5%. So, basically, you could pick up 3.5% of yields and have unlimited upside.

Jeeze, what's wrong with that? So I'm still – as equities go I still love European equities. And I've detailed in my write-up ways to do it via one-day as options.

**Erik:** For our listeners who might want to go deeper into this subject you're describing on Slide 8, the relationship between credit, volatility, and rates, which of your writings on the website would be the best place for them to start?

**Harley:** I think "Your Ace in the Hole" is a nice theoretical piece. And what that talks about is what I call the Three to One Rule. Which is, when you look at the interest you could earn on some asset versus the price of an option, and sometimes it happens that an option might cost less than the interest you earn. Remember, the interest you earn on some asset, the net interest of what you get, the coupon end and versus the financing out – that's called your carry (you can look at that as a forward price if you want).

So if you're earning 5% and paying 4% you're earning 1. So an asset at a hundred today you could buy at 99 a year from now, right? There's your 1-point difference. When that carry gets bigger than the option cost – so what's an option cost you? Only a half point for that particular instrument. Well, you paid a half point and the carry is 1 point – that's a 2:1 ratio. I think there's a limit on that ratio to somewhere in the  $2\frac{1}{2}$ – $2\frac{3}{4}$  area.

And whenever you have that kind of opportunity you should do it. And this links the whole concept of volatility, option price, risk, carry, duration all together. They kind of stick together. You can't get that big a divergence. And I have some nice charts there, looking at carry versus vol to ratio.

**Erik:** And we do have a link to the "Your Ace in the Hole" article in the Research Roundup email. And for anyone who's interested in a wealth of other free information, it's all at [www.convexitymaven.com](http://www.convexitymaven.com).

Harley, I cannot thank you enough for a fantastic interview. Patrick Ceresna and I will be back as MacroVoices continues right here at [macrovoices.com](http://macrovoices.com).