Art Berman: The market has de-valued the oil price yield curve

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Erik: Joining me next is petroleum geologist Art Berman. As always, Art has prepared one of his fantastic slide decks for us. Listeners, you can find the download link in your Research Roundup email. If you're not registered yet, just go to Art's picture on our home page and next to that you'll find a link where you can obtain the downloads.

Art, it's been way too long since we've had you on the program. And, because of that, since we have a lot of new listeners, let's do a quick review of the subject that we've explained in your past interviews, which is this idea of comparative inventory.

A lot of people in the oil market look at the weekly inventory reports from EIA, and they just look at that number without adjusting it. Explain why you use comparative inventory, what it's all about. And maybe you can relate that to the graphs you have on Slide 2 in your deck.

Art: Well, Erik, it's really great to be back and thanks for inviting me. Comparative inventory is a very simple concept. Let me explain it briefly.

What we do is we simply take the current storage level and subtract the five-year average from it and that's it. Why is this important? As you said, when people look at the raw numbers – and the raw numbers are interesting – but the key is not to relate the change in storage to what happened last week or two weeks ago but what happened on this precise week over a period of time. What that does is it normalizes out all the seasonal issues, the refinery maintenance issues, etc.

I have been using comparative inventory for a long time and, in my experience, it is absolutely – if you had to use only one tool (which would be crazy), comparative inventory is the most diagnostic tool to help you understand price trends and where those price trends might be going.

If that's not a good enough endorsement, I can't sell it any better than that.

Looking at Slide 2, I'm showing two simple charts. The one on the left simply illustrates the way comparative inventory works. In gold, we have absolute stock levels, inventories. In red, below it, is the five-year average. And the shaded area in blue is WTI price, because of course we're using US inventories.

Basically, you take the gold, the inventories, subtract the red, the five-year average, and, bingo, you go to the right hand graph and that's the output. So you simply subtract those two curves.

As you can see in the left hand graph, the red curve is above the gold curve on the left side. Move to the right graph, that equates to negative comparative inventory. The big build in inventory that we saw beginning in 2014, early 2015, that explains the oil price collapse translates on the right hand graph to the big yellow mountain.

And then you can also see that beginning in March of this year, where the curves cross again on the left hand graph, we move back into a comparative inventory deficit.

So, right there in its simplest form is what comparative inventory is all about. And, as I said, the key is, to me, this explains price trends in the best possible way.

So if anybody wants to understand why we got into oil price trouble a couple of years ago, look at the graph on the right. If anybody wants to understand why prices rose in the first half or so of 2018, look at the graph on the right.

If we then take that same data, which is to say comparative inventory, and cross plot it with WTI price, which I've already shown you in the first graph on the left –

Moving on to the next slide, Slide 3, I'll expand that view and show you now the comparative inventory history going back to 2000 or so. Just for reference, again, you see the big Mount Everest of yellow or gold that we were looking at on the previous graph.

So the point of this graph is to show that comparative inventory ordinarily correlates with price inversely. So when inventory is low, price is high. And when inventory is high, price is low. And that kind of makes sense.

Except there are a few periods in history in which that has not been the case. And those are periods when the market doesn't care about how much oil is in storage. The market is deeply concerned about supply.

If you look at the circle on the first graph on the left, that's the period leading up to the financial collapse that we're coming off of low supply for several years. We've gotten into huge Asian, mostly Chinese, demand. And the market says, you know what? We don't care if there is a storage surplus. We're concerned about prices. So we're going to drive the price higher even though the storage keeps getting higher.

Similarly, if you look back on the far left of that graph, back in the late 1990s, we went into serious deficit. I mean, much more deficit than we're seeing right now. And yet the price response was very muted.

The reason is that back in the late '90s the market said, you know, we don't really care. There

seems to be so much oil in the world. Remember, prices were $18 a barrel in 2018 dollars. The market said, that's fine. I bring this up not to try to cast doubt on the comparative inventory story but to try to explain what's going on right now.

