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It's One Thing to Not Know, It's Another to Be Told What Isn't So

Unpacking a Mainstream Index, the NASDAQ 100

First, the Label

The essential value of an index is that it is a passive form of investing, the *opposite* of active management. The active manager's results are dependent upon security selection; in contrast, indexation's foundational intent is that the results will derive from broad exposure to a vast array of securities; that no individual security will dramatically impact the result – the entire idea is to avoid company-specific risk.

This might seem self-evident. But, of course, we write this for a reason. Those who subscribe to and practice indexation—which is increasingly becoming everyone—might wish to take an actual look at the NASDAQ 100. This is a mainstream index, intended to be the 100 largest firms of the NASDAQ Composite Index, which now contains over 3,000 firms. It is available via the popular PowerShares NASDAQ 100 ETF (ticker QQQ), which has almost $50 billion of assets, making it one of the country's 10 largest.

Just the top five holdings in the NASDAQ 100, which are Apple, Google, Microsoft, Amazon and Facebook, total 41% of the value of the entire index. If an active manager presented that level of exposure, it would be daring, to say the least. In some jurisdictions, it would violate regulations.

NASDAQ 100 Top Five Holdings

		Weight
AAPL	Apple Inc.	11.75%
GOOG, GOOGL	Alphabet, Inc. (Google)	8.84%
MSFT	Microsoft Corp.	8.21%
AMZN	Amazon.com Inc.	6.82%
FB	Facebook Inc.	5.42%
Source: PowerShares QQQ		41.04%

For example, in the European Community, what are known as UCITS[1] funds cannot have more than 40% exposure from position sizes of 5% or greater. To do so is considered reckless. Yet, the NASDAQ 100 is available via the iShares NASDAQ 100 UCITS ETF (CNDX LN). It has over $1.1 billion in assets under management in the UK alone. In other words, concentration risk that is forbidden to an active manager is considered reasonable and permissible if it happens to be an index. *Clearly, this index is the* opposite *of diversified – its results depend powerfully on individual securities.*

Second, Valuation: When is A P/E Not a P/E ?, or How To Turn 90 into 22 in Three Easy Steps

According to the PowerShares QQQ fact sheet, the P/E ratio of the NASDAQ 100 is 22.19x, calculated on a trailing basis, and that is roughly comparable to the P/E of the S&P 500. No doubt, the P/E – the price, in essence – is an important fact for investors who are considering whether to own it or not. But is it really a fact, as we think of facts? Because the QQQ P/E is not the simple mathematical average of the P/E ratios of all of the companies in the index, as one might naturally expect.

[1] Undertakings for Collective Investment in Transferable Securities

First, it is calculated by excluding all firms with negative earnings. It also effectively excludes companies with excessively high P/E ratios. Would you do that? Does it make sense?

Let's reason through the easy one first, the idea of excluding companies with negative earnings. For the simplicity of round numbers, say an investor in private businesses made a $1 million investment in each of 3 small companies, flower shops, convenience stores, what have you, for a total of $3 million. One business earns $100,000 per year, so it has a price-to-earnings ratio of 10x; the second earns $50,000, for a P/E ratio of 20, and the third earns only $20,000 and so has a P/E of 50. This last one is probably situated on a high-growth street corner. Averaging the three P/E ratios of 10, 20 and 50 means that the average P/E of the 3-company portfolio is 26.7x. So far, so good.

But what if business number two *loses* $50,000 a year instead of making $50,000? One can see that averaging the three P/E ratios would be misrepresentative, because then the average P/E ratio would be 13.3x (+10, -20 and +50, divided by 3), which is one-half as expensive as the original P/E of 26.7x. Obviously, the portfolio with a loss-generating company is not cheaper than the all-profitable one. In a sense, the ETF organizers are staying within the logic of averaging individual P/E ratios by eliminating the company with the negative P/E ratio from the calculation as a statistical aberration or outlier. As if it does not exist or have an impact. The resultant P/E, however, does not represent reality.

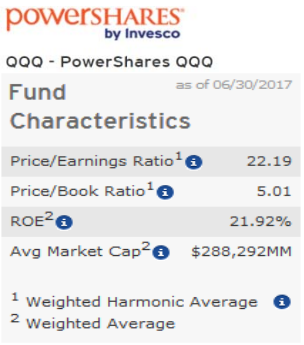
To try representing reality better, how do we imagine the private investor would look at his or her investments? I think we all know they'd at actual dollars. Perhaps they would add up all the earnings of the three businesses, which in the first instance was $170,000 ($100,000 + $50,000 + $20,000), and compare that with the $3 million of total investment: that's 17.1x earnings. In the second instance, including the business that loses $50,000, the three together earn $70,000 a year, not $170,000. Earnings of $70,000 is not a lot for $3,000,000 of investment; that's 42.9x earnings or, in income yield terms, 2.03%. That's reality.

So, in reality one knows that an unprofitable company makes an investment more expensive, while in the world of indexation, such as in the QQQ, unprofitable companies are eliminated, making the P/E lower.

Now for the more interesting technique of P/E reduction: neutralizing the impact of the excessively high P/E ratio. Companies with very high P/E ratios, say over 100, are effectively eliminated from the calculation of the QQQ valuation. For instance, in 2016, Amazon earned $4.90 per share. The trailing P/E for its current share price would be roughly 188.7x. Since Amazon is a 6.82% position in the NASDAQ 100 Index, its full inclusion would raise the index P/E by some appreciable and observable degree.

