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June 30, 2017

Dear Limited Partners,

Reed Hoffman, founder of LinkedIn, recently said that the first truth of entrepreneurship and investing is that the very big ideas are contrarian because being a contrarian is why other competitors haven't already done the same thing, which leaves the space for the creation of something. For entrepreneurs, that something is a company that can dominate its space and for investors its higher returns. This hero's journey isn't without risk as the pitfalls are plentiful, and sometimes the room to fail can seem large and lonely.

If this were a prom, not only has no one showed up, but we've also been stood-up as the investment community abandoned the energy sector and energy stocks in droves these past two quarters. Energy has turned out to be the worst investments among the entire S&P this year, as the initial year-end celebration of oil cuts and inventory drawdowns gave way to the difficulty of actually seeing it come to fruition. We've seen the shares of our oil companies falter dramatically, and many famous oil investors have become apoplectic, abandoning their oil thesis and declaring that oil inventories will rebalance too slowly and that "lower for longer" is the new reality. Sentiment as they say turned negative:

Oil prices hit the skids, slips back into bear territory
Adam Shell, USA TODAY Published 6:31 a.m. ET June 21, 2017 | **Updated 6:31 a.m. ET June 21, 2017**

Oil back in bear market territory as supply angst persists
Brent crude down 20 per cent from its most recent high in early January
Source: Financial Times, 21st June 2017

THE WALL STREET JOURNAL.
MARKETS | OIL MARKETS
Oil Falls Deeper Into Bear Territory Despite Report of Lower U.S. Stockpiles

The Telegraph
(http://www.telegraph.co.uk/)
Oil prices collapse as US shale hits back

As oil prices tumbled past 20% from the highs reached in Q1 to the lows reached in Q2, their sentiment became our reality. Our portfolio, tethered to it was dragged off the mountain with it. Here's our results thus far.

Date	Open Square Fund I Performance YTD*	S&P 500 Performance YTD*	Outperformance / (Underperformance)
January 1 – June 30	(32.63)%	9.34%	(41.97)%

* Prior to fees. S&P 500 is using ETF: SPY

Correlation and causation, and yes . . . we're still bullish on oil. We continue to test and retest our thesis because while we could be wrong, we just don't think we are at this stage. We frankly utterly failed to predict the sentiment shift, but the vagaries of emotions aren't where we've historically excelled at. Our advantage, if there ever was one, was in examining the fundamental data. So when you read that we're still "bullish" our conviction isn't borne of consistency bias or fear of reputation risk, it stems from the

data. Given that your portfolio manager's family keeps a large portion of their assets in the fund, we are well motivated to check our views against reality.

For now, reality is that investors have effectively decided oil is worthless, but as capital retreats and stocks and bond prices fall, the bearish prophecies inevitably create a "new" reality (the opposite of "fake" news if there ever was one), one where the industry begins to contract, produce less and draw down inventories.

This is the nature of economics in the short-term and the long; what's proven unprofitable will be starved of capital until supply and demand resets and profitability restored. It's an immutable law, and one of the few certainties in the capital markets. In the meantime when excessive inventories predominate, fundamentals and sentiment can dislocate. Prices first decline because that's what they do when there's too much of a commodity, but as the market tentatively begins rebalancing, the perception of if/when/how the market will/will not rebalance plays a much larger role. This perception change means prices can overshoot in either direction, and in times of plenty, it's usually down. Once fundamentalists abandon the sector, the energy market is increasingly left to traders and computer trading advisors (i.e., quant funds), which further exacerbates the momentum change.

Much of the recent fall is simply due to market sentiment, which turned from healthy skepticism to outright cynicism. Cynicism over OPEC/Non-OPEC's production cuts, cynicism that the oil market can rebalance in the face of overwhelming growth in US shale production, and a creeping fatalism that oil will forever stay below $50/barrel because shale technological breakthrough means "this time it's different."

Our thesis has and continues to be that it's not. The logical frameworks are fairly simple. We're wagering that three historical rules that applied three years ago still apply today:

1. Over-investment leads to overproduction, and underinvestment leads to underproduction (the underinvestment in finding and producing new sources of oil in the last three years will lead to the next supply shortage);

2. Oil costs just as much to drill today as it did three years ago (i.e., in the past three years the world didn't suddenly become twice as efficient at exploring, finding and developing oil fields, which you'd need to believe to believe that oil break-even prices should be below $50/barrel); and

3. Investors and oil producers need a return on capital.

So unless economics reversed itself in the last few years, it will act as gravity to restrain and eventually constrain oil supplies and the downward spiral of prices we've seen the first half of this year will reverse.

Contrary to what you see in the price action, oil fundamentals are . . . here it goes . . . **not that bad**. There. We said it. Someone had to say it and we did . . . underlined and **bolded** no less.

Fundamentals vs. Sentiment

"Opinion is the medium between knowledge and ignorance." - Plato

Fundamentally, how the oil picture looks depends on how you interpret the data. Coming out of Q1 we updated our oil thesis and explained that the recent swoon in oil prices was caused by three factors that increased inventory and negatively affected sentiment:

1. OPEC overproducing right before the agreement started which led to "channel stuffing" in the first quarter,

2. Offshore destocking (oil inventories being stored offshore waiting for higher oil prices) returning onshore, and

3. High refinery maintenance depressing demand.

These factors in Q1 rolled into Q2, masking the underlying demand and affecting the perception of rebalancing. For their part, OPEC and Non-OPEC also failed to inspire confidence. On May 25th, both groups decided to renew their 1.7M barrel per day (bpd) cut ("Vienna Agreement") for another 9 month (to now expire in March 2018) and rein in exports. Normally, you'd expect an extended production cut to lift prices, but the participants bungled the announcement. In an attempt to bolster the market a few weeks before the meeting, Russia and Saudi Arabia, the two key players for the agreement announced that they'd extend the cut by 9 months, oil prices quickly rallied. This unfortunately heightened market expectations. It began expecting even better news such as a deeper or broader cut, but none materialized. Oil prices then fell after the meeting as the market was left with "only" a 9 month cut. In a nutshell it was a public relations disaster for OPEC and non-OPEC.