If we then move on to Slide 4, here I'm simply cross-plotting comparative inventory versus price. If we look at the graph on the left, I've selected three periods of history. I've selected the period in red from 2014 to the middle of last year. I've selected the current period from the middle of last year to right now in blue. And then I'm showing that funny period in the late 1990s to early 2000s when the market didn't really seem to care how negative comparative inventory was. The price stayed pretty flat.

What we see then, starting with the red curve, is coming into the oil price collapse we follow that line, which is called the yield curve, down. And we see it intersected the price axis, the y-axis, at about $80 or $85.

Well, that is the five-year average is what that axis represents. It went all the way down to the low $30s and $40s. And then we come back to the left and all of a sudden the trend deviated, back in about July of 2017. And, frankly, that surprised me. I thought we were going to go right back on to the same trend.

But the market was saying, you know, as we approach that five-year average, we don't think we need $80 a barrel or whatever the price was, that intersection point. We think that producers have lowered costs enough or that there's been enough deflation in the market that supply can be maintained at a lower mid-cycle price. Mid-cycle is the name of that intersection.

And then, going back to the 1995 to 2004 price cycle in green, you see we got way, way into negative territory. And yet, that dark green yield curve hardly went up at all because the market felt we had plenty of supply.

Moving to the curve on the right now, this is just a blowup of the red and the blue. We're looking at where we are currently. This is as of last week, but the inventory report this morning doesn't change it hardly at all.

What this is saying is that, whereas in 2014, that same inventory level we're at right now, we probably would have been at something like $110 a barrel, right now we're at $72. So that's a 35% price devaluation relative to what we were seeing in June of 2014.

This is a really important fact, particularly as analysts and traders are speculating that, wow, you think we're going to go back to $90 oil or $100 oil or whatever the price is. And what the comparative inventory yield curve is telling me – anything is possible, but that's not what the curve is saying.

That curve is saying that we're about as high as we're going to go unless the market changes its perception radically from where it's been now for 14 or 15 months.

Erik: Let me just ask you a question, Art, before we move on. If I look at the red curve on the left or on the right, either one, then I look at the blue curve, obviously something's changed. It used to be that when we got to the level of comparative inventory that we're at right now, the result was upwards of $100 in oil prices. And that's not the result anymore.

I want to ask you about why that might be the case. And, particularly, it seems to me like a big change that's occurred about at the same time is the legalization of US exports. I wonder if what's going on is, while the overall supply demand situation is not really what it was before, it looks like it in comparative inventory because now it's legal to export that US oil.

Is that a potential explanation for the way that the yield curve has moved from the red to the blue curve?

Art: Well, Erik, that's a real good point you bring up. But no. That's not what I believe is happening there at all.

Now, you had Chris Cook on MacroVoices not very long ago and he talked about some of the regulation changes in how Saudi Arabia and some other companies price their oil for European markets. That's exactly when this happened.

I don't want to get into arguing the fine points of Chris's thesis, which I think bears attention, but something like that. You know, we see this – if you look at the Commitment of Traders charts, which I guess I'll show a little bit later, something happened there.

But, no, I don't think it was US exports. And the reason that I don't think that is because that is one of many, many changes that have occurred over the 25 years of comparative inventory data. And usually it accommodates those things just fine.

This is – I'll show you in a little bit the OECD minus US comparative inventory, and it shows exactly the same thing. I mean, storage is storage. Inventory is inventory. If you've got a deficit, you've got a deficit. Price goes up.

I think that this change has everything to do mostly with the deflationary trend in oil and gas commodities, which is probably related as much as anything to the change in unconventional oil and gas production. It's also got to do with the fact that everything, at least for a while, was cheaper in oilfield services. So everybody's cost of marginal production went down.

US exports are a million and a half barrels a day on a weekly basis. Which is important, but it doesn't change the dynamics of the market balance that much. That's my view.

If we go on now to Slide 5, what I'm showing here is why I think that's happening, at least in gross aspects. On the left, I'm showing US tight oil rig count, horizontal tight oil only, in blue. And then I'm showing WTI price in gold. I've just lagged the price back three months because

that's not only about the time it takes between a change in rig count when we actually see the change in production, which results in the change in price, but that's actually the correlation that works.

