

4th Quarter Commentary

January 2025

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Annual Review: The Three Really Big Things Edition

Preface (Normal Stuff)

End of year. When investors turn from the monthly statement to the annual, and ask the backward- and forward-looking questions. How'd we do? How'd the market do? What to expect now? Prognosticate, if you would.

As December approached, an email from one long-tenured client voiced the queries of many others in a marvelously succinct way. Her two-line observation and question will do excellent service for this year-end review. Transform *review*, with a couple of letter changes, to *revue*, and we have license to say we'll name some of the greatest risks, illumine the most elegant risk dodges, and reveal the most stupefying strategic opportunities. But first, the email exchange.

From: _____

Sent: Friday, November 22, 2024 11:11 AM

To: sbregman@horizonkinetics.com

Subject: The market

Hard not to be glued to my iPad. I keep thinkingthis is totally nuts.

What say you? Are we in the roaring 20's ?

Thanks, _____

Sent from my iPad

From: Bregman, Steven

Sent: Friday, November 22, 2024 12:28 PM

Subject: RE: The market

What, specifically, _____, is totally nuts? If you mean "the market," re. "the roaring 20's" reference, it's up 26% this year. Yes, that's a big year, but not outlandish.

On the other hand, that return is completely driven by the technology sector, which is now over 40% of the S&P 500—*that* is what is nuts and evidence of a bubble market (NVIDIA, Meta, et al). A measure of that "nuts-ness" is to look at the stock market

performance without those top half-dozen stocks. The Russell 2000 is made up of the smaller 2,000 stocks within the Russell 3000 (which covers substantially all of the stock market value). The performance of the Russell 2000 this year is 11%, which is a lot more normal.

So that's a lot of what's going on in the stock market.

Now, if you mean *your* account's performance, that's not nuts either, though it might seem that way if you just look at the performance without reference to the details of it. It's up 103% this year through yesterday, plus another 5% today as of 11:30am. But this year's return has been many years in the making so, by one way of viewing it, it's not all that sudden. Maybe the following train of logic makes more sense of that statement.

First, your account doesn't hold any technology stocks. So that's not it.

- The performance in this case has been primarily from Texas Pacific Land Corp and the Bitcoin-related holdings. You've held TPL since 2016, and the Grayscale Bitcoin Trust since January 2017, so about 8 years each. TPL is now a 59% position and the cryptocurrency funds are 17%.
- We originally bought those as 1) normal size positions for what they were (about 6% for TPL, going by memory, and one-half of 1% for Bitcoin); and 2) strategic assets for long term protection against what we saw as the two principal threats to savings:
 - Commodity price inflation (oil being the principal global commodity, its price ramifies through just about every single product and service imaginable); and
 - Monetary debasement inflation of a serious magnitude (now at the cusp of really happening).

If you'd like more detailed discussion about these (about which we've written for years, now), let me know and I can tell you which of our Quarterly Commentaries discuss those most succinctly.

- As you might know, we took pains to not reduce the TPL or Bitcoin positions over time, despite sometimes concerned queries when their prices either fell significantly at one point or another, or seemed to rise too significantly (“How about taking some profits?”).

There was a very important reason for maintaining those positions intact and not following the conventional academic theory and practice of keeping positions from getting too large in order to minimize account volatility and single-security risk. That reason is *compounding*.

If some business or asset has a fundamental reason for being able to increase its value over time (not talking about stock price, but about intrinsic value like reinvested earnings, book value, scarcity value, and like measures of economic worth) it can eventually become extraordinarily valuable, so much so as to permanently change someone's financial life for the better.

- Example, short time horizon: \$100,000 that compounds at 15% for 20 years becomes \$1.6 million. That's a really big deal. But sell it after a “big move” after three years—say, in the final year, it rises 50% above the 3-year compounding rate—then you end up with \$228,000. Happy, happy. Pay the long-term gains tax and you have \$190,000. Take that level of success and try to repeat it over and over again for a decade or two—not likely.

The point is that something can't compound significantly in value unless you *allow it to*—and that can't happen in three years or five years. If you're familiar with what happens with mortgages, five years after you start paying down a mortgage, it seems like the principal balance hardly budged and all the monthly payments go to interest expense. And that's true. In year 10 or 15, though, you begin to notice that the principal repayments are really becoming meaningful.

In the context of your portfolio, what we were waiting for—assuming that these two assets maintained their economic relevance as we originally perceived they might—was for the position sizes to become significant enough so that the *future compounding thereafter* could truly have a meaningful impact on the portfolio.

- Example, long time horizon: If we sold the Bitcoin Trust position after it had tripled (whoo-hoo!), it would have been a 1.5% portfolio position. What possible impact could that have made on your life? But, at this time last year, the Bitcoin positions had become maybe 8% of the portfolio. If they were to double or triple from there, that really could enhance the value of the portfolio in a meaningful way. As it happened, Bitcoin is up 135% this year.

This is a long way of saying we were awaiting (and in other positions as well) for compounding to truly work, to achieve (as another client put it) escape velocity.

From this point forward, our assessment is that TPL and Bitcoin are still undervalued relative to their long-term economic worth. That is not to say that choices about position size and alternative utility for some of those gains aren't relevant to individual circumstance, but generally speaking, without reference to any specific instance, we not only continue to hold those positions, but to buy them for new accounts.

Hope this clarifies,

Steve

That might seem like a lengthy response, but there's a lot that wasn't in that email; it wasn't a forum for a treatise. This Review, though, *is* the forum.

To Play or Not to Play, That is the Question

An item from that correspondence that begs more explanation is this business of the S&P 500 returning more than twice the remaining 2,500 stocks in the market. The IT (Information Technology) sector stocks rose three times more than the rest of the market. And, within IT, the real action was among stocks associated with AI (Artificial Intelligence). When due diligence teams evaluate us for active management assignments, they typically ask why we don't own ANY of the IT sector, even though we're so-called value investors.

That question reveals as much about them as about us, because it wouldn't be asked about almost any other sector. Uranium mining, for instance. We don't own uranium stocks, it's just a reasoning exercise.

There's a lot of uranium-friendly news: Microsoft recently paying billions of dollars to restart a mothballed nuclear reactor for electric power for its AI data centers; the U.S. restricting uranium imports from Russia and incentivizing new domestic production; and the modernization of the aging U.S. nuclear weapons systems.

It's not actually a sector, though. The entire mining segment of the S&P 500 is only a 0.2% weight, comprised of one copper miner and one gold miner. Outside of the S&P 500, there are at least eight publicly traded uranium companies of over \$1 billion stock market value. Their combined market value of \$35 billion is not as large as either of the S&P 500 mining companies. There are at least three uranium-related ETFs of \$1 billion AUM or more, totaling \$6 billion.

Uranium companies react to good news every bit as well as IT companies. For instance, from this past September 6th, just before Microsoft's nuclear plant announcement, and October 18th, the non-leveraged uranium ETFs appreciated an average of 46%. In the past five years, the largest uranium miner, Cameco, returned an annual 53%.

Horizon Kinetics, for its part in this thought experiment, is presumed to have assessed that the uranium sector already reflects the torrid growth expectations, such that the valuation risk is too great for our tastes. Plus, mining companies are subject to well-established cyclical limitations on sustainable profitability. They're not for us.

Guaranteed: No due diligence analyst would ask why we don't own uranium mining stocks. They understand we have a different risk and margin-of-safety philosophy and, not being indexers, don't own every sector.

The Reveal: If we wouldn't be asked why we don't own the hot-but-valuation-risky Uranium Sector stocks, why are we asked why we don't own the hot-but-valuation-risky Information Technology stocks? If it's not on account of fundamental risk/reward reasons, then what reasons are left?

What's left is *performance comparison risk*. IT is so large a part of the index that to not own a market weighting means near-certain underperformance. Failing to own IT is a problem if you're time- and relative-return sensitive. Alternatively, no matter how great the success of Uranium mining, it won't impact the S&P 500.

Relative return risk is the only reason to buy something you don't feel you should own. The pressure to not underperform is so powerful that it leads to behavioral absurdities. For instance, it is common for analysts and portfolio managers who are negative on a sector to underweight it. It would be a very aggressive and courageous posture, in a diversified strategy, to be so negative on IT as to be 75% underweighted.*

***Sidebar** I guessed at a 75% underweight being feasible but rare for an S&P 500 index-anchored active manager. The wizards who assist producing the *Review* responsibly wished to test that. They downloaded the universe of actively managed large-cap growth and value mutual funds and ETFs. There were 1,106 such funds. They then isolated the most recently posted weightings in the Information Technology and Communications sectors (Meta and Google comprise 72% of Communications).

The median combined IT and Communications weight of these funds was about 37%, versus an S&P 500 weight of about 40%. The highest weight among these 1000+ funds was 77%; none had a zero weight in either of those sectors. As to my top-of-head estimation, not so far off: 2.5% of the funds had an IT/Communications weight of less than 10%, which would be a 75% underweight, so it is feasible for a manager to stray that far from the index, but rare (and probably courageous).

Source: Morningstar Direct

Nevertheless, that is equivalent to telling one's clients: "Because of the very great risk in technology, we've invested 10% of your portfolio in those stocks."

Another version of the imperative to hew closely to a benchmark, such as the Bloomberg Global Aggregate ex-USD Bond Index, is seen among active bond managers of good repute who will nevertheless hold some bonds with *negative* yields, just so as not to risk underperforming. In this instance, it would be a nation's bonds that are objectively overpriced, yet which could become even more overpriced—don't own them, you fall behind.

To Refresh the Valuation Risk Memory, A Hangover Tasting Menu

By the end of every bubble, there is hardly a single sell recommendation to be found among security analysts and strategists to besmirch the best-performing stocks. Yet, no matter how unassailable those stocks seemed at the time, they all collapsed. No matter how extraordinary the businesses, they were felled by the most mundane of business reasons: competition, which was attracted by their high growth and profitability; the law of large numbers, which reduced growth rates after enough years of expansion; regulatory threats, if business success encroached into public policy concerns; and so on.

These next few companies come easily to mind as exemplars, in their days of splendor, of the bluest of blue chips, reliable for indefinite double-digit annual returns, to be held for the grandchildren: Wal-Mart; IBM; GE; Microsoft.