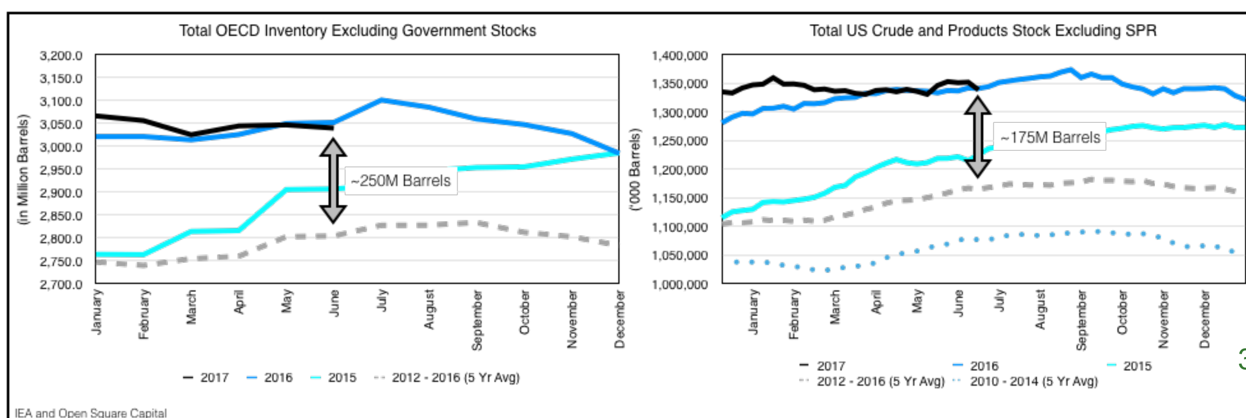
A week later, the calendar turned to June and sentiment deteriorated further. US oil data in early-June showed light inventory draws, and the market began surmising that demand may have fallen off. A respite in domestic violence in Nigeria and Libya allowed both to increase productions, which negated close to 30% of the cuts in the Vienna Agreement. Faced with the additional prospect of increasing US production, investors lost faith and the sky promptly fell.

In our view though, all of the above, all of the shifting inventories, overproduction and subsequent "channel stuffing," OPEC and Non-OPEC's meeting and the market's bipolar sentiment is simply volatility caused by the ongoing rebalancing. If inventories continue to decline, then prices will rise. Everything else <u>is noise</u>. We'll show you the current state of oil in six charts, why we think they underrepresent current demand and give you ten reason why we remain optimistic.

One Barrel at a Time

"The man who moves a mountain begins by carrying away small stones." – Confucius

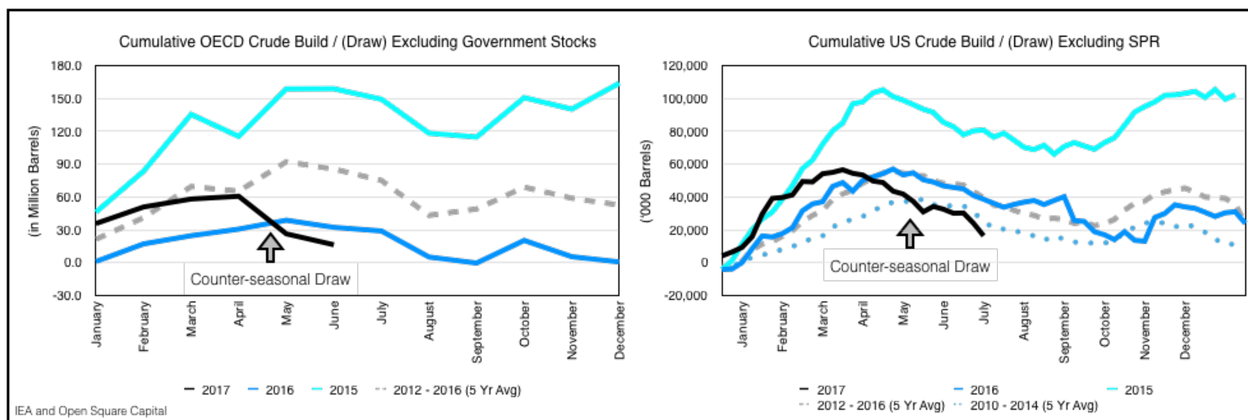
The 5-year OECD average is a proxy for where we're "supposed to be" for the market to consider itself balanced. Whether adjustments for certain products or infrastructure line-fills should be factored in matters little, it's the yardstick the market is using so we'll take it at face value. Here's the big picture:



IEA and Open Square Capital

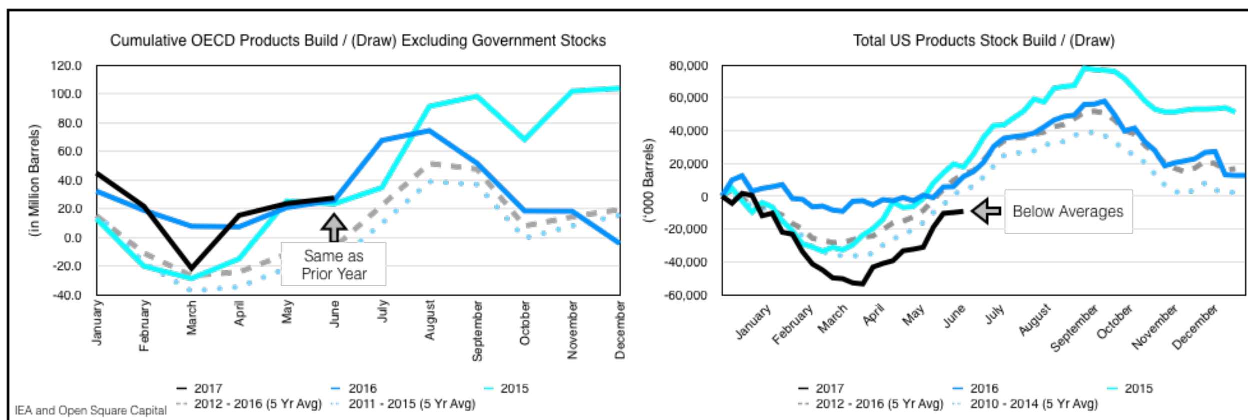
OECD petroleum stocks (both products and crude) are approximately 250M barrels higher than the 5-year average. Total stocks as of June are below 2016 levels and heading lower after starting the year higher. What's surprising isn't the trend line, but what's happened since February. Historically stocks on a 5-year average have risen 60M barrels from February to May, but this year, they have declined by 10M barrels, a 70M barrel counter-seasonal draw. Much of this is attributable to the US. Total stocks in the US are 175M higher than the 5-year average, but from February to May stocks fell over 10M barrels, a 55M barrel difference when compared to the 45M barrel increase in the 5-year average. Concurrently, the US began selling oil from the US Strategic Petroleum Reserves ("SPR") (over 16M barrels in 2017), and if we included those barrels, the counter-seasonal difference surpasses 70M barrels. Overall OECD and US inventories are drawing down at a time when it shouldn't.