And the importance of this chart – I'm showing $60 a barrel – and the key is that we went from 193 rigs at the bottom of oil prices in May of 2016 to 568 rigs by April of 2018. So we almost tripled the rig count with prices at less than $60 a barrel.

The whole point of raising prices is to get producers to drill more. So the market is saying, gosh, we're getting all the response we need at prices below $60. Why should we have to pay any more?

And then, similarly, on the right hand chart, here we're looking at tight oil US production in blue. And, again, that WTI price – here I've lagged it one more month just to account for – well, it takes a little bit longer to get those wells on production. And what we see here is that, yeah, living through this oil price collapse, it seemed like production went way down.

But the point of this graph is that tight oil production returned to pre-oil-price collapse, peak level, at WTI prices of around $50.

So if I look at these two charts, I say, why in the world do you think that you need $100 oil prices to get supply? You want – assuming, of course, that US tight oil production is the marginal barrel or the swing producer or whatever kind of garbage term you want to throw at it – but it is the variable. It is what has changed in the world. It is where we're going to get our surplus from.

So that's really the compelling thing that's going on.

If we go to Slide 6, here we see the same thing going on in managed money net long positions that we did in the change in comparative inventory. The chart on the left. June 16, 2017, net long positions are at a very low level and all of a sudden they start climbing. They climb to a peak in early 2018.

The chart on the left is WTI crude plus product net longs. The chart on the right is Brent plus WTI net longs. Same thing. You've got a low in June of 2017. You go to a peak in January of 2018. And then it starts going down.

So I look at these two graphs and, first of all, I can't fully explain what happened in June 2016th. Something big happened.

More importantly to the present discussion, however, is that, since the beginning of 2018, things have been going generally downhill. Traders have been unwinding long positions both on WTI and WTI plus Brent. We saw our maximum comparative inventory negative in early 2018 and it's been climbing back up again.

So, to me, I see the overall price trend – we've probably hit the highest price on average that we're going to see in this price cycle, until and unless something fundamental changes.

Looking at Slide 7 – you know, you talk, Erik, about US exports. US exports have been a very important release valve on US inventories. The US never stopped overproducing oil. If the US was one of the key parties responsible for the oil price collapse, as I showed on that earlier graph, we didn't really slow down very much at all. And we picked right back up and now we're way past those early levels.

So to reason that US inventories have not started to build more quickly than they are right now is because we're exporting a million and a half or two million barrels a day out of the country.

But the important point that I want to make on Slide 7 is, I think, that export party is starting to lose momentum. And what I'm showing is distillates. Distillates – diesel, if you will – I mean, that is the big cash cow of US refined product exports. And you could see distillate inventories when they were going down, down, and down, price was going up, and up, and up. I mean, distillate is 17% of US exports.

If we look at the graph on the right, what it shows very clearly is that, although distillate exports remain strong, and they are above the five-year average, they've declined compared with the record levels in 2017. The reason for that, I think, is that some of our big takers of distillate – Mexico and Brazil – have started to build out their refineries and said, well, why should we pay your high prices? We can refine that stuff ourselves.

To me, that's another indication that maybe things have reached a peak as far as price and comparative inventory go, at least for a while.

If we look at the next graphs in Slide 8, here I'm showing both distillate and gasoline inventories. And they're both building. They were falling for a long time.

As I said, distillate inventory is still below the five-year average. But it's at the highest level that it's been since the end of the first quarter. Gasoline comparative inventory is well above the five-year average. And the difference between that five-year average and stock levels is widening.

So, right now, we're in the destocking period for gasoline stocks. Yet we see the trend is that stocks are continuing to move away from the five-year average. So that's another kind of negative piece of evidence in this story I'm building.

Erik: Art, before we move off of the subject of US exports, what the heck is going on with the Brent/WTI spread, which has just been extraordinary in recent weeks? I've been completely baffled by that.