Similarly, by this convention, which we'll explain shortly, there is no way of informing prospective NASDAQ 100 purchasers of the valuation impact of holdings other than Amazon, such as Netflix, Tesla, and JD.com. Their trailing P/E ratios are 191x, -82x (yes, that's negative), and -117x, respectively. *Such names effectively do not exist from a P/E risk measurement perspective, even though as weightings in the index they definitely affect the risk of any dollar invested in the index.*

The manner in which this is done is as follows. On the PowerShares QQQ fact sheet (see accompanying excerpt), one will note the aforementioned P/E ratio of 22.19. A footnote to that figure indicates that the P/E is calculated using the Weighted Harmonic Mean. Seems harmless enough. Wikipedia provides a definition: *The harmonic mean can be expressed as the reciprocal of the arithmetic mean of the reciprocals of the given set of observations.* Huh?



	P/E Ratio
Stock A	10
Stock B	20
Stock C	30
Stock D	300
Average P/E:	90x

To translate that bewildering language into the 3-step recipe via which an egregiously high P/E ratio is cleansed into a harmless middling sort of group average, we'll use a couple of examples. Observe the following hypothetical equal-weighted 4-stock portfolio consisting of a range of low, somewhat high and egregiously high-valuations, ranging from 10x to 300x. A simple average results in a portfolio P/E of 90x.

The first step in the P/E transformation process, from the definition of Harmonic Mean, is to calculate the reciprocals of each P/E ratio, so that, for example, 10 is turned into 1/10, or 0.10. This is done for each of the 4 companies, and those reciprocals will be added up.

	P/E Ratio	Step 1: Reciprocal of the P/E Ratios	
Stock A	10	1/10 =	0.10
Stock B	20	1/20 =	0.05
Stock C	30	1/30 =	0.033
Stock D	300	1/300 =	0.003
Average P/E:	90x	Sum =	0.1867

This step is the critical part of the alchemy, because note how Stock D is treated. Its P/E ratio of 300, which is very large in relation to Stock A's P/E of 10, is transformed, as 1/300, into 0.003. This is very small. So small, that when those four fractions are added together, Stock D accounts for only 1.61% of the sum of those fractions (.003 ÷ .1867), whereas it began as an equal one-quarter member of the four-stock portfolio. Now, it is virtually a rounding error.

Steps 2 and 3, as shown in the accompanying table, involve taking an average of the reciprocals just summed, in this case dividing by four, since it is a four-stock portfolio, and then taking the reciprocal of that number. That completes the strange journey of transforming a fairly understandable, if alarming, P/E of 90x into the more comforting Harmonic Mean P/E ratio of only 21.5x

	P/E Ratio	Step 1: Reciprocal of the P/E Ratios		Step 3: Reciprocal of the Step 2 average
Stock A	10	1/10 =	0.10	
Stock B	20	1/20 =	0.05	
Stock C	30	1/30 =	0.033	
Stock D	300	1/300 =	0.003	
Average P/E:	90x	Sum =	0.1867	
Step 2: Average of the reciprocals:			0.1867/4 = 0.0465	1/.0465 = **21.5x**

A more representative and straightforward way of calculating the index P/E ratio would be to simply divide its total market capitalization by the total GAAP net profit that all those companies produce, as in the private investor example. Done this way, the P/E is not 22.19, but 25.77x. Moreover, the lowest-P/E stock in the NASDAQ 100 is Ebay, at, oddly, only 4.8x. That's because almost two-thirds of its $7.8 billion of reported earnings in 2016, was from a non-cash tax adjustment and a gain on the sale of a stock. Its real

earnings were $2.3 billion, which is more than analysts expect it to earn this year, and the real P/E is 16.61x. If one is comfortable with this single adjustment, the NASDAQ 100 P/E is 26.33x, not 22.19.

However, comparing the total market value of the companies in the index to their total earnings is not the accepted procedure and, as a consequence, the NASDAQ 100 Index is not represented as a high-P/E, concentrated portfolio. Incidentally, measuring the NASDAQ 100 valuation in a manner more aligned with accepted procedure, by calculating the simple average of the P/E ratios of the 91 profitable companies, results in a valuation of 43.6x earnings. Or, even closer to accepted practice, if one calculated the weighted average P/E ratios of the 91 profitable companies (giving proportionately greater weight to the larger companies), then the QQQ valuation is 41.04x. No active manager would be permitted to manage a concentrated, high-P/E portfolio for an institutional client. Only an index enjoys this privilege.

Without dwelling on the figures themselves, the industry sector concentration in the NASDAQ 100 is as extreme as its company-specific concentration. It is readily seen that it lacks many of the presumed characteristics of a bona fide diversified index, and that it is truly expensive if one includes in the valuation those of its components that are in fact remarkably expensive. Indeed, it has many of the characteristics that advocates of indexation claim, not without justification, typify active management, including no sense of risk control and no valuation discipline, yet all available in an index format at a reduced fee.

Can One Hide From The NASDAQ 100 In The S&P 500? *(Including an Anniversary Supplement)*

The NASDAQ 100 is a convenient way to observe some stark, un-indexlike distortions within a major index, distortions neither known to or expected by the typical index buyer, nor printed on the label. The same issues impact the S&P 500 index, if perhaps less obviously.

For example, Amazon is now 1.85% of the S&P 500 Index. Having appreciated by 29.1% in 2017 thus far, it has produced 45 basis points of the entire index's year-to-date return which, as of June 30th, is about 9.3%. Facebook is 1.72% of the index and has appreciated by 31.2%, producing, given its index weight, 44 basis points of the year-to-date return of the S&P 500. Hence, if competing against the index, merely misjudging two securities in terms of return potential, one is automatically at a return disadvantage of 99 basis points or more. Add to those Apple, Microsoft and Google, and those five stocks are responsible for 243 basis points of the S&P 500 return thus far in 2017, or 26% of the total.

