"The Unbearable Over-Determination of Oil"

Jett Rink: Everybody thought I had a duster. Y'all thought ol' Spindletop Burke and Burnett was all the oil there was, didn't ya? Well, I'm here to tell you that it ain't, boy! It's here, and there ain't a dang thing you gonna do about it! My well came in big, so big, Bick and there's more down there and there's bigger wells. I'm rich, Bick. I'm a rich 'un. I'm a rich boy. Me, I'm gonna have more money than you ever *thought* you could have – you and all the rest of you stinkin' sons of … Benedicts!

Bick, you shoulda shot that fella a long time ago. Now he's too rich to kill.

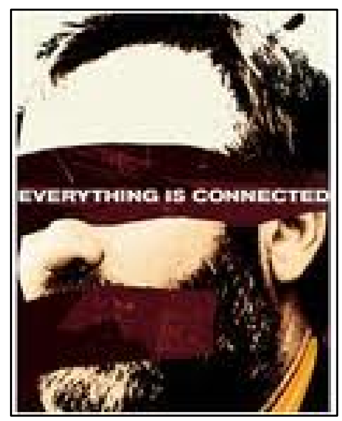
— "Giant" (1956)

Mussawi: Bob, what do you know about the torture methods used by the Chinese on the Falun Gong? Huh? Method number one. What's your guess?

[*pause*]

Water dungeon. Did you guess water dungeon? Number two method? Number two, twisting arm and putting face in feces. Not interested in two? Number three. Number three is called 'pulling nails from fingers'. What do you think, Bob? Number three sound good to you? The purpose is to get the monks or whatever to recant their beliefs. What if I had to get you to recant? That would be pretty difficult right? **Because if you have no beliefs to recant then what? Then you're f****d is what.**

— "Syriana" (2005)



And therein lies the whole of man's plight. Human time does not turn in a circle; it runs ahead in a straight line. That is why man cannot be happy: happiness is the longing for repetition.

— Milan Kundera, "The Unbearable Lightness of Being"

Everything we see hides another thing, we always want to see what is hidden by what we see, but it is impossible. Humans hide their secrets too well.

— Rene Magritte

9 Down Clue: Market leader
Answer: T-H-E-F-E-D
— *New York Times Crossword Puzzle, Saturday November 16*

You know you're in trouble when the Fed's Narrative dominance of all things market-related shows up in the *New York Times* crossword puzzle, the Saturday uber-hard edition no less. It's kinda funny, but then again it's more sad than funny. Not a sign of a market top necessarily, but definitely a sign of a top in the overwhelming belief that central banks and their monetary policies determine market outcomes, what I call the Narrative of Central Bank Omnipotence.

There is a real world connected to markets, of course, a world of actual companies selling actual goods and services to actual people. And these real world attributes of good old fashioned economic supply and demand – the fundamentals, let's call them – matter a great deal. Always have, always will. I don't think they matter nearly as much during periods of global deleveraging and profound political fragmentation – an observation that holds true whether you're talking about the 2010's, the 1930's, the 1870's, or the 1470's – but they do matter.

Unfortunately it's not as simple as looking at some market outcome – the price of oil declining from $100/bbl to $70/bbl, say – and dividing up the outcome into some percentage of monetary policy-driven causes and some percentage of fundamental-driven causes. **These market outcomes are always over-determined, which is a $10 word that means if you added up all of the likely causes and their likely percentage contribution to the outcome you would get a number way above 100%.** Are recent oil price declines driven by the rising dollar (a monetary policy-driven cause) or by over-supply and global growth concerns (two fundamental-driven causes)? Answer: yes. I can make a case that either one of these "explanations" on its own can account for the entire $30 move. Put them together and I've "explained" the $30 move twice over. That's not very satisfying or useful, of course, because it doesn't help me anticipate what's next. Should I be basing my risk assessment of global oil prices on an evaluation of monetary policy divergence and what this means for the US dollar? Or should I be basing my assessment on an evaluation of global supply and demand fundamentals? If both, how do I weight these competing explanations so that I don't end up overweighting both, which (not to get too technical with this stuff) will have the effect of sharply increasing the volatility of my forward projections, even if I'm exactly right in the ratio of the relative contribution of the potential explanatory factors.

