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The Large TPL and Bitcoin Positions

Introduction

As many of you might imagine, we've been getting many more questions in recent weeks about the Texas Pacific Land Corp (TPL) and bitcoin positions. Interestingly, we also received a great many questions about them only a year ago, when the share prices were much lower than many clients felt comfortable with. Now there's some discomfort with – or, at least, curiosity about – their being so high.

The questions fall into several categories.

Some are in the valuation category: having appreciated so much, TPL and bitcoin must be very expensive; perhaps it's time to take profits or trim the positions.

Some are about portfolio balance: is it wise to let a position become so large? Perhaps it's time to take profits or trim the positions.

Some questions are in the business risk category. For TPL: what are the implications of the fracking ban by the Federal government; what risk is posed by the fossil fuel divestment movement? For Bitcoin: what if the government bans cryptocurrency?

There have even been questions, though more upbeat, about the investor presentation that TPL issued in March. That document was so compendious, at 30-plus detailed slides, that some clients have asked us how to understand it, what message to take from it. Granted, there were prior complaints that the company did not provide sufficient information. Maybe, from the company's perspective, this falls into the You Asked for It, You Got It category.

The short answer to the underlying concern behind these questions is that we were not perturbed when TPL and bitcoin were lower, and we're not perturbed now that they're higher.

As to why we're so comfortable with them, I'd like to address the questions properly. Because TPL and bitcoin have become so large, even dominant, in many portfolios, they deserve a truly responsive answer, one that really explains the why and the what's what. That will take more discussion than the usual company review, because it also encompasses more universal and important portfolio management and risk practices that aren't much discussed in polite company.

I'll begin with TPL, which is generally the much larger position. But we'll start with the basics. They are so basic, in fact, that one can't actually manage a portfolio without making a decision about this. It might be that the decision is made reflexively, without a second thought, but it's a decision nonetheless. This is the foundational issue of position size and holding periods. I hope to add clarity to these considerations that everyone makes, whether they know it or not.

On Concentrated Positions, "Locking in Profits" and "Trimming"

Objective Considerations and The Magic Formula for Investing Success

The topic of concentrated positions can be complex and controversial. But it is rarely controversial in practice, because so few portfolio managers ever challenge it. Both Modern Portfolio Theory and standard practice consider it necessary that various tactics be undertaken to continually reduce portfolio concentration and volatility. Importantly, portfolio risk, by convention – even if this seems counterintuitive – is not measured by a decline in value. Rather, it is measured as *relative* price volatility; that is, *relative to* an accepted benchmark. For instance:

> A portfolio that declines by 1% when the S&P 500 is up 5% is considered very risky, even though it barely lost value.
>
> A portfolio that is up 10% when the market is up 15% is considered poorly managed, even though that is a very decent return on an absolute basis.
>
> Even a portfolio that is up 30% when the market is up 10% might be considered risky.
>
> And a portfolio that is down 10% when the market is down 12% is considered safe or conservative, even though it lost 10%. In an institutional setting, a manager with a year such as this added to his or her performance record could be well rewarded.

Let's hold that line of discussion in abeyance for the moment and move to a more uplifting topic. We at Horizon Kinetics can provide you with the secret to long-term outperformance. We'll really give it to you, and it's pretty much guaranteed to work. Anyone can do it. Why, you might ask, would we give away something so valuable? Because anyone *can* do it; it's just that they *won't.* You'll get the secret formula in a moment, but first an exercise in the proper technique. We're going to practice on pennies. We'll learn how to select, out of a large group of average pennies, the talented penny, the smart one.

Take 100 pennies and then flip them all. Whichever of them land 'heads', those are the smarter pennies. The rest are disqualified. Then take the remaining 50 or so smarter pennies and flip them again, and again discard the average pennies. After about a half-dozen rounds, you will identify the smartest penny, the only one that 'knew' how to keep landing heads.

Now, how do you distinguish the smart penny from the smart portfolio manager? The one who was just identified by some screening app for a statistically exceptional 5-year performance record? Is that manager actually smarter? Perhaps she was exploiting a temporary market sector inefficiency. The key question is: does she understand *why* what she was doing during that particular period was successful, so that she can alter her approach when that inefficiency, that advantage, ends? Or does she not understand that there was a temporary inefficiency at work? If she doesn't, then she might keep applying the same security selection criteria even as that opportunity set begins to be exhausted.

An example might be selecting for lower price-to-sales ratios among a certain class of growth companies during a several-year period of market share expansion. Once those companies begin to saturate their markets, sales growth will slow and profit margins will contract, so that the same strategy will begin to yield more-uneven and less-stellar results with every passing year. The alternative is that the manager does understand that the game is up, so to speak, and seeks a new inefficiency to exploit. (Seeking a new inefficiency, by the way, as self-aware and wise as that would be, is seriously frowned upon in the institutional investing world. It is actually cause for dismissal, since it is considered to be "style drift", a term for abandoning one's investing principles and guidelines.)

Free: the secret formula for beating the market.

You can try this at home.

Contraindicated for office use. (Field-tested in live institutional settings.)

Back to the secret formula for beating the market. All you have to do is create a portfolio of stocks of your choosing, using whatever selection criteria you like; it's up to you. There are only two rules.

First, you have to choose a large enough number of equally-weighted stocks so that they encompass a normal distribution of possible outcomes – the good, the bad and the middling. Financial statisticians might agree that 35 or so names are sufficient. Second, don't trade it. You can make no changes, you can't harvest your winners and double up on your losers, etc., etc. Here's how this will play out.

Most of the stocks will vary slightly around whatever median appreciation rate the stock market will get. If the median expected return is 6%, some stocks will be up 7%, some up 5%, and so forth, and they'll average out to about 6%. *(As a touchstone, bear in mind that over the past 20 years — as surprisingly low as this might seem –- the S&P 500 has appreciated by only 6% a year; that's it.)* However, a couple of stocks out of the 35 will be downside outliers: one might go down 20% each year, the other down 25% each year. There will also be a couple of upside outliers: one might go up 20%/year, the other up 25%/year.

At the end of year one, the downside and upside outliers cancel each other exactly, one up 20%, one down 20%, and one down 25%, one up 25%. The balance of the portfolio will produce the median return the first year, which is 6%.

Bear in mind that over the past 20 year— as surprisingly low as this might seem –- the S&P 500 has appreciated by only 6% a year; that's it.

Year 2, though, is different. The downside outliers start Year 2 with a less-than-equal weighting. If they started off at 3.0% each, now they're only 2.40% and 2.25% weightings, because they declined. In Year 2, when they decline by another 20% and 25%, they will have a smaller negative impact on the portfolio than in Year 1. For the positive outliers, they will start Year 2 not at 3.0%, but at 3.60% and 3.75%. They will have a somewhat larger positive impact on the portfolio that year. At the end of Year 2, the positive outliers' impact on the portfolio will outweigh the impact of the negative outliers. Not by a huge amount, but measurably.

You see where this is going. Each year, the negative outliers become smaller weights, and even though they're doing horribly, they matter less and less. Eventually, they'll be a rounding error. If the two 'smart penny' stocks keep outperforming, they will eventually come to dominate the portfolio. They'll expand from

equal 3% positions to 5% positions in a few years, which doesn't seem like a lot. But in year 10, if all the other stocks in the portfolio appreciate their 6% per year, these two stocks will be 22% of the portfolio, and the annualized portfolio return will be 7.4% instead of 6%. The portfolio will be worth 13% more than the indexed portfolio.

Now, you could 'trim' them here; lock in profits. But by Year 15, without changes, the annualized portfolio return will be 8.4% instead of 6%, and those two stocks will be 37% of the portfolio. The portfolio will be worth 40% more than the indexed portfolio.

The conventional constantly rebalanced stock portfolio can maintain wealth on an inflation-adjusted or purchasing power basis, but it can't create wealth.

Go to Year 20, and the portfolio will be worth twice the indexed portfolio. The key is that the performance of the portfolio will begin to converge on the performance of those two outperforming stocks. In a certain number of years, even if your other stocks don't do so well, your portfolio will outperform the market. It might take a decade, but it will happen. And once the crossover point is reached, the outperformance will be dramatic.

The conventional, constantly rebalanced stock portfolio can *maintain* wealth on an inflation-adjusted or purchasing power basis, but it can't *create* wealth. Here's a story about that very thing, from one of my first years as a portfolio assistant in a private bank.

	Starting Balance	1-Year Term	10-Year Term	15-Year Term	20-Year Term	Taxes
Leave Alone Portfolio						
Portfolio Weights (%MV)						
2 Upside Outliers	5.7%	6.6%	21.8%	37.1%	55.7%	
2 Downside Outliers	5.7%	4.2%	0.2%	0.0%	0.0%	
Portfolio Annual Returns		5.3%	7.4%	8.4%	9.7%	
Market Value	$100,000	$105,300	$203,400	$337,600	$641,500	No trades
Conventional Rebalanced Portfolio						
Annualized Returns		6.0%	6.0%	6.0%	6.0%	
Market Value	$100,000	$106,000	$179,100	$239,700	$320,700	Constant Trading

For Illustrative Purposes Only. Source: Horizon Kinetics Research

The 2 Most Profitable Growth Cos. in the S&P 500?

Then, Now, and Again – *Which is Microsoft and Which is TPL?*

Company 1	20 Years Ago	10 Years Ago	June 30, 2020
Revenue[1]	$7.8	$20.1	$302.5
Net Profit Margin (%)	48.2%	56.4%	58.2%
Market Cap[1]	$ 90	$ 351	$5,638
Dividend/share	$0.08	$0.20	$26.00

Company 2	20 Years Ago	10 Years Ago	June 30, 2020
Revenue[2]	$23.0	$62.5	$143.0
Net Profit Margin (%)	41.0%	30.0%	31.0%
Market Cap[2]	$ 231	$239	$1,682
Dividend/share	n/a	$0.52	$2.04

(1) In $Bln. (2) In $Mln.
Company 1: Texas Pacific Land Corp, Company 2: Microsoft Inc.

When Microsoft came public in 1986, some of the senior portfolio managers at this very large institution were able to be allocated some shares at the IPO price. Microsoft was a hot IPO, so this was a minor coup. The first trades were more than 20% above the IPO price. By year-end the share price was up over 80%. I very much doubt that any of those portfolio managers still held the shares by year-end. They locked in their profits and were most pleased; fist-bump time (though that was not the Private Bank style; it was more 'knowing smile time').

Selling those Microsoft shares wasn't about understanding the business model or its economic potential; it was about 'locking in' the profit to benefit that year's relative performance results – that was the value of the price gain – because all they had to go on was the price and relative performance. Microsoft shares appreciated 600x over the next 15 years. Had they held on, the Private Bank could have become THE Private Bank.

Subjective Considerations and Why Almost No One Uses the Magic Formula

The magic formula works. But here's why it isn't done; it just brings on a catalog of problems.