Art: And you've got that 100% correct, Erik. That premium of Brent to WTI has been going from 367 to 813 just in the last couple of weeks. That margin, that differential, has really expanded.

The way I interpret that is that is a reflection of market concerns about supply security close to the Middle East. Which is to say, Brent. Supply security for WTI, not so much concern.

So when the market perceives that there is a supply threat potentially out there, on one versus the other, they're going to buy up those near-term contracts. So that's what I think is going on.

And the other thing that I show in Slide 9 is that, yeah, US exports are still kicking butt, but not compared with where they were earlier this year. So we've fallen. We were up to three million barrels a day in April but now we're down to something like a million and a half. Last week it was 1.6. So we've actually fallen below the year-to-date 2018 average.

Don't get me wrong. That's still a lot of oil and it's a whole lot more oil than we were exporting a couple of years ago. But, remember, this whole business of price, it's a razor's edge.

I'm starting to add up all kinds of little changes – maybe not so little – but a lot of changes in distillate and gasoline, and comparative inventory, and Commitment of Traders, and now in exports and Brent/WTI spread. And it's all starting to add up to maybe oil price is not going to go so high.

The other thing I'll mention before we move on, Erik, is that foreign refiners have started to understand the limitations of high API gravity US crude oil. It's great stuff if you want low sulfur. But it makes crappy gasoline and you can't hardly use it at all to make diesel. Those were the two big products that the market's looking at and the market has started to understand that there is kind of limited use for this stuff.

And, by the way, this trade war that we've got now with China, China was the biggest buyer of US exports. It took over first place from Canada. So they're cutting back. That all adds to the story.

Erik: Art, a topic we've talked about quite a bit on this program has been the bizarre behavior of time spreads in the WTI market. Now, if you go back a few months, there was a blowout to $3 a months, at one point, of difference between the price of WTI from one month to the next. That was August to September and September to October.

Now, as we're getting even deeper drawdowns in comparative inventory, and inventory on an absolute basis is lower, it seems like the problem is getting worse. But the backwardation is nowhere close to what it was a couple of months ago.

I don't understand what's going on here. Why is backwardation seemingly collapsing on WTI when it was worse on WTI when the inventory numbers didn't seem to dictate it? It doesn't

add up for me.

Art: There are a couple of things going on here and I'm not sure I can fully answer your question, Erik. But, you know, building on the point that I made earlier about the Brent premium to WTI, what I see going on here is that WTI and Brent are going completely in two different directions.

These two graphs on Slide 10, this shows the six-month calendar spreads on both WTI and Brent. And it was real interesting, because it wasn't but a couple of weeks ago that those Brent spreads actually went into contango. We not only collapsed the backwardation, but we went the other direction.

But all of a sudden, in the last several weeks, those have turned around and the backwardation on Brent is increasing. Conversely, WTI – you know, the two were moving in tandem – it just keeps going down.

Last week, those spreads were down from $7.77 to 99 cents. You know, a huge collapse. I look at this simplistically as this is reflecting the two different worlds and how supply security is reflected in market price and in the way that people trade those things.

So what's happening there is that, if we're worried about Brent, we're buying the front and we're . And that increases the backwardation. If we're not so concerned with WTI, from the supply security standpoint, we're kind of balancing the two. Maybe we're selling the front and buying the back and so that backwardation collapses.

I'm a geologist and I'm no expert on trading. But that's the simple way that I understand it.

Erik: Moving on to Slide 11. Needless to say, supply security has been a major issue. With so much going on geopolitically around the world, what are these graphs on Slide 11 showing us?

Art: Erik, they are showing us on the graph on the left with all the pretty colors on it, this is the problem we all know about. These are the OPEC countries that are in trouble: Iran, Nigeria, Libya, and Venezuela.

Iran's sanctions have not even returned yet. And yet the production in those four countries has fallen a million barrels a day since January and half a million barrels a day just since May. So the output from those countries has fallen off a cliff.