Worded differently, a manager/analyst who was so brilliant as to have a stock selection error ratio of merely 1.00%, by not owning these 5 of the 500 stocks, would have underperformed by more than a quarter of the S&P 500 return. This is a degree of narrowness that is very un-indexlike. And it is not restricted to this year alone. In 2015, the 10 best performing stocks in the S&P 500, 2% of the holdings, accounted for more than 100% of the return that year. They included Amazon, Microsoft, Google, Facebook and Netflix.

The concentration of returns in 2016 was not quite the extreme of 2015: 5% of the S&P 500 companies accounted for 50% of the index return. Failure to own those 25-odd names, and a manager would have underperformed by nearly 600 basis points. Among, them, Amazon, Microsoft, Apple and Facebook.

And, by the way, it would been insufficient to have owned each and every one of these companies that, excepting Apple, trade at extremely high P/E ratios, valuations that could contract at any moment for any

number of reasons. One would have had to own not only the full positions, but have overweighted them. One would have to take that further risk as well.

But what is wrong with success? Why not own them and even overweight them? Let's examine that question through the example of two of these companies, Google and Facebook.

Right on Schedule: Google + Facebook Versus AOL, 18 Years and Counting

This discussion bears more than a little similarity to an ongoing discussion we had about the Internet and Technology Bubble, emblematized by an evaluation of AOL (nee America Online) written on this precise date 18 years ago, as it happens. That being just about one generation, the rising valuation/market saturation phenomenon discussed herein is right on schedule. For reference, a portion of that analysis, "The Internet Bubble Test", which is more fun than it sounds, is appended to this review.

In the last several years, there have been enormous changes to the manner in which advertising activity is conducted worldwide. The primary change has been the movement away from print and television towards the internet. This has created two giant advertising platforms: Facebook Inc. and Google, now known as Alphabet Inc. Facebook is likely to generate $35 billion of revenue in 2017, Alphabet about $105 billion.

According to Zenith Optimedia, which tracks this information, worldwide advertising expenditures were $579 billion in 2016. Generally, this grows by about 4% per annum, but often declines during recessions; global advertising expenditure is unquestionably cyclical. Assuming no recession in 2017, perhaps $602 billion will be spent in 2017 for advertising. Facebook and Alphabet alone, as noted, should generate at least $140 billion of revenue, so this represents 23.2% of worldwide advertising expenditure.

Zenith Optimedia estimates the proportion of worldwide internet-related advertising expenditure at $228 billion, about evenly split between mobile phones and desktop computers. Between them, the Facebook and Google revenues amount to 61% of all internet advertising. Clearly, these two firms will never be 100% of internet advertising, and it is unlikely that worldwide advertising will ever be 100% internet-based.

2017 Internet-Related Advertising Expenditures

	($ in billions)
Mobile Internet	$114
Desktop Internet	114
Total	$228
Facebook & Google	$140
*As % of World **Internet** Advertising*	*61.4%*
As % of Worldwide Advertising	*23.2%*

Source: Zenith Optimedia

As to global advertising, assuming Facebook and Google grow by 25% per annum, they should collectively generate $273 billion by 2020. If we assume the normal 4% per annum growth in worldwide advertising expenditure, the total sum should equal $677 billion in 2020. In which case, Google and Facebook should control 40.3% of the world's advertising expenditures in 2020. This is a plausible figure and one that is reflected in these companies' high P/E ratios.

Projected Global Advertising Expenditures in 2020

	($ in billions)
Facebook & Google, at 25%/yr growth	$273
Global advertising, at 4%/yr growth	677
Facebook & Google, as % of Worldwide Advertising	*40.3%*

Source: Zenith Optimedia

Of course, as Google's and Facebook's share of worldwide advertising expenses increases, they must eventually reflect the cyclical attributes of the industry that clearly everyone expects they will dominate.

Eventually, the P/E ratios accorded to their shares will come to reflect the cyclicality of the industry. The problem is that no one can predict what their maximum market share percentage will be.

Therefore, the imponderables are: (1) the maximum share of advertising revenue these firms can achieve; (2) the time at which the maximum share will be reached; (3) the P/E at the time that Google and Facebook absolutely dominate advertising; and (4) whether there will be a cyclical decline in advertising expenditure that will disrupt the growth of these firms, and if so, when it might occur.

Ultimately, the situation for an investor today is that of two cyclical firms that appear now and will continue to appear to be growth companies until they achieve true dominance of the industry—a position they are almost on the verge of achieving—and then there is likely to be valuation multiple compression. The question is: When will the market realize that? It is a very dangerous game to play.

Appendix A is a review of a remarkably similar set of questions about AOL, once the largest-market-capitalization company in the world, at $222 billion in December 1999. Even today, 18 years later, only 13 companies have a greater market capitalization. In January 2000, within a few inches of the tech bubble peak, AOL and Time Warner agreed to merge. The aftermath was one of the greatest cases of buyer's regret in stock market history[2]. It wasn't so much the matter of the AOL Time Warner stock dropping 90%, but that it was 90% of a $350 billion combined stock market capitalization at the time of the merger agreement. And as far as $350 billion goes, even today, there are only five U.S. companies larger than that; AOL Time Warner, 18 years ago, edged out the ExxonMobil of today.