- As this strategy begins to succeed over a period of years, the portfolio will become more concentrated and volatile. What if those two stocks are down one year while the market is up? As a fund or portfolio manager, you will be asked to justify why you don't sell the two 'losers' (that's how it's pronounced, with a disdainful emphasis on the "L") why you don't take action to remediate an obviously poor choice?
- You will be objectively measured to be a bad portfolio manager until such time that you decisively outperform, a date that you know will be many years and many lost bonus opportunities in the future.
- Some clients will expect you to 'work' for your return. But in your case, you haven't made a single trade in 10 years. You will be asked to justify the value you're adding.
- You will doubt yourself, and want to trade. You will believe that you can add value by selecting another superior stock. BUT, if you recall the smart penny portfolio, only the two ultimately successful stocks in your portfolio can self-identify: *they* know which ones they are, but *you* don't. You will find that it's the easiest thing in the world to trade; just have to press the "Enter" key. You will miss it terribly. Not so easy to not trade; let's call it informed inactivity.
- Even as, in future years, your static portfolio begins to match or exceed the benchmark, just as the discipline is beginning to pay off, you will be asked ever more forcefully to 'trim', or 'lock in some profits' – which would, of course, undermine the strategy.

A Legendary Story About a Magic Formula Investor

We're hardly the first people to arrive at this conclusion about holding an undervalued investment for as long as it takes to realize its true value. John Templeton, perhaps the greatest contrarian investor of all time, owes his fame to this approach. Ironically, he would have been fired several times over for underperforming the market, had he worked for any creditable investment firm. The Templeton Growth Fund underperformed the S&P 500, cumulatively, for its first 14 years, through 1968. Ask yourself: wouldn't *you* have fired him? (But he worked for himself, so only *he* could fire himself.)

Another irony is that although he managed the Templeton *Growth* Fund, he was a tried-and-true value investor. He started this fund at the end of 1954. Subsequently, although he only outperformed in about half the years, he ended up with one of the greatest investment records of all time, spanning 37 years to the end of 1991, when he retired. Cumulatively, over the course of those 37 years, the Fund generated a return of 17,862%, which was more than three times that of the S&P 500 return of 5,243%. There might be no one else who ever tripled the return of the S&P 500 over that span of time.

How does one reconcile this? Templeton focused on a couple of big trends, and he stayed with them, and that gave him his edge. One trend is that he was the first outside investor to discover the Japan stock market. He noticed, in the 1950s, that Japanese companies were growing at higher rates, for the most part, than elsewhere in the world, yet had very low P/E ratios, which he found attractive. He stayed with Japan for a very, very long time. He took this approach with his other investments as well.

One way to characterize his almost singularly differing world view is that he would find something interesting, and which he came to know well, and stayed with it. For the preponderance of the market, particularly the index and asset allocation-model investors, every quarter, or certainly every year, they gravitate from the set of investments that were popular that year to those that are popular in the next year. One reason this is not a very successful strategy is that it implies the manager has to know a great deal about a lot of investments, whereas John Templeton only had to know a great deal about a few investments, and he understood them very well. He simply left them alone and let compounding do the rest.

Compounding, when allowed to work, can be astoundingly powerful. But it takes a long time to work; it can't be done in fits and starts.

Templeton Growth Fund vs. S&P 500

	Templeton Growth Fund		S&P 500	
	Ann'l Return	Cumul. Return	Ann'l Return	Cumul. Return
1955	7.04%		31.41%	
1956	4.64%		6.48%	
1957	(16.92)%	(6.94)%	(10.72)%	24.93%
1958	48.81%	38.48%	43.15%	78.84%
1959	14.00%	57.87%	11.95%	100.02%
1960	13.84%	79.72%	0.45%	100.92%
1961	18.29%	112.59%	26.88%	154.93%
1962	(13.52)%	83.85%	(8.66)%	132.85%
1963	(5.14)%	74.40%	22.76%	185.85%
1964	28.59%	124.26%	16.43%	232.82%
1965	22.14%	172.25%	12.46%	274.29%
1966	(5.30)%	157.82%	(10.02)%	236.79%
1967	13.74%	193.24%	23.89%	317.25%
1968	37.76%	403.97%	11.04%	463.31%
1969	19.66%	503.05%	(8.40)%	415.99%
1970	(6.44)%	463.49%	3.94%	436.32%
1971	21.93%	587.06%	14.30%	513.01%
1972	68.56%	1,058.11%	19.00%	633.16%
1973	(9.92)%	943.23%	(14.69)%	525.46%
1974	(12.07)%	817.31%	(26.47)%	359.90%
1975	37.60%	1,162.22%	37.23%	531.12%
1976	46.74%	1,752.18%	23.93%	682.15%
1977	20.37%	2,129.47%	(7.16)%	626.15%
1978	19.21%	2,557.77%	6.57%	673.86%
1979	26.84%	3,271.12%	18.61%	817.88%
1980	25.89%	4,143.90%	32.50%	1,116.19%
1981	(0.24)%	4,133.71%	(4.92)%	1,056.35%
1982	10.81%	4,591.37%	21.55%	1,305.54%
1983	32.91%	6,135.30%	22.56%	1,622.63%
1984	2.17%	6,270.60%	6.27%	1,730.64%
1985	27.79%	8,040.99%	31.72%	2,311.32%
1986	21.24%	9,527.66%	18.67%	2,761.51%
1987	3.11%	9,827.08%	5.25%	2,911.74%
1988	23.60%	12,169.87%	16.61%	3,178.74%
1989	22.56%	14,937.95%	31.67%	4,317.12%
1990	(9.05)%	13,577.02%	(3.09)%	3,986.81%
1991	31.33%	17,862.03%	30.74%	5,243.31%

Source: Fund Documents

Texas Pacific Land Corp.

Which brings us to Texas Pacific Land Corp. Depending on when an account purchased it, it might now be a very, very large position. It is up 22x in the past eight years. If that extraordinary level of return seems outrageous, it's really a picture of the power of compounding. But you can get it only if you don't interrupt it. Here's why only a vanishingly small proportion of professional investors can capture that bounteous result:

- Between August 2014 and January 2015, peak to trough, TPL shares fell 54% (the S&P 500 was down 11%).
- From May to August 2015, the shares fell 33% (the S&P 500 was down 12%).
- Between November 2015 and January 2016, TPL fell 28% (the S&P 500 was down 11%).
- Between September and December 2018, TPL fell 50% (the S&P 500 was down 19%).
- From April to October 2019, TPL shares were down 37% (the S&P 500 was down 11%).
- Now we come to current events – you'll remember this one – between February and March 2020, the TPL shares fell 61% (the S&P 500 was down 34%).
- Wait, there's one more…between June and September 2020, the shares fell by 37% (the S&P 500 was down 16%).

Ask yourself, really, what kind of glutton for punishment, what Quixotic head-in-the-sand nincompoop would keep holding a stock like that? How many opportunities were there to get out and rebalance?

> *As an aside, last week I came across an email from one of our relationship managers. It was dated December 2014, when TPL was about $120/share. It's about $1,600 now. He asked, on behalf of a significant institutional client of ours, "Client just asked for an update on TPL, given the pullback and how much the cash flows are affected by the lower oil and natural gas prices. Have we done any new analysis, given the lower price? Not sure how I should advise." Yup. that's the thing.*

It is a reasonable question, though – 'Ok, I get it, we held on, the company has done well, but it is up 5x, 10x, 20x. When is enough? Isn't it overvalued by now?'

The only thing that entirely reasonable question is missing is information about other than the price. About the nature of the business, its operating progress, and its potential. A share price pattern in isolation, as we saw just above, can't tell you enough; in fact, it can tell you precisely the wrong thing. In the case of TPL, with a sufficient amount of additional information, I think you'll find the answer is pretty clear.

One way to think about the large-scale price increases in TPL shares over time is in relation to the stages of its business development. One wouldn't suggest that Microsoft's no-doubt meteoric increase in market value between its from-the-dorm-room stage (when it first secured its contract with IBM for the PC operating system) to the time of its IPO was a signal that there was no additional sales growth or economic value to be had. That was simply the first phase of its commercial lifecycle, just getting to critical mass as a business.

Stage 1 for TPL, the corollary to that early stage for Microsoft, would be the first 125 years of TPL's existence, during which it was essentially unchanged. It just received a relatively constant, modest stream of revenues from grazing fees and easements on its surface acreage, royalties on oil and gas production on properties it had divested in 1955, and periodic land sales. Grazing leases were in effect on over 95% of the Trust's then roughly 2 million surface acres. Most of this revenue was allocated to share repurchases, which had been ongoing since 1888.

Trust's Royalty Share of 3rd Party Oil & Gas Production

	Oil (barrels)	Nat'l Gas (000 cubic feet)
2021	438,000	5,913,000
2014	260,829	1,370,377
2013	**217,682**	**1,065,458**
2012	**135,561**	**721,560**
2011	128,170	572,506
2010	118,220	499,615
2009	123,935	419,440
2003	120,883	410,514
1995	107,203	504,177

Source: Company reports

Stage 2 commenced roughly 8 to 10 years ago, when advances in drilling technology suddenly made available the vast, but very deep, oil and gas reserves of the Delaware Basin that had been uneconomic to reach. A public signal of that change was the June 2013 announcement of a joint venture between Chevron and Cimarex to combine contiguous acreage in the region in order to facilitate capital expenditure plans in the many billions of dollars.[1] That was the starting gun. From those multi-billion-dollar drilling plans, one could readily deduce the very large volumes of oil and gas these companies expected to produce that would be sufficient to provide the level of profit they expected to earn over a period of decades. Those volumes would translate into royalty revenues to TPL, and the scale on which this would take place was simply enormous in comparison to what TPL was at the time.

A public signal of the beginning of Stage 2 of TPL's growth phase was the June 2013 announcement of a joint venture between Chevron and Cimarex to combine contiguous acreage in the region in order to facilitate capital expenditure plans in the many billions of dollars.[1] That was the starting gun.

Between Stage 1 and Stage 2, all that happened was that a $90 million micro-cap company in the year 2001 experienced an initial growth phase and graduated into the mid-cap range: TPL ended 2010 with a $350 million market cap. Yes, its market value rose 3.9x, but one can't ignore that its revenues rose 2.6x, and its dividend was raised 2.5x. It had also repurchased over 25% of its shares during this period. Therefore, on a per-share basis – which is the only figure that really matters – revenues and dividends rose about 3.5x. Not so very different than the stock's market value. Armed with this financial information in addition to the stock price, you couldn't really say it was more expensive.

Stage 3 of TPL's business life cycle commenced at year-end 2020, just several months ago. With a market cap of $5.6 billion, it was 16x larger than the $350 million at year-end 2010. On the other hand, revenues were 15x higher.