Getting more granular, crude oil inventories typically build in the first part of the year (when demand is lighter), and then draw throughout the summer. What we're seeing this year is that despite the significant headwinds, crude inventories have drawn earlier and counter-seasonally.



The left graph shows OECD crude inventories increasing in the first three months, but then decreasing very much in contrast to the 5-year average thereafter. On the right side, the US chart shows the same thing; building, peaking and drawing earlier than historical norms.

What about products? Crude oil gets refined into products (i.e., distillates, gasoline, diesel, etc.), so you typically want to see both crude and product inventories drawing down as it means customer demand is robust (as opposed to refineries turning a crude stockpile into a products glut). Here's products:



Oil products in OECD inventories have stopped building year-over-year, and US products have drawn deeper thus far than the 5-year average. We're still waiting on OECD products to trend lower, but we believe US products will continue declining throughout the summer.

Regardless of the fundamentals, this isn't what the market wants to see. Year-to-date, overall inventory appears to be flat, and the market wonders where's the large promised draws? Counter-seasonal draws aren't captivating because they aren't obvious, and weak inventory data in early-June, higher production by Libya and Nigeria and the looming increase in US production added to the negative sentiment. The question became if inventories failed to draw in the summer, then how low will oil prices go? This question soon cascaded to others. What's to become of oil 2018? Are we lower for forever now? What's to become of us, and of course the obligatory question in all panicky movie situations, what about the children??

On the face of it, you'd think that the market is right, but ignoring a counter-seasonal draw means you're ignoring underlying demand. Just ask my daughter. Last month someone taught her all about counter-seasonal demand when they "accidentally" ate the chocolate cake she'd been saving for later. Fairly certain her howling meant that she knows counter-seasonal demand can be quite real. It's evidence that the undersupply of oil from 2016 has carried over to 2017. Moreover, we think the recent channel stuffing, floating storage destocking, and SPR sales may have masked an even stronger underlying demand than the market sees.

Monet the Oil Painter

> Tai: *"Do you think she's pretty?"*
> Cher: *"No, she's a full-on Monet . . . . It's like a painting, see? From far away, it's OK, but up close, it's a big old mess."* - From the movie Clueless (1995)

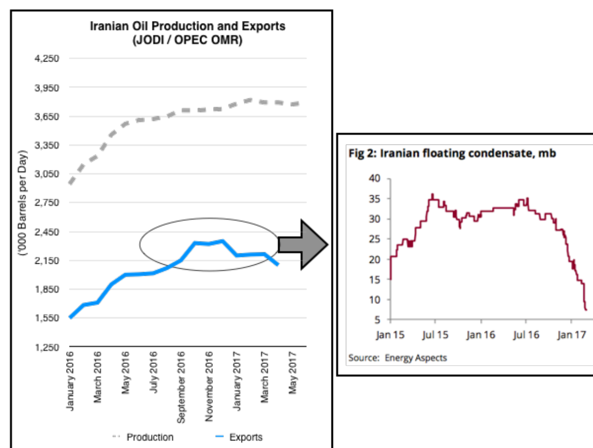
Remember oil data isn't always pretty, it's replete with inaccurate or missing information, half-truths and at times non-truths. The market wants to read the tea leaves, but you're often left staring at a blotchy painting. Thus, it helps to step back to get the full picture.

The 35 OECD member countries (e.g., Canada, Japan, US, UK, etc.) maintain open, reliable and timely data on their oil inventories. OPEC and Non-OPEC producers, which includes countries such as Nigeria, Libya, Iran, Iraq and Kazakhstan? Not so much. Many countries protect their production and inventory data for strategic reasons, and what is disclosed is often questionable. The picture becomes even more convoluted when you add floating storage, for which there's some data, but incomplete. When oil sloshes around in the early stages of rebalancing, the speed of the inventory changes, how inventory changes are accounted for, and the weak data integrity can all skew the picture.

Since demand is hard to measure, the market guesstimates by calculating supplies and comparing it against inventories (usually OECD inventories). It stands to reason that the difference equals "implied demand." Many use supply and production interchangeably, but they are in fact very different. Supply includes production and inventory changes. Production is sustainable, whereas inventory changes may not be once inventories deplete. Additionally, inventory transfers can inflate visible stocks; so failing to delineate between the two can lead you to believe that demand is falling-off when inventories are merely moving.

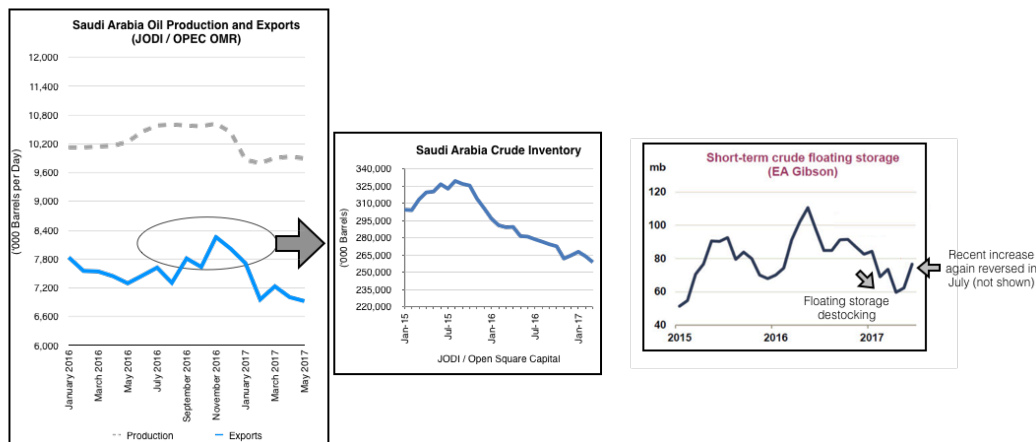
We believe the sluggish inventory draw in Q1 2017 was largely due to inventory transfers (i.e., the transfer of oil from the one country, with its poorly reported ledgers, to another, with its highly scrutinized reports). In many cases, the producers didn't produce more oil, they exported more. Conservatively, we estimate producers have transferred over 40M barrels to its customers in the past few months, and because the market fixates on OECD inventories, these barrels, like many things in life didn't count until they did. The barrels have always existed, and moving them from one parking lot to another doesn't change that fact, but it does change the calculation.