Be Outside the System – It's OK to Earn a Return a Different Way

These issues of market saturation and valuation apply to substantially all of the major index-centric stocks that represent 'the market' as investors understand it, including the consumer branded products companies like McDonalds and Procter & Gamble. Indexation has unwittingly become the place to go for systemic risk. Whether the index constituents are designated as consumer discretionary or information technology, or as dividend aristocrats or REITs or Non-US Developed Nations, their practical capacity to provide differentiated outcomes has been largely drained away. The diversification exists primarily in name only.

The large-cap and mega-cap companies occupy the same multiplicity of ETFs and experience the same inflow of funds upon which they largely depend for their valuation. As they do upon artificially low interest rates. They have either substantially saturated their markets and cannot expand their sales, in which case they trade at P/E ratios traditionally reserved for growth companies, of 22x to 25x; or they manifest legitimately rapid growth, in which case their P/E ratios are so anomalously high that they are actually excluded from the index P/E calculations.

Under these circumstances, does the safety of the crowd, herd immunity, still pertain? If the primary risks are systemic, then perhaps one should be outside the system. No one requires you, many of us are driven to remind our teenage children, to stay at the party if you're uncomfortable being there.

[2] See Appendix, The Internet Bubble Test, dated 7/21/99.

Continuing, as is our habit, to sample from our portfolios, here are three securities that are qualitatively superior in terms of business potential to the average in-system or index-centric company. Each, as will be seen, is outside the system, which is also why they are quantitatively superior in terms of low valuation and/or lower risk and/or higher price optionality. They are functionally, not just semantically, diverse in terms of the economic factors that will determine their success or failure; each has the capacity for positive performance independently of the market in a way that can't be replicated by an index-centric stock.

Texas Pacific Land Trust is a high example of idiosyncratic as opposed to systemic business exposure. Even as oil prices fell 41% in the four years through year-end 2016, the Trust experienced a 120% increase in revenues from oil royalties and oil-related land leases. Extrapolating from this year's first quarter, 2017 revenues might triple the 2012 result. The Trust has repurchased 10% of its shares since 2012, and has no debt. It is one of the 10 largest land owners in the U.S., all of it concentrated in the Permian Basin, which is now the largest source of oil and gas in the U.S., and the subject of intense drilling activity. There are no Wall Street earnings estimates to be found on Yahoo Finance or Bloomberg, and the shares are not in any indexes. There are no news stories about it, and almost never an announcement from the Trust itself, other than the regular earnings releases.

	Change**, 2012 to 3/17	Q1 '17, run-rate	Q1 '16, run-rate	2016	2015	2014	2013	2012
Oil & gas royalties	*205%*	$44.8	$22.4	$30.0	$24.9	$29.3	$24.5	$14.7
Easement income	*373%*	78.8	24.4	26.5	31.4	21.5	12.2	10.9
	276%	$123.6	$46.8	$56.5	$56.3	$50.8	$36.7	$25.6
Oil prices***	$50.54			$53.75	$36.59	$54.14	$98.17	$91.83
TPL revenues, % change	*276%*	*106%*		*1%*	*11%*	*38%*	*43%*	
Oil price, % change	*(45%)*			*47%*	*(32%)*	*(45%)*	*7%*	

* Does not include deferred revenue accounting adjustment; cash-basis easement income would be $78.8MM
** Using 1st quarter, 2017 run-rate results
*** West Texas Intermediate, year-end p, Federal Reserve Bank of St. Louis

Last month, though, the Trust filed a two-paragraph announcement. It has created a subsidiary called Texas Pacific Water Resources LLC. The intent is to provide water-related services to companies engaged in oil drilling activities in the Permian Basin. These would include water sourcing, treatment and recycling, as well as associated infrastructure construction, disposal and even well testing services.

Here are some interesting facts. In a certain particularly productive portion of the Permian basin, where drilling activity is particularly intensive, water is now a primary factor in the economics of drilling. There are two essential aspects to water as it impacts drilling. First, water is used in drilling, and there are indications from exploration companies in that area that such water generally costs $0.50 to $1.00 per barrel or more, with trucking costs often multiples of that. Texas Pacific Land Trust, via its surface acreage, owns the ground water and water rights associated with that land. This is an additional revenue producing resource that has yet to manifest itself in the Trust's financial statements.

Second, along with every barrel of oil that comes to the surface, comes about 4.5 barrels of "produced" water, which is non-potable, often containing toxic elements. Something must be done with it. The price

to dispose of it by truck is said to be about $1 to $2 per barrel of water; if 4.5 barrels of water are received per barrel of oil, the cost of disposal by this method is about $4.50 to $9 per barrel of oil. This is a very high additional cost of production. Water disposed of by pipeline, is said to cost about $0.50 to $1 per barrel. If recycled, for re-use within the oil field operations, the cost is said to be about $1 per barrel. We believe Texas Pacific Land Trust will engage in water recycling, as well.

There are many unknowns, here, and little that we can say with authority. What can be said, though, is that with the volumes of oil now being produced in that region, which are only expanding, the potential scale of the business is obviously great. It can also be said that this is an entirely new business for the Trust and that the primary enabling asset for it is the Trust's vast surface acreage and water rights, which in this application produce no revenues as yet. This is a classic example of a dormant or hidden asset. It should also be recognized that no conventional operating business will generate returns as high as a royalty, which is the essential Texas Pacific Land Trust business. Nevertheless.