[1] https://www.prnewswire.com/news-releases/cimarex-announces-joint-development-agreement-with-chevron-in-culberson-county-texas-212814821.html

Total dividend payments increased from $0.20/share in 2010 to $10/share in 2020.[2] And repurchases had reduced the share count by another 15%, so revenues on a per-share basis were about 17x higher than a decade earlier. Armed with this information, you couldn't really say that TPL was more expensive.

	Stage 1 20 Years Ago		Stage 2 10 Years Ago		Stage 3 begin 2020		Looking Ahead (10+ years)
Sources of Revenue[1]	Revenue	% of Tot	Revenue	% of Total	Revenue	% of Tot	
Grazing Leases	$ 507,400	6.5%	$ 506,200	2.5%	$ n/a	-- %	
Oil & Gas Royalties	4,230,800	54.2	11,573,600	57.7	137,948,000	45.6	
Easement & Sundry	743,400	9.5	4,166,100	20.8	39,478,000	13.0	
Water	n/a		n/a		107,422,000	35.5	?
Land Sales	1,443,400	18.5	2,738,100	13.6	17,706,000	5.9	
Real Estate Develop.	n/a		n/a		n/a		
Total Revenue	**$7,799,000**		**$20,066,000**		**$302,554,000**		
Dividend/share	$0.08[2]		$0.20		$26.00[3]		
Market Cap ($mill)	**90**		**351**		**5,638**		
Phases of TPL's Life	*Micro-cap: grazing fees, trickle of oil royalties, easements, some land sales.*		*Improved drilling technology/economics = multi-billion, multi-decade drilling plans by oil cos. in the Delaware Trend.* *Rising royalty revenues + easements revenue + water revenue.* *Co. approaches large-cap territory, at $2 billion, in 2016.*		*C-Corp conversion = ETF-eligible. March 2021, reaches S&P 500 mkt cap min. of $11 billion.* *2020: Delaware Trend proven largest, most resilient, profitable oil & gas reservoir in US.* *Top ESG rating = valuable index candidate.*		*Rising income & dividends, share buybacks. Potentially self diversifying: future easement revenues from solar farms, gas diversion for crypto mining.* *Intensification of drilling infrastructure & support systems in Delaware Trend lead, ultimately, to language shift from 'surface rights' to 'real estate development', as in Midland, TX.*

(1) Not all sources of revenue are listed (2) Adjusted for 5:1 stock split in 2007 (3) Total dividends paid in 2020 were $26/share, but $16 of that was from 2019 earnings.
Source: Horizon Kinetics Research, Company's Reports

The more important thought – strange as it might seem in the absence of additional data – is that TPL might well be more *undervalued* now than it was 10 years ago, given the information available then. Let's enumerate some of the factors, none of which a price chart can tell you.

- Today, at the beginning of Phase 3, TPL's business includes not only oil & gas royalties and land easements, but one-third of revenues now come from water provision and recycling. That was only 6% of revenues in 2015, when it was a new line of business. It is expanding rapidly.
- Water is only one element of what now appears to be a self-diversifying aspect of TPL's assets.
  - A number of companies have established or made plans to establish utility-scale solar energy plants in Texas, including West Texas. These can occupy hundreds or even thousands of acres. There is an easement revenue opportunity for TPL.
  - The same might apply to carbon capture/storage projects. This past year, Occidental Petroleum, one of the major developers in the Delaware Basin, announced an $800 million such project, which would be the largest of its kind in the world. It would withdraw CO_2 from the atmosphere, to be used in the drilling process and which would permanently store that CO_2 within the rock. Occidental hopes that this technology can made drilling carbon neutral or even carbon negative.

[2] Total dividends paid in 2020 were $26/share, but $16 of that was from 2019 earnings.

Construction begins next year and has the goal of sequestering up to 1 million metric tons per year. Up to 1,000 workers will be employed in the construction phase. This is an example of the type of additional land use and reserve base activity that is taking place in the counties where TPL has surface acreage and royalty interests.

- Texas has also drawn interest from cryptocurrency miners who have in mind purchasing excess or flared natural gas in order to create cheaper electric power. Any such gas that is sold instead of flared produces revenues, some of which might accrue to TPL.

TPL has been accorded among the highest ESG scores. It is likely to be a sought-after addition to any ETF that would like to increase its own ESG rating. One should therefore expect to find TPL in an expanding variety of ETFs.

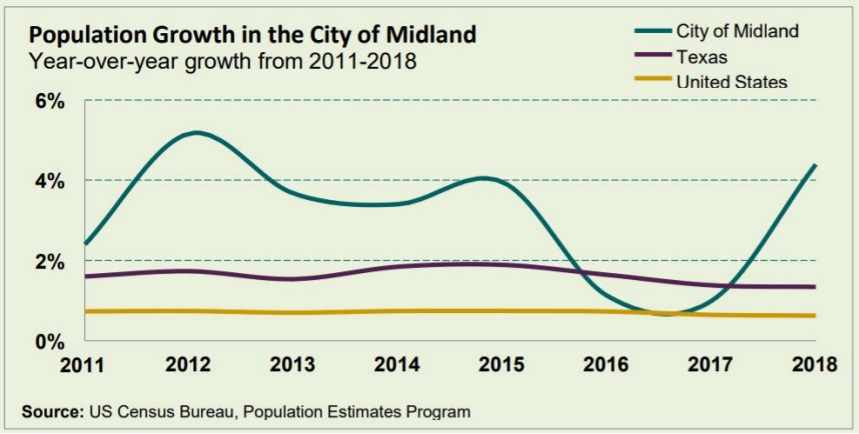
- Moreover, the company recently reached the $11 billion market capitalization threshold for S&P 500 inclusion. That is not to say that TPL will be included in the S&P 500, but as of January 2021, it converted from a Trust, which was ineligible for S&P 500 or other index membership, to a C-Corp, which is eligible.
- Various indexes have already begun to buy TPL shares. So far, it is in 23 ETFs.
  - These include the large iShares Core S&P Total U.S. Stock Market ETF (ITOT), the Vanguard Energy ETF (VDE) and, interestingly, both the Schwab U.S. Mid-Cap ETF (SCHM) and the Schwab U.S. Large Cap ETF (SCHX). It is even in an ESG ETF. This might be surprising; it is also important.
  - TPL has been accorded among the highest ESG scores (for Environmental, Social and Governance factors). It actually scores higher than MasterCard and the securities exchanges, which are all data processing businesses. This is yet another benefit of the royalty business model: TPL does not engage in drilling activity, nor own any fossil fuel reserves; that is done by the oil exploration companies. TPL is likely to be a sought-after addition to any ETF that would like to increase its ESG rating. One should therefore expect to find TPL in an expanding variety of ETFs.
- Most important of all is the simplest, before-our-very-eyes observation. The Stage 2 to Stage 3 period of TPL's history, the past 8 years that witnessed a 20+ fold increase in price, took place when the price of oil declined from $95 to today's $60. If that's what happened when oil was down 35%, what if oil returns from $60 back to $95?

Stage 4 has yet to occur. It is only informed supposition, at this juncture, and it will not happen in anywhere near the conventional investment time horizon. It might as well be on Mars as far as that goes. Of course, today's circumstance for TPL might as well have been on Mars when our last formal research reports were written 15 years ago and 5 years ago.

But it is entirely plausible that, in a decade or two, the language applied to TPL's land portfolio might evolve from 'surface acreage' to 'real estate' or 'real estate development'. Because that is what happened in Midland City, Texas.

The past 8 years saw a 20+ fold increase in the TPL share price. That was while the price of oil declined from $95 to today's $60. If that's what happened when oil was down 35%, what if oil returns from $60 back to $95?

Midland County is the older, traditional center of the Permian Basin: the Midland Basin. Midland City is roughly 150 miles or more east of the Delaware Basin counties that are now the primary focus of new development activities in the Permian.



- In 1940, 9,325 people lived in Midland City.
- By 1945, the population was 14,000, supported by the necessity for oil for the war effort, including investment by the U.S. military.
- By 1950, there were over 200 oil companies with offices in Midland, and by 1960, the population was over 60,000.
- Midland City's fortunes had already followed oil prices' multiple booms and busts, cycles it has continued to experience through today. Nevertheless, by 1983, the population exceeded 90,000. Despite an apartment building construction boom at the time, new residents lived in tents, cars and trailers for lack of a housing supply.
- By 1990, with a population of 106,000, Midland had become the financial and administrative center for the Permian Basin.[3]
- Even during the decade ending 2019, when the population reached 146,000, Midland expanded far more rapidly than either the U.S. or Texas.

By comparison, here are the 2019 populations of the counties with the most active exploration and production activities in the Delaware Basin. 169 people live in Loving County, Texas; Hudspeth County has a population of 4,886; Reeves County has 15,976; and Culberson County has a population of 2,214.

Development activity in the Delaware Basin is increasing and is likely to continue to do so for many decades. The pure infrastructure of oil and gas production – rigs, pipelines, roads, electric lines, water storage or processing facilities – will increase in density. That will bring with it an increasing population of workers, support personnel, administrative and housing infrastructure. As happens with any developing population center, there will be follow-on needs for ancillary infrastructure, such as gas stations, convenience stores, and so on, up the value curve.

TPL's surface acres could very well end up being beneath some of that development. Midland is not a large city. Nevertheless, one might wonder what several hundred acres, of Midland City's 45,000 acres, would be worth.

[3] https://www.tshaonline.org/handbook/entries/midland-tx

'Trimming' for Diversification and Risk Reduction

A legitimate, perhaps the only compelling, purpose for taking the risk of owning a risky asset like a common stock is for purchasing power protection and eventual conversion into income. Ultimately, we all live on some form of income. If the appropriate asset allocation for a person is 60% stocks and 40% bonds, and if the stocks appreciate to 70% of the portfolio, then that extra 10% appreciation can be sold and redirected to bonds. That appreciation funds a permanent higher income stream. When one could buy an investment-grade closed-end municipal bond fund and earn a tax-free 5% or 6% – which wasn't all that long ago – that could have been a sound strategy.

Unfortunately – very unfortunately – bond funds don't yield anything. The iShares U.S. Aggregate Bond ETF (AGG) has a 1.4% yield to maturity. But even the understated CPI measure of inflation is higher than that, so those bonds now lose purchasing power, net of the coupon, with every passing month. But, hey, the fee is very low.

Selling TPL in order to buy a bond fund is to consign those proceeds to a negative real return. The entirely reasonable basis for the equity-to-bond rebalancing strategy has been rendered moot by the Federal Reserve's monetary policy, which is to enforce artificially low interest rates.

Here's a conundrum: TPL yields 1.6%, based on last year's dividend payments. The expectation is that the dividend will rise over time as production volumes and oil prices rise. There really isn't a positive income tradeoff between selling TPL and buying a bond fund.