IBM's economic and financial relevance in its heyday is difficult to match. In the 1980s, when it shipped a new model of mainframe computer to its Fortune 500 customers, the sales surge was so great that economists had to take account of the distortion it created when reporting quarterly GDP. The IBM of that era was probably more dominant and revered than today's great technology companies. In 1983, when earnings rose by 24%, the \$6 billion increase exceeded the total revenues of the second-largest computer company, Digital Equipment.

- In the 11+ years between the year-end 1974 share price and the peak in August 1987—five years after Microsoft's operating system enabled IBM to release the first personal computer—IBM's shares, with dividends, returned 15% annually.
- Over the next six years, to September 1993, as the PC eventually decimated the global mainframe industry, the IBM shares declined 75%. This left them at exactly the same price as at end of 1974, almost 20 years earlier. *That was technological obsolescence risk at work.*

Wal-Mart's sales expanded from \$910 million to \$139,208 million¹ in its first 30 years as a public company, from 1970 to 1999, an astounding 28.6% annual rate. *Take that, NVIDIA!* With dividends, the shares returned 38% per year.

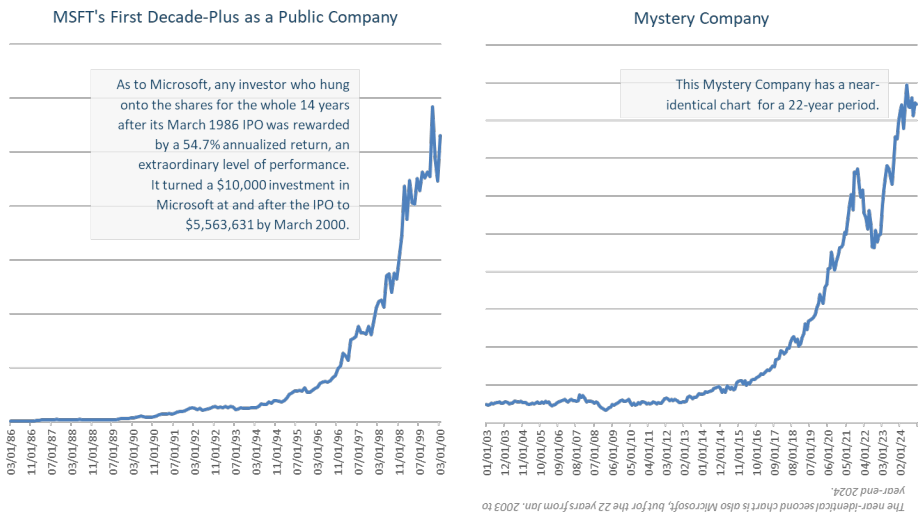
- In the following 17 years, from Dec. 1999 to Dec. 2016, the share price was exactly unchanged, even though the business continued to flourish. It was like spending a generation walking up a down escalator: the year-forward P/E ratio declined from 50x to 14x. *That was valuation compression at work.*

General Electric is another company with decades of remarkable success that, like IBM and Wal-Mart, inspired studies and books. GE's decline, which was really a rolling break-up into its various subdivisions, was due to yet another perfectly ordinary business problem. *In this case, it was management-incentive-system-based bad capital allocation decisions at work*, including the increasing use of leverage and off-balance-sheet arrangements to sustain a high reported growth rate.

¹ Source: <https://dazei.com/2020/03/04/walmart-revenue-worldwide-by-year-graphfarm/>

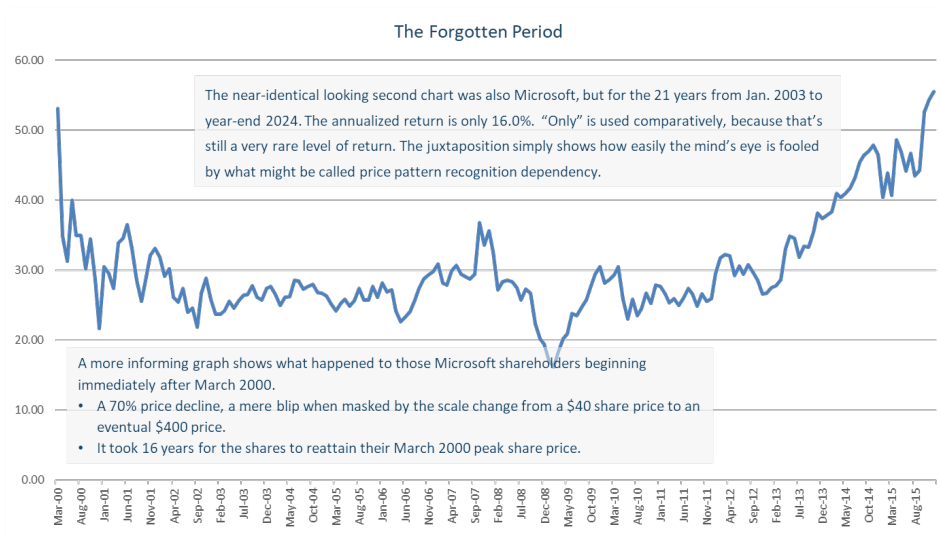
As for **Microsoft**, any investor who hung onto the shares for the whole 14 years after its March 1986 IPO was rewarded with extraordinary returns. That is shown in one of these two charts. The other decade-plus chart shows something different.

The first chart is what a 54.7% annualized return can look like. It turned a \$10,000 investment in Microsoft at and after the IPO to \$5.56 million by March 2000. The near-identical looking second chart is also Microsoft, but for the 21 years from Jan. 2003 to year-end 2024. The annualized return is only 16.0%. “Only” is used comparatively, because that’s still a very rare level of return. This juxtaposition simply shows how easily the mind’s eye is fooled by what might be called price pattern recognition dependency.



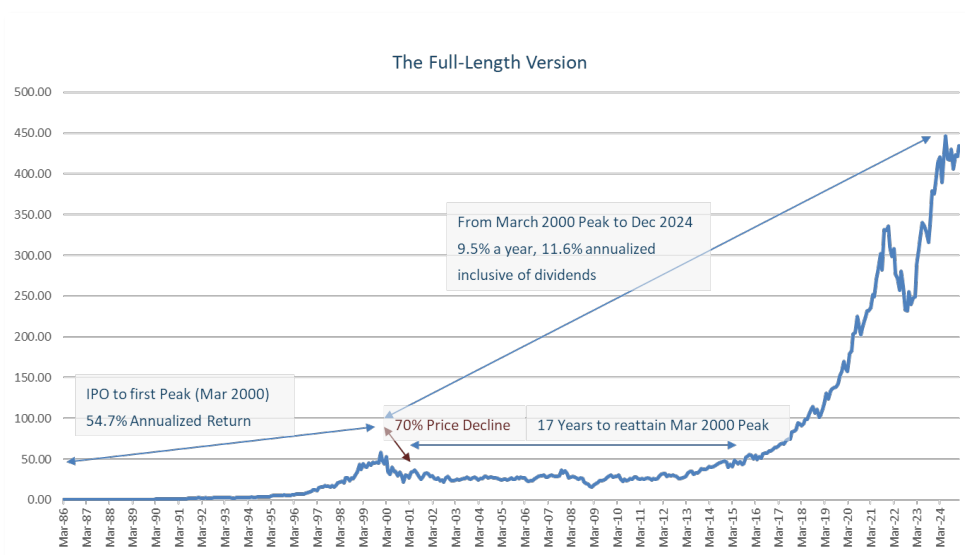
A more informative graph shows what happened to those Microsoft shareholders beginning immediately after March 2000.

- The share price declined 70%. In February 2009, the shares were still 70% below the 2000 peak.
- It took 16 years for the shares to reattain their March 2000 peak share price.



Now, extend the graph from the IPO all the way to now, and the inferred message changes again:

- In this full-length version, it’s actually easy to miss the 70% price collapse. It’s a mere blip when masked by the scale change from a \$40 share price to an eventual \$400 price.
- Also masked is the deleterious impact of time upon the rate of return. In the full 25 years since the peak price, enough time to conceive, raise and put a child through college, the shares rose 8.2% a year.

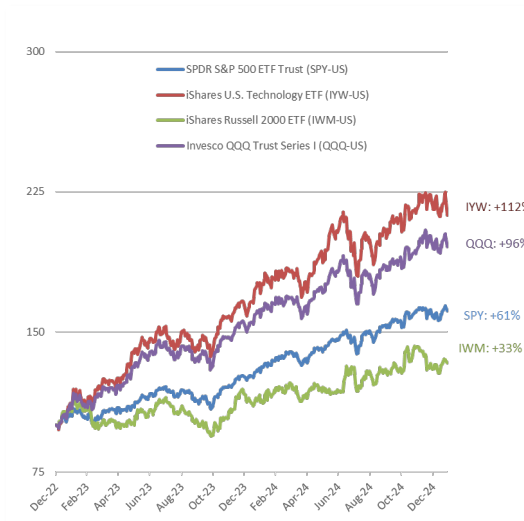


This is not a terrible return; the S&P 500 annual return was 5.7%. That’s not the point.

The point is to be aware of how poorly we’re equipped to make investment judgments based upon price behavior and performance alone, without further context and analytical information.

And, aware of that, to not be mesmerized by—and to not misunderstand—the intent behind this next and last chart. It’s what investors see, in one fashion or another, every day.

For anyone beckoned by this chart of the market leaders, particularly relative to the benchmark (which is to say IT-stock-dominated) indexes, they should pause and consider. Consider whether this is the question you want to ask yourself about the way you allocate your savings. The question from the Clint Eastwood detective, Harry Callahan, in the movie *Dirty Harry*, “Do I feel lucky?”



Or, Whether ‘Tis More Prudent to Play a Different Game

Can’t the IT stocks continue to outperform? Well, they could—they’ve been doing it and doing it—but the question is of time, of exactly how long until the music stops. One can’t know. What you can know is that you don’t have to play. There’s no law. But there is the regret of missing out.

The thing is, you don’t have to miss out. There are other ways—far better, more sensible ways—to try to benefit from the trillions of dollars of investments that will be made in the AI sector. Ways that won’t require you to ask, “Do I feel lucky?”