True High Yield Investing: Atwood Oceanics, Whiting Petroleum bonds, both recently sold; and Cheniere Energy Bonds, recently purchased

What We Sold and Why

In early 2016, many Core Value accounts bought one or more bonds, typically the Atwood Oceanics 6.5% Senior Note due February 2020 or the Whiting Petroleum 5% Senior Note due March 2019. The first was rated CAA3 by Moody's, and the second CAA2. Why purchase a seriously non-investment-grade bond, 'junk' in common parlance? And why, in a stock portfolio, buy any bond at all?

At the time, the Atwood common shares had dropped by more than 80%, from their mid-2014 high, while the Whiting Petroleum shares had dropped by nearly 90%. These were not the only oil-related companies to face an earnings and balance sheet crisis due to the steep 18-month drop in oil prices. However, a bond has powerful legal claims on earnings and assets that supersede the rights of any common stockholder, irrespective of the credit rating. Because of that, in certain situations a bond can offer safety and return properties that are difficult to imagine being available from any stock, no matter how robust the company.

Using Atwood as an example (and the Whiting investment was substantially similar), it is one of only several global-scope companies that provide ultra-deep-water and harsh environment offshore drilling services to customers like Chevron and Shell. Although it was still profitable, most of its contracts were going to expire in the coming two years. If not renewed or replaced, the company would lose most of its revenues. That was the operating risk. On the other hand, its long-term debt of $1.61 billion amounted to less than 40% of its property and equipment of $4.21 billion. Moreover, its most valuable vessels, its drillships, were unencumbered.

Using just those few figures, one could judge the margin of safety of the bonds under a harsh failure scenario, a liquidation of the company, and compare that with the outcome for a common stock of a high quality company that merely 'disappoints'. With $1.61 billion of debt, Atwood's property and equipment would have to be sold for less than 40% of its $4.21 billion book value before its debt would be worth less than face value. The margin of safety was greater still, because the average price we paid for the bonds was not face value, but roughly 56¢ on the dollar, or 44% below face value. Ergo, if the operating assets would be written down by 50%, and if the company's bank debt (with senior claim to repayment) were

then paid in full, the remaining liquidation value of the assets would still exceed the cost of the bonds by 60% -- meaning that even under that scenario the bonds would be still be paid off at face value. That can't be done with a common stock.

That was the risk profile—or, rather, the margin of safety. As to the expected return, appreciation from a cost of 56 to the face value of 100 would be 78%. Realized over the four years until maturity, that would be about 15.6% per year. Adding the 6.5% coupon, purchased at 56% of face value, would provide an 11.6% yield, for an expected total return of roughly 27% per year. As it transpired, oil prices did not remain at the $25 to $30 per barrel lows, and we sold the Atwood bonds this past month at an average price of about $99 after Ensco PLC agreed to acquire the company. The roughly one-year return was about 88%. The Atwood common stock is lower today than in early 2016.

This describes an essential difference between true high-yield investing as it was historically practiced, and what passes for high-yield investing today. The iShares High Yield Corporate Bond ETF (ticker HYG) represents what is termed the high yield market. It is a mainstream product: it has $18 billion of assets, and of the 1,200-plus ETFs listed on etfchannel.com, it is the 38th largest. It has a yield to maturity of 5.39%. But, HYG will not return 5.39%, because that figure presumes there will be no defaults – and there will be, and no one would dispute that. As well HYG will not provide any capital appreciation, because the average bond price is well *above* face value, and the bonds must of course mature at face value. In practice, then, index-based high-yield investing simply means investing in non-investment grade bonds; but it does not, as is obvious, provide high yield. This is another aspect of asset allocation, in this case an entire asset class, that has been distorted by the misuse and abuse of indexation, and by the misuse and abuse of language and terminology.

True high-yield investing, at least one approach to it, requires a sufficient discount to face value that the risk has already been factored into the price. This happens by misfortune, not design, and it only happens episodically – an ETF manufacturer can't simply buy true high-yield bonds at will. Nor can the ETF organizer invent or produce bonds that trade below what the public expects them to be worth—only the active market can make that happen. One has to be inclined to make use of such pricing and valuation discounts at the periodic times when it occurs, and that is an active strategy.

What We Bought With the Sale Proceeds

The sale proceeds of the Atwood and Whiting Petroleum bonds, were used to purchase the Cheniere Energy 4.25% Convertible Notes due in 2045, at a price of about 70. Many Core Value accounts already owned some, likewise purchased in early 2016, at about 60% of face value, but we added to that position. Cheniere differs in some respects from the other bonds.

It is similar in that, at 70, the current yield is 6.1%, which is well above the high yield index. There are additional potential sources of return, as well. The bond was issued two years ago at a discounted price of 80, which was its official value at that time. That figure is scheduled to increase in small increments every six months until it reaches 100 in the year 2045. In March 2020, the bond can be called by the company, and at that time its official, or accreted, value will be 83, which is 18.6% higher than our purchase price. On an annualized basis, that would be a 6.4% rate of appreciation. Adding in the coupon yield of 6.1%, the rate of return over the next few years would be about 12.5%. If the company does not call the bonds, and if all they do is mature at 100 in 28 years, the annualized appreciation would be 1.3%; adding the coupon

income, the total rate of return would be 7.4%. Those figures represent the base return possibilities for these convertible bonds.

There are a couple of additional sources of possible return, and these would come from investors perceiving the company's profitability and its common shares in a more positive light. Cheniere produces liquefied natural gas (LNG) for export. This is more dramatic than it sounds. Many people are unaware that for over 50 years no LNG was permitted to be exported from the contiguous U.S. In February 2016, Cheniere received the first such Department of Energy export authorization in over five decades, and shortly thereafter a tanker left Cheniere's Louisiana terminal with the first cargo of domestically produced LNG.