Further, there will be a gains tax to pay upon sale. The gains tax is no different in impact than a trading loss. For a New York resident who purchased TPL in 2013, for instance, more than 25% of the sale proceeds will be due in taxes. The seller will have only 75¢ on the dollar to purchase whatever paltry interest rate is available in a bond fund. And if an at-risk investment is made with the after-tax proceeds, that investment will have to appreciate 33% simply to break even with the pre-tax value.

Here's another consideration. Say that a position is 40% of a portfolio, and that it pays a dividend yield of 2.5%. That's enough to pay for one new 1%-weight investment each year. If the yield is 1.5%, that's enough to pay for a new 1%-weight investment every 20 months. In can be a funding engine for a continuous diversification process over time. Perhaps one of those new positions will be an opportunity like Bitcoin.

On Judging Size Risk

Many people look at the current market value of an investment as the measure of risk. We tend to look at the amount of capital placed at risk at the time of investment as the appropriate measure. If one looks at the total dollar cost of a TPL position in a portfolio that has owned it for many years, it will probably be found to be quite small relative to the value of the portfolio. Our practice has been to let the investment continue to compound over time if the business model and company-level financial returns have not deteriorated and if the security is not egregiously overvalued.

Price Target vs. Valuation Model

Which brings us to the question of a price target for TPL, or for any stock. It was asked of me only last week – 'what's your price target?' Here, too, our approach differs from conventional practice. Price targets are expected on Wall Street. They are a fixture of every recommendation. It is a presumed necessity of sophisticated investing, which involves working with figures, quantitative analysis. Shouldn't quantitative analysis result in a known future price for a stock, like a mathematical formula?

A price target is a bit like driving a new car off the dealer's lot; that price might be outdated as soon as it's issued.

Maybe, but does anyone elucidate how a price target actually helps investment results? One thing that a price target does accomplish: it encourages a transactional way of thinking, which suits the transactional business model of a brokerage firm. It can be used to generate multiple decision-making points, each of which entails trading costs, perhaps tax costs, and further risk. It encourages frequent engagement, kind of like social media.

It is the brokerage firms that are responsible for the vast majority of published company research. The sell-side analysts of brokerage firms are forever adjusting their price targets, and making subtle changes to their recommendations. An example would be a research update changing a recommendation from 'strong buy' to 'buy', which is then understood by seasoned readers to be a possible prelude to a 'neutral' rating some weeks later. Of course, 'neutral' might be a precursor to 'de-emphasize'. De-emphasize really means 'look out below', because the brokerage firm in question uses this as a diplomatic pause before issuing a sell recommendation.

Wall Street-to-English Dictionary
From the Change-of-Recommendation Section:

Strong Buy to Buy = Pending Neutral

Neutral = Pending De-emphasize

De-emphasize = Look Out Below

Sell = Possible Buy (for value investors only)

Accumulate = Investment losses and trading fees fully realized; time to start over

On the other hand, if the shares have sunk low enough – think of all those TPL examples earlier – the analyst might adjust his or her recommendation to 'accumulate', meaning you can begin buying again, because that probably means there's a buy recommendation to follow. Aside from possibly recognizing short-term gains taxes with each sale, one would have lost out, with each 'accumulate' recommendation, on much of the subsequent price recovery. In reality, TPL shareholders didn't have to suffer that problem, since there were no analysts covering TPL until this year. And that, interestingly enough, was only because the shares weren't tradeable enough to serve as a transaction-oriented security. (And, if you're curious, that one TPL analyst has already altered the price target.)

Unlike the 'sell-side' convention, there are only a few investments for which we've ever established a target price. In those cases, there has usually been an objective date and/or valuation component. Examples would be a distressed bond, or an equity with a contractual buyout provision for which there are pre-established pricing metrics by which both parties will abide, or sometimes in bankruptcy or liquidation.

But for most stocks, which represent an interest in operating businesses, there cannot really be a defined price, except for one arrived at by negotiation if the owner wants to sell the business to a buyer. From month to month and year to year, business conditions are in flux – changes in market share, raw materials costs, product improvements, regulations, and on and on. And some of these changes, like an increase or decrease in debt level, don't just alter earnings; they alter the valuation multiple that might be paid for those earnings. A price target is a bit like driving a new car off the dealer's lot; that price might be outdated as soon as it's issued.

To capture the power of compounding, you want fewer, not more, decision making points.

A much more useful tool is a model that helps you evaluate the changes that occur. Without that, once a price target is breached, what then? You don't know what to do until the analyst issues a new price target. But if you have a business model and valuation model to work with, you have a basis for understanding the impact of the change. To capture the power of compounding, you want fewer, not more, decision making points.

Horizon Kinetics writes a lot of company-specific research reports for institutional investors. Hardly a one has a formal price target. A typical report might frame the valuation something like this; it's an exercise, really:

- If sales remain stable for the next five years, then Ignored Company would be able to repay $x millions of debt. By reducing interest expense, earnings would increase by $y, and its debt leverage would decline from Ax total assets to 0.Bx total assets.
- Companies of this type with strong balance sheets generally trade at a higher P/E multiple of Gx earnings, in which case Ignored Company shares would produce a 10% annualized return over a 5-year investment horizon.
- However, it is reasonable to expect that sales can increase by 3% per year, as they have been for the past 10 years, without any explicit expansion spending, simply to reflect GDP growth, in which case the rate of return would be 13%.
- Further, Ignored Company might seek to sell its abandoned industrial park on the shore of the Sasquasomething River, an area being redeveloped for residential and retail use. This property contributes no earnings, and is recorded at near zero on the balance sheet, so it is a hidden asset that could add an additional $z per share of value, or Blank% to the annualized return.

That's both a buy recommendation and a valuation model, yet without a price target. It is a framework for how to calculate value under evolving conditions. A price target would be both unnecessary and misleading.

That's a valuation model at work, a framework for how to calculate value under evolving conditions, yet without a price target. A price target would be both unnecessary and misleading.

Or, I can write out a price target, but if I'm thoughtful about it, what does it really convey? The price target suggests a specificity and validity that it doesn't really have. It would have to be adjusted for each relevant increment of operational or balance sheet or competitive change. But the price target informs people's expectations. Therefore, it's natural for someone to then inquire, whenever the share price

exceeds the target, about 'locking in' profits. Or to ask why we might have changed our price target. There are so many discussions to be had. Brokers love them.

Or, instead, I can rely on the business model and general valuation. Call it a mode of analysis that sacrifices presumptive accuracy for fuzzier thinking that just attempts to be correct as to direction and order of magnitude. As in, I'd rather be approximately right than precisely wrong.

Applied to TPL, we can now identify a sufficient variety of positively contributing variables, each in a different stage or timeline of expressing itself, we can see the futility of presuming to establish an honest precise price target. Not all of the variables will manifest themselves, or they will manifest to a greater or lesser degree. And the time frames are unknown.

Here's a fresh example that I couldn't have scripted better myself:

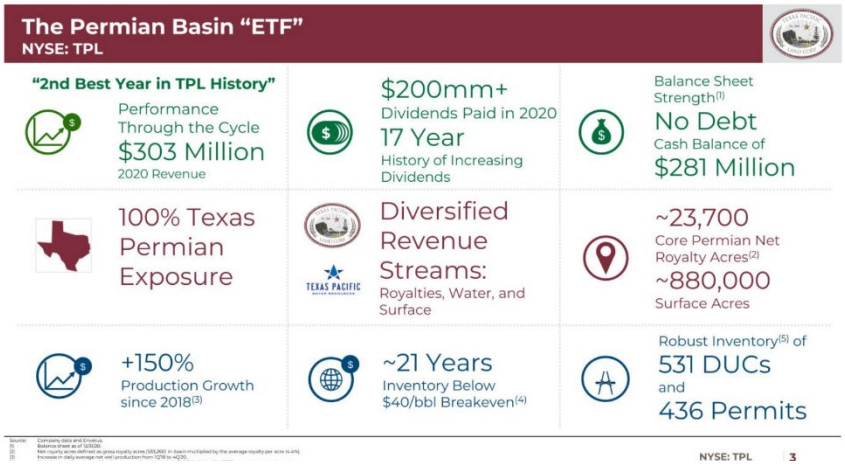
> Last year, Chevron, one of TPL's primary royalty payers, drastically reduced its capital budget for drilling in the Permian Basin. So much so, it made really big news.
>
> Six weeks ago, on March 9th, Chevron re-established its spending budget and reaffirmed its ambitious expansion intentions.
>
> As sell-side analysts, we would first have issued some number of 'updates' with new price targets and new recommendations, and then followed those with some series of sales and, a year later, with buys.
>
> The shares are about 25% higher than on the day of that announcement.

But we don't govern our decisions on the basis of short-term price changes or short-term events that we don't believe meaningfully alter the business model or long-term value.

Our analysis does tell us that the ultimate value of TPL can be many multiples of the current price and that, barring any intervening real-world changes that cause a reassessment of the business and valuation model, we expect to own the shares for many, many years.

How to Interpret the TPL Presentation Deck

Our primary TPL analyst, James Davolos, tells me that the most important additional disclosure in the TPL presentation deck pertains to the water business. The water business has transitioned from, originally, 100% sourced water to, now, a 50/50 mix of sourced-to-produced. Sourced water is provided to oil & gas production companies, which require it for drilling, and comes directly from TPL's sub-surface water



Source: TPL March 2021 Investor Presentation

aquifers; it is a higher margin, lower volume, non-recurring revenue stream. None of this water is potable, either for drinking or agriculture. Depending on whether it is from the aquifer or from the shale formation below the aquifer, it is brackish (mostly due to salinity) and/or both brackish and toxic (being suffused with the hydrocarbons with which the bedrock itself is suffused).

The produced water is what comes up from the well along with the oil. Something must be done with that water. The operator has to pay for disposal: to cart it away in trucks, in a pipeline, or to recycle it; somewhere in this mix there is a cost floor. This is what TPL recycles so that it can be returned to the driller for continued use in the drilling process. The produced water segment is a lower margin, much-higher-volume business and produces recurring volumes over the production life of the well pad.

The ratio of produced water per barrel of oil, for a driller, is low at first but begins to climb after the first year or two, to a ratio of, say, 10:1. From the recycler's perspective – TPL's – the rising water/oil ratio over time improves its recurring-revenue experience.

Speaking of constantly changing business conditions and the self-defeating nature of price targets:

- based on the March 2020 disclosure, James was working on the assumption of 817,000 bbl/day produced capacity, with 1.57 million additional permitted capacity.
- Today, though, there are 1.6 million bbl/day active capacity, plus 2.9 million barrels of additional permitted capacity.
- Based on this information, water revenue might end up equaling or exceeding oil and gas revenue.