Before describing those, a pre-condition for trying to secure extra return *on* investment capital—like by not having a 40% exposure to a classic technology bubble—is to try to insure the return *of* your capital. Risk control.

Among the foremost risks to avoid are systemic risks, those that impact broad swathes of securities or industry sectors. The most destructive of these is outright confiscation by the government, which does happen. More popular among governments, though, are taxation and inflation. These are also confiscatory and likewise at the hand of government policy; they just take a different guise.

From the governing perspective, income taxes have their limitations. They are very noticeable and very unpleasant. At too high a level, taxpayers get restive; that’s a type of risk to which the political authorities are fairly sensitive. Inflation has the elegant property, done slowly enough, of a kind of stealth that better escapes notice. There are benign periods, the steady 2% or 3% inflation-rate variety, when one needn’t worry exceedingly about it from one year to the next. The current environment is threatening to *not* be one of those benign periods.

Inflation’s two major forms are physical and monetary. Physical might be an increase in the price of grain due to poor weather or pestilence. A physical asset form of inflation that is simultaneously a monetary inflation, yet not necessarily a government monetary policy, would be from a gold supply shock in a gold-currency economy, such as from the discovery of major new reserves.

In gold-standard days, the policy-based form of metal money inflation was known as debasement, when the ruling power, in order to fund spending, put more base metal and less precious metal in each coin. Almost every currency eventually succumbed, to the point of collapse, to policy-based excess increases in—or inflation of—the supply of money, which devalues the worth of each unit. Hyperinflations are principally known among paper- or fiat-currency economies, because unlike precious metals, producing excess paper money is not constrained by the 12.5¢ production cost of a \$100 bill.

A signal question today—though not in the public discourse—is whether severe monetary inflation and higher interest rates are in the cards. Because if they are, one of the first casualties will be high-valuation stocks. And bonds, of course.

Why are high-P/E stocks more sensitive to a rise in interest rates, which is to say valuation multiple contraction? Partly because when people pay 30 years’ worth of this year’s earnings for a business known as a growth stock, most of the earnings won’t be seen until many years in the future. Summing up all those future earnings as a present value today, but discounted at a low interest rate, results in a high current value. But if a higher interest rate is used, 8% instead of 2%, the current mathematical value of those far-off earnings is much lower. Way lower.

High Growth, High P/E Multiple Company A

| Year | Earnings/Sh. | Present Value, | | Mkt. Value Change |
|--------------------|--------------|-----------------|----------------|---------------------------|
| | Growing at: | Discounted at: | | Between Interest Rate of: |
| | 15% | 2% | 8% | 2% and 8% |
| 0 | \$1.00 | | | |
| 1 | \$1.15 | \$1.13 | \$1.06 | -6% |
| 10 | \$4.05 | \$3.32 | \$1.87 | -44% |
| 15 | \$8.14 | \$6.05 | \$2.57 | -58% |
| 20 | \$16.37 | \$11.01 | \$3.51 | -68% |
| 25 | \$32.92 | \$20.07 | \$4.81 | -76% |
| 30 | \$66.21 | \$36.55 | \$6.58 | -82% |
| Cumulative: | | \$314.51 | \$91.67 | -71% |

For Illustrative Purposes Only. Source: Horizon Kinetics Research.

In contrast, the price of a high-dividend-yield stock, like 7%, which grows only modestly, is far less responsive to a rise in rates. That’s because much more of its value is actually earned and received within the near future.

Why would severe monetary inflation arise in the first place, what would cause it? Specifically, is the U.S. at risk, because of the combination of now-record debt/GDP leverage, a massive annual budget deficit, and a record interest expense burden? The risk is of tipping over into a debt leverage/interest expense/borrowing cycle from which the economy is incapable of growing its way out. That has never happened before in this country, although it has happened almost everywhere else.

There's a way to visualize how this would happen and what it means at the human level for individual savings. Only a few facts are first required in order to look at this.

- The U.S. federal debt is now at a level, 122% of GDP, that it's never been before.
- Federal spending each year exceeds tax revenues—this is the budget deficit—by \$1.8 trillion, or 6.4% of GDP.
- The interest expense on the debt this year will account, for the first time, for over 50% of the budget deficit. It is projected to exceed, for the first time, spending on each of Medicare, Medicaid, and Defense.

With these and a few related numbers, albeit in very casual fashion, one can see how events might unfold. In the following table, the Congressional Budget Office's projections for this year and 10 years from now are taken as is. They project somewhat less than 2% annual growth in economic output and...ahem!, excuse me, for a moment...2% inflation for the next 10 years. The debt/GDP ratio rises to 133%.

Most importantly, interest expense will be 60% of the total deficit. Debt service will have ballooned from less than 50% of GDP growth presently, to 108% of yearly nominal GDP growth. That means that if nominal GDP in Year 10 is \$42,330 billion, and if GDP expands by a real 1.8%, or \$762B, that is less than Net Interest expense of \$1,694B. Which shows that the economy can't grow fast enough to pay down debt through productive capability, only through monetary inflation to "fake" a larger economy. That's when things would go awry. The U.S. Government Accountability Office and Treasury noted that this base case describes an unsustainable fiscal path.

Yet, this is still a benign scenario. First, the CBO projection assumes that interest rates on the Federal debt will average 3.5%. Today, the government has to pay 4.6% to sell someone a 10-year Treasury note. That difference alone, relative to the current 2.5% average rate on the debt, is almost \$1 trillion a year in interest expense and would alter the whole projection for the worse. It is not clear from the CBO figures whether their projection includes an allowance for a recession. It almost certainly does not include war or the current scale of annual storm disaster relief upon outlays or tax revenues.

The purpose of the table is to show, by changing only one factor, why the political path of least resistance is inflation, and how it works. If the government's own projections are that the economy can't grow fast enough to outrun the current debt build-up, a well-worn go-to answer is to create money at a faster rate than real economic output. That raises the price level of every product and service, so when measuring the dollar value of those products and services, reported GDP becomes that much higher. And there is more money volume to pay for maturing bonds.

Unfortunately for bondholders, the face amount of their holdings doesn't get trued up by an inflation adjustment: the \$100,000 of bonds you bought stays \$100,000. They don't then become \$105,000, then \$110,250 and so on, like the reported, inflated GDP does. From the government's viewpoint, the total dollar value of GDP can be made to increase faster than the debt, so that over the course of a decade or so the ratio of debt to GDP decreases.

This is the basis, in the table below, for the one change made to the CBO budget and economic projections. Rather than let the Debt/GDP ratio rise to 133%, we set it to 65%. This was at the high end for the 40 years from 1965 until the 2008 Financial Crisis blew up the historical debt levels. So we'll call that a conservative solvency level. All the other changes in the table derive from requiring that the inflated version of GDP becomes large enough to get to a 65% debt/GDP ratio. How much inflation there will have been is determined by comparing the difference between the reported GDP in Year 10 with the smaller figure represented by basic economic output growth of 1.8%.

To return to a 65% debt/GDP level in 10 years, the government would have to create price inflation almost 10% a year above the rate of economic output. That boosts the reported GDP figure from what would have been \$42 trillion to \$87 trillion, reduces the debt/GDP ratio to the target 65%, and interest expense to less than 40% of GDP growth.

Unfortunately, the general price level in the U.S. would increase 2.5x, which means bond holders are paid off with money that has 60% less purchasing power. It's a crudely simplistic exercise that can't possibly be accurate. Its sole

purpose is to display the attractiveness of inflation from the government’s point of view. As opposed to, for instance, cutting transfer payments and raising taxes to the degree of voter revolt.

10 Year Projections by Congressional Budget Office (as of Jan 2025)

| | Current | CBO Projection | Fiscally Responsible Alternative: | Comments |
|---|----------|----------------|--|---|
| | | | Debt/GDP Target of 65% via Higher Money Supply | |
| Real GDP Growth, annl'zd | 2.9% | 1.8% | 1.8% | |
| Inflation, annl'zd* | 2.4% | 2.0% | 9.6% | A 9.6% inflation rate (reported GDP of 11.6% - 1.8% real growth) is required to reduce debt to historical levels. Over 10 years, that raises prices by 150%. |
| Nominal Growth, annl'zd | 5.5% | 3.8% | 11.6% | |
| Nominal GDP | \$28,828 | \$42,330 | \$86,763 | "Real" 1.8% GDP growth, starting from \$28.8 trill., would be \$34.4 trill. Reported GDP of \$86.8 trill. will be 2.5x the actual economic output figure. Holders of U.S. Treasuries own the same \$56 trill, but price levels will 2.5x higher. They are paid in money with 60% less purchasing power. |
| Gross Federal Debt | \$35,230 | \$56,396 | \$56,396 | |
| Gross Fed Debt (growth/yr) | 6.8% | 4.8% | 4.8% | |
| Debt/GDP | 122% | 133% | 65% | This is the one factor changed: reducing the debt ratio toward the long-term average. |
| Deficit (Change in Tot Debt) | -\$2,241 | -\$2,806 | -\$2,806 | |
| Net Interest | \$881 | \$1,694 | \$1,694 | Net interest of \$1.7 trill., divided by Debt of \$56.4 trill, presumes an int. rate of 3.0%. Today's 10-Yr Treasury yields 4.6%. At 4.6%, interest would be \$2.6 trillion, 50% higher. This alone changes the whole projection. |
| Net Interest as % of Nominal GDP Growth | 47.5% | 108.4% | 39.2% | |
| Deficit as % of Nominal GDP | -7.77% | -6.63% | -3.23% | |

* GDP Price Deflator

For Illustrative Purposes Only. Source: Horizon Kinetics Research.

The AI IT Market

The IT market is becoming the AI market. With extraordinary rapidity.

- NVIDIA’s H100 GPU chip, designed for datacenters and their burgeoning cloud computing needs, was commercially released in September 2022.
- OpenAI made its public debut of ChatGPT, the AI natural language generating software, in November 2022.
- By February 2023, ChatGPT had 100 million monthly users, a record rate of adoption for a new application.
- Oracle’s Larry Ellison was quoted in *Fortune* describing the efforts he undertook, along with Elon Musk (whose AI venture xAI was founded in March 2023), to acquire more H100s from NVIDIA’s Jensen Huang over sushi at Nobu Palo Alto. “I would describe the dinner as ... me and Elon begging Jensen,” Ellison recalled. “Please take our money. By the way, I got dinner. No, no, take more of it. We need you to take more of our money.”²

Firms seen as expanding revenue most rapidly into AI-related growth services and infrastructure are now leading the stock market, even leaving some of the old vanguard behind.