This was important in more ways than one, because it also marked the transition of Cheniere from a development stage company with no completed production facilities and no revenues to being an operating company. For a picture of how precarious the company's finances appeared to be at the time, Cheniere had $16.2 billion of property, plant and equipment at the end of 2015, of which almost 90% was classified as construction in progress. Accordingly, it also had $15.1 billion of long term debt, and $322 million of annual interest expense. It had only $1.6 billion of shareholders' equity after having lost, for the year, $1 billion. Accordingly, the common share price was down 70% from a year and a half earlier, and the bonds, which were not rated, traded at around 50¢, and had been even lower.

By the end of 2016, though, 56 cargoes of LNG had been shipped to 17 different countries. Moreover, Cheniere has an extremely unusual business attribute that conferred, in turn, a degree of confidence in its future revenues and earnings that is rarely to be found in another company. To understand this, a brief description of its business is required.

LNG is produced by purifying and cooling natural gas to -260°F, which reduces its volume to 1/600th of its gaseous state, and at close to atmospheric pressure. That permits it to be transported cheaply in the absence of pipelines, and U.S. LNG has a distinct price advantage on the world market. Cheniere has first mover advantage, having started construction of its facilities several years ahead of competitors, and no other company yet exports LNG. Cheniere has two terminals in place in the Gulf Coast and they are on schedule and on budget to operate a total of 5 liquefaction and purification facilities, or trains, by end of 2019, and an additional two in future years.

The unusual business attribute of Cheniere is that even before it had shipped its first cargo, about 87% of its future capacity from the first 7 trains had already been sold. These were done under 20-year contracts, with estimated annual fixed fees of $4.3 billion[3]. These "take or pay" fixed fees are guaranteed by the parent entity of each customer – all global, investment grade companies – and are payable whether or not the terminals are used. Of course, the plants had yet to be completed and the shipments and revenue yet to be forthcoming.

So the common shares were attractive for some investors, because if they were to merely return to their mid-2014 price of $85, that could be a 3.4x return. Or not. Because unless the bond holders receive 100% of the interest and principal due them, the shares could well be worth less, if not worthless. Their fundamental financial safety was entirely subordinate to the $16 billion of Cheniere debt.

[3] In general, the pricing is the natural gas spot price (Henry Hub) + 15%.

But if the company's business does become robust, there is also the possibility for these bonds to be converted into the common shares[4]. The shares would have to rise to $138 before the convertibility would increase the value of the bonds above 100. So this would be considered a deep out-of-the money call option. The long maturity date provides, in essence, a 28-year call option on the LNG market. That is an interesting sub-asset to hold within a bond, since it would be exceedingly expensive (if even possible) to independently purchase such an option from an investment bank, and such a contract certainly does not trade on any exchange. How likely is this optionality to manifest itself? For the shares to appreciate to $138 from the current $48, over the next 10 years, would require an 11% annualized price increase. To reach $138 over 15 years would require a bit over 7% annualized appreciation.

And there's another way to secure an equity-level return from these bonds. At the current 3-train run-rate, Cheniere is already the largest physical consumer of natural gas in the U.S. Trains 4 and 5 are to be operational this year and in 2019, and all five are fully contracted. In its presentations, the company is already projecting the payment of substantial dividends from its free cash flow in a few years. What if, by the end of 2019 Cheniere is able operate these five facilities at full capacity, and is clearly profitable and creditworthy? With the thirst for yield that now dominates the bond universe, these bonds might very likely approach face value simply on a yield basis, in which case the annualized total return would be about 21%.

So in terms of seeking a satisfactory absolute return that is not tied to the common systemic risks now shared by the stock and bond markets, a non-indexed bond like the Cheniere Convertible offers a variety of ways to succeed and many fewer ways to disappoint.

Liberty Sirius XM Group (LSXMK)

We've held Liberty Sirius XM (Liberty Sirius) and its predecessor company Liberty Media for five years or longer in Core Value accounts, as well as Strategic Value and Large Cap. Holdings of that vintage have appreciated by about 180%. The shares have a trailing P/E ratio of 34.2x and, according to Wall Street estimates, trade at 30.4x this year's expected earnings. In the spirit of facts that aren't facts, those P/E ratios are just the kind of misinformation that an active manager appreciates, because the valuation is really about half that. We expect to continue holding the shares. As to why, we must first review some interesting growth statistics about a slightly different company that is necessary to understanding Liberty Sirius XM. As can be seen from the table below, this other company's:

- Revenues have been rising at a 10.1% annualized rate for the past 5 years.
- It benefits from scale economies, as evidenced by an operating margin that has expanded from 22.4% to 28.5% in 2016, and even more in the first quarter of 2017. The company believes its margins can expand by another 4% points in the coming years.
- As a result, net income over the five years has increased by 11.8% a year.
- More impressive, unlike most companies, its after-tax free cash flow, after making capital expenditures, is much higher than its net income, and has increased by 18.6% a year. Cumulative free cash flow over those five years was $4.9 billion.

[4] Conversion rate: 7.22650 shares

- Of the same rank of impressiveness this company has reduced its share count by 24% over the last four calendar years, repurchasing $7.95 billion of stock.
- As a beneficial consequence of shrinking the share base, all of the above earnings figures are far higher in the way that it counts: on an annualized *per-share* basis. Per-share, revenues are up 16.9% a year, net income 18%, and free cash flow 25%.
- The free cash flow margin is 23% of revenues, which is strikingly high. As a high-end basis of comparison, Microsoft, has a 20% net profit margin, also strikingly high, but its free cash flow margin, after capital expenditures, is 11%.
- Part of the reason the free cash flow is so high is that the company pays no federal income taxes, due to its $1.4 billion of net operating loss carryforwards and tax credits. At the state level, it did pay $21 million in 2016, $12 million the year before, $9 million the year before that.
- And the reason for that, in large measure, is that the company is controlled by John Malone.