An additional item of note is the SLEM revenue, SLEM being an acronym for Surface Easements, Leases and Material. Material is, for the most part, caliche, which is calcium carbonate and which is plentiful in the area. It is used for road construction and other infrastructure. Slide 14 in the March 2021 TPL investor presentation shows that the SLEM revenue continues to track at $60,000 revenue per gross well drilled in 2020, despite the spending slow-down last year. One way to assess this revenue is that there are approximately 20,000 wells on TPL surface land, plus at least another 20,000 wells on adjacent land (which usually entails that the operator will have to cross or use TPL land and pay an easement fee). At $60,000 per contract, this would work out to over $2.4 billion in ultimate easement revenue, before including other developing uses, such as for solar and wind power installations, or other infrastructure related construction as usage density in the Delaware basin rises.

There is another intriguing dimension to the SLEM revenue trends. The first 10-year-term easements (which was a new contract structure) began in the 3rd quarter of 2016, so they have yet to roll over. When they do expire, assuming the land is still in use, new leases will be priced at a new CPI-indexed figure. The 2017-year SLEM revenue was $85 million, so when this rolls over in 2027, including the inflation multiplier adjustment, all else equal, it could easily be one-third higher.

The Northern Delaware is the highest-resource, lowest-cost portion of the broader Permian Basin, to which TPL has a high surface area and royalty exposure. This core area is less than 11% developed on TPL land.

Ultimately, the infrastructure density in this area of the Permian (Northern Delaware Basin) will be far, far higher. It doesn't yet begin to compare with the Midland, Texas density, which has been generations in the making.

Finally, the land/royalty concentration in the Northern Delaware Basin, and the percentage of undeveloped acreage, are important differentiating points for TPL. The Northern Delaware is the highest-resource, lowest-cost portion of the broader Permian Basin, to which TPL has a high surface area and royalty exposure. This core area is less than 11% developed on TPL land.

All the 'Bad' Oil News Questions

Everything 'bad' that's happened to the energy markets this past year has been – strangely, yet predictably – good for TPL.

A couple of repeated requests have come in, seeking our response to some apparently bad news for TPL.

None of it, though, was bad news. As paradoxical as it might seem, this past year's dislocations in the energy markets, and a variety of related challenges, have only served to highlight TPL's pre-eminent asset quality and strategic position in the energy sector. They've actually *enhanced* its value. I've saved this section for last, because the preceding discussion on the difference between the conventional short-term price-based model and a long-term business valuation model should make these counterintuitive answers much more comprehensible. Here are a couple of those items.

– Oil demand is down, and oil prices are down. What will happen to TPL?
  - The price of oil is *higher* than it was in January 2020, before the global pandemic and the collapse in demand, not lower. This is despite the fact that we're still in the midst of a historic decline in travel activity worldwide. Why would oil prices rise even though activity is down? Supply and demand – the other magic formula.
    - Yes, oil *consumption* fell 31% in April 2020.
    - BUT oil consumption today is actually *higher* than it was a year ago! It's up more than 45% from last April.
    - DOUBLE-BUT, U.S. crude oil *production* is *16% lower* than in January 2020, and it's 10% lower than in April 2020.
    - This is DESPITE the pandemic lockdowns, despite the economic contraction from those lockdowns, and despite the increased use of alternative energy sources.
    - TAKE-HOME CONCEPT: Supply has decreased an awful lot more than demand (and it hasn't recovered).

[4] https://www.mrt.com/business/oil/article/U-S-Oil-Output-Nears-Levels-Not-Seen-Since-16097668.php

- Little by little, April 2020's excess inventories are being drawn down. Simultaneously, demand has gradually risen from those lows and is now higher than it was one year ago. All of this was to be expected, as we wrote about last year. Once excess inventories are depleted, it will quickly be discovered that supply plunged but has *not* recovered. More importantly, that supply won't be able to be restored for a very long time. An upward oil price shock should be expected. That would be a boon to TPL, which has operated extremely profitably for most of a decade with declining oil prices.

	Week of 4/9/21	Week of 4/20/20	4 Weeks to 4/12/19
Total oil consumption*** (000 bbl/day)l	20,328	13,797	20,084
Total domestic production (000 bbl/day)	11,000	12,300	12,150
Commercial stocks** (mill bbl)	492.4	503.6*	455.2

*Week of 4/10/20
** Excluding Strategic Petroleum Reserve
***https://ir.eia.gov/wpsr/overview.pdf

– The Biden administration is banning fracking. What will become of TPL?

- The government can ban drilling on federal land, not on private land. TPL is a private landowner, so it is not subject to any such actions.
- The administration did not ban fracking. It has paused new oil and gas leases on Federal lands.
- This benefits TPL. Federal drilling leases are less expensive than private leases, and substantial tracts of such Federal property in the Delaware Basin are immediately nearby private property. Paradoxically, the Federal restrictions will increase activity in the acreage in/around TPL, because as existing Federal leases expire, those operators will shift their activity elsewhere in the vicinity.

– But what if oil use *does* go down in the U.S. Won't TPL suffer?

- Which brings us back to the Delaware Basin. Even if oil use were to decline in the U.S., which is not at all clear – that's a separate discussion – it's difficult to imagine that production volumes would suffer in the Delaware Basin, since that is the most plentiful and most profitable source of oil in the U.S. The loss of production volumes would be borne by operators in other regions, which would shut down their most marginal, expensive production. The Delaware Basin is where the activity will focus, and its strategic position should be enhanced.
- To see why, take the last normal year, 2019, before the pandemic. U.S. oil production grew by 11% to a record. Texas accounted for over 40% of total U.S. oil production. Just the Permian region within Texas accounted for 53% of the total U.S. increase for the year.

  And, yet, three of the largest producing counties in Texas (out of 254 counties), Midland County and two of the Delaware Basin counties, Reeves and Loving, accounted for only 9% of U.S. output. That's only one month of U.S. oil needs; and the Delaware Basin counties, at this point, could provide only a couple of weeks of U.S. needs.

  Reeves and Loving are the most productive areas for TPL, and that area was quite profitable for the oil companies at the $50 to $60 a barrel that prevailed in 2019. If oil demand and, therefore, production, in the U.S declines – which it isn't, it's now rising – the declines will be elsewhere, not in the Delaware Basin.

Bitcoin… Our Inflation 'Bet'… and, Are We Still Value Investors?

On the practice of position size, we've mostly covered that with TPL. But bitcoin has unique features as it relates to sizing.

In one sense, TPL and Bitcoin are actually very much alike. They are each possibly the most effective instruments we could find to protect against the two most important sources of inflation risk:

> For TPL, that would be the key commodity in any industrial economy: oil. The price of oil ends up in just about everything.
>
> In the case of bitcoin, that would be monetary debasement, which is…the *price* of everything; it's our *money*. A high, chronic inflation rate will devastate a person's accumulated savings and retirement income.

In one sense, TPL and Bitcoin are actually very much alike – in terms of inflation/price protection.

TPL hedges oil, which ends up in the price of just about everything. Bitcoin hedges money, which is the price of everything.

In another sense, TPL and bitcoin are wildly different. TPL is about the least risky business there is. How many companies in the world have been operating since 1888? If you look hard enough, you can find some. If you find some, would any of those be bigger today than a decade ago? Would they be growing rapidly? TPL has no debt, it has minimal operating expenses, it generates an extremely high profit margin whether oil prices are high or low, and has about the best energy asset portfolio there is. It's very difficult to conceive of it failing under any ordinary business circumstance.

Bitcoin was the precise opposite when originally purchased in portfolios. It was about the highest-risk asset imaginable: brand new, still unproven, still in technical improvement mode, and considered so exotic that the mention of it in polite company might brand the presumptive raconteur as an oddball.

Each embodied diametrically different levels of risk. But that was handled easily enough – it simply meant that we should adjust the amount of capital invested in each to reflect their differing levels of risk.

> TPL was purchased as a sizable core investment.
>
> For Bitcoin, the amount of capital put at risk bordered on de minimis, which I define as an amount no one would notice. Which, if you think about in a certain way, ***makes it completely NOT risky*** to the owner of that portfolio. If it were a one-half of 1% position to start, that's an amount by which any stock portfolio varies in a given day. In fact, on the afternoon that I'm writing this paragraph, the S&P 500 was down 0.41%, and nobody cares.

After the huge appreciation of the past few years, that 0.5% Bitcoin investment might now be a 10% position, although any given account can have a very different weighting. Is that too large? Should profits be 'booked'? No, we don't believe that they should.

The very *purpose*, the very hope, in buying bitcoin in the first place – as potential protection against the debasement of one's savings in an extreme inflationary period – was for it to become 'too large'. That was the idea. Like a one-time premium paid for an insurance policy, in the hope that it might pay off one day when you most need it. With insurance, the up-front payment is known to be very small relative to the potential payoff. It is expected that the payoff, if it's triggered, will be very large. With bitcoin, one will *need* a large payoff from that very small investment in order to offset the purchasing power impact on the rest of one's portfolio – the other 99.5% – in the event of chronic inflation. (The prospect of which we'll discuss in a minute.)

The very purpose of buying bitcoin in the first place was for it to become 'too large'.

If you think about in a certain way, de minimis sizing of the position made it completely NOT risky.

So that's the whole point: let the bitcoin investment be as it is. Don't be like those private bank senior portfolio managers I worked for, fist bumping with a feeling of stolen luck after selling their Microsoft IPO allotments.

From a recent roundtable Q & A with my associate, Murray Stahl:

Q: If banks potentially acquire some cryptocurrencies, do you foresee any issues with the bank regulators around the amount of regulatory capital required?

A: The Comptroller of the Currency recently gave permission for banks to acquire crypto as deposits. Prior to that, it was forbidden. So, if the Comptroller of the Currency, which oversees the banks, now makes it permissible, whereas hitherto it was impermissible, I suppose that's the answer.

Q: So, then is it possible that the larger banks are out of the market for crypto because they just can't purchase enough to influence their balance sheets? Or they might take small positions just as a buffer?

A: Five and a half years ago, if one purchased crypto, one's judgment was suspect. It was considered quite possibly imprudent. So, when cryptocurrency becomes large enough, and that happens when enough people buy it, as a legal matter it becomes imprudent not to do it. Remember, the definition of prudence is doing what other people do. So, if enough people do it, instead of being sued for doing it, you could well see a situation where you could be sued for refusing or failing to do it. That's the irony of the prudent man doctrine.

Editor's Note:
Arthur Schopenhauer, the German philosopher (1788 – 1860), wrote: "All truth passes through three stages. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as being self-evident."

That's the thing.

To sum it up: we don't think we're taking on risk, we're <u>reducing</u> risk. And wondering why everyone else isn't also. Value shop? Absolutely; we're protecting value.

No, We're Not 'Betting' on Inflation, and, Yes, We're Very Much Still a 'Value Shop'

But this still leaves open the question recently asked of us, or maybe thrown at us: 'For a value shop, it seems like you guys are betting an awful lot on inflation, not just on bitcoin.'

We're not betting on inflation – everyone else is.