It came back a little bit in August, which was principally because Libya – that's a situation, it's a seesaw. It goes up and down when they're – they knock out a piece of a refinery or a pipeline, it goes way down. They fix it and it goes back up.

Libya and Nigeria, they kind of move back and forth. Iran's going down. Venezuela is hopeless.

So when the United States decided to pull out of the Iran deal – and, of course, Saudi Arabia was really pushing us, or we were pushing together to do that, to put added pressure on Iran – probably Saudi Arabia told the US, no problem, guys, we'll just crank up our production. We've got all the spare capacity. We'll get our buddies in Kuwait and UAE to help us out and everything will be fine.

Well, the graph on the right shows that that's not necessarily true. Nobody really knows what OPEC's spare capacity is. But let me just be on the record here and say that I don't believe the kind of numbers that we see out of EIA and IEA of 2, 3, 4 million barrels a day. I just don't.

It may be there, but it's not marketable crude. It's sour. It's heavy or something like that. I think that the effective spare capacity is all Saudi, Kuwait, and UAE. So this graph on the right shows those three countries' output. And then, in gold, their rig count.

And what we see is that that output reached a maximum just at the time that the production cuts were announced in late 2016. Is that true spare capacity? I don't have any idea. But that's the most those three countries have ever produced. So I'm saying, for now, that's a benchmark or a proxy for spare capacity.

About the time that all the blowout started happening that you talk about, when the Iran situation became critical, when Trump said we were probably pulling out of that nuclear deal, these three countries started cranking up production. And they have increased production more than half a million barrels a day since April.

Well, that's the good news. The bad news is that, if you believe that November 2016 number of almost 17 million barrels a day, we're just a couple of hundred thousand barrels a day below that. So, if you believe this chart, they're going pedal to the metal right now. And they just don't have a lot more room to go.

This slide then shows – okay, so, you've made a point, Art, that maybe things have maxed out on price, but this chart says, boy, I see a lot of potential here for price going up. And I acknowledge that. And I've said supply security is a big deal.

But I've also pointed out that we're not going to go back to the same pattern we were on in 2011–12–13–14. That the market still thinks that it can be amply supplied at $60, $70, $80 a barrel. So that's the point there.

Erik: IEA and OPEC famously have very different perspectives on what's really going on in the marketplace. What's going on here on Slide 12?

Art: What I've done here is I've taken IEA's forecast for demand on the left and OPEC's forecast for demand on the right. Now, neither of those two agencies provides a supply forecast past the present quarter. But EIA does.

So I've developed a calibration algorithm which goes back and looks at how IEA and OPEC's supply correlates with EIA production, plugged it in, and I've gone forward with this forecast of supply/demand balance. We can talk about where the hair on that is. But it's the best we can do.

What this shows is that the IEA model says that we have pretty much reached the point that I've described previously, which is to say that we were in deficit in 2017, we've been in balance for 2018, and, hold on to your hats, guys, because in 2019 we're going to go into a pretty substantial oversupply, production surplus.

Now, before anybody freaks out, it's nowhere near what we saw in 2015–16, but it is pretty nearly a million barrels a day. So that's the IEA view of the future.

The graph on the right is the OPEC view. The OPEC view says, uh-uh. We are going to continue in deficit through the end of 2018, we're going to max that supply/demand deficit in the fourth quarter. And then, similar to the IEA perspective, we're going to go into a supply surplus which is going to be fairly substantial, certainly by the second half. And then we're going to go back into deficits.

So I present these two graph not to cast aspersions on the forecasting capabilities of these agencies, but is it any wonder that investors are confused? You look at the IEA and you say, oh my God, we've got a supply surplus coming. You look at the OPEC on the right and you say, well, yeah, we do, but it's not going to last very long.

So we're torn. Do we want to be long on oil? Do we want to be short on oil? And that's kind of where the market is right now.

Erik: And what's your view in terms – obviously these are opposite predictions. Where do you think we're headed? It sounds like you think maybe the upside has run out of steam. Does that mean we're headed back down in price? Or we're just moving into a consolidation range now?

