Horizon Kinetics Inflation Beneficiaries ETF (INFL)
2023 Semi-Annual Letter

August 2023

FIVE SURPRISES OF THE INFLATIONARY ENVIRONMENT

Market Commentary

It can be easy to forget we are still only three years removed from the record stimulus efforts of 2020, and barely two years removed from the initial uptrend in inflation. If we zoom out, this is the first deviation to the longstanding modern economic order of low inflation, despite consistently rising government spending and debts coupled with money supply growth. This short span of time should be referenced within the preceding 40-year capital cycle. Indeed, interest rates took four decades to reach a nadir after the peak of the last inflation cycle. The preconditions for the current market were formed over this period, which was by no means a linear function.

Nor should one expect the current economic transition to be linear. Nevertheless, the companies owned by the Fund—and the hard asset markets in which they operate—have broadly performed in line with our expectations, notwithstanding some unforeseen macroeconomic developments. Volatility should be expected in hard asset markets, and this is often more pronounced in the public market prices of companies that operate in these sectors.

The recent operating results (as opposed to price returns) can be viewed as either extremely favorable, if based on expectations from pre-2020 and early 2020, or moderately favorable, if based on expectations in early to mid-2022. Even during the summer of 2022, with U.S. Consumer Price Index (CPI) levels near a 40-year high, market *expectations* were still for these markets to revert, secularly, to pre-2020 levels. The enduring low expectations for these markets and companies is manifested in stock prices, which remain inexpensive on an absolute basis, and depressed relative to the broader market.

A longer-term perspective reinforces the importance of the "hard asset, capital light" strategy of the Fund over full business cycles. Our core thesis remains that hard asset prices are poised to be elevated for a prolonged period, and this will have profound implications for the global economy and financial markets.

We also recognize the current cyclical variability within the larger secular trend. Most importantly, the pricing of the companies in the Fund still fails to reflect this new environment, providing the potential for strong capital returns. The combination of hard asset exposure, high quality business models, and attractive valuations is expected to be the primary driver of the Fund's performance over extended periods of time. The union of these factors facilitates strong business returns under various economic backdrops—particularly in an inflationary environment.

Our investment focus is predicated on multi-year and multi-decade periods; however, it is worth noting some of the recent unexpected market events (both positive and negative) and how they relate to the longer-term positioning of the portfolio companies and the Fund.

Surprise 1 – Interest Rates

We were among the many skeptics who doubted both the magnitude and the speed at which the Federal Reserve would increase interest rates. Our skepticism was largely based upon the extreme levels of debt accumulated in the financial system, and how higher interest rates would impact the debt service costs. There is no better example than the U.S. Federal Government, but there are abundant examples in the state, local, and corporate sectors as well.

The U.S. Federal debt held by the public was approximately $22.3 trillion at fiscal year-end 2021. Before the Federal Reserve began to increase interest rates, Federal debt had an average weighted interest rate of approximately 1.8%, and this amounted to approximately $352 billion of annual net interest expense (1.6% of GDP).[1] At this time, the Congressional Budget Office forecasted that by 2030, annual interest expense would be $1 trillion, which will be driven by nearly $36 trillion of federal debt held by the public at an effective interest rate of approximately 3.0%. This would result in net interest rising to 3.0% of total GDP by 2030, and critically, presumes that the government can borrow at less than the prevailing inflation rate today.

It's impossible to know precisely the location of a theoretical tipping point (where the public requires a prohibitive level of interest to fund the government), but the assumption that the U.S. can run severe deficits indefinitely (including during economic expansions) and have the public fund these deficits through low interest-bearing debt appears to be fragile. In fact, the recently updated 2023 Budget Outlook has already revised 2030 debt levels and interest expense to $39.0 trillion (+9%) and $1.17 trillion (+16%), respectively.

The updates highlight the major limiting factor to this dilemma, which is the federal government's (un)willingness to cut spending, which corresponds to political re-election campaigns. The current policy path appears to be unsustainable, and the longer it is maintained, the higher the risk that the funding rate tipping point is reached. At such a point, the Federal Reserve would surely need to refocus its attention acutely upon funding the government, with inflation targets abandoned as a result. In this context, it bears repeating that inflation reduces the real cost of debt, which has been the escape route policy of choice for overleveraged nations for millennia.