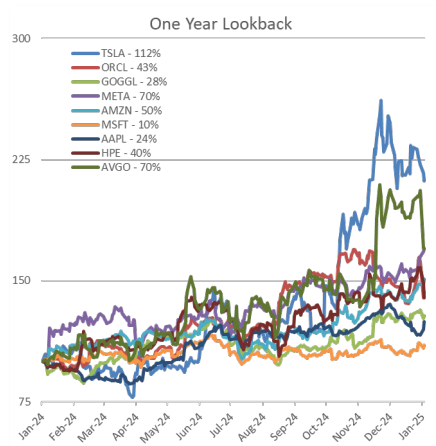
² Amanda Gerut, “Larry Ellison and Elon Musk ‘begged’ Nvidia’s Jensen Huang for more GPUs,” *Fortune*, September 16, 2024, <https://fortune.com/2024/09/16/larry-ellison-elon-musk-begged-nvidias-jensen-huang-more-gpus-fancy-sushi-dinner/>

MARKET COMMENTARY

4th Quarter 2024

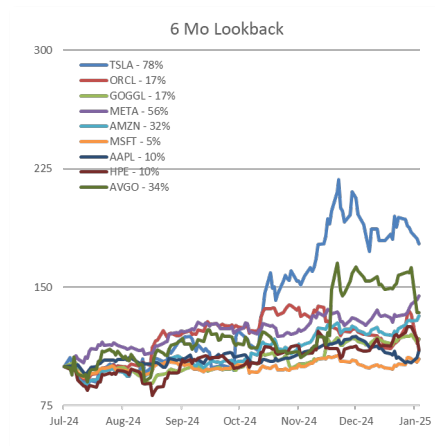
In the past 12 months: NVIDIA, Broadcom, and Tesla are in front, followed by Oracle, Meta, Hewlett Packard Enterprises (HPE), and Amazon, which are way ahead of Google, Apple, and Microsoft.

For the past six months: Tesla and Broadcom are in the lead again, then Oracle, Meta, and Amazon, followed by NVIDIA and, again, HPE. Microsoft, Apple, and Google brought up the rear.



Source: Factset.

January 2025



A few examples:

- Haven't heard of **Hewlett Packard Enterprises** for a while? One of HPE's specialties is liquid-cooled servers, a necessity for the ever-hotter energy intensive AI chips and servers. Its largest customer group: top data processing center owners, companies like Microsoft, Amazon, and Meta, which are building the ever larger, billion-dollar-class of data centers. The reason HPE's fourth quarter revenue rose 15% above the prior year is because its AI-related revenue rose by 300%.
- **Broadcom**, the semiconductor manufacturer, is also being driven by AI demand. Its 2024 revenue rose by 44%, within which its AI revenue grew 220%.
- **Oracle's** growth from its cloud infrastructure service, which trains generative AI models for companies like Meta, was likewise many multiples greater than its roughly 10% company-wide revenue growth. Again, the same overlapping customers.

As much money as these companies at the forefront of providing AI services must spend, it exceeds even their vast financial capabilities to continue to fund on their own. To protect their balance sheets and keep some brick-and-mortar assets off their books, a subsidiary growth market has arisen for turn-key exascale data center campuses built by specialized manufacturer-operators.

MARKET COMMENTARY

4th Quarter 2024

January 2025

The exigency propelling these companies is that AI is so transformative a development that to not remain a leading participant is to risk being this era’s version of the 1980s IBM mainframe giant to giant-killer Microsoft’s personal computer operating software. They will spend whatever is necessary to protect their trillion-dollar market values. Failure to secure a critical-mass market share would mean ignominy and corporate irrelevance.

That seemingly flat blue line at the bottom of this chart of Microsoft since 1990? It’s IBM.



There is no shortage of news describing the inevitability of the spending on the AI effort.

- Earlier this month, Microsoft President Brad Smith portrayed AI as the fourth industrial revolution, following the steam engine in the 1700s, electric power in the late 1800s, and computer chips and software in the second half of the 1900s. Each economic revolution was based on the emergence of a general-purpose technology that improved innovation and productivity throughout the economy.
- Of Microsoft's \$80 billion spending plan in 2025 for AI investments, more than half—to build AI-enabled datacenters and train AI models and cloud-based applications—will be in the U.S. That's almost twice the company's total capital spending last year on all fronts.
- That January 3rd announcement was followed on January 22nd by President Trump announcing an AI joint venture named The Stargate Project. Aspirationally called a \$500 billion venture, the initial figure is to be \$100 billion, funded by Oracle, OpenAI, SoftBank, and the Emirati investment firm MGX Fund Management.
- That was followed by Meta's January 24th announcement that it would spend up to \$65 billion this year on AI projects in 2025. This includes, per Mark Zuckerberg, a data center "so large that it would cover a significant part of Manhattan." That's twice the company's 2024 capital expenditures and 25% higher than Wall Street analysts expected for 2025.

Bloomberg

Technology | AI

Microsoft to Spend \$80 Billion on AI Data Centers This Year

By Brody Ford

January 3, 2025 at 2:13 PM EST

Microsoft Corp. plans to spend \$80 billion this fiscal year building out data centers, underscoring the intense capital requirements of artificial intelligence.

More than half of this projected spending through June 2025 will be in the US, Microsoft President Brad Smith wrote in a [blog post](#) on Friday. Recent AI progress is thanks to "large-scale infrastructure investments that serve as the essential foundation of AI innovation and use," Smith wrote.

Cloud infrastructure providers like Microsoft and Amazon.com Inc. have been racing to expand computing capacity by constructing new data centers. In the previous fiscal year ending in June 2024, Microsoft spent more than \$50 billion on capital expenditures, the vast majority related to server farm construction fueled by demand for artificial intelligence services.

yahoo/finance

Trump announces \$500 billion 'Stargate' AI venture headed by Oracle, OpenAI, SoftBank

Alexandra Canal · Senior Reporter

Updated Wed, January 22, 2025 at 4:37 AM EST

President Donald Trump on Tuesday announced a new \$500 billion private sector investment to build artificial intelligence infrastructure in the US, with Oracle, ChatGPT creator OpenAI, and Japanese conglomerate SoftBank among those committing to the joint venture.

The joint venture, called Stargate, is **expected to begin with a data center project in Texas**, according to CBS News. Company execs were expected to commit to an initial investment of \$100 billion at an appearance at the White House Tuesday. Other companies are expected to join the venture and bring investment in the program up to \$500 billion in the coming years.

Bloomberg

Meta to Spend as Much as \$65 Billion on AI Efforts in 2025

Dana Wollman

Fri, January 24, 2025 at 9:43 AM EST

Bloomberg

What Is China’s DeepSeek and Why Is It Freaking Out the AI World?

Laura Bratton

Updated Mon, January 27, 2025 at 9:34 AM EST

yahoo/finance

Nvidia, chip stocks plummet amid market sell-off as DeepSeek prompts questions over AI spending

Saritha Rai and Newley Purnell

Mon, January 27, 2025 at 5:31 AM EST

Chinese startup DeepSeek released a new AI model on Jan. 20 viewed as a threat to OpenAI. American venture capitalist Marc Andreessen called the model “one of the most amazing and impressive breakthroughs I’ve ever seen.”

The news came just a month after DeepSeek said one of its latest AI models cost just \$5.6 million to train. Meanwhile, OpenAI’s GPT model cost more than \$100 million to train.

DeepSeek, a few words.

In an unexpected call from a client on January 28th, about the January 27th news articles about Chinese AI model DeepSeek, the following urgent question was posed: How terrible are the implications for spending growth of the AI hyperscaler companies now that AI models can be developed for \$6 million instead of a gazillion dollars?

What I said in the moment, unstudied and ignorant of relevant facts, went like this. It was not an analysis, nor a prediction. Just extemporaneous impressions:

The Jan. 27th articles were not new news. I’d saved one from Jan. 12th, two weeks earlier, that discussed it, for possible use in this Review.

Meta was certainly aware of it before yours truly when it made the January 24th announcement to dramatically increase its AI spending. Yet it did so anyway.

More than a few dramatic technology breakthrough announcements have been known to be less, upon review, than they at first appeared. Before independent verification—scientific-method-wise—one can’t comment with any authority.

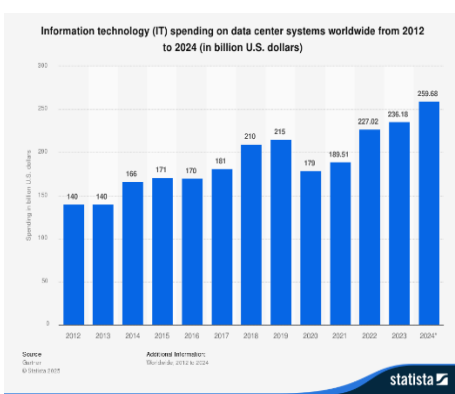
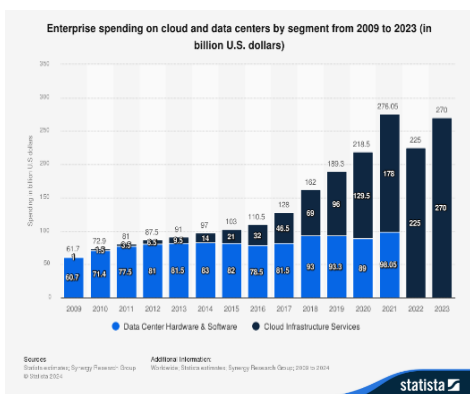
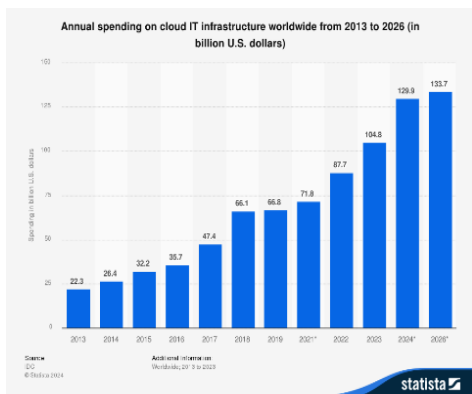
And what if true? If that order-of-magnitude performance/cost breakthrough is true, that might be an even greater boon to AI spending. The use cases for AI are so deep, wide and all-pervading in the true economic productivity sense, that the pace of adoption and the volume load upon data storage, retrieval and processing might even accelerate. The build-it-and-they-will-come phenomenon.