Here's the short answer. I can't. As a social animal in the financial services ecosystem I can't avoid some overweighting of the explanatory factors. The longer answer is that I believe I can *reduce* the naïve overweighting by a rigorous focus on Narrative formation and dissemination, a process that I'll describe below. But before we get to that let's examine the consequences of an investment world where the overwhelming majority of market participants are not even thinking about mitigating the naïve overweighting of the various explanatory factors for oil price movements that are rolling through their heads, and where the entire financial services sector is designed to magnify this overweighting behavior.

What do I mean by that last bit? I mean that when there's a large move in an important aspect of the market – and a $30 plunge in the price of oil certainly qualifies on that score! – it creates an overwhelming demand from global investors, from *trillions of dollars of investment capital*, for an answer to a single question: WHY? **Anyone in the financial services world, from the smallest FA to the largest institutional allocator, *must* supply an answer to that question of Why, or else the capital that you advise or allocate for will start looking for a new advisor or allocator**. The rarest answer in the financial services world is "I don't know", even though that's almost always the most honest answer, because the business risk of "I don't know" is overwhelming during large market moves. Global capital creates a multi-trillion dollar demand for The Answer, and financial service providers (or at least successful financial service providers) *will always* provide it.

When there's a multi-trillion dollar market for The Answer, it should surprise no one that there is competition around the supply of The Answer. Many, many, many answers with a small-a will be supplied, each vying for contention for a slice of The Answer market. Not only is every advisor or allocator in the world today an answer-supplier in his or her own right, but also there are layers upon layers of answer supply and demand within the financial services world itself. **The result is an artillery barrage of answers raining down on *every* market participant, including guys like me who have our own howitzers**. ALL of us are caught in this barrage, and it's LOUD.

All of us may be caught in the barrage, but very few of us have an independently grounded view of what's going on in oil markets or a process for assimilating the answers. Unfortunately, without that independent grounding or process the sheer volume of the shouted answers becomes a form of torture.

The vast majority of market participants are like George Clooney's CIA agent in *Syriana* – ungrounded and without personal conviction in the competition at hand. When Clooney is tortured, it's only pain – pure, unadulterated, senseless pain – with no purpose or process. Clooney will say or do anything to avoid the pain, but there is nothing he *can* say or do that will assuage his torturer because he doesn't have what his torturer wants. You can't repudiate grounded beliefs under torture if you don't have grounded beliefs to start with, and whatever belief you espouse under torture will never be a grounded belief. All you can do is shout out some new belief, some new Answer, each time you get another nail pulled off a finger … or, as we might say down in Houston, each time the price of oil goes down another $10/bbl.

Okay, Ben, interesting metaphors and all that, but what's the investable implication of what you're saying? Simply this: **whatever volatility you think exists in future oil prices … you're too low.** There is a behavioral and market structure dynamic in play today that will amplify oil price volatility beyond whatever your combination of fundamental-driven or monetary policy-driven rationales might imply. **The loudness of the artillery barrage of answers to the question of "Why is oil down" is itself a driver of increased volatility in the price of oil and energy sector stocks.** And yes, this loudness (more formally, the degree and scope of competition in the answer-supply market) can be measured, which may be an interesting thing for traders to think about. Just sayin'.

Now please note that I do not mean volatility as the word is all too commonly used, as a synonym for "down". This isn't some self-fulfilling prophecy, where more people talking about why oil is down somehow pushes oil prices down further. That's not it at all. **What I'm saying is that when more people talk loudly and competitively about their particular Answer to why oil is down, ALL answers become more and more over-weighted.** The price of oil becomes more and more over-determined. Events that seem to fit one of the Answers are trumpeted to the high heavens, and everyone rushes to buy or sell according to that event and that Answer. Until, of course, the next event comes along which fits another Answer and is in turn trumpeted on high and is in turn followed by a mad rush to buy or sell according to that event and that Answer. Risk On / Risk Off. Bigger and faster price movements up AND down. Greater than expected "error" from whatever alpha or beta model you're using. That's what I mean by volatility.