Art: I think the latter, Erik. Anything is possible. I certainly don't know the future and I try to put all of the many moving parts together, like we all do. My perspective, though, is I see probably more evidence on the downside to range-bound prices for both WTI and Brent than I do upside.

I certainly see the upside. I completely get that. But, again, I think when you're looking at it you have to look at the big picture. And the big picture is the global economy, for me.

Erik: Moving on to Slide 13, the final slide in your deck, you've given us all of these different points of view between OPEC and IEA. What do you think is going to happen from here? And what are the driving factors going to be?

Art: That's the question everybody wants the answer to, Erik. But my sense is that I see more

evidence on the downside for oil price than I do on the upside.

I completely understand the upside argument. I completely get why people are very bullish and think that oil prices could be $90 Brent, $70–$75 WTI, before the end of the year. And it wouldn't surprise me if they were, to be honest.

But, looking at all of this evidence, I think the motivation towards higher prices makes sense except when you add in all the other factors. The fact that we're really still in a deflationary cycle in the oil and gas market – it doesn't feel like it, because we've come so far from $30 oil.

But, remember, oilfield services prices are way down. The costs of producing the marginal barrel is way down for everybody, not just shale. The break-even prices on everybody are way down.

So the market is looking at the big picture in saying, yeah, I think we do have tighter supply coming on the horizon. There is an issue about supply security. But that doesn't mean we need $90 oil or $100 oil to provide incentive to producers to produce more.

The market data says we've got so much bang for our buck at less than $60, why should the market pay anything more than what it's paying right now? I could be way wrong on that, but my sense is that we're probably going to see range-bound prices going forward until something fundamental changes.

What do you say to all the people who say, yeah, but look at your graph? Look at Iran. Look at Venezuela. Look at all those problems.

I'm saying I don't know how to answer that. Nobody does. But my sense is on Iran. This is a completely artificial supply crisis. It is something that was put into place because the US decided – and Saudi Arabia helped us decide – that Iran needs to be punished.

I don't want to get into whether that is a right or wrong decision, but it's artificial. We created that. It doesn't have to be.

And my sense is, first of all, those guys in Iran are pretty clever. They're not going to get their exports 100% shut down. They're going to figure out ways through the black market, through accounting methods – you know, saying it's coming out of Iraq or something like that.

The other thing is that we are just getting started, the US is, on granting sanction relief. And the way that all of these aggressive hardline policies that have come out of the Trump administration, the way they've all gone, is they get backpedaled. In the end, it wouldn't surprise me if we gave a lot of dispensations and the impact on exports may not be as great as we fear.

I don't know that. But I think that's a possibility. But I think Libya and Nigeria, they go up and

down. Venezuela is already baked into things. There's nothing that's going to happen there.

I look at all of these factors together. Maybe OPEC's spare capacity is greater than I assume. I don't know. I'm using an empirical argument there.

But, again, I see we're in a period of secular deflation in oil prices that began in 2014 and I don't think we're out of it yet. The tendency is to think, okay, things are finally back to normal. We're going back to the world before 2014.

I don't think we're ever going back to the world before 2014. So, bottom line, Erik, I think that we're probably going to see prices range-bound pretty much near where they are right now, possibly going below for the near term. And if either of those forecasts by OPEC or IEA are correct, it looks like prices will go lower than whatever they end up at in 2018–2019.

But, as always, nothing would completely surprise me.

Erik: Art, I agree with you in terms of where prices are probably headed. But there is one part of what you just said that makes me curious. You said you don't think they are ever going back to that pre-2014 level.

It seems to me that peak oil was a very real thing. Now, people misjudged it because they thought it was going to happen on a global scale and prices were going to the roof. And the analysis that had been done was on conventional oil production.

The thing is, that analysis was right on conventional oil production. Conventional oil peaked in 2005 and hasn't exceeded that price ever since, as far as I know. And the thing that everybody forgot to consider was that unconventional production totally outpaced it.