Speaking of which, with every new textbook, animated movie, pop song, phone message, MRI and X-ray study, blood test, casual dissemination of wedding photos and videos to a perhaps vast network of family and friends—and on and on and on—that storage, processing, and retrieval load increases. Every second of every day. The cloud is essentially an always-on draw on electric power of immense and constantly expanding magnitude.

The data center growth phenomenon and its claim on power and water resources was already in place before the NVIDIA H100 chip.

I was not perturbed, perhaps only a function of ignorance or misinterpretation, but there will be plenty of facts forthcoming, no doubt.

Pre-2024 IT Infrastructure Spending Growth



This is happening. So, how to invest without having to feel lucky?

The old refrain here at HK Central is that the best way to earn money from new, world-transforming technology is rarely in the technology itself. Technology like the lightbulb, the radio, television, car manufacturing, and airlines. That's usually a complex selection choice, with uncertain winner and profit outcomes—and, to boot, a crowded, expensive trade.

Rather, seek out a business that in some way is necessary to—or enables—the technology developers to do whatever they will do, which is winner-indifferent, and which is a long-term fee collector.

Semantic Confusion in Technology Investing & Allocation

There's lots of technology and IT in HK portfolios—it's just not labeled as such. It's embedded in existing and profitable businesses that distinctly benefit from employing it. That's very different than trying to choose a winning technology. It is tech-winner indifferent. A technology company abhors competition; a technology user relishes it.

Securities exchanges in their modern guise—the oceans of transactions, computations, and data processing at lightning speed—are enabled by the most highly advanced and sophisticated IT.

The most important energy reserve in the U.S.—the Delaware Basin, responsible for flipping geopolitical relations with OPEC and much of the rest of the world—was a direct consequence of improved technology. This includes the IT necessary to operate a modern oil well. The most significant direct profit beneficiary of those advancements might have been Texas Pacific Land Corp.

The world's first non-debasable, non-confiscatable money, Bitcoin, was enabled by IT.

So, actually, you could say we're a technology-centered investment firm.

Thing 1: Natural Gas



Financial news outlets and investors were early to realize that a limiting factor for data centers is electric power availability. The first indication was the essentially zero vacancy rates in hubs like Northern Virginia, where these centers were driving up local utility rates. Then came the news that the power requirements of the newer class of data centers wouldn't merely compete for a portion of a town's power, but take all of it.

The Lawrence Berkeley National Laboratory, in an analysis released last month for the U.S. Dept. of Energy, shows U.S. data center energy consumption from 2014 onward.³

- In 2018, data centers accounted for 1.9% of total U.S. electricity consumption.
- In 2023, they increased to 4.4% of the national total.
- The expected range for 2028, just three years from now, is between 6.7% and 12%.

The additional requirement, estimated at between 149 terawatt hours (TWh) and 404 TWh, is beyond all experience. More than that, it is beyond capability.

To explain this statement, the U.S. consumed 4,000 TWh of electricity in 2023. It used exactly the same amount five years earlier in 2018. In 2010, the figure was 3,887 TWh.⁴ In those 13 years, consumption rose 2.9%, or by 0.2% annually.

That frames the capacity of the system: the utility power plants, transmission lines, etc. The time frame for planning, application, and zoning, as well as the review process within the regulated power system? Adding capacity at a remotely suitable pace is simply not going to happen.

Nor does the additional 3% to 10% demand include the power needs for ongoing electric vehicle adoption, electrification of industry, and new building construction.

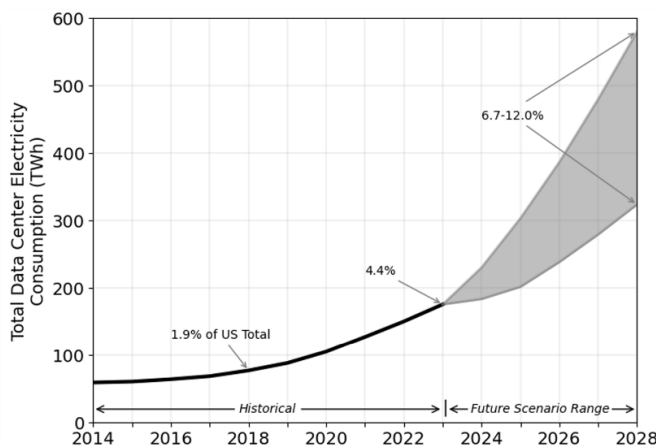
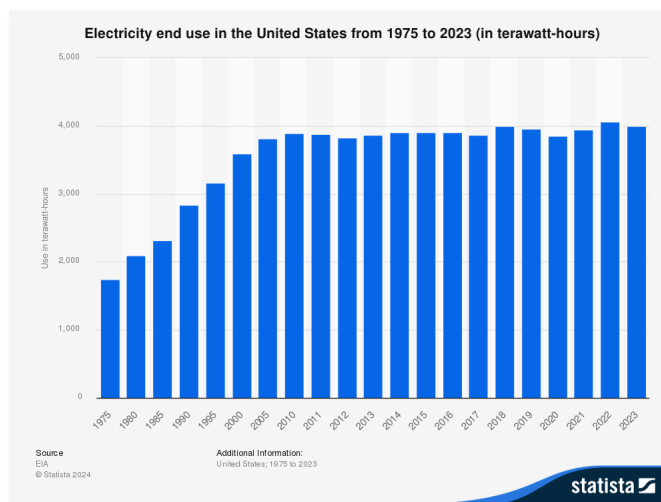


Figure ES-1. Total U.S. data center electricity use from 2014 through 2028.

As Figure ES-1 shows, U.S. data center annual energy use remained stable between 2014–2016 at about 60 TWh, continuing a minimal growth trend observed since about 2010. In 2017, the overall server installed base started growing and Graphic Processing Unit (GPU)-accelerated servers for artificial intelligence (AI) became a significant enough portion of the data center server stock that total data center electricity use began to increase again, such that by 2018 data centers consumed about 76 TWh, representing 1.9% of total annual U.S. electricity consumption. U.S. data center energy use has continued to grow at an increasing rate, reaching 176 TWh by 2023, representing 4.4% of total U.S. electricity consumption.



³ Shehabi, A., Smith, S.J., Hubbard, A., Newkirk, A., Lei, N., Siddik, M.A.B., Holecek, B., Koomey, J., Masanet, E., Sartor, D. 2024. 2024 United States Data Center Energy Usage Report. Lawrence Berkeley National Laboratory, Berkeley, California. LBNL-2001637
⁴ <https://www.statista.com/statistics/201794/us-electricity-consumption-since-1975/>

Necessity and motivation being the mothers of invention, the leading AI service companies are developing their own private sources of power outside the scope of the regulated utility system.

Investors already recognize this limiting factor, and that AI success will depend upon securing non-intermittent electric power. Data centers, unlike bitcoin miners, cannot engage in demand response and regulate their power usage depending on weather patterns. That power will be nuclear and natural gas. There is no other sufficient source. For example, total renewable energy consumption in the U.S., which includes hydro and biomass, is roughly 350 TWh.⁵ That means that solar and wind—even if they were feasible from the always-on power reliability perspective—would have to double in the next few years to provide the anticipated power need. In the five years through 2023, renewable power volume increased by less than 10%. That will not be the pathway.

The pathway is thermal power, which means nuclear and fossil fuel. New capacity from coal is socially and politically proscribed. Oil is used minimally in electricity production. Nuclear power, as Microsoft demonstrated, will have a role, but the timeline for developing new capacity is a longish one. That leaves natural gas, which in general terms is plentiful and cheap, and for which generation equipment is likewise available.

“Data is the modern day oil,” said one realtor specializing in Texas data center leasing. How about a more valid restatement, since data in the modern construct can’t exist with even a second’s absence of electric power:

“Oil is the modern day oil.”

For the first-mover-advantage time frame of the AI leaders, the combined power of human nature and incentive systems dictate that they will move whatever mountains they must to secure electric power themselves. The first limiting pathway to that power is natural gas.

The assessment of the institutional investment community, though, is at odds with that of the very companies they value so highly. The investment community has definitively expressed their opinion, via the trillions of dollars allocated to the various economic sectors of the S&P 500, that the weighting in Energy should be only 3.2%.

If the index Energy weighting were to be based on the amount of natural gas within these companies’ revenues (based on the ratio of gas within the combined oil, gas, and natural gas liquids production), it might decline by another 90% or more. In the decades before the crowding out effect of the IT sector, the Energy weighting was typically several times greater than the current 3%. If AI will indeed be the fastest growing sector of the economy, how can Energy not be close behind? Ordinary investment portfolios are strategically underinvested in this sector.



The image shows a snippet of a news article from the Dallas Business Journal. The article title is "Trump, Dubai billionaire outline \$20B data center building spree that'll impact Texas". The author is Alexa Reed, Digital Editor. The article was published on Jan 7, 2025, and updated on Jan 7, 2025 at 1:38pm CST. The snippet includes a short paragraph about President-elect Donald Trump's \$20 billion plan to ramp up data center development across the United States, and a quote from Emirati billionaire Hussain Sajwani regarding an investment in Texas data centers.

.....
 "Data is the modern day oil," said John Pasta, a real estate veteran with 13 years of experience in data center leasing. "The data center real estate business is probably the most important and valuable real estate asset class that there is. The most sophisticated groups that are looking for large amounts of electric capacity are certainly focused on Texas." Pasta said.