We're not betting on inflation – everyone *else* is, by not having an appropriate allocation to inflation hedges. Theirs is a bet that inflation won't occur, that there won't be a cost of that bet.

No exposure to the right type of inflation beneficiaries is a bet that it won't occur, that there won't be a cost of that bet.

For our clients, it's important to not confuse the business models we've been accumulating in portfolios with the types of companies that are conventionally identified as inflation hedges. They are as different as night and day.

What most investors understand to be inflation beneficiaries – and which they use as hedges – are indeed cyclical companies that either 'boom' or 'bust' when the prices of their commodities rise or fall. Those would be oil companies, mining companies, steel companies, wood products companies, and so forth. They have very asset intensive balance sheets. They have to own vast properties and plant & equipment (oil reserves and mines, off-shore drilling platforms, massive factories). They often incur substantial debt in order to fund those assets, which is an additional risk. For these reasons:

When there isn't inflation, these businesses do not earn much, and very long periods of time can pass before they do.

When there is inflation, they can earn a great deal for a period of time, because their basic operating assets are already in place – no more spending needs to be done, while the price of what they sell rises dramatically, and probably the production volumes, too.

If that were the whole scenario, they would generate a long-term return that is an average of both their years of poor results and their years of high results. It probably wouldn't be great.

But there are two added problems:

During short periods of inflation, the success scenario operates. Oddly, though, if commodity price inflation endures for a long time, these companies do poorly. First, each company naturally wants to produce more of what they sell, whether silver or iron ore, so they begin to buy additional property and equipment. They compete with one another for these limited supplies and perhaps for labor as well. Thus, the largest items on their balance sheet – from which they generate their sales and earnings – are themselves subject to inflation, which reduces their operating margins even as sales continue to rise.

The increased production eventually expands the supply of the commodity in question, after the companies have expended large amounts of capital to expand production and the cost structure

higher. Supply and demand – the second magic formula – adjusts, through the price of the commodity, which falls. Boom and bust.

We've identified and are using a very different, and very unusual universe of companies. These business models either benefit strongly from an inflationary economy or, in the alternative, are able to prosper despite an inflationary economy. Importantly, they do NOT require an inflationary environment to prosper. In fact, they've done pretty darn well during recent deflationary environments in their various sectors, even severe deflationary environments. They have been able to generate a higher level of profits through the ups and downs of a full business cycle – higher, in fact, than the majority of conventional businesses can manage. *So, not only do the companies in, call it the Horizon Kinetics universe of inflation beneficiaries, not require the appearance of inflation to do well, they actually improve the business quality of a portfolio.*

Not only do these types of companies NOT require inflation to do well, they actually improve the business quality of a portfolio.

Higher margins, less debt, less cyclical.

Hard Asset and Asset-Light Inflation Beneficiaries

The ideal business type for our purpose is what we call a hard asset company. The revenues of a hard asset business derive directly from the underlying asset, with no intermediary operating activity or expense required. These are the royalty companies, like TPL and Wheaton Precious Metals. They receive a payment directly from a third party, once that party has extracted and sold the resource, whether it's oil or iron ore or something else. All that the royalty company needs to do is receive the check or the wire transfer. *A hard asset company does not own assets, it owns revenue rights.*

Obviously, if the price of the resource rises, that's an immediate increase in revenues to the hard asset company. Importantly, almost all of that revenue becomes an increase in pre-tax profits, because there is almost no incremental operating expense. If you haven't heard this startling figure from us before, Royal Gold, for instance, which has an $8 billion market cap, and interests in almost 200 properties, has only 23 employees. That's what makes them direct inflation beneficiaries. There is exceedingly little in the way of operating assets or personnel upon which inflation can act to increase their cost of doing business.

A hard asset company has exceedingly little in the way of operating assets or personnel upon which inflation can act to increase the cost of doing business.

There are not that many hard asset companies in the world – we've looked – and, with rare exceptions, you will not find them in indexes. They improve the business quality of a portfolio and reduce the cyclicality – they're not a 'bet' on inflation.

The other class of inflation beneficiary companies have asset-light business models: they do not require much in the way of physical plant and equipment in order to operate and expand and, ideally, not a lot in the way of human capital either. Sometimes they are best understood by comparison with their conventional same-industry counterparts with which people are familiar. Take shipping as an example:

A hard asset company – TPL or Wheaton Precious Metals – does not own assets; it owns revenue rights.

Clarkson plc does not own ships; it owns information.

A marine shipping company is a classic asset-intensive business: it owns a fleet of ships. Ships cost a great deal, so they are typically funded with a lot of debt; they are expensive to maintain; the only way to expand is to purchase yet more ships; they depreciate physically, so that ongoing spending is required just so the business doesn't self-liquidate. Ship leasing rates can vary wildly, depending on factors like the new shipbuilding rate and the age of the existing worldwide fleet. This is obviously a cyclical business, with a fair amount of balance sheet risk.

An asset-light company in the same sector would be Clarkson plc, which is a shipping broker. Really, it's an information database company, like a Bloomberg for the shipping industry. Clarkson's data and software enable customers to engage in international trade. To charter a ship, they need to search for some combination of data: the type of vessel they need, the capacity, when it will be available at a given harbor, and when it might arrive at the port of destination, what the pricing is, and so forth. With 50,000-plus commercial ships in operation around the world, shipping would be impossible otherwise.

Clarkson does not own ships; it owns information. Its tangible assets are only 13% of its total assets. Compare with AP Moller-Maersk, one of the largest actual shipping companies, which has tangible assets equal to about 50% of total assets. When inflation impacts the cost of maintaining and buying ships, it impacts half the AP Moller-Maersk balance sheet, and the balance sheet impacts the income statement.

The Risk You Don't See; Three Important Things that People Miss About Inflation

It's easier to pay attention to prices you see and hear about (oil prices down, or the benign CPI rate) than to statistics that you don't hear about or don't know how to quantify in a way that is readily meaningful.

How do you boil down a developing structural supply deficit in oil or lithium, or a continuing oversupply of money into a precise figure you can relate to? Those imprecise shifting sands do eventually show up in the prices of the things that you pay for. Sometimes direction is more important than exactitude – doesn't matter whether you going 35 miles an hour or 37, if you're driving the wrong direction onto a highway on-ramp.

Sometimes direction is more important than exactitude – doesn't matter whether you going 35 miles an hour or 37, if you're driving the wrong direction onto a highway on-ramp.

People see the risk in a temporary 20% stock market decline. No doubt about it. But chronic serious inflation is way more disastrous. The 7% annual rise in the Consumer Price Index in the 1970s doubled the price level in just 10 years; meaning that every dollar of savings lost 50% of its purchasing power.

Thing One: The Actual Inflation Rate – The CPI Can't Help You

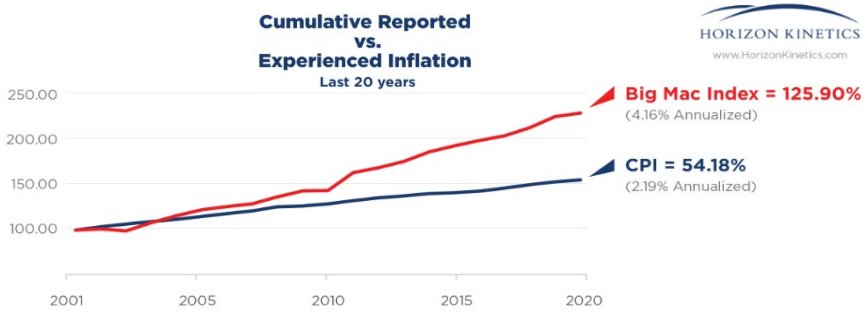
And the CPI readings can't help you. In fact, using the Consumer Price Index can only harm your financial planning. Contrary to general understanding, the CPI does NOT measure the general price level, the experienced price level. It's not designed to do so; it serves other aims. Thirty years ago, it did represent a fixed basket of goods and services, which is how we naturally think that inflation is measured. But it's been repeatedly altered, with each change serving to reduce the reported figure.

> *For instance, the composition of the CPI basket changes*: if the price of beef, which is more expensive than chicken, rises, but chicken prices don't, then the index calculations presume that you buy less beef and more chicken. That way, the reported food inflation rate is reduced; maybe it won't rise at all. Which doesn't mean that a family didn't pay more for food.
>
> *There's also the hedonic quality adjustment*, which adjusts the CPI to account for improvements in quality. An example provided by the Bureau of Labor Statistics, which calculates the CPI, explains it. At one time, a 27-inch cathode-ray tube television retailed for $250; then plasma-screen televisions came along. If the plasma TV becomes the new standard that people purchase, how is it integrated into the index? By the same method used for stock indexes when they're adjusted to include a higher-priced stock. If a $100 stock replaces a $10 stock that was a 1% position, the index organizer does not say that the 1% position appreciated ten times. The index simply removes the one stock and inserts the other without changing the price of the index.
>
> Likewise, in the Bureau of Labor Statistics example, on a certain date the $250 TV in the CPI basket of goods is replaced with a $1,345 plasma TV, and this does not increase the CPI reading for inflation. The reasoning is that a product improvement is not deemed to be inflationary, because it is not the same product – it is a new, different, and improved product.
>
> But here's what the CPI *does* adjust for. If, in the next reporting period, the price of the plasma TV drops from $1,345 to $1,200, the index records that the price of a television dropped 7% – because it's the same product. So, consumers did experience inflation, because somewhere along the line they started paying way more for televisions, yet the CPI can record that TV prices dropped.

Armed with this information, you can now understand why it is not an extreme view to say that the CPI will not tell you what the experienced inflation rate is. There are other measures. Perhaps the most elegantly simple of them was devised 25 years ago by British economic journalist Pamela Woodall for *The Economist* magazine as a humorous but legitimate method to determine the relative purchasing power of different currencies – whether they were too cheap or expensive. It is reported to be a pretty good gauge.

The idea was that the McDonald's Big Mac sandwich was actually its own small real-world diversified 'basket' of goods and services. Embedded within the cash register price of the finished product were soft commodity costs (beef, wheat, oil, etc.), transportation costs, real estate, both executive and hourly labor, marketing expense, taxes, etc. And the product included essentially the same inputs around the world. If a Big Mac was markedly more expensive in London than New York, perhaps the Pound was too expensive relative to the dollar.

There are other price-level indexes that put inflation at an even higher rate than the Big Mac Index, but let's use that – at least, there are no government statisticians making policy decisions about the price of the sandwich.