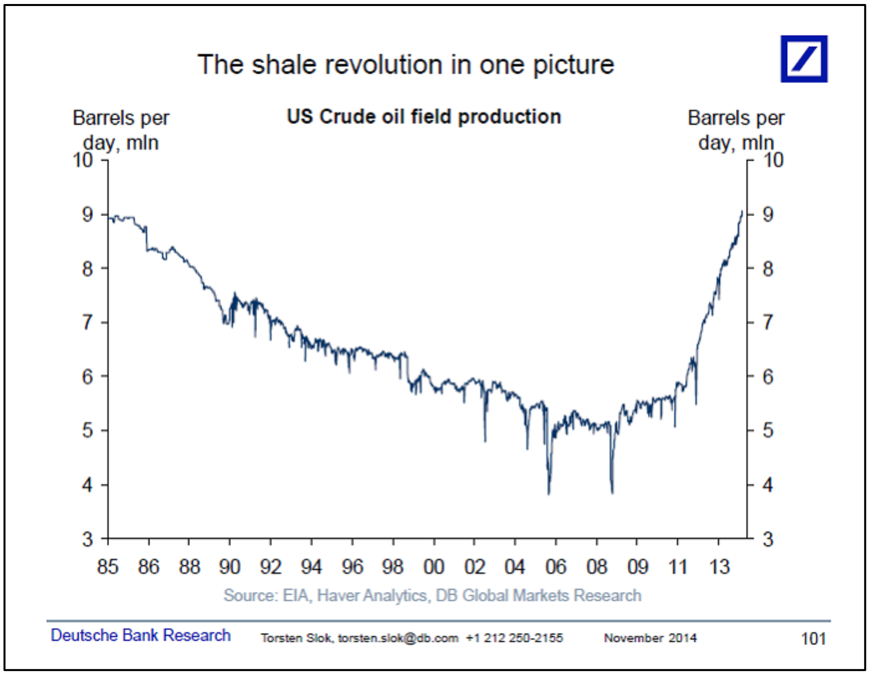
And the reverse is true, too. When fewer people talk loudly and competitively about their particular Answer to a pressing question of Why, I expect volatility to decline. It's no accident, in my view, that US equity market volatility has declined with almost perfect inverse correlation to the advance in the Narrative of Central Bank Omnipotence. Today I am hard-pressed to find anyone who argues that equity markets are at current levels because economic fundamentals are so good, or more generally that market outcomes – good or bad – are driven by economic fundamentals. Instead it's all central banks all the time. **There is zero competition in the marketplace of Answers on this enormous question of Why, and I think that's the driving force behind not only reduced volatility, but also – and far more importantly for the financial services sector – *reduced market activity and reduced market interest*.**

What I'm describing here is another way of getting a handle on the Common Knowledge Game, which I've argued is the principal strategic interaction in markets where grounded beliefs are few and far between. I won't belabor all that again, as you can read about it here and here. But whether you're thinking in terms of Keynes' Newspaper Beauty Contest or the Island of the Blue-Eyed Tribe or how a CIA agent responds to torture, it's all the same dynamic. When you're not sure of yourself and you're trying to figure out what consensus view to adopt, as likely as not everyone else is trying to do the same thing. In these situations it's Common Knowledge – public signals that we all believe that we all heard, aka Narratives – that largely determines each of our individual behavioral decisions.