The other implicit vulnerability of higher rates is for financial asset prices. The cleanest and most direct impact of higher rates is evident in the prices of long-term, zero-coupon Treasury bonds,

[1] https://www.cbo.gov/publication/58147#_idTextAnchor007

where the entire return is realized upon the maturity of the bonds. The S&P U.S. Treasury Principal STRIPS 20+ Year Bond Index[2] traded at a historical low yield to maturity of 1.06% on March 9, 2020. From that point through the end of the second quarter, the index level fell 46.0% as the U.S. 30 Year Treasury rose from 0.99% in March of 2020 to 3.85% as of June 30, 2023.

This is an extreme example of duration exposure, or the interest-rate sensitivity of an asset to underlying changes in interest rates. The same dynamic catalyzed the insolvency of various regional banks earlier this year, as their holdings of long-term maturity debt experienced a rapid decline in market value due to unhedged interest rate exposure. The market value decline of the banks' assets resulted in a mismatch with the liabilities—hence a technical insolvency—even if the par value of the bonds was unchanged. In other words, the banks simply didn't have the capital to fulfill bank withdrawals.

The duration calculation is simple arithmetic for risk-free bonds, but all financial assets with cash flows in the future are subject to some degree of interest rate risk. As a rule, the further out in time that the cash flows are, the higher the degree of interest rate sensitivity. To this end, the Securities Industry and Financial Markets Association (SIFMA) estimated that there is approximately $52.9 trillion of fixed income securities in the U.S., excluding the nascent "private credit" markets with an estimated size of $1.3 trillion.[3]

This market, in aggregate, has a markedly lower duration than the previous example, by virtue of shorter maturities, periodic interest payments and/or floating interest rates on certain instruments. If we use the Bloomberg US Aggregate Bond Index—which has fallen by approximately 18% since its peak level in August 2020—as a proxy for the entire U.S. debt market, approximately $9.8 trillion of market value has been lost. This is equivalent to approximately 37% of U.S. GDP.

The rate sensitivity of assets with growing cash flow streams, as opposed to fixed coupon loans, is less interest rate sensitive, as the growth offsets some of the rate exposure. However, the long-run perpetual or terminal value of these assets is highly sensitive to rates. A fitting example of this is high growth non-profitable companies, where there is minimal or negative cash flow value at present. The Goldman Sachs Non-Profitable Technology Index represents popular technology stocks which, as the name suggests, fail to generate profits. This index has fallen by 68.4% since

[2] The S&P U.S. Treasury Principal STRIPS 20+ Year Bond Index seeks to measure the performance of U.S. Treasury Principal STRIPS (Separate Trading of Registered Interest and Principal of Securities) with maturities of 20 years or more. Source: https://www.spglobal.com/spdji/en/indices/fixed-income/sp-us-treasury-principal-strips-20-year-bond-index/#overview

[3] https://www.moodys.com/web/en/us/private-credit.html#:~:text=Private%20credit%20is%20non%2Dbank,capital%20waiting%20to%20be%20deployed

its peak in 2021 through the end of this quarter. However, this includes a price rebound of approximately 34.22% this year despite rates sustaining their rise.

The purpose of these examples is to illustrate the deleterious impact that higher interest rates have on balance sheets and the values of financial assets, particularly leveraged assets or 'unprofitable' assets. We previously believed that higher rates would result in adverse events in these respective markets, which would ultimately impact the real economy; hence, our skepticism in the rate trajectory. There are two basic premises which might explain the limited negative market reaction thus far.

First, the true impact of higher interest costs does not occur immediately for most borrowers, depending on the debt tenor. As a result, there is a delayed impact of higher borrowing costs. Second, many borrowers are currently flush with cash from the recent stimulus cycle and have some ability to withstand higher rates, at least temporarily.

There is also the "moral hazard" question, with modern investors increasingly confident that central banks and governments will backstop losses. The U.S. government used unprecedented authority to guarantee the deposits of Silicon Valley Bank customers, while adding liquidity to the financial system to support other banks. Similarly, the British government took extreme measures to shore up the gilt markets following losses in liability-driven investment schemes. This precedent surely emboldens risk-taking across all financial asset classes.

On the other end of the spectrum, the market is explicitly and implicitly embedding expectations for lower rates in the future. The Federal Reserve Bank of Atlanta's "Market Probability Tracker"—which uses a combination of Eurodollar futures and options, LIBOR/fed funds basis swaps, and the U.S. Treasury yield curve—suggests the market is predicting short-term rates (3-month Secured overnight financing rate, SOFR) will fall to approximately 3.5% by March of 2026. This is nearly 200 basis points lower than the rate in late July (following the most recent rate hike).