⁵ https://www.eia.gov/totalenergy/data/monthly/pdf/sec1_3.pdf

Thing 2: Water

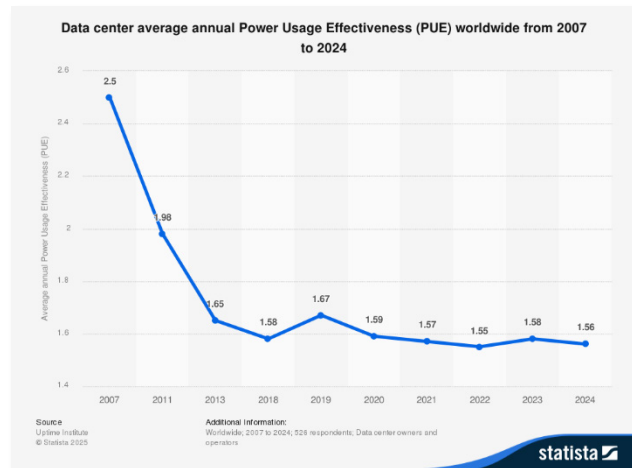


A one-gigawatt data center on 1,000+ ideal acres proximate to plentiful gas supplies—yet remote from any population center—can have successfully constructed the necessary buildings, stocked them with servers, and built its own ready-to-go natural-gas-fired electric power plant, but still be unable to operate. The problem? As much as a data center requires a utility-scale supply of electric power, it requires a utility-scale supply of water.

The water is partly for cooling the servers, since each NVIDIA H100 GPU draws up to 700 watts, like running a microwave oven. Those hundreds of thousands of servers are stacked in cabinets, and the cabinets lined up in rows, and the rows in columns. Cooling a 1 GW center requires an estimated 150,000 to 200,000 barrels of water per day.⁶

Water is also required for the electric power plant (just as for any thermal power plant, including nuclear). That’s because they operate by heating water to steam, which drives the turbines and, in turn, the electric generators. When the steam is thereafter cooled to recondense as water to be reused, some is lost to evaporation. The water lost this way, measured as gallons per kilowatt hour, is calculated by the U.S. Geologic Survey according to the type of generation (coal, nuclear, etc.) and the cooling system used (e.g., recirculating pond vs. tower). Consumption for a 1 GW natural gas combined-cycle plant with a recirculating tower would be roughly 114,000 barrels/day.⁷

With these two measures alone, such an exascale data center would require about 300,000 barrels of water per day. In practice, it would need to be on the order of 50% to 100% more than that, for reasons of back-up power redundancy (a second plant running in the background in the event of breakdown or maintenance for the primary plant) and energy transmission inefficiency losses relative to the nameplate capacity of a powerplant. This latter measure, known as Power Usage Effectiveness, is the ratio of the total power supplied to a facility divided by the power used to run the IT equipment. At about 1.5x, it hasn’t improved much in recent years.



These water volumes might seem incredibly massive, but they simply mirror the utility industry at large: The most extensive use of water in the U.S., taking over 40% of the over 300 billion gallons of water used daily, is for thermoelectric power. The next-largest use, over one-third, is for irrigation; the public uses 12%.

And water at scale is not necessarily so easy to locate. Population centers don’t want data centers—not for the noise, the higher electric bills, nor the higher water bills. Far from population centers, where there might be land aplenty and possibly even natural gas, data centers are anathema to farmers, who are already suffering from aquifer depletion due to overuse. Moreover, the rate of groundwater depletion has increased in recent decades.

The important Thing is:

⁶ David Capobianco, Chairman of LandBridge Co. LLC and Director of WaterBridge, one of the largest water infrastructure companies in the Permian Basin, interviewed on Cool Vector, 12/19/24. <https://x.com/CoolVectorMedia/status/1869759599223435692>

⁷ Harris, M.A., and Diehl, T.H., 2019, *Withdrawal and consumption of water by thermoelectric power plants in the United States, 2015: U.S. Geological Survey Scientific Investigations Report 2019–5103*, 15 p., <https://doi.org/10.3133/sir20195103>

- Water is an absolute limiting factor, therefore a necessity, to the growth trajectory of the \$17 trillion of stock market value embodied by just the 10 or so suddenly-AI-centric companies mentioned earlier.
- Which means that water is a functional asset class necessary to the growth of the largest stock market sector. The two sectors are inextricably intertwined—or, in investment-speak, covariant.
- Yet water has no presence in the indexes.
- The demand for water, because this has all developed so rapidly on the heels of the AI explosion, has yet to even be recognized by the investment community. Talk about the truly intriguing side of predictable extreme supply-demand imbalances.

Segue to our Strategic Portfolio Positioning (before introducing Thing 3): Where AI Meets the Permian Basin: Land, Energy, and Water

Water, in the business context we're discussing, does not exist on its own. It is a resource generally attached to land ownership. Just as oil and natural gas are attributes of land ownership or specific mineral interests in that land. And land, despite being the largest actual physical economic asset in the U.S., does not exist, for practical mass market allocation purposes, in the stock indexes. The sole exception within the S&P 500, as of its November 2025 inclusion, is Texas Pacific Land Corp.

Land has unique investment features. The first is perpetuity; businesses come and go, but land is forever. An extremely rare feature is that the land supply, on a per-capita basis, is in constant *decline*; there is ever less acreage per person. Another extremely rare feature is that there can be higher, better uses over time for a given tract of land. These and other characteristics serve to make it both an inflation hedge and beneficiary over time, and one that is not much correlated with the ordinary business cycle.

This partly illumines why Horizon Kinetics has made exposure to land, energy, and water—among the most economically essential, long-lived and displacement-resistant asset classes—an important exposure in our portfolios.

One might ask: How profitable can water possibly be? Or an acre of scrubland far from any population center? Here is one rough sketch, centered around the prospective revenues that an exascale data center might generate in the Delaware Basin in Texas.

Data descriptions for the revenue table:

- Brackish “source” or ground water is sold to the Chevrans and ExxonMobils, and they pay to take away the four to 10 barrels of “produced” non-potable water that exits the well along with every barrel of oil equivalent. The produced water is recycled or sequestered underground. LandBridge has estimated data center cooling requirements of 150,000 to 200,000 barrels per day.
- LandBridge says it recently signed a multi-decade lease for 2,000 acres, as yet vacant, at an annual rate of \$4,000/acre.
- The lease agreement includes an override or participation in the value of the electric power sold to the data center. Local natural-gas-based electric power can be produced at about \$0.02 per kWh and sold to the data center at about \$0.08/kWh, for a spread of \$0.06. LandBridge will receive 5% of that spread.

| | Annual Revenue | = | Barrels/Day | Barrels/Year | Price per Barrel | | |
|--------------------------------|---------------------|---|---------------------|--------------|------------------|-------------------|-------------------------|
| Water (datacenter) | \$ 31,937,500 | = | 175,000 | 63,875,000 | \$ 0.50 | | |
| Water (1GW power plant) | 20,805,000 | = | 114,000 | 41,610,000 | \$ 0.50 | | |
| | | = | Acres | Rent/Acre | | | |
| Ground Lease | 8,000,000 | = | 2,000 | 4,000 | | | |
| | | = | Generation Cost/kWh | Sale Price | Spread | Overriding Margin | KwH/Year (1GW Facility) |
| Electricity | 26,280,000 | = | \$ 0.02 | \$ 0.08 | \$ 0.06 | 5% | 8,760,000,000 |
| Total, 2,000 acres | \$87,022,500 | | | | | | |
| Per acre: | \$ 43,511 | | | | | | |

However inexact and preliminary these figures are, using estimations based on limited information and operating experience, the revenue per acre figure is very large. Even arbitrarily reducing it by half, to \$22,000 an acre, it remains huge.

On the other hand, perhaps it should be higher. The above table does not include other revenue sources, such as easements and rights-of-way for pipelines and electricity transmission lines. The easement royalty for a well pad might be \$7,000 to \$12,000 per acre. Perhaps the total figure should be lower, but ameliorated over time by the rising water-handling prices in the region. Still, “large figure” must be seen in relation to some reference point.



- LandBridge has made multiple acquisitions in the past 12 months, at prices generally ranging from \$2,400 to \$5,000 per acre. It would seem that the water and other resources it can deploy on that land enhance the value considerably.
- The stock market value of LandBridge is \$5.9 billion. Relative to its 273,000 acres, it’s priced at \$21,600 an acre. That’s more or the same figure as the quasi-permanent yearly data center revenue expectation per acre, as guesstimated above and reduced by 50%. What valuation multiple, if not 1x or 0.5x, should be paid for a perpetuity-like royalty-rental stream?

These valuation differences illustrate the higher, better-use possibilities that inhere in land. That has manifested in Texas Pacific Land Corp. repeatedly, even in only the past decade or so:

- First came the drilling technology advancements that in 2013 suddenly made the vast but deep oil and gas reservoir in the Delaware Basin economically feasible. A stream of royalty revenue became a river.
- With increased drilling activity, the provision of source water likewise expanded. From less than \$12 million in 2013 (buried within the Easements and Sundries category) to \$112 million in 2023, and an annualized rate of over \$150 million through the first nine months of 2024.
- As wells depleted and were drilled deeper, the ratio of produced water to oil expanded, creating demand for water recycling and sequestration. Produced water royalties now exist, and exceed \$100 million.
- Improved drilling technology has enabled lateral (horizontally directed) well lengths of one mile, then two, and they’re now pushing four. That makes the square-mile sections of the checkerboard pattern in that

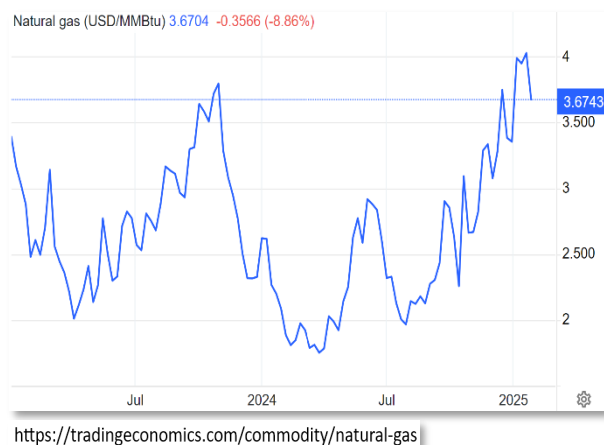
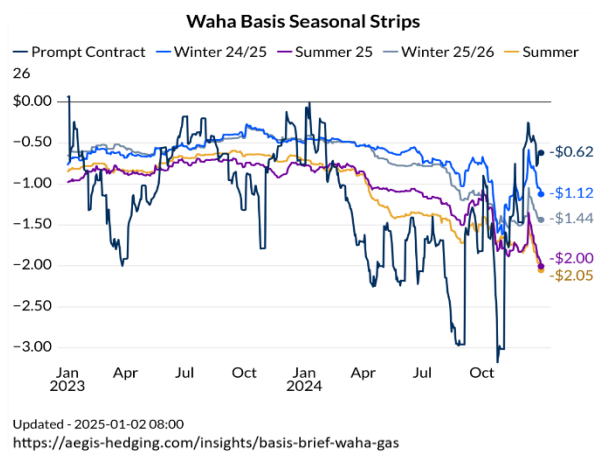
region more valuable—especially if they can be combined into larger contiguous footprints so that drillers don’t need to stop at the end of a property line.