I mentioned earlier that I believe it's possible to mitigate these behavioral and structural impulses to overweight explanatory factors through a rigorous assessment of Narrative creation and dissemination, so I'll turn to that now. To be clear … I don't have The Answer for what drives oil prices. I have MY answer, which is a small-a answer because it *adapts* to Narrative shifts in the relative prominence of fundamental-driven factors and monetary policy driven factors. It's also a small-a answer because it's a self-consciously Bayesian effort at arriving at a useful assessment of what's going on, not a Platonic effort at uncovering some eternal Truth with a capital-T. All it really means to say that you're a Bayesian decision maker is that you ground yourself with some set of prior beliefs and then you update those beliefs with new information. Here, then, are my grounded beliefs, first on fundamentals and then on monetary policy.

On fundamentals ... we have good models (good in the sense that they've been nicely predictive over the past several decades) for the relationship between global growth and oil prices. What all the models basically show is that US growth sets the floor and Chinese growth is the marginal driver above that floor, at least for the demand function. Without a US recession and/or a Chinese hard landing – neither of which are anywhere in sight – it's really hard for oil to get very far below, say, $70/bbl and it's almost impossible for the price to stay there for very long.

We also have good models for the relationship between oil supply and oil prices. Currently we have significant over-supply in the global energy markets, driven by two factors: the continued success of shale production efforts in the US (see the amazing chart below from Deutsche Bank's Torsten Slok) and the mysteriously high production levels being maintained by Saudi Arabia.



I say mysteriously high because with 30% price declines Saudi Arabia has historically been rather quick to cut production, but they've been largely quiet of late. There's a widespread belief (which I share) that there is geopolitical pressure on Saudi Arabia to maintain production levels in order to squeeze the economic vise on Russia and Iran. **There are limits to this US geopolitical pressure, however, particularly with such a mistrusted Administration, and I think we're now well past those limits.** There's also a somewhat less widespread belief (which I don't share) that Saudi Arabia is content to maintain (or even increase) production in order to put more downward pressure on oil prices and force US shale production into unprofitable positions. While the proponents of this view are absolutely right that the threat of opening the production floodgates has always been the Saudi big stick used to maintain cartel discipline *within* OPEC, there's just too much non-cartelized money, technology, and political capital invested in US shale production to slow it down in this way. It's the Bick Benedict / Jett Rink problem from the classic movie *Giant* … if you're Rock Hudson and you despise James Dean, you better get rid of him while he's a dirt-poor wildcatter, because once he succeeds he's too rich to kill.

Also, regardless of what happens in the short term with OPEC production targets, when you look at the production profiles of most major oil fields in the world today I think it's very hard to see the current over-supply condition as anything but temporary, even with continued efficiency advances in the US shale fields (for a particularly apocalyptic view on all this, see the latest quarterly letter from GMO's Jeremy Grantham). As with the global growth models, it's really hard to get oil much below $70/bbl from a supply model perspective.

But then there's monetary policy. For the past 30 years we've had general global coordination around a weaker dollar (which supports higher prices of assets, like oil, that are priced in dollars) and for the past 5 years we've had intensive global coordination to promote massive dollar liquidity (which also supports higher oil prices). Today that coordination has stopped, and the dollar is getting very strong very quickly as the Fed cuts back on dollar liquidity at the same time that other central banks continue to increase their own liquidity operations. As I hope that I've made clear in recent Epsilon Theory notes (here and here), I think that this monetary policy divergence is a very significant risk to markets, as there's no direct martingale on how far monetary policy can diverge and how strong the dollar can get. As a result I think there's a non-trivial chance that the price of oil could have a $30 or $40 handle at some point over the next 6 months, even though the global growth and supply/demand models would say that's impossible. But I also think the likely duration of that heavily depressed price is pretty short. Why? Because the Fed and China will not take this lying down. They will respond to the stronger dollar and stronger yuan (China's currency is effectively tied to the dollar) and they *will* prevail, which will push oil prices back close to what global growth says the price should be. The danger, of course, is that if they wait too long to respond (and they usually do), then the response will itself be highly damaging to global growth and market confidence and we'll bounce back, but only after a near-recession in the US or a near-hard landing in China.