However, this is still materially higher than the expected path for interest rates just a year ago, as the Bloomberg World Interest Rate Probability function was pricing overnight rates of approximately 2.86% in early 2024. If anything, rates markets are embedding higher long-term assumptions, but equity markets are implicitly reflecting lower relative rates.

It remains to be seen if rates can go higher and, if not, how long they can remain at current levels before there is a negative outcome for the various markets addressed above. We would argue that the current bond markets (yield curve inversion, long-term rate pricing) imply a highly negative economic outlook, whereas most higher risk assets (bond spreads, equity multiples) suggest a sanguine economic backdrop indefinitely. The truth is likely somewhere in the middle, which brings us to the next topic:

Higher rates have been a negative at the margin for hard assets and the related companies. However, the relative strength compared to previous cycles reinforces the fact that supply constraints and limited future rate hikes should support hard assets going forward.

Surprise 2 – Economic Resilience

The global economy has been remarkably strong over the past year despite far tighter financial conditions. Global economic growth is tracking at close to 3%, despite China's disappointing growth only slightly above the government 5% "target." U.S. Real GDP grew at a 2.4% annual rate in the second quarter, according to the advance estimate. This is robust growth amidst over a year of rate hikes, but more importantly, the corresponding nominal GDP figure is 23% higher than the pre-pandemic level. Even the EU, which was widely believed to be entering a severe economic contraction last year (in part due to energy prices) is running at a respectable 1% real growth rate. However, Europe is still running at well over 6% inflation (hence 7% nominal growth), largely due to limited domestic resources.

Non-OECD countries are leading global growth, specifically with India, China and Indonesia projected to grow at 6.0%, 5.4% and 4.7% respectively this year.[4] Non-OECD nations' share of global GDP have expanded from 18% of global GDP in 2000 to 32% in 2010, and 40% in 2022. These countries also have broadly superior fiscal balances and debt levels at the national level compared to the OECD world. We expect these countries to drive global economic growth as per capita incomes rise towards the $54,000 OECD standard,[5]—versus China ($21,000), Indonesia ($15,000), and India ($8,000). This will have substantial implications for resource demand and the global economic mix of services and goods (more on this in the energy section).

Corporate earnings, on the other hand, have been less encouraging: FactSet consensus 2023 earnings for the S&P 500 peaked in May of 2022 at approximately $250 per share. Estimates now sit at approximately $220, which is 12% lower than prior peak levels. Yet the market is nearly 8% higher, and trades at over 20x current estimates. Similarly, earnings estimates for 2024 peaked at about $275 in March of 2022, but have been revised lower to around $245, which equates to a multiple of roughly 18x.

Our biggest challenge to these estimates is the embedded profit margin assumption. According to FactSet, the bottom-up operating margin for the S&P 500 Index averaged approximately 13% over the prior 25 years, and recently peaked at nearly 15% in 2022. However, the 2023-2025 earnings estimates assume operating margins to be 16.4% for 2023, 17.2% for 2024, and 17.6% for 2025.

[4] Source: World Bank
[5] Purchasing power parity international dollar standard

The global economy has supported corporate profits and financial asset valuations, continuing to defy the macroeconomic doomsayers. There are various scenarios where OECD countries will enter a recession over the next 6-18 months, but strength from non-OECD countries should keep the global economy in decent—albeit not perfect—shape. Valuations, on the other hand, particularly in equities and certain private markets, appear to discount only the most optimistic future scenarios going forward.

Global economic strength, particularly from non-OECD countries, has supported hard asset prices. This has generally not been reflected in hard asset equities, as investors overly discount negative economic scenarios into these companies. The short-term market balances are increasingly sensitive to the Chinese economy.

Surprise 3 – China

China "reopened" its economy by gradually lifting stringent pandemic restrictions beginning in late 2022. The Chinese economy grew at only 3% in 2022, down from an average of over 7.5% for the decade prior to 2020. For this year, the government set a modest growth target of 5%, which is based off a very weak baseline level. However, while GDP grew 6.3% year-over-year in the second quarter, it increased at a much more modest 0.8% quarter-over-quarter rate.