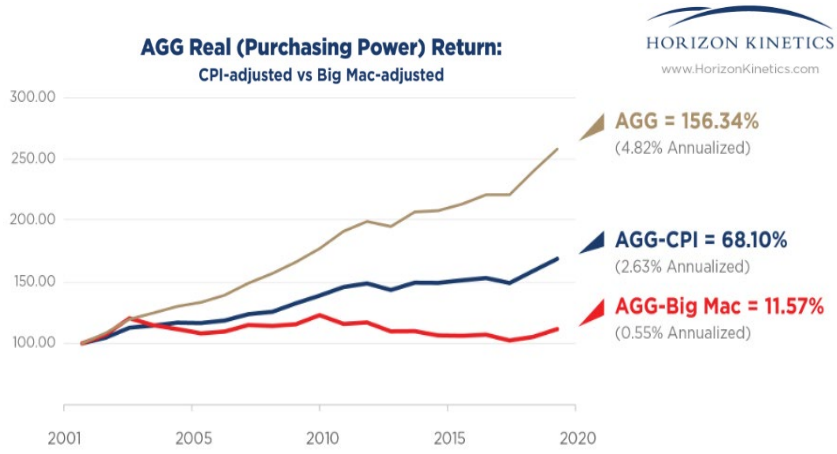


Source: https://data.oecd.org/price/inflation-cpi.htm

CPI: The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

It turns out that over the past 20 years, the price of a Big Mac has increased at twice the rate of the CPI. Cumulatively, it is up 125% vs. the CPI's 54%.

This is not just a curiosity. It actually informs you whether, for instance, you've made any money in your bond portfolio or not. An accepted measure of the investment grade bond market, the iShares Core U.S. Aggregate Bond Index (AGG), provided a 4.82% annualized return in the past 20 years. Deducting for the loss of purchasing power, as measured by the CPI's 2.19% inflation rate, AGG returned 'real' 2.63% per year.



https://finance.yahoo.com/quote/agg/performance/

AGG: iShares Core U.S. Aggregate Bond ETF ($85 billion AUM)

But if purchasing power loss is measured by the Big Mac Index, which recorded an inflation rate of 4.16%, then bond investors only made a 0.55% rate of return.

That difference is a pretty big deal. Moreover, that 0.55% real return incorporates a starting yield that was much, much higher than today, and a pretty benign inflation environment. It doesn't even incorporate taxes, in which case, the 20-year real, after-tax return of the U.S. bond market was negative. It's not reported that way, though. And yet asset allocation decisions for trillions of dollars are made on the basis of these inflation figures.

That's part of what many people are missing about the inflation rate – that they don't even know what it is.

And yet, asset allocation decisions for trillions of dollars are made on the basis of these inflation figures.

That's part of what many people are missing about the inflation rate – that they don't even know what the rate is. And with the wrong information, they won't have fair warning if it starts to become threatening.

Thing Two: Money Supply

Another part that people miss about inflation is the money supply, which I won't belabor again this quarter, except to say these few scary lines: the U.S. money supply is up about 24% in the last year; and our debt, the increase of which is linked to the money printing, is now the highest proportion of GDP that it's ever been; and the Federal Reserve appears intent on continuing on this path.

That is direct debasement of the value of anyone's savings. A year ago, if your money in the bank, whatever sum that was, was some small Y% of all the money in the country, today it's only Y% x 0.76 of the money in the country – relative to everyone else, you were diluted by 24%.

Thing Three: Strategic Commodities & Resource-Constraint Inflation

Another important set of data many investors are missing about inflation is the developing supply shortage of strategic commodities. That is a wholly different set of inflation vectors. It has yet to show up in the most widely reported inflation statistics. Although yesterday I heard that Coca-Cola announced that it is raising prices due to higher commodity costs. I didn't hear which commodity, but I'll guess aluminum. Here's why that's my guess.

This table shows the year-to-date price changes for a variety of critical industrial metals. Aside from the more prosaic copper and silver, there are some that most people probably haven't heard of, like praseodymium. But they are all essential to the function of our way of life, whether for the doping agents in semiconductor chips that are embedded in everything from computers to phones to cars and refrigerators; for the batteries in electric vehicles and phones; the magnets in the motors of electric vehicles and wind turbines; the magnets that enable data storage and cloud computing.

Strategic Commodities	YTD to 4/19/21	Some key uses
Cobalt	54.5%	Magnets, gas turbine blades & jet aircraft engines
Copper	19.6%	Electricity conductor (electronic vehicles, solar panels, offshore wind farms)
Dysprosium	59.7%	Permanent magnets (data storage drives/cloud computing, power generators, electric vehicles); lasers
Gallium	33.5%	Semiconductors, opto-electronics (smartphones, LEDs, fiber optics)
Indium	14.1%	Photovoltaic cells, LCD flat screens
Lithium	93.6%	Lithium-ion batteries
Rhodium	80.7%	Catalytic converters, electric contacts, opto-electronics
Neodymium	26.0%	Permanent magnet (wind turbines); lasers
Praseodymium	34.6%	High-power magnets (electric motors, data storage, speakers)
Silver	69.6*	Photovoltaics (solar panels), printed electronics, LEDs, electrical switches (automobiles, consumer appliances)
Terbium	51.7%	Doping agent in semiconductors (microchips, LED lamps, solar cells, semiconductor lasers, digital imaging)

* = 1-yr price change; YTD = -2.1%

Sources: Kitco.com, moneymetals.com; tradingeconomics.com

This year to date, as a simple average, the price of these 11 critical metals is up roughly 50%. The highest is lithium, up 94%; the lowest is indium, up 14%. That's in four months. I presume you find that startling. This can be compared with the primary measure of commodity inflation, the Commodity Research Bureau (CRB) Index. It's a basket of 19 commodities, the heaviest weightings being in energy and agriculture. Year-to-date, the CRB Index is up 15%. That's a lot. But it's nothing like the changes in these critical metals.

Can these commodity prices go much higher? 13 years ago, in May 2008, the CRB Index was above 450. Today it's just over 200. Those numbers hold two different messages. One is that if we use past experience as a guide, then returning to the 450 level of 2008, would mean 120% higher commodity prices. Even if that were to take 10 years, it would be an 8% annualized rate of price increase.

CRB Commodity Index

Energy	39%
Agriculture	34%
Livestock	7%
Industrial metals	13%
Precious metals	7%
	100%

Source: tradingeconomics.com

The other message is that the benign inflation environment of the past two decades was partly a function of commodity input costs in the economy dropping 56%, about 6%/year. And it was a boon, in the form of expanding profit margins, to consumer goods companies. That's not happening again.

Of course, this year's increase in the CRB Index to the 200 level is from the pandemic-shutdown low in March last year, when the index was just under 125. So, it's increased by 80% from that low. But returning to the possibility of that 2008 CRB Index figure of 450, something similar happened 20 years ago. Between January 1999, when the CRB Index was under 100, and the 2008 peak of 450, the index more than quadrupled; that was a 9-year commodity inflation rate of about 18%/year.

Relative to December 2019, though, before the pandemic, the CRB Index is up only about 5%. One might think, 'So what, the index is only back to where it was.' Except that this is occurring during a global economic recession and pandemic-related business interruptions. It's not supposed to be that way. Maybe something else is going on.

CRB Index – April 2008 to April 2021

Source: tradingeconomics.com

As a segue into that 'something else', energy was not included in the above table. It has been discussed enough, today. But just to be clear, oil is the world's key industrial commodity. A rise in oil and gas prices raises the cost for most of what we consume: heating or cooling your home; the cost of goods imported on

containerships, since fuel oil is the primary operating expense; anything made of plastic; any metals that are smelted with natural gas heat, as opposed to coal; any form of transportation; the list goes on.

Oil and gas are also particularly relevant to the massive increase in green energy infrastructure, including electric vehicles, wind turbines and solar panels. That's because key metal and semiconductor components of batteries, solar panels and electric motors, which includes wind turbine motors, require high-intensity heating during manufacture that is done with fossil fuels. Higher production volumes of alternative energy infrastructure might partly be why U.S. oil consumption is higher today than before the pandemic, despite lower economic and travel activity. There's a kind of reinforcing feedback loop, here.

To help assess strategic commodity supply constraints as an inflation catalyst, I've taken a research short-cut. The following information has been taken almost entirely from two studies commissioned in part by the Dutch Ministry of Infrastructure and Water Management, and prepared by two environment-oriented consultancies and Leiden University, which is a public research university of some repute.[5] These reports were intended to explore both certain limitations and pathways to achieve the Dutch goal to become near-climate-neutral by 2050, by which time the country hopes to emit 95% less CO_2 than in 1990. By 2030, the goal is a 50% reduction. One report addressed the Netherlands' critical metals needs for the production of wind turbines and photovoltaic solar panels. The second report addressed the same needs with respect to electric vehicles.

Why did I select this study over other sources? Because the Dutch bona fides in moving decisively toward renewable energy sources and reducing carbon emissions are beyond dispute. In kilowatts of wind power capacity per capita, the Netherlands is below Germany, but, at 0. 39, is ahead of both the U.S. (0.35) and the European Union (0.27). Measured by the market share of new car sales that are all-electric, the Netherlands ranks fourth in the world, at 25%, behind Norway, Iceland and Sweden; whereas Germany is half that, at 13%, China is at 5.4%, and the U.S. is 1.9%.

Those bona fides carry some weight when discussing an issue as politically contentious as climate change and renewable energy can be. The Dutch studies are intended to facilitate the advance of their economic and industrial policies in the direction of reducing negative environmental impact. That is their bias.

What motivated me to use the Dutch studies, along with their bias? Their opposition counterparty did. I will tell you that in the past year I've received, unsolicited and from an unknown sender, a series of very-high-caliber research reports about climate change and renewable energy. The consultancy/policy think tank that published them impressed me with the research intensity, comprehensive citations, and abstruse original source documents it made use of. The authors of these reports tend to be PhDs, with degrees in mathematics, engineering and economics.