Let's take the case of Iran. Iranian oil production and exports increased after international sanctions were lifted in early 2016. After staying relatively steady in H1 2016, exports increased significantly right before the Vienna Agreement. This was the channel stuffing we discussed earlier, and when we pair production and export data with floating storage figures, we begin to see where the barrels were coming from. Iran has been drawing down inventory and depleting their stocks.

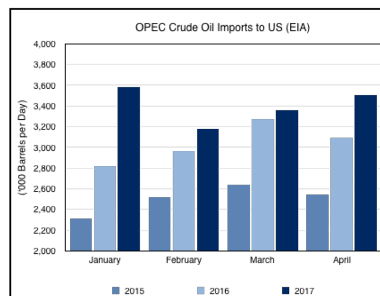


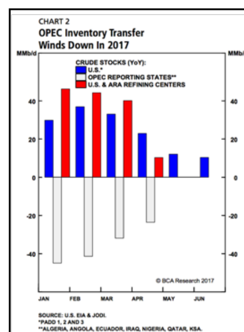
Like clockwork, once inventories were depleted, exports started declining. Production has flat-lined and we're now waiting to see if Iran had also artificially lifted its production numbers by running down storage. Regardless, Iran has destocked close to 20M barrels.

Not to be outdone, Saudi Arabia also destocked 10M barrels, so from both countries, we have over 30M barrels of oil transferred. Oil in floating storage also joined in on the great inventory migration, drawing by close to 30M barrels. Given the deteriorating economics for storing oil offshore in H1 2017, traders brought the oil back onshore. If we conservatively assume that 20M of the barrels were Iranian inventory, a net 10M barrels were pulled from floating storage.



What happened to these barrels? Well inevitably they found their way to OECD countries and increased imports and inventories.





Just factoring in the over 40M barrels above (which we believe to be conservative as it represents the almost the midpoint of the ranges we've seen for destocking) plus the US SPR sale of 16M barrels, total OECD stocks faced a headwind of 56M barrels in H1 2016. Historically, total stocks have increased by over 95M barrels in the first half of the year (5 year average). This year total stocks only increased by 55M, which means a counter seasonal draw of 40M barrels is at play. Adding back the headwind (as inventory transfers that elevated visible inventories), we surmise demand in the first half of the year exceeded supply by over 96M barrels or 500K bpd. Coming out of 2016, inventories were drawing by close to 700K bpd, so demand may have weakened slightly, but seasonality and some one-off factors described below were likely to blame. Thin gruel for bulls we know, but rebalancing is happening. As inventory stocks dwindle and exports decline, we're left with lower production. If inventories are already drawing down despite destocking, we're fairly certain they'll deepen when they cease.

Whether the inventory shift was caused by channel stuffing, floating storage destocking, or SPR sales matters little to the short-term market. Burned by the oil trade year-to-date, active funds (mutual and hedge funds) have abandoned the energy sector in droves, and what's left are mostly quants and computer traders who now dominate the market. For such participants, context matters little because if the inventory numbers come in higher than expected, then that must mean weak demand. Nuance? Ain't no-one got time for that.

Unlike the bears, our questions are just the opposite. What happens when the headwinds shift? What happens when curtailed OPEC and Non-OPEC exports meets higher summer demand, and OECD inventory draws accelerate? We're going to find out in the next few months, but we believe the drawdown will continue gathering steam, here's a few reasons why:

Headwinds Become Tailwinds

1. Sales of crude oil from the SPR should end by July, with less than 1M barrel of oil left to be sold this year, the amount of crude oil coming onto the US commercial market will stop until next year when the next batch is scheduled to be sold.

2. Unsurprisingly, now that inventory destocking is largely complete, OPEC announced in May that it was focusing on reducing exports. Saudi Arabia plans to reduce exports to the US by 4M barrels in July and 7M in August, as compared to June, effectively removing 11M

barrels from US imports. If other countries join in, then the the data should reflect the lower imports in a few months. Either way, a tailwind is forming to reduce visible OECD inventories.

Growing Demand

3. Despite the price action, physical spreads are tight. Demand for both crude and products appears to be strong. Refinery margins are also high, which further implies that end-consumer demand is robust, and that the draw on crude oil and products should continue.

4. Demand in the West (US and Europe) is set to climb as the summer season peaks. Higher consumption in the latter half of the year means oil inventories should begin to fall significantly. US crude inventories historically fall around 30M barrels during the summer, and given the factors above, could be higher this year.

5. Economic deceleration in two of the biggest demand centers (India and China) were large drivers for H1's perceived demand weakness. In November 2016, the Indian government voided larger denominated rupees in an attempt to curb black market transactions, fight corruption, and raise tax compliance. This surprise announcement tripped up the cash dominated economy in Q1, and GDP and oil consumption declined. After the shock wore off and new bills were circulated, the economy resumed growing in recent months and oil consumption is now on the mend.

6. For China, what started as a robust year decelerated. Latest figures indicate that recovery is in progress. GDP increased to 6.9% in the second quarter, and China is anticipated to grow 6.5% overall for the year, which should keep demand elevated. Chinese figures showed stronger than anticipated imports in H1 2017 (likely elevated because of line-fills for new pipelines and refineries and to fill strategic reserves). Imports may taper off as the one-off demands fade, but year-over-year China demand appears to be strong, and could grow as the One Belt One Road ("OBOR") strategic plans kick-into high gear. OBOR is China's ambitious foreign policy foray, in which it plans to underwrite billions of dollars of infrastructure investment worldwide and construct a network of railways, ports, roads, pipelines, and utility grids that link China and Europe/Asia in general. With over 60 countries involved, it's a way for China to foster economic growth and promote trade, one influenced and dominated by China. The OBOR projects also provide a much needed outlet for China's excess manufacturing capacity in steel, cement, etc. As OBOR projects roll-out, we believe China's economy could continue to display high economic growth rate. At its heart, OBOR is financial stimulus coupled with foreign policy prerogatives, and will increasingly become a key factor in driving China's oil consumption.