	5-Year Increase	5-Year Per-share Increase	2016	2015	2014	2013	2012	2011
Revenues	66.5%	**118%**	$5,017	$4,570	$4,181	$3,799	$3,402	$3,014
Operating margin	27.2%		*28.5%*	*25.8%*	*26.8%*	*27.5%*	*25.6%*	*22.4%*
Net income	74.7%	**129%**	$746	$510	$493	$377	$3,473	$427
Free cash flow	135%	**207%**	1,164	1,033	1,006	943	774	496
Shares, fully diluted	(23.6%)		4,965	5,435	5,862	6,385	6,874	6,501

Source: Company reports, Horizon Kinetics research

In many ways, this seems like a classic growth company. And it has a $25 billion stock market value, to boot, so it should be a prime candidate for major index inclusion, and with a premium valuation. However, only 1.85% of its shares are held by ETFs. Of that, almost half is a constituent of, coincidentally, the Power Shares QQQ ETF with which we began this review, in which it is a 0.38% position—underweighted. The reasons for its being largely outside of the indexation and ETF vortex are several, but closely related. This company is called **Sirius XM Holdings Inc. (Sirius)**, and it is the provider of the dominant subscription based satellite radio service, the equipment for which is installed in 75% of new cars in the U.S.

The economics of satellite radio are vastly superior to those for streaming music providers, as content costs are approximately 90% of revenue at streaming services compared to less than 40% for satellite radio. Furthermore, SIRI provides exclusive content, including sports and talk radio, so that someone can drive from Maine to California while listening to the same station. The content has gotten richer, as well, now including Major League Baseball and college sports programming, and special programming like music festivals, such as South by Southwest and Lollapalooza. Sirius is also launching a new service that provides two-way communications into automobiles that has the potential to add many new revenue sources.

Over 67% of the Sirius shares are held by the entity that we do own in accounts, known as **The Liberty Sirius XM Group**. Accordingly, Sirius's freely tradeable shares – its float – are fairly limited. So, though investors typically assign a premium to companies that might be takeover targets, and though an independent Sirius certainly would be, Sirius isn't independent and can't be acquired, since it is controlled by Liberty Sirius. It is, therefore, of that much less interest to the short-term investor.

As to valuation, Sirius trades at 21.96x our calculation of trailing free cash flow (the company measures free cash flow more liberally), net of capital expenditures, which is a far more conservative measure of earnings than net income or the P/E ratio; most companies' free cash flow is far lower than earnings. And 21.96x is almost precisely the P/E ratio of the S&P 500. And while that is hardly a low valuation, the Sirius growth rate far exceeds that of the S&P 500. Moreover, if Sirius can indeed increase its operating margins by 4% points over the next few years, and allowing for only 5% revenue growth, which is one-half the historical 10% experience, then the current price is equivalent to less than 13x the free cash flow the company is likely to generate in 2020. Nor does that include the beneficial impact upon per-share value of continued share repurchases. In this year's first quarter, the company repurchased another $306 million worth of shares.

Moreover, we own Sirius at a discount – through Liberty Sirius. Liberty Sirius has a stock market capitalization of $14 billion. Its only asset is the shares it holds of Sirius, and so Liberty Sirius can be valued like a fund with a net asset value. In this case, the net asset value is simply the market value of the Sirius shares, less the Liberty Sirius debt. And the Liberty Sirius shares trade at about a 20% discount to that NAV, which would be roughly 18x trailing free cash flow.

There are reasons for this additional discount. Liberty Sirius is presently what is known as a tracking stock, as many John Malone companies have been from time to time, not an independent corporation. It is one class of stock of Liberty Media, with separately measured earnings; however, the Liberty Sirius assets are consolidated on the Liberty Media balance sheet, and are really a proportionate element of Liberty Media's assets. Therefore, in the event, for instance, of a major liability or dissolution, the Sirius shareholder could not lay specific claim to Liberty Sirius assets. Indexes don't like tracking stocks. And over 47% of the voting power of Liberty Media is held by John Malone.

It is possible, of course, that the Liberty Sirius discount will persist indefinitely. That is a reason why many investors avoid stocks with holding-company structures that trade at discounts. But the history of the many, many corporate realignments John Malone has engaged in over time, is that they are designed specifically to take advantage of either excessive discounts or premiums that the market applies to entities in the constellation of his business interests. These tactics include buying in shares of undervalued subsidiaries, full or partial spin-offs of subsidiaries, often as tracking stocks, recombining or reacquiring them, and so forth. They are structured to maximize or retain tax assets, close discounts and otherwise take advantage of public clearing prices that diverge from the value of these businesses. A sequential listing of major transactions of this sort since the early 1990s would number in the dozens.

Speaking of tactics, Sirius initiated its first quarterly dividend at the end of last year, which might attract a different investor class. Ordinarily, dividends from a C-corp are quite wasteful from a tax perspective. In this case, being that Sirius is majority owned by Liberty Sirius/Liberty Media, though, Liberty is entitled to a high "dividends received deduction," which confers an additional tax advantage.