It seems to me – and a lot of this is based on some of your own writings – at some point, I don't know when, but someday we get to the point where this shale thing has played out. The depletion rates in those wells are just so rapid compared to conventional production.

It seems to me that when we get to that point where we've drilled up the countryside like Swiss cheese, there's no more fracking to do because we've used up all of these shale plays. I realize that's not right away. But when that happens, it seems to me like – really, the longer-term picture is in decline in conventional production – that peak oil thesis comes back into play, I would think, and we do get much, much higher prices.

Am I missing something to think that?

Art: No, Erik, you've got it correct. It's really a question of perspective and scaling. So let me just say that what peak oil got right was peak price. That got nailed. That was 2008, when price went to $147 a barrel for a day or a week or whatever it was.

Where peak oil got it wrong, as you correctly said, was forever saying, well, we're just – they weren't ignoring tight oil, they were just saying we're not talking about that. We're talking about conventional.

But I think the real point of peak oil, the part that I take away as true and valid, is that peak oil is really about the end of cheap oil.

And whatever you think about the longevity of shale plays etc., there is just no doubt that, even at the very low prices we've had for the last couple of years, the real constant dollar value of a barrel of oil is 50% higher than it was at the beginning of the 2000s. So peak oil got that right too.

And that's why I say "peak price," that oil is definitely more expensive now than it used to be.

There will be a moonshot. There is going to come a time when, you're right, the price is going to go way high just because we've used up all of these marginal shale productive wells.

But the other factor that I think is real important here is the demand side. And I'm not talking about peak demand. That's a whole other subject that I don't want to get into right now. But the reason that both of the IEA and OPEC forecasts talk about a surplus in 2019 is not just supply. It's demand. They're both showing weaker demand.

And that's not based on an algorithm that I'm using on EIA. That's straight from IEA/OPEC. Demand is weakening. Is it horribly weakened? No. But it's weaker than it has been.

And you factor in this emerging market economy and higher interest rates.

And you look at things like gasoline consumption in the United States. The vehicle miles traveled just came out this week and it's actually going down. People are, apparently, choosing to buy less gasoline because of the price. I mean, we're at $2.90 or $2.92 a gallon. That appears to be a pressure point for a lot of people.

The Federal Reserve report on the state of the economy in 2017 [says] that 40% of Americans don't have a spare $400 for an emergency. I mean, it's easy to forget the details. So it's not like people are saying, okay, I'm not buying gasoline. Of course they've got to buy gasoline. They're buying less. That's the point.

So I look at all of these larger factors that clearly get beyond oil fundamentals. But they are supported by the oil fundamentals.

So you're right, there is no doubt that we are going to have a price crisis. But how long will it last? It might last a year. It might last 18 months. But that will crater the global economy, those high prices. There will be a rebalancing which will occur.

And when we come out of whatever that relatively short-term price crisis is, we're going to be in a low-price oil world again. So peak oil is right. You're right. And yet what I said before about not really ever going back to 2011–14, which is sustained $100 to $110 prices for four years, I don't think we're going back there, Erik.

Erik: Art, your blog at artberman.com is, as far as I know, the best free resource that exists on the internet relative to oil markets. For people who may not be familiar with it, first of all it's free, which is really amazing considering the content. It's always full of graphs and charts of the same quality of what we've seen in this deck.

Tell people what they can expect to find there and also how they can follow your work more generally.

Art: artberman.com is 100% free. Maybe I need my head examined for doing that, but that's the choice I've made for now. You will have to register as we're trying to keep trolls and bots out of things.

I try to post something every couple of weeks that summarizes the kind of thing that we're talking about today. My twitter feed is on my website (@aeberman12) and I put up lots and lots of graphs every day. I have spirited discussions with smart people like you and other traders and refiners and analysists.

If you want to know what I'm thinking, between artberman.com and @aeberman12 that's the way to find me.

Erik: Well, Art I can't thank you enough for another fantastic interview. We look forward to having you back on the show again sometime soon. Patrick Ceresna and I will be as MacroVoices continues, right here at macrovoices.com.