Production Risks

7. Growth in US oil production may be slowing as productivity gains have tapered off. At sub-$50/barrel, most of US production is untenable. Sure they can drill, but not profitably on a long-term basis. What they can drill is also focused on the "best of the core plays," which can last only so long. Moreover, as more producers focus on the bests regions (i.e., Permian), the localized demand drives up costs. So as we've said previously, cost inflation will become a limiting factor and break-even points will rise. The recent decline in oil

prices won't help, and all of these variables could translate to potentially lower growth in US production for 2017 and 2018 than the market anticipates. Will US production grow? Definitely. Enough to offset declines elsewhere? We doubt it.

8. We provided an update on international rig counts in our last letter. Here's another one. International rig counts, the very rigs that drill oil wells outside of the US totaled 955 this time last year. This year? 957. Unless productivity materially rises, and there's no indication that this is occurring, international oil production isn't only capped, but will continue falling as natural decline reduces output.

9. According to Citibank, geopolitical outages are the lowest they've been these past 5-years. Even with domestic instability in Nigeria, Libya and Venezuela, Qatar's standoff with the Middle East and tensions between Iran and Saudi Arabia, none of it is priced into oil today.

10. OPEC / Non-OPEC. Looking ahead, the market anticipates that inventory could grow again when the OPEC / Non-OPEC agreement ends in Q1 2018. We're not so sure about this. We know the main participants of this cut, Russia and Saudi Arabia, have major incentives to see it succeed. We also know that such incentives will continue into 2018 as the Russian elections are in Q1 and Saudi Arabia's Initial Public Offering ("IPO") of Saudi Aramco, a key tentpole to Crown Prince Mohammed Bin Salman's Vision 2030 initiative is later that year. As the largest producer in OPEC, we have to ask ourselves, is Saudi Arabia incentivized to go back to pumping oil all out and oversupply the market ahead of its own Aramco IPO? Does it make sense to depress oil prices when you're about to sell a piece of your oil assets? Saudi Arabia agreed to cut 486K bpd and along with its close allies UAE and Kuwait, the the three total over 700K bpd, or two-thirds of the OPEC oil cuts. Russia itself agreed to cut 300K bpd. We believe both participants will push through some form of continued cuts, or restrained production even after the expiration of the current Vienna Agreement. For Russia and many other participants, "everyone knows" Saudi Arabia will do the heavy lifting. For Saudi Arabia that may be a small price to pay for a successful IPO.

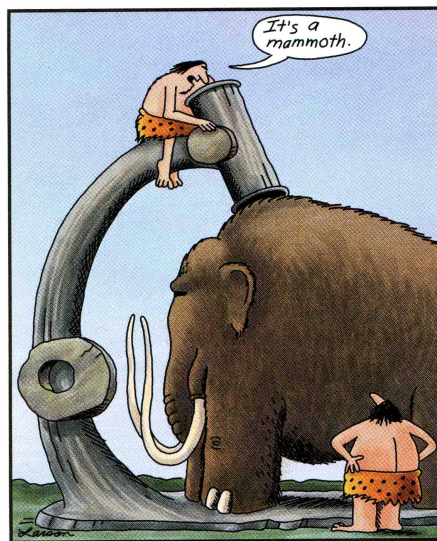
So there you have it, a quick list of ten reasons why we remain committed to a decidedly painful contrarian investment. For a physical commodity that needs to be replenished, shrinking investments and an outflow of capital means less production, and less production inevitably means a shortage. Economics is unrelenting. We anticipate that by year-end 2017, OECD stocks will be near the 5-year average. We say near because we don't know precisely. What's interesting is that the 5-year average is a dynamic moving 5-year average. The amount of inventory rises and falls with the season and through time. For example, today we're using a baseline 5-year average of 2012-2016. In May 2018, will the pundits use a 5-year average baseline of 2013-2017? If so, the excess inventory automatically falls by 80M barrels (i.e., 20%) because average inventories are higher as we move forward. So if inventories are balanced at year-end, and the calendar turns to January 1, is there suddenly a shortage by 80M barrels? We wouldn't put it past the market to perceive that, which is why sentiment can change quickly. Perception and fundamentals can drive reality, while we prefer the latter, the former can be a powerful force.

Denouement

> *"The fault, dear Brutus, is not in our stars, but in ourselves."* - William Shakespeare, Julius Ceasar

Our value as fund managers depends entirely on our ability to outperform the market, and frankly we're failing quite miserably at it. Yet for all that, we believe our circumstances will change. While we didn't anticipate the sentiment shift, we never intended to. We're letting the thesis play out. The inevitable drawdown we've been predicting is now here (and has actually been here since the middle of 2016), what we're witnessing now is how that reveals itself in visible inventories. As visible inventories start drawing down significantly prices will recover. In the end, sentiment will take care of itself on the upside, but what gets us there is fundamentals.

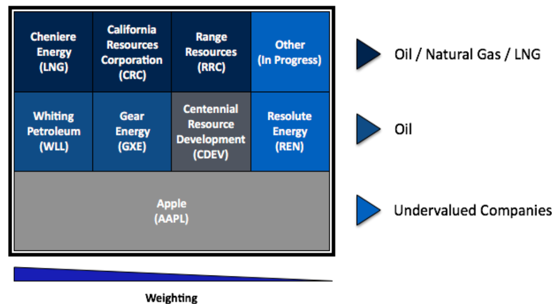
So is the fund down significantly? Without a doubt, but we're taking our results in stride and with the knowledge that sometimes what you see isn't what you may get. For now, try to look beyond our results because if the above pans out we may see something completely different.



Early microscope

An Overview

So as promised in our Q1 letter, we wanted to provide you with an update on some of the companies we own and some of the new companies that have joined our portfolio. Here's a snapshot of what the fund currently holds.