Even the most sanguine analysts recognized that the economic benefits of this policy shift wouldn't be realized until the middle or end of this year. However, by all measures, the reopening has thus far been well below expectations. There are various components to the Chinese weakness, a crucial component of which is the government's intention to shift from an investment driven economy to a consumption driven economy. 42% of China's economy is currently comprised of fixed investment, which compares to 22% for OECD countries. Fixed investment by the government has facilitated strong economic growth rates for decades, but this strategy has its limits. That's why the government wants to shift towards a more consumption-based economy. China's economy is currently approximately 53% consumption, which compares to 82% in the U.S. and 70%-80% for much of the European Union.

A dramatic reorientation of the Chinese economy would be difficult in any environment, but it will be particularly challenging as the private sector increases its savings rate following the pandemic. This will be further stifled by negative sentiment following strict government restrictions placed on certain technology companies and for-profit education companies, along with tightened financial conditions aimed at limiting property sector speculation.

Ultimately, the government will need to reorient its policies towards stimulating private sector investment and improving consumer finances. Early indications suggest that senior government officials are showing pragmatism regarding such policy shifts. Chinese officials are surely acutely

aware of the "balance sheet recession" experienced in Japan over the past 30 years, as private sector deleveraging resulted in secularly anemic growth. China is in a very different circumstance than Japan in the 1990s, and is cognizant that it cannot endure a similar outcome.

China is not as critical as it once was for global growth, but the sluggish economic performance has been a drag on the rest of the world. Conversely, this weakness has helped western governments reduce headline inflation figures for the time being. We believe that the Chinese government will be compelled to combat negative social consequences of weak growth as the year progresses, but high state and local debt levels make very aggressive policy actions less likely.

Chinese economic weakness has been a net negative to hard asset prices and related companies, although we believe the economy has the potential to outperform in the second half of the year. Sentiment remains extremely low and there is no scenario for China strength embedded into asset prices.

Surprise 4 – Energy Supply & Demand

One year ago (June 2022), WTI Oil was approximately $106/barrel and Henry Hub natural gas was $5.40/mmbtu. The war in Ukraine threatened global supply of both vital commodities, and U.S. production was falling well short of estimates. The U.S. government had already depleted nearly 100 million barrels (17%) of the U.S. Strategic Petroleum Reserve (SPR) and had another 150 million barrels to be sold through the middle of this year. Despite the SPR release, it appeared energy supply would be wholly inadequate to fulfill demand, and the only negative sentiment was potential "demand destruction" from higher prices.

The reality today is that the market was missing or incorrect on several key variables:

- SPR releases should be treated as commercial barrels without an explicit repurchase obligation.
- Russian oil production is far more resilient than imagined.
- Inventory "destocking" is incentivized at higher interest rates.
- Europe had an exceptionally warm winter.
- U.S. gas is vulnerable to export disruptions (Freeport LNG).
- China's economic transition will take time.

These factors aligned to derail an otherwise exceptional setup for energy investments, although we believe that it is simply delayed.

A silver lining is that demand has been extremely resilient, amidst a backdrop of high interest rates and moderate economic growth. Goldman Sachs estimates that, in July of this year, global oil demand reached a new record of 102.8 million barrels per day. This would result in nearly a 2

million barrel per day deficit in the second half of this year—and sustained, albeit lower, deficits for much or all of 2024 based on International Energy Agency (IEA) figures. This resilient demand growth is unlikely to decline, absent a deep recession.

Furthermore, while it is often assumed that oil demand declines during an economic contraction, in truth, demand typically simply fails to grow in all but the most severe or commodity price-driven recessions. Global oil demand has only materially contracted four times in the past 55 years. The first demand decline occurred between 1973 and 1975, and amounted to a 2.2% total loss, when the OPEC Oil Embargo resulted in oil prices rising from approximately $3.50 per barrel to nearly $11 per barrel.

Demand next contracted nearly 10% between 1980 and 1983 when the nationalization of Iranian oil assets sent prices from approximately $15 to nearly $40. The only instance where demand declined due to an "ordinary" recession was in 2008-2009, when demand fell a total of 2.6%. Finally, demand last fell in 2020 by over 9% when the entire world was operating under pandemic restrictions. So, clearly, it takes rather extraordinary circumstances to precipitate net declines in energy consumption, which has thus far been equivalent to oil demand.

The current energy cycle is obviously different from historical cycles due to initiatives aimed at reducing carbon emissions, and therefore conventional energy demand. However, non-OECD countries now comprise over 55% of global oil consumption and almost the entirety of demand growth. These countries have shown far less willingness to pursue higher cost and less reliable energy sources in lieu of traditional fuels.