- The trend to electrify motors and engines in the oil field has led to wind, solar, and other installations that increase easement revenue.
- And now, the owners of *the* cutting-edge technology of the day, AI, have urgent and substantial need of a specific portfolio of resources that further increase the value of that same land. The checklist: siting away from population centers; the availability of abundant natural gas in close proximity thereto; and the availability of abundant water and water handling infrastructure.

Sometimes, a research report will be forwarded to us that describes TPL or LandBridge favorably in general terms, but judges them to be overvalued. The focus tends to be the rapid appreciation of the shares, concluding that they have temporarily outstripped earnings growth. The standard price-to-earnings ratio analysis confirms a high valuation multiple.

However, there’s something that can’t be measured by an earnings multiple: **revenues that haven’t arrived, yet.**

TPL’s earnings, for instance, don’t include revenues on substantial natural gas production volumes on which it should be paid royalties. No one is cheating TPL. It’s just that the price to sell gas at the Waha Hub in the Delaware Basin has been negative for much of the past two years, due to insufficient takeaway capacity alongside rising production volumes, even as the national price has risen.



That excess localized supply problem should ease when new pipelines are brought into service over the next two or so years. If and when Waha gas prices rise to the market level of \$3.50/MMBtu, then a lot more zero-expense royalty revenue shows up in the TPL income statement. For instance, with whatever mix of pipeline access, contract pricing, and unsold/stored excess gas applied to production in the first nine months of 2024, TPL realized an average price of \$1.20/Mcf and \$14 million

Energy Transfer Announces Pipeline Project Connecting Permian Basin Production Supplies to Multiple Markets

Will Provide Additional Natural Gas Capacity to Serve Growing Market Needs



December 06, 2024 01:30 PM Eastern Standard Time

DALLAS--(BUSINESS WIRE)--Energy Transfer LP (NYSE: ET) today announced that it has reached a positive final investment decision (FID) for the construction of an intrastate natural gas pipeline connecting Permian Basin production to premier markets and trading hubs. The Hugh Brinson Pipeline is expected to be constructed in two phases with the first phase including the construction of approximately 400 miles of 42-inch pipeline with a capacity of 1.5 billion cubic feet per day (Bcf/d). It will extend from Waha to Maypearl, Texas located south of the Dallas/Ft. Worth Metroplex, where it will then connect to Energy Transfer’s vast pipeline and storage infrastructure. Phase I is expected to be in service by the end of 2026.

in royalties. Somewhere in there is the nil pricing of some gas at the Waha Hub. Full market price would be about three times greater.

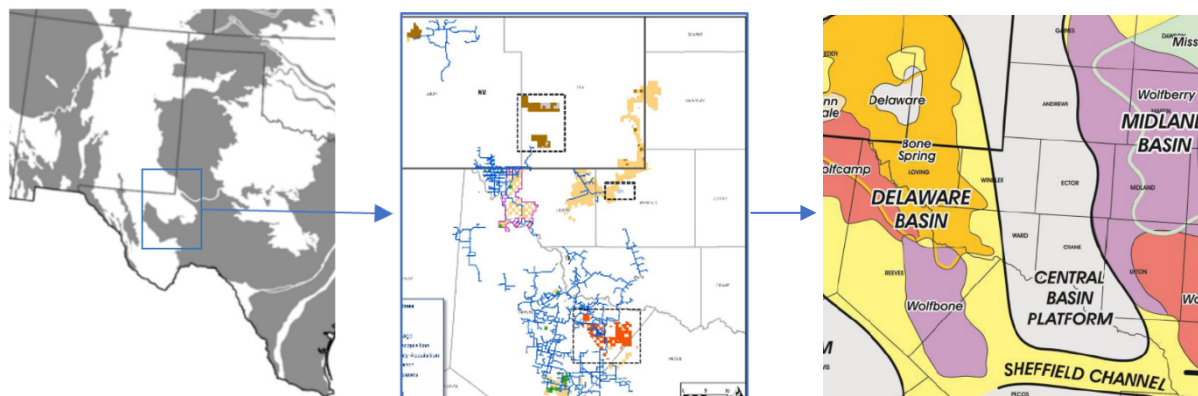
For that matter, liquid natural gas shipped from Texas gets a price of about \$15/Mcf at the European gas trading hub in the Netherlands. One can't know when, to what degree, or in what manner those prices ever converge. We do know that, aside from a deeply discounted price at the Waha Hub, drilling activity has been suppressed because of that bottleneck. So there is also unexpressed gas production volume, in addition to unexpressed pricing that will eventually redound to TPL.

TPL earned \$13.6 million in gas royalties during the first nine months of 2024, based on 12,300 MMcf of net production to TPL and an average realized price of \$1.20/Mcf. If we annualized these figures, the pro forma run-rate production level for a full-year is approximately 16,400 MMcf, which would generate approximately \$19.7 million in annual royalty income.

Information about as-yet unrealized revenues from a temporarily quasi-dormant asset can't populate a database in which company valuations are compared, because the data doesn't yet exist. The database would have to make some estimations and ascribe some probabilities to the near and intermediate future. Sounds strange that a database could do that. But AI, you know? The nice thing about land and mineral rights is that they don't go away.

Water use, an aside: It has been mentioned that the water provided by TPL is not potable, being brackish and also hydrocarbon-infused. This can be seen in a map of the drinking water aquifers in that part of the southwest, with the potable ground water shaded gray. The LandBridge water collection and distribution system pretty much occupies the area in white, which is above the hydrocarbon deposits that render the water within not usable for human consumption, although the aquifer once served a prolific cantaloupe farming industry.

Drinking water aquifers (grey) at the corner of west Texas & southeast Arizona (left map), and the non-potable-water transmission system of LandBridge (right map)



<https://www.usgs.gov/media/images/drinking-water-aquifers> <https://ir.landbridgeco.com/>

Thing 3: Bitcoin



Bitcoin and AI share a special distinction: unprecedented speed of adoption, though with differences. A narrow measure of the rapidity and scale of AI adoption would be the ChatGPT chatbot. Narrow, because that's a single public-facing facet, as opposed to AI's innumerable applications in almost any aspect of industry, finance, commerce, healthcare, novel drug discovery, and on and on. Even if the measure is absurdly restricted to ChatGPT, it is the most rapid adoption of any internet-accessed service. It took 11 years for Spotify to reach 100 million users, 4 ½ years for Facebook, 18 months for YouTube, and 9 months for TikTok. It took ChatGPT only two months from its November 2022 release to achieve 100 million users.⁸ The figure, at two years plus, is now over 300 million.⁹

Bitcoin ETFs received regulatory approval in January 2024. Today, 12 months later, there is over \$130 billion in Bitcoin ETFs. That is without precedent. For comparative purposes, consider all the Bitcoin ETFs to be one single \$130 billion fund, since each coin is identical, just as each share of Apple is identical, just as a dozen ETFs that hold only Apple shares would be identical. On that basis, Bitcoin would be the 9th-largest stock ETF in the U.S., just behind the basic asset allocation building blocks Vanguard Value ETF and ahead of the iShares MSCI EAFE ETF.

Another measure of Bitcoin's institutional adoption would be its daily trading volume. The largest market cap company in the S&P 500 is Apple, at \$3.46 trillion. Based on Apple's closing share price on Jan. 27th, and the average daily share-trading volume in the last 10 trading days, the daily market value traded is \$14.7 billion. For Bitcoin, the average daily market value traded between brokers—that is, not on the blockchain—in the last 10 days was \$69 billion, almost five times Apple's.¹⁰

That's an erroneous comparison, though, because the stock market is open only 253 days a year, and for 6 ½ hours a day, while Bitcoin trades 24 hours a day all year long. To equalize the units of measure, Bitcoin trading volume would have to be quoted using the same time frame as Apple. Compressing Bitcoin trading into the stock market trading day and year, the daily Bitcoin volume would be \$368 billion, which is 25x Apple's trading volume.

What makes these figures particularly extraordinary is that Bitcoin is not simply a business, like Apple. It is an entirely new asset class, which itself is a very rare event. History has demonstrated that anything can be money, so long as there's general acceptance that it is. Everyone seems to agree that—if you'll excuse the barbarity—a bunch of old, dried paint on some old cotton canvas, like a Rembrandt, is worth a lot of money. Anyone would take it if offered. And many would try to steal it. Because they agree that its quality and its rarity is valuable. It's not a money, though; it isn't very transactable and it isn't divisible.

The regulatory approval of Bitcoin to trade in the form of the standard institutional instrument of the day, an ETF, and the follow-on trading and hedging faculties that an ETF of sufficient trading volume permits, with futures, options and lending, has enabled its rapid ramification through the financial world.

Bitcoin is now held by at least 11 governments (the U.S., China, the U.K. among them), and by almost 80 public companies, some for their

The New York Times

More Companies Are Betting on Bitcoin

It is a sharp pivot away from the cautious approach of the traditional corporate treasury, normally charged with safeguarding cash rather than chasing higher returns.

By [David Yaffe-Bellany](#) and [Joe Rennison](#)

Jan. 8, 2025

A couple of weeks after the presidential election, Joe Davy, chief executive of the marketing firm Banzai, sent an email to the company's board of directors: He wanted Banzai to start buying Bitcoin.