We updated Apple last quarter, so we'll primarily discuss the oil companies here. The truth is most of our companies are unworkable at sub-$50/barrel. Like gumball machines, it costs a quarter to pull a gumball, but another quarter to restock it, and at sub-$50/barrel, the market isn't willing to restock the machine. As our companies continue to pull oil out of the ground their inventories are depleting. We continue to hold them because while our companies can only survive at sub-$50/barrel (for a bit), they'll thrive above $60/barrel. They're admittedly call options on higher oil prices, some levered more than others, but all spread apart geographically, drilling for oil in different plays and regions. The one thing they have in common is the management teams; all of whom have historically displayed an ability to survive through the down cycles. We'll start with two new holdings and review two older ones.

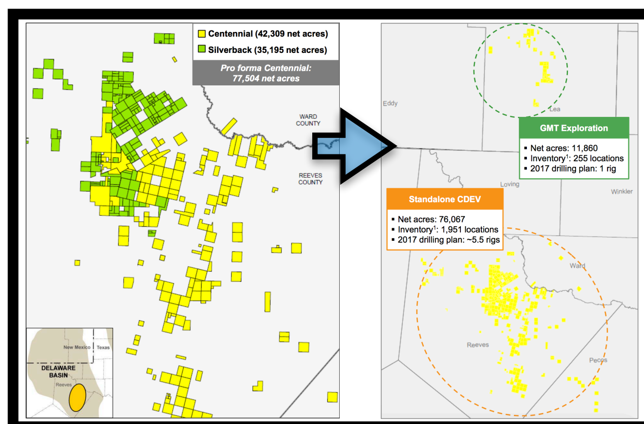
Centennial Resource Development (Nasdaq: CDEV)

Commodity businesses are notoriously difficult to manage. Since there's little difference between your product and your competitors, there's also no pricing power, and everyone largely competes on price. In the oil business this means you need both a keen eye for selecting and acquiring great assets and a talent for managing expenses. Few CEOs have done this as well as Mark Papa, and his reputation within the oil and gas industry is stellar. In 2013, Mark Papa retired from EOG after a 10 year run, during which EOG's shares appreciated 650%.

After EOG, Mark Papa consulted for Riverstone, a private equity firm. When oil collapsed from $50 to $28/barrel last year, Mr. Papa was lured out of retirement. He said in a recent interview "I thought about it . . . I knew it was going to get interesting. I still feel pretty good, and I really missed the business. It's in my blood."

Riverstone raised $500M for him to form a special purpose acquisition company, essentially a blank check company, called Silver Run Acquisition Corporation ("Silver Run") and the hunt began. Eventually Silver Run acquired Centennial Resource Production, LLC, a company that held 43,000 acres of land in the Southern Delaware sub-basin of the Permian in Texas, and acquired 89% of the company in July 2016 for $810M in stock and cash and changed its name to Centennial Resource Development.

A few months thereafter, CDEV acquired Silverback Exploration and its neighboring land for $855M. On May 1, 2017, CDEV announced its third acquisition, acquiring GMT Exploration Company ("GMT") and its 11,860 net acres for $350M in cash. The GMT acquisition expands CDEV's footprint to the core of the Northern Delaware basin. Here are CDEV's land holdings today.



Date	Acquisition	Acreage	Price	Price per Acre*
7 / 2016	Centennial	42,500	$1.695M	$36,300
12 / 2016	Silverback Exploration	35,500	$855M	$20,800
4 / 2017	GMT Exploration	11,860	$350M	$22,400
	Total	89,860	$2.900M	
	CDEV Shares Outstanding		275.8M	
	Average Share Price		$17.88	
			$4.931M	
	"Papa Premium"		$2,031M	

* Price per acre is net of existing production on the acreage purchased

If we assume that the private equity players who've sold their land to Centennial sold them at fair value, then anything above CDEV's purchase price represents a "reputation premium" for Mark Papa, and a wager on his ability to extract greater value from these properties as a whole. Given Mark Papa's track record, we believe that'll be the case. Here's the prices they've paid and what we've paid.

We know we've paid-up for CDEV at today's prices, but we think CDEV has a few additional advantages which deserves a higher valuation in today's oil market.

Low Debt

Unlike many E&P companies today, CDEV currently has no debt. As of Q1 2017, CDEV had $55M in cash and no borrowings under a $350M credit line. For 2017, the company plans to spend $475M to $540M in capital expenditures ("capex"). We anticipate capex spend will exceed cash flow, thus the company will exit 2017 with some borrowing under its credit line. Nonetheless, CDEV has noted that it plans to maintain a very low debt profile and judging by EOG's capital structure, we believe CDEV will continue to remain disciplined. As such, CDEV is a holding that allows us to profit on oil's rise, but also sleep at night.

Efficiency Gains

Longer laterals, pad drilling, higher proppant loadings, proving out stacked pay potential. As shale development continues, higher productivity will be largely driven by drilling and completing longer laterals (i.e., the length of a horizontal well). In CDEV's case, it's been drilling a mix of 4,500 ft long wells (i.e., wells approximately 1 mile long) and extended lateral wells. The Silverback acquisition allowed CDEV to combine two core areas and "block up" its land holdings, creating the large contiguous acreages that are necessary for drilling wells up to 2 miles in length. This has a tremendously positive effect on capital efficiency as the additional cost to drill and complete an extended lateral well versus a 4,500 ft well is small relative to the material increase in production. Prior to CDEV's acquisition of Silverback and Centennial, the Southern Delaware parcels were fragmented. CDEV now has a large consolidated block of acreage to exploit.

Exit Plan

Low debt, rising cash flows, significant holdings by a private equity investors, and CDEV as Mark Papa's second act leads us to believe their exit strategy is to be acquired. Given that there will be little debt, an acquirer could use CDEV's cash flows to lever the transaction and fund the buy-out. We believe as decline and depletion rates climb, larger producers will look to acquire production and reserves, bulking-

up to stay relevant. This will likely drive the next phase of consolidation in the Permian, as the exploration gives way to capital efficient development and optimization. We think CDEV will be well positioned for that eventuality, and if oil prices bump higher, Riverstone, Mark Papa, and all of CDEV's shareholders could see a clean exit.

California Resource Corporation (NYSE: CRC)

We recently initiated a position in CRC, an independent oil and gas producer focused on drilling in California. CRC has had a tumultuous few year as it spun off from Occidental Petroleum at possibly the worst time in 2014 when oil prices were over $100/barrel. With over $6.7B in debt immediately post-spin, CRC has been rushing to deleverage and refinance to reduce its borrowing costs. Much of this was done by exchanging unsecured notes for senior secured notes with much lower face values. Unsecured bond investors had little choice other than to accept the new senior secured notes because refusing to do so mean potential subordination if CRC issued new secured notes (which rank higher in priority) to delever. The refinancing coupled with some well timed bond buy-backs reduced overall debt from $6.7B to $5.0B (as of Q1 2017).