Along these lines, much of the developed world currently consumes more than 15 barrels of oil per capita annually; the U.S. consumes 21 barrels per person. Conversely China, India, and Indonesia now consume three, one and two barrels per capita, respectively. Africa, the continent with the fastest growing population on Earth, currently consumes less than one barrel per capita. If we assume only one barrel of consumption growth per person across Africa alone, it amounts to almost 4 million barrels of oil equivalent (mmboe) per day of additional demand. The same calculation for India amounts to another 4 mmboe per day.

Demand, in our opinion, is likely to grow through 2030—or even 2040—absent a step function technological change. Even without robust demand growth, the current base rate of global production is approximately 101 million barrels per day. The natural decline rate of this production, which needs to be replaced on an annual basis, is likely between 5% and 7%. This gap could technically be filled with the requisite capital investment. However, 2023 estimated upstream spending on oil and gas production is approximately $500 billion. This is nearly 50% lower than the inflation adjusted expenditures in 2014, and the cost to explore, develop, and produce barrels has risen materially since 2014.

The confluence of negative (temporary) shocks to the oil market prompted OPEC, specifically Saudi Arabia, to take action to support market prices. In June of this year, OPEC agreed to extend 2 million barrels per day of cuts from 2022 and add an additional 1.66 million barrels of new cuts. Saudi Arabia additionally pledged a 1 million barrel cut for the month of July, which can be extended indefinitely. We believe that a substantial portion of the baseline "cuts" are based off of quotas that were already not being met for technical reasons, so the actual substance of the cuts is far less.

The more important factor: Saudi Arabia is taking an aggressive, proactive posture to support markets—even when net importing countries (historical allies) are trying to reduce prices. OPEC now has more leverage in global energy markets than it has had since the shale revolution brought the U.S. to the leading spot in worldwide oil production. The dearth of American capital expenditure only strengthens their market position. We believe that many markets analysts are underestimating the resolve and leverage of the KSA/OPEC in oil market.

Global energy demand has offset negative supply and inventory events, which has kept energy prices at levels that support healthy cash flows for hard asset (energy) companies. Energy (and broader commodity) strength in the second half of this year will support hard asset companies, but potentially limit the Federal Reserve's ability to moderate policy. This could prompt tighter financial conditions and risk a "policy error."

Surprise 5 – Precious Metals

Markets for precious metals—a term which primarily refers to gold, given its market size dominance—are unique in their qualitative nature. The metals themselves generate no cash flows but have been used for centuries as a form of currency. As a result, there is a substantial cohort of investors that invest in gold as a "store of value" for periods of inflation, but also for periods of economic instability. These investors range from central banks and sovereign wealth funds to retail coin collectors. This group is far more active in the physical gold market, whereas institutional investors are more active in the financial gold market.

The financial gold market primarily involves futures contracts that are settled in cash, i.e., without any physical gold changing hands. This market is more quantitative and is particularly sensitive to the level of the U.S. Dollar and real bond yields. The dollar is the settlement currency for most gold contracts, and the dominant global reserve/transactional currency. As a result, a higher dollar value exerts pressure on gold prices because it makes gold more expensive in local terms for international buyers. Interest rates and bond yields impact all financial assets, which includes gold futures, because there is both a carrying cost to gold positions and a competitive "risk-free" rate that can be earned in bonds (whereas gold has no yield). However, bond yields are more relevant in real (inflation adjusted) terms, particularly as it pertains to gold as a store of value.

At the beginning of 1985, the real yield on the 10-Year Treasury was approximately 6%, and the ICE Dollar Index was approximately 150, which corresponded to a gold price of approximately $300/ounce. Gold prices did very little over the next 20 years, as real yields still averaged close to 3.5% over this period, even though the Dollar Index fell to an average of approximately 100 over this period. In 2005, the Dollar Index proceeded to decline into the low 70s, while real 10-Year bond yields fell to negative levels following the global financial crisis. This coincided with gold setting a record high of nearly $1,900 per ounce by 2011.

However, as the dollar retraced to around 100, and real yields became positive again, gold declined to nearly $1,000 per ounce in late 2015. The upward cycle started again with real yields falling back into negative territory and the dollar index falling below 80 during the pandemic, and gold exceeding the prior record of approximately $1,900 per ounce.