⁸ <https://www.demandsage.com/chatgpt-statistics/>

⁹ Instagram Threads, the alternative to Twitter, took only two days to reach 100 million, but Threads now has about 200 million users, whereas ChatGPT is over 300 million. Threads was launched in mid-2003, ChatGPT only two months ago.

¹⁰ [Coinmarketcap.com](https://coinmarketcap.com)

Treasuries. There's a website that keeps detailed track.¹¹ But as these figures show, Bitcoin has barely made a rounding error in the number of parties that might one day hold it. Here at HK Central, there are still institutional counterparties for whom we perform advisory services that don't permit a Bitcoin ETF to be held in a portfolio. Extrapolating from here, and considering Bitcoin as a money or commodity in relation to the total dollar-equivalent volume of currencies—or store-of-value-commodities—in the world, its current market value of \$2 trillion is exceedingly modest.

Bitcoin shares an interesting and very valuable property with land and, for that matter, with a Rembrandt painting. Land appreciates in part because the effective supply is shrinking, because there is less acreage per capita every year. More people, same amount of land. That's the opposite of the behavior of the U.S. dollar and other world currencies; they have more and more per-capita supply every year. There is a fixed supply of Bitcoin, so for whomever might want it in the future, there will be less to go around, per person, than there is today. And, of course, relative to fiat currencies, which are propagating much more rapidly each year than people are, the relative value of Bitcoin must climb even faster. Same for the Rembrandt.

Adding Things Up



It is for all the reasons just described that the Horizon strategies have been so distinctively allocated, and for such a long time, towards land and energy—and now, perhaps more importantly, water—as a scarce critical resource.

The conundrum for the investment community to eventually recognize, and to then solve for, is some version of this word problem:

- A) Stock Indexes are highly dependent upon the Information Technology sector.
- B) The IT sector's growth is critically dependent upon the availability of Land, Electric Power, and Water.
- C) The Stock Indexes have no meaningful Land or Natural Gas or Water exposure.

That problem has yet to be recognized by and make an impression upon the investment community at large. That's when Things will be different. If you're in the S&P 500, you're into AI in a very big way. If you're in AI, you should be very interested in natural gas and water: Thing 1 and Thing 2. But where, in the S&P 500, will you find sufficient amounts of those? They're essentially absent from conventional asset allocations.

When that is recognized, then the direction of the massive money flows of the past decade-plus into mega-cap IT will have to "hang a u-ey"¹² and try to buy into an extraordinarily limited-supply set of asset classes.

All of this activity, which entails demand not just for scarce resources like water, but also for natural gas, iron, copper, and more, will add its pressure to physical asset inflationary trends. Paired with the nation's increasing inclination toward a monetary-based inflationary cycle, a fixed-supply cryptocurrency like Bitcoin will likewise tend toward more rapid adoption.

Just as for the traditional *indexation* system and the assets represented therein, if the traditional *financial* system is what's endangering your safety, you need alternatives outside the traditional systems.

¹¹ <https://bitcointreasuries.net/>

¹² The American idiom for an abrupt U-turn while driving.

It Happens Every Time: Another Chart Game

This is a chart of a security owned in certain strategies. We started dollar-cost-averaging into the position in 2018, and prices since ranged between a low of \$11.75 and \$38.

This is what happened to it in early 2023. It dropped from about \$25 or \$26 to the \$20 range. This lasted through early 2024. Then it dropped to the \$17 range, all the way into September.

The decline was sparked by an announcement that the dividend would be suspended. Several months earlier the company entered into arbitration with its counterparty for underpayment of amounts owed. The counterparty had previously announced it would stop doing business with the company for an indeterminate time frame—and followed through—so revenues had ceased.

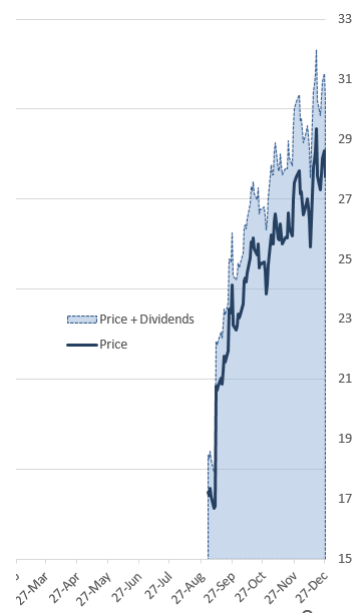
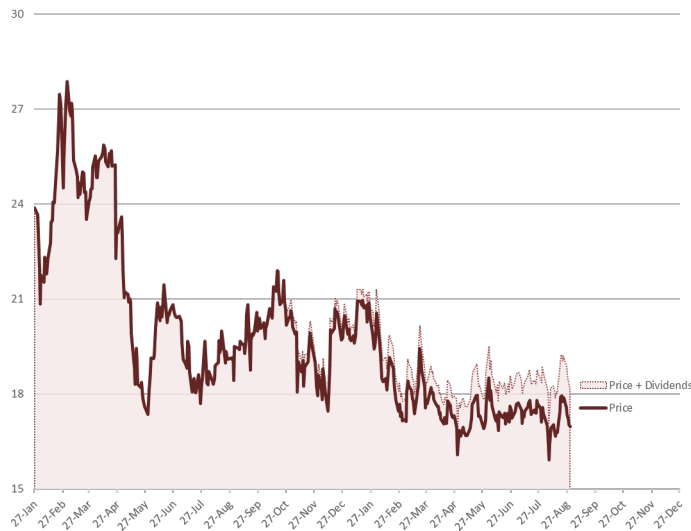
You can imagine the concern and questions, particularly approaching the year-and-a-half mark, as the price declined further yet—and stayed there. For our part, evaluation and reasoned expectations were forthcoming, but they were weak comfort. The counsel of patience and the unavoidable vagueness about a date certain when the legal issues would be resolved paled beside the certitude with which the share price could be measured. In situations like this, when time and data are uncertain and not database-conforming, the stock market is not very efficient, and securities can become egregiously undervalued.

Here's another chart of the same stock, where suddenly the stock market became startlingly efficient, because there was some spreadsheet-ready data. In early September 2024, the arbitration tribunal awarded the company several years of underpayments, including a 10% rate of interest on the unpaid balance. It amounted to \$5.43 per share. Almost immediately, the shares rose by said amount, bringing the price exactly back to where it started a year and a half earlier.

A month later, in October 2024, the firm announced that sales from the counterparty for the September quarter, having earlier resumed business with the company, were still depressed by historical standards—yet sufficient to pay a dividend that, on an annual basis, could be estimated to exceed \$2.00/share. Relative the \$26 starting share price in early 2023, that would be a yield of more than 8%. The share price continued to rise even through late January, to near \$36. The yield on this most recent price would be above 6%.

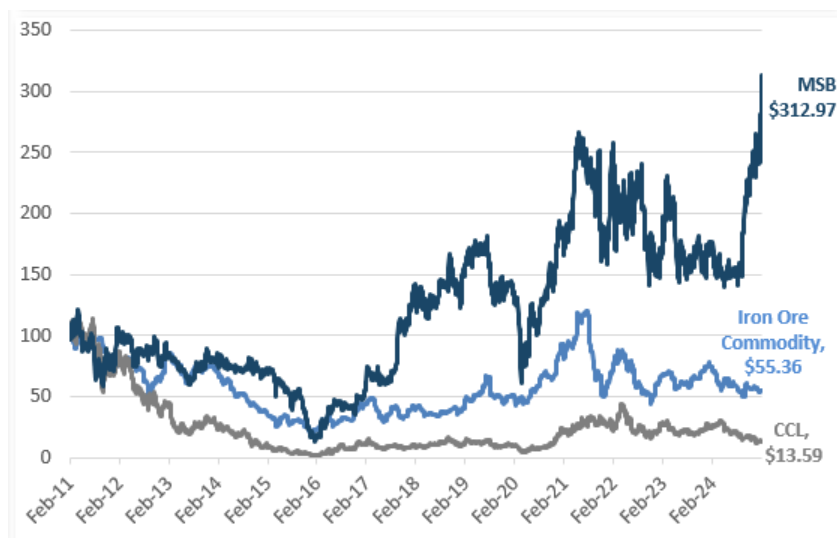
All in all, had one not looked at the line items in the monthly account statement of holdings, all of this drama would have been bypassed.

The company in question is actually a trust, Mesabi Trust. Mesabi Trust has a single asset: a royalty agreement related to iron ore production at the Northshore Mine near Babbitt, MN. The operator of the iron ore mine from which Mesabi was due royalties had been attempting to force the Trust to accept a lower rate of payment. But the production royalties were a matter of mineral interest ownership, not of negotiation. And the outcome was simply an issue of



governing agreements and of factual discovery via a straightforward forensic accounting exercise in a judicial proceeding. Such proceedings take their due course and are rarely rushed. It was really just a matter of waiting.

And another lesson of how arduous it is for investors to wait for 18 months for recovery from a transitory share price drop and how not-terribly-unusual an event it is in the commodity royalty sector. Even in a superior, debt-free, high-yield, inflation- and competition-insulated business that's outperformed the stock market for decades. Even with no management risk: There is no management! Mesabi is simply an ownership position administered by a corporate trustee.



In the 14 years since the beginning of 2011, the last peak in iron ore price, the annual total return was 7.8%. Not only was this over three times the CPI rate of inflation, but during that time the price of the underlying iron ore itself declined, and the share price of the iron producer (in this case, Cleveland-Cliffs, the aforementioned entity owing the litigation settlement amount) declined precipitously. Of course, Cleveland-Cliffs had a lot of capital expenditures to make, mining equipment to maintain, and employees to pay.

In its 40 years as a public entity, from 1985 to today, Mesabi's annualized total return to unit holders has been 9.8%.

To reprise what we wrote in our 1st Quarter 2024 Commentary, consider the sidebar to the right.

This is why we study and employ asset-light and hard-asset businesses. For hard-asset businesses like commodity royalties, there is almost no operational expense standing between their revenues and their profits, and generally no capital expenditures required to maintain those profits, no technological obsolescence risk, and so on. Their profitability characteristics are unique in the universe of publicly listed companies. Also, there aren't many of them.

And so we return to the question with which we began this tale so long (it seems, this afternoon) ago: "Are we in the roaring '20s?" Well, it depends if you choose all the wrong things or all the right Things.

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