CRC shares closed at $8.18/share today, which equates to an equity value of $350M, therefore, with over $5.0B in debt, CRC's capital structure is beyond torqued, close to 14:1, way too high and even more so when the commodity you're selling is at recent lows.

Currently, CRC's equity is nominally valued and at today's $47/barrel oil this company is running at a loss on a full-cycle basis. If oil continues to stay within the "shale band" of $50-$60/barrel, CRC is essentially a melting ice cube (making just enough to maintain production, but not enough to replace reserves); and if oil falls to sub-$40/barrel the bartender bank may just take your drink and those ice cubes away.

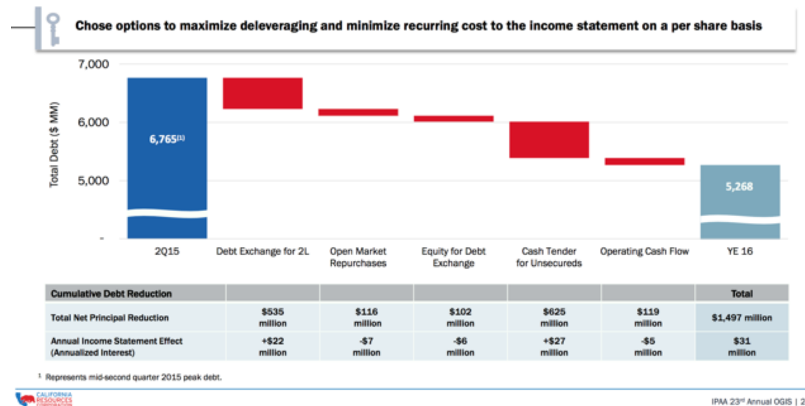
What's to Like

Undoubtedly as a commodity producer, CRC is a price taker, thus anything other than a short-term investment in CRC is a directional investment that oil prices are going up. What intrigues us about CRC though is that it sure is a big block of ice. With proved reserves of over 568MMBoe, this represents close to 12 years of drilling inventory and in the highly regulated State of California. Moreover, the company's overall decline rate is a manageable 10-12% because fracking only accounts for 15% of overall production, which explains why CRC's capex spend for 2017 is a "low" $300M to keep production flat (shale drillers are easily twice that amount for the same production level), and even that figure includes infrastructure spend. Enhanced oil recovery projects such as steamflooding and waterflooding accounts for the majority of completions, thus creating not only a lower decline rate, but also side-stepping the issue of service cost inflation on the completion side (unlike Permian focused players). On an EV per proved reserves basis, it's also one of the cheapest among mid-cap E&P companies, coming in at slightly under $12 per boe.

If oil climbs past $60/barrel, the operating leverage becomes fairly dramatic. Any dollar above $60/barrel essentially falls to the bottom line. Add the fact that CRC has only pre-sold (i.e., hedged) 45% of its oil production for 2017 means it's further geared to the upside if oil prices improve in the second half of 2017.

Real Risks - Debt

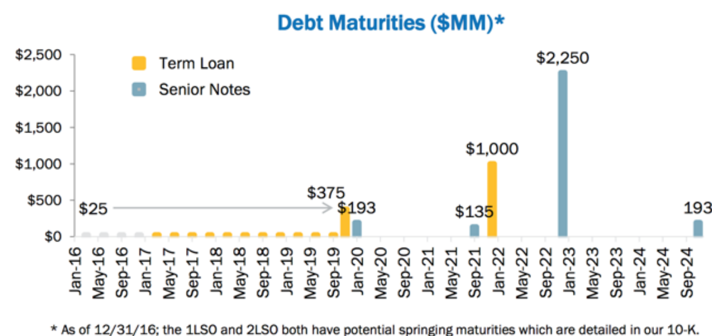
We do have to give credit to the management team, which has performed admirably in deleveraging and reducing debt by close to $1.7B while avoiding any large asset sales and minimal equity dilution (3.4M shares issued to reduce debt, 43M shares outstanding as of Q1 2017.



Cumulative Debt Reduction						Total
Total Net Principal Reduction	$535 million	$116 million	$102 million	$625 million	$119 million	$1,497 million
Annual Income Statement Effect (Annualized Interest)	+$22 million	-$7 million	-$6 million	+$27 million	-$5 million	$31 million

Are the credit risks real? Certainly. With projected EBITDAX this year of $450M, we believe the company will meet its covenants, but not by much. More immediate concerns involve bank covenants that "spring to life" in the first quarter of 2018. Assuming oil prices do not increase from now to the end of 2017, CRC will need to hold additional discussions with the banks, however, given that CRC has been able to modify loan terms six times already during this downturn, we believe the banks will continue to work with the company.

From a medium-term, the debt also appears to be manageable. Management has done well by extending debt maturities out and the next tranche is due Q4 2019.



Since this debt will have to be addressed by late-2018/early 2019 the timing gives CRC breathing room to wait for oil prices to further recover. If management succeeds in terming-out the 2019 debt, then the next debt maturity is 2021 (i.e., $135M in unsecured notes), so it's unlikely CRC would encounter default at today's oil price levels. Worst case, the company could divest certain midstream assets, but this is a strategy the company's been hesitant to adopt these past few years. We think the bears who fixate on the

overall debt load may miss the finer point about CRC's debt profile (i.e., it's not the amount of debt, but the tenor and cadence of when the debt comes due that's important).

Joint Ventures

Lastly, CRC has recently announced two joint ventures ("JV"). A $250M JV with Benefit Street Partners ("BSP") and another $160M to $300M JV with Macquarie Infrastructure and Real Assets ("MIRA"). The capital investment by both JV partners will be incremental to CRC's $300M 2017 capex budget, and once target returns are achieved for the partners, the profits from residual production reverts back to CRC, likely 18-24 months at today's oil prices. Both JVs will focus on developing opportunities in the San Joaquin Basin, and combined could lead to growing production by 10-20% once the net profits or interests revert.