Inside/Outside the Indexation Vortex

	# of EPS Estimates on Bloomberg
Texas Pacific Land Trust	-0-
Cheniere	8
Liberty Sirius XM Group	4
Largest 50 S&P 500 companies, average	22
All of the Nasdaq 100 companies, average	18

Source: Bloomberg, as of July 18, 2017

APPENDIX
July 21, 1999

The Internet Bubble Test, Part I
or
The Internet: A Study in Reason and Unreason

How does one determine if Internet investing constitutes one of the greatest profit opportunities of history or one of the greatest bubbles in history? It would be necessary to devise a quantitative test to compare current valuation with ultimate profit opportunity. The following is a first attempt at such an exercise.

1.) The Ultimate Internet Market

Let us assume that every household in the world has access to the Internet. There are roughly six billion inhabitants of planet Earth, and we will assume an average of four persons in each household. Therefore, if one temporarily ignores population growth, the maximum number of Internet households is 1.5 billion. Let us assume that each of these households pays $20 per month for unlimited Internet access. Let us also observe that this should take some time to achieve since many households on Earth lack $20 per month to spend on Internet service, do not own a computer or other Internet access device, do not own a telephone and have no access to electricity.

In any event, the expenditure of $20 per month by 1.5 billion households equals revenue of $30 billion per month or $360 billion per year. If all of the companies that provide such service were to maintain a 50% operating margin and a 35% tax rate, then the net profit derived from this revenue would equal $360 billion x 50% x 65%, or $117 billion.

Thus, in a market saturation scenario in which Internet services fees do not decline at all from current levels, the total world profit opportunity would be $117 billion per year. It was assumed that the operating margin is 50%, and of course very few companies ever maintain such a high operating margin since it tends to attract intense competition. However, this assumption will be allowed to stand because the object of this exercise is to devise an optimistic profit forecast and then test for reasonability.

2.) The Terminal Internet Equity Valuation

The foregoing section presupposed a market saturation environment in which every potential Internet user is provided with service. It is by definition a zero growth environment, and should logically impose low valuations on companies active in this field. However, in the interest of maintaining an optimistic scenario, it will be assumed that low valuations do not arise and that the typical Internet company will trade at 30x earnings. Since profits are presumed to be $117 billion per annum for the aggregate of all companies, the aggregate Internet equity valuation should be 30 x $117 billion, or $3.51 trillion.

3.) The Question of Time

The time value of money is a powerful influence upon valuation. If $117 billion of annual profit is achieved in ten years, its net present value is far greater than if that profit is achieved in thirty years. Since any time assumption is at best conjectural, we will assume that complete global usage by individuals of the Internet will be achieved in 20 years.

4.) The Question of Returns to Investors

In order to calculate this quantity, it is necessary to proceed in stages, since a variety of scenarios may occur. The first such calculation will be the most simplistic case. It will be assumed that America Online is

the only Internet service provider in the world in 20 years. For the purposes of simplicity, the potential profit arising from advertising will be temporarily ignored. By the preceding definitions, America Online will therefore have a market capitalization of $3.51 trillion in 20 years. Its current capitalization is $140 billion. If there were no dilution due to share issuance for the purpose of acquisitions, the return to shareholders would be 17.5% per annum. If America Online were only to maintain, let us say, a 33% global market share and if all other factors were held to be constant, then its market value 20 years hence would be $1.17 trillion and the return to investors would decline to 11.2% per annum.

5.) The Question of Sensitivity

All of the calculations made thus far are predicated upon assumptions. As is the case with most assumptions, reality is frequently quite different. How sensitive are these calculations to changes in assumptions? The following calculations are designed to give some examples of sensitivity as well as provide a method so that the reader may perform other calculations. It will be recalled that the operating profit margin of an Internet service provider was assumed to eventually rise to 50% although no such provider has yet attained this level. This implies, given a 35% corporate tax rate, a net profit margin of 32.5% (i.e., 50% x (1 – tax rate of 35%) = 32.5%). Virtually no companies ever achieve such a high profit margin after taxes for the simple reason that it tends to attract so much competition that margins are eventually forced lower. A net profit margin of 10% should be considered excellent. Therefore, the previously calculated service revenue of $360 billion per year generated 20 years hence would yield a profit after taxes of $36 billion.

If this $36 billion of net income were capitalized at 30x earnings, this would result in a market value of $1.08 trillion. If this were the sole monopoly of America Online, the return to investors based on the current price would be 10.76% per annum. The sensitivity of this return to declining terminal multiples is presented in the following table.

AOL Terminal P/E Multiple	20-year Annualized Return
30x	10.76%
25x	9.75%
20x	8.53%
15x	6.98%
12x	5.80%

As observed in a previous section, one will quickly discover that return is incredibly sensitive to time. For example, if a 30x P/E ratio on $36 billion of net income were to be achieved in 30 years instead of 20, then the compound annual return to America Online shareholders declines from 10.75% per annum to 7.05%, which could probably be earned with a high quality telephone company bond.

6.) The Question of Competition

All of the preceding computations make the presumption that America Online will be an Internet Service Provider monopoly in 20 years, which is a highly unlikely event. If America Online were to attain a 90% market share, a 10% net profit margin and achieves this in 20 years, the return to shareholders would be $972 billion [.9 x $36 billion of profit x 30 PE] divided by $140 billion [current AOL market capitalization] to the power of 0.05 [portion of 20 years] = 10.17% compound annual return. Thus, a decline in market share to 90% is arithmetically equivalent to a decline in P/E from 30x to 27x. The sensitivity of return to market share is illustrated in the accompanying table.

(P/E assumed to be 30x)

Market Share	Compound annual return for 20 years
80%	9.52%
70%	8.80%
60%	7.96%
50%	6.98%
40%	5.80%

DISCLOSURES:

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