So now for the balancing act … is the price of oil today driven more by global growth and supply/demand factors or by monetary policy factors? I hope it doesn't surprise anyone when I say that I think monetary policy dominates ALL markets today, including the global oil market. What's the ratio? My personal, entirely subjective view is that oil prices over the past 3+ months have been driven by 3 parts monetary policy to 1 part fundamentals. How do I come up with this ratio? For the past 3+ months the oil Narrative has been dominated by public statements from influential answer-suppliers talking up the oil price dynamic of a rising dollar and monetary policy divergence. That's the source of my subjective view of a 3:1 dominance for monetary policy-driven factors over fundamental-driven factors.

However – and this is the adaptive part where I play close attention to Narrative development and dissemination – the noise level surrounding this Thursday's OPEC meeting is absolutely deafening. I mean, when the Sunday morning talking head shows are discussing OPEC and its influence on gasoline prices you know that something dramatic is happening with the Narrative. For at least this week and next the oil Narrative is going to be dominated by public statements from influential answer-suppliers talking up the oil price dynamic of OPEC decisions on fundamental global oil supply. For at least this week and next my personal, entirely subjective view of the ratio of explanatory factors is going to flip to 3 parts fundamentals to 1 part monetary policy. And since it's hard to get the price of oil much lower than it is today on the fundamentals … well, you can draw your own conclusions about the risk/reward asymmetry over the next two weeks. Beyond that? I have no idea. I'll just have to wait and see what happens to the Narrative.

I know this process probably sounds very reactive, as if I'm lacking all conviction about how the world works. Guilty as charged on the first count; innocent on the second. I don't pretend that I have The Answer. I don't pretend to have a crystal ball that tells me what OPEC is going to do this Thursday or when the next central banker will jawbone his currency down. I don't know. Sorry. There are plenty of answer-suppliers out there who will be more than happy to tell you that they DO have that crystal ball, and if that's what you need you're wasting your time reading Epsilon Theory. **I think that investing in a reactive manner – or as I like to call it, *adaptive investing* – is the best way to survive a profoundly uncertain world.** That doesn't mean that I don't have strong ideas about how the world works, about how both monetary policy and fundamentals impact the price of oil. What it means is that it doesn't *matter* what I think about the way the world works. **The only thing that matters is what the *market* thinks about the way the world works, and in times like these the market will think whatever Common Knowledge says it should think.**

It's crucial to have strong views about how the world works, to have an independently grounded vision of the world, because otherwise I might start to think that whatever Common Knowledge is dominant at some given time … US dollar strength for the past 3+ months, OPEC impact on supply fundamentals for the next 2+ weeks … is The Answer for oil prices, forever and ever amen, and I will be whipsawed mercilessly when the Narrative shifts. And it *will* shift. But it's equally crucial not to become a prisoner of my strong views about how the world works, or else at best I will miss *the path* that the market takes from here to there, and at worst I might be … wrong.

Here's my Answer: there is no Answer. **In a structurally unstable market, there is no stable deterministic model of discrete market-exogenous factors like global supply/demand and monetary policy to "explain" oil prices.** Oil prices are systematically over-determined, particularly during times of pricing distress, and you're kidding yourself if you think you can find the world's secret eternal code that hides behind market outcomes. The market itself – the strategic interaction of social animals all trying to outsmart each other – is part and parcel of the code. Strategic interactions are not factors that you can plug into your model or regression analysis. They are emergent properties of a game … a game with rules and stable patterns of behavior, so it's knowable and predictable, but not *predictive* in the same deterministic fashion that the econometric toolbox promises. For investors and allocators steeped in this predictive promise of econometrics, game theory will always seem like thin gruel, as postdictive rather than predictive. Fair enough. But rather than cling to my econometric toolkit and make market predictions that are less and less useful in this, the Golden Age of the Central Banker, I'd rather look at the market through the lens of game theory and Common Knowledge and Narrative so that I can adapt quickly to what IS rather than what I'd prefer it to be.

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