Just a quick note about JVs. For all the talk of accelerating production (particularly of assets that may not be produced for awhile as they sit outside of the "core area"), a JV is really a partial sale of an asset. In exchange for the cost of drilling, you're giving up inventory that you normally would/could drill in a higher price environment and the potential profits. It's a good way to increase production and cash flow, but it does come at a cost to reserves and the potential to create even more shareholder value when commodity prices are higher. In today's environment, we view JVs like desserts, a little can help brighten the day, but too much and its simply empty calories.

Oh the Potential . . .

So now what? If oil prices rises to $70/barrel, CRC's EBITDAX should exceed $1.6B. Even applying a conservative multiple of 5x means the stock would trade at well over +$100/share. We're intentionally being vague about that target price because anything at that level is frankly silly. Yet, it's possible given the company's operating leverage and capital structure. What's fair to say is that if oil languishes in today's current range, CRC's stock will continue to languish, but it shouldn't be zero, which means the risk/reward ratio isn't 1:12, it's arguably higher. Ultimately, we believe CRC can weather the current environment for a few more years, sufficient time for the oil market to recover, but it will test your resolve if you're long-oil. So for the time being, we're pulling up a chair while we wait and having a drink, one with large ice cubes.

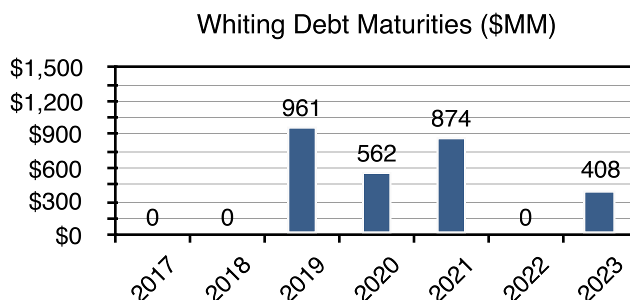
Whiting Petroleum (NYSE: WLL)

After a tumultuous 2016 that saw Whiting almost double its share count to recapitalize its balance sheet, Whiting has bought itself some time. Whiting also divested its ownership of properties in Texas and partial interest in two gas processing plants, and debt overall declined from $5.65B in Q2 2016 to $3.26B today. The price was high as it diluted shareholders significantly and capped the upside if/when oil prices increase from today's low levels, but did place Whiting on a more sustainable footing.

For 2017, Whiting announced plans to spend $1.1B in exploration and development, effectively split 40/60 between the DJ Niobrara region in Colorado and the Bakken in North Dakota. Based on our calculations this would mean that Whiting will outspend cash flows by $400M, which means it will need to borrow that amount. The company previously signed delivery commitments in Colorado, and failing to drill and deliver the requisite barrels subjects it to over $80M in penalties, a figure set to rise after this year. Thus, the incremental spend is preferable to paying this year's penalty and the higher production also helps mitigate future penalties.

While this choice is admittedly a "pick your poison," it could prove beneficial as the increase is weighted for H2 2017, and sets Whiting up for production growth in 2018, where we anticipate oil prices to be higher. It's a strategy that's certainly not without risk as we anticipate Whiting's debt will increase as the company outspends cash flow. The outspend could be mitigated if Whiting decides to enter a JV for the DJ Niobrara region, and those discussions have been restarted now that oil prices have fallen further.

Whiting's strategy and potential comes down to oil prices and Whiting has time to wait for prices to recover. The immediate debt concerns are manageable because the next tranche of debt to mature is the $961M in 2019 senior convertible notes due in March 2019.



Given current debt levels oil prices would have to fall to $35/barrel before the debt covenants would trigger and prevent Whiting from borrowing more. We anticipate the company will refinance the 2019 debt, terming out the borrowing to a later date (perhaps at the expense of a higher interest rate). If the credit markets prevents an immediate refinancing, Whiting could tap its $2.5B in credit line to temporarily repay the debt and then issue a new bond to pay down the credit line later. Currently Whiting has used only $450M of the credit line (although again we believe this will increase by year-end because of the overspend). For now, our company continues to focus on operations, reduce costs where possible, and ready itself for better days. After that, it's all about oil prices.

Gear Energy (TSX: GXE.TO)

To give you a sense of the indiscriminate selling and how out of favor energy stocks are these days look no further than our very own Gear. Recall that this is our junior Canadian oil company, which we likened to a private equity investment in our Q2 2016 letter. After integrating its acquisition of Striker Exploration Corporation, Gear has been expanding and drilling new wells in the acquired territories and branching out into additional heavy oil territories. The company plans to drill 38 wells this year, and anticipates growing production by 15% in 2017 while staying within cash flows. What we're watching for in H2 2017 is further proof that Gear's newer wells (particularly those in the Striker territories) perform well. Gear is also exploring a new core area in the Hoosier, Saskatchewan region which could be a potential new core area. We anticipate that if the company can drill new productive wells in Hoosier, it could potentially unlock 100 new wells and increasing drilling inventory by 20%. Furthermore, better operations have raised the productivity of existing locations, and so we're looking forward to Q2 results that should increase the type curves for these areas.

All of this translates to what? A share price decline of 38% YTD. At today's price, Gear trades at less than 4x EV/DACF and would exit the year at 1x net debt to cash flow. Said another way if Gear was willing to accept a decline in production next year, it could take the cash generated this year and payoff its

debt, so debt is certainly manageable. Cash flows are healthy enough to grow production and avoid additional borrowing; so sensible production growth also isn't an issue. In the end, like all of our investments, it's oil prices, and where they'll go. The company is helmed by a very capable management team and we believe the shares should rerate once investor sentiment returns to the oil market.

Parting Thoughts

There's an anecdote where Mark Twain's friends made a wager with him that he couldn't write a novel in 6 words or less. Mark Twain promptly wrote "For sale, baby shoes, never worn." and won the bet.

Whether the tale was one of joy or sorrow depends on your perspective, and that's a bit like oil. Two parties can see the same data and come to completely opposite and contradictory conclusions. What we're seeing in the data is obviously telling us something different that what the market sees, and while it may not agree with us now, we may eventually be like minded. Not anywhere near Mr. Twain's abilities, we'll submit our 7 worded novel.

"Patience rewarded after rebalancing delayed, not denied."

As always thank you for investing and please let us know if we can explain any of our ideas above in more detail.

Sincerely,

Nelson Wu
Managing Director