[5] https://www.metabolic.nl/publications/metal-demand-for-renewable-electricity-generation-in-the-netherlands-pdf/ and https://www.metabolic.nl/publications/metal-demand-for-electric-vehicles/

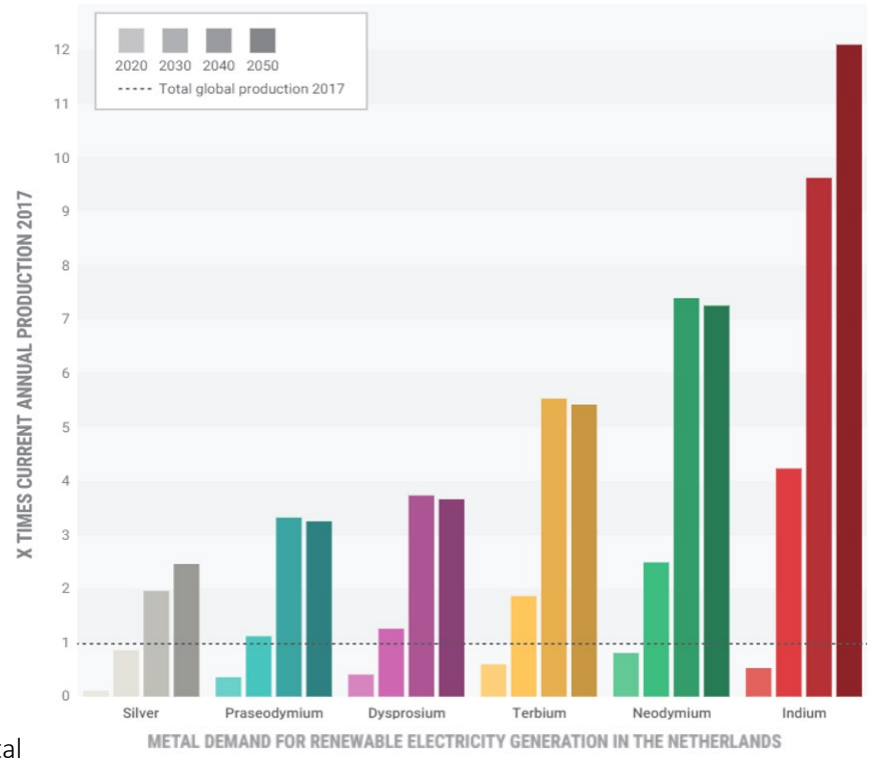
It's all quite impressive. At first, I was quite taken with the wealth of information provided. One of the best examples of high-value original source material came in their report on offshore wind farms. One of over 100 citations, this particular 420-page document was from the U.S. Department of the Interior, Bureau of Ocean Energy Management, entitled Supplement to the Draft Environmental Impact Statement for Vineyard Wind 1 Offshore Wind Energy Project. A proposed windfarm off the coast of Martha's Vineyard.

If a proprietary report of this depth and comprehensiveness were produced by a large Wall Street investment firm, it would cost many thousands of dollars to read. My copies were dropped in my lap; free. They do say, though, there's no such thing as a free lunch.

The entire report on offshore wind was, essentially, an argument that they're simply not cost-effective when the all-in cradle-to-grave manufacturing, operating, maintenance, and environmental costs are tallied. Well, if that's an objective conclusion, so be it. But as I read, I discerned a constant, subtle editorial drift toward the negative. It prompted me to review some of the cited source material. The Martha's Vineyard environmental impact statement was really quite educational. Yet, I had the distinct impression that it was used selectively to cull negative findings rather than with an intent toward unbiased evaluation; put more succinctly, data mining to serve a pre-determined point of view. I would not necessarily have taken the same set of data from that document.

Curiously, other than the consultancy's name, the report did not reveal anything about its principals, sponsors or its mission. A trip to its website failed also to reveal its sponsors, although there is a link facilitating donations. Going elsewhere for this, Wikipedia provided a list of donors that suggests that this consultancy is funded predominantly by corporations and business people whose vested interests would likely be antagonistic to economic or regulatory policies that promote more use of renewable energy infrastructure or increase business operating costs. That is their bias, covert though it may be. But for this review today, I prefer to use reports whose authors disclose their aims and bias up front. Here are some of their findings.

This first chart is the estimate of Netherlands' requirements for six particular metals critical for renewable electricity generation – solar and wind power – over the next 20 and 30 years, relative to current *global* production.



Bear in mind that the Netherlands population of 17 million, is only 5% of the U.S. population, and 1% of China's. And that this study excludes the use of these metals for any other industrial purposes. The Netherlands' future renewable energy policy needs for each of these metals is between 2x and 12x total global production.

The next chart displays Netherlands' estimated requirements for six critical metals to achieve their electric passenger vehicles goals in the next 10 years. The results, while not quite so dramatic, are still rather dramatic. The country would require between 1% and 4.5% of the total current global production of these metals – again, ignoring any other industrial purposes. Some of these metals, like neodymium are also

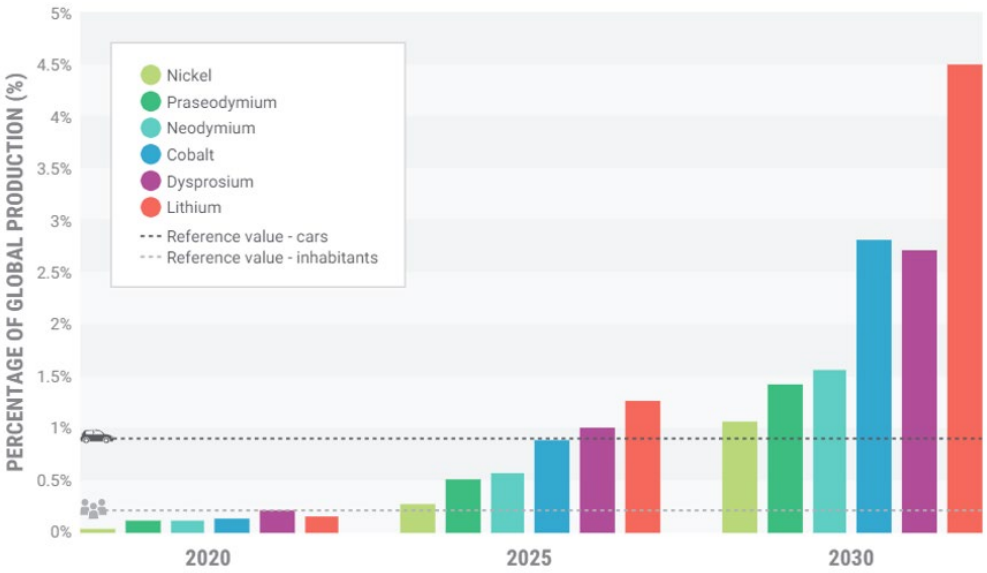


Fig. 8 **Basic scenario for the volume of critical metals required annually between 2020 and 2030 for electric passenger transport in the Netherlands, as a factor of the current worldwide annual production (2018).**

required for their renewable energy programs. Yet, the Netherlands accounts for less than 1% of the world's passenger cars.

Neither of these studies suggests that the Netherlands should not pursue these Paris Climate Accord goals. Rather, they take a comprehensive, implementation-oriented look at the possible methods and policies, including industrial and social planning, necessary to achieve those goals.

One avenue is to pursue a 'circular' economy with comprehensive methods of sustainable recycling. This includes embedding recycling design principles into the manufacture of wind turbines and solar panels to enable re-use of components and materials. This would lessen the country's dependence on primary raw materials in general, and on imports in particular. With respect to the phases of transition, the report recognizes the extremely long period of time it takes to increase raw materials production, upwards of a decade.

CRITICAL METAL CHAINS ARE COMPLEX

Scaling up production locations and opening new mines are often a lengthy and expensive processes. Because of time-consuming activities such as surveying, licensing and the construction of infrastructure, it can take around 10-20 years to open a new mine. The length of time involved implies that substantial private investment needs to be made, at significant risks for mining companies. This factor alone makes a significant growth in global mining production in the upcoming ten years challenging. In the next paragraphs, we discuss a number of other aspects related to mining.

Among other issues are the environmental costs of mining, which is done largely in less-developed, less democratic nations:

Environmental factors: Mining has a major environmental impact in the areas where it occurs. Legal standards for health and the environment increase the costs for producers, and can make mining impossible. Differences in environmental legislation can therefore lead to variations in production. For example, China is practically a monopolist in the production of rare-earth elements (REEs). Efforts are regularly made to break China's monopoly. However, Mountain Pass in California, which was formerly the largest REE mine outside China and had been closed for environmental reasons, was reopened with a Chinese owner, which further reinforced that country's monopoly.

Another important production location for REEs, operated by Lynas in Malaysia, is under fire from the local population because of alleged environmental problems.[43] Also in China, smaller REE mines are regularly shut down because of the environmental harm they cause.

From the perspective of a saver or investor interested in avoiding the inflationary impact of strategic commodity shortages, reading a study such as this can be a clarifying experience.

From the What is *NOT* Research or Information Dept.

Today, on the very morning of this Quarterly Review presentation, an urgent news article about Bitcoin appeared on my phone's Bloomberg news app. It warned of Bitcoin weakness and of futures being liquidated.

Well, I'm speaking this afternoon about Bitcoin, so I thought I'd better see what's up. Don't want to be caught unaware about a significant regulatory change or technological threat to the Bitcoin value model. Or a decision by the community of Bitcoin miners to alter the blockchain coding – that could be very important.

JPMorgan Warns of Bitcoin Weakness as Futures Get Liquidated

Updated on April 21, 2021 9:24 AM

So, here's what's happening so far, according to the article:

> "Over the past few days Bitcoin futures markets experienced a steep liquidation in a similar fashion to the middle of last February, middle of last January or the end of last November," the strategists said.

Yes, that must be so, because Bitcoin has declined from its recent highs. Of course, it's always up or down, in dollar terms. By a lot. It's the most volatile trillion-dollar asset in existence.

Oh, it's about momentum. That's just a way of saying 'what everyone else is doing'. The article goes on to say that:

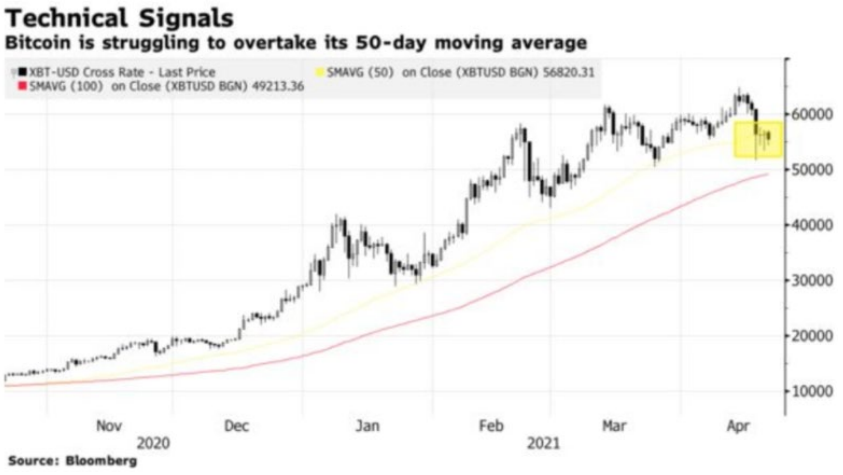
> "Momentum signals will naturally decay from here for several months, given their still elevated level."

> In those three previous instances, the overall flow impulse was strong enough to allow Bitcoin to quickly break out above the key thresholds, yielding further buildups in position by momentum traders.

Yes, what other people are doing. There was also a detailed price chart to visualize this. Now that I understood the analytical framework, the chart's use of obligatory sports metaphors to describe Bitcoin's problem made more sense, also – because it describes what other people are doing.

The yellow-highlighted section of the chart, was explained as Bitcoin "struggling to overtake its 50-day moving average".

Of course, if we did what other people were doing, we wouldn't have owned Bitcoin in the first place. It all makes sense, now; I can go on with my day comforted that nothing significant was afoot.



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