The most recent relationship between gold, the dollar, and real yields has not followed the basic inverse relationship. Gold is again pressing $2,000 per ounce, despite real yields at over 100 basis points and the dollar index comfortably above 100. This would suggest that there is a non-financial dynamic to the recent gold price action—perhaps related to geopolitical conflicts, global deficits, or any combination thereof.

These events could be consistent with future lower dollar index levels and lower real bond yields. We don't have a strong opinion regarding the proposed "BRICS"[6] commodity backed currency system, but doubt that any currency, fiat or otherwise, will displace the dollar's dominance in global trade any time soon. This is not to say that there isn't merit for such a system, but that implementing it at scale is practically impossible.

Strong precious metals prices have supported hard asset prices and related companies despite the real yield and dollar headwinds. Precious metals can be positively or negatively correlated to the broader commodity complex, which makes them valuable in a diversified portfolio.

Portfolio Review

We are hesitant to even comment on short to intermediate-term headline inflation figures, and deliberately omitted any direct discussion of CPI or PPI in the market review section of the letter. The reason for this is that the Fund is a "hard asset, capital light" strategy at its core. These companies happen to have unique attributes that enable them to benefit from rising price levels on an ongoing basis. The specific hard assets are not homogenous with the CPI or PPI baskets, and

[6] Emerging national economies of Brazil, Russia, India, China, and South Africa

we believe these markets to have far better supply and demand dynamics as compared to broader price baskets.

The one datapoint worth mentioning on "inflation"—whether it is defined as CPI, PPI, and/or specific hard assets—is that it is never a linear phenomenon. The inflation experience in the 1970s serves as a good example. Inflation first "peaked" at approximately 6.4% in 1970, after spending much of the 1960s below 2%. The price surge coincided with high deficit spending, despite strong employment, but abated to approximately 3.6% following a brief recession.

The following "peak" was in late 1974, at over 12%, and catalyzed by the OPEC Oil Embargo and the conclusion of the Bretton Woods dollar system. Inflation declined to a more reasonable level of approximately 5% following the subsequent recession, only to reach its final peak of over 14% in 1980. The last inflation peak of this cycle was catalyzed by another oil shock when Iranian oil assets were nationalized.

The U.S. 10-Year Treasury bond was consistently rising throughout this period, from less than 4% in the early 1960s to nearly 16% in 1981. Higher interest rates did little to impact the upward trajectory of inflation until 1980, largely because there was money supply growth (end of Bretton Woods), deficit spending, and—most critically—raw material supply constraints. The parallels to this cycle are undeniable and explain our long-term thinking, specifically the limited utility of monetary policy (in isolation) and our investment focus on supply constrained raw materials (hard assets).

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Infrastructure assets are among the best and most obvious beneficiaries of rising price levels. This is due to their business models, which are generally throughput based, and pricing, which is typically based on price levels. Common examples of public infrastructure assets include toll roads, ports, railways, power transmission, power generation, and energy storage.

The commonality of these assets is that they are generally dominant in their respective markets, hence have strong pricing power. They also have high operating leverage and can grow margins with higher pricing and throughput. These businesses also tend to have reliable base demand and attendant cash flows, which promote the use of financial leverage. Finally, these companies generally commit minimal proprietary capital to fund operations (i.e., "capital light").

If we apply this basic criterion to our portfolio, the majority of the companies fit most, if not all, of the basic features of an infrastructure business. We can hardly argue that royalties are infrastructure, despite the obvious business model similarities. However, financial exchanges and global agribusinesses could easily be viewed as critical financial and agricultural infrastructure.

Financial exchanges provide several critical functions to the global financial system. The most widely recognized function that they provide is a transparent marketplace for the transfer of financial risk via the core transactional business. These products include futures and options on interest rates, currencies, commodities, and equity indexes. All of these are critical to the operations of companies and governments, and their ability to manage volatility in these underlying markets.

In addition to the transactional businesses, exchanges also provide settlement and clearing services. The trading of securities is only one step of the process, where the trades must then be settled (i.e., counterparties exchange capital/collateral) and guaranteed (i.e. cleared). This process certifies that both counterparties can have full faith that they will receive the payment associated with the contracts. For instance, if a steelmaking company sought to hedge its procurement cost by owning futures on iron ore, the clearinghouse would guarantee the counterparty payment, requiring margin as collateral from the counterparty to guarantee payment.

The financial and banking system relies on the exchange infrastructure to operate, but unlike banks, exchanges do not place any balance sheet capital at risk. Banks can argue that they are also "financial infrastructure," but their role in the system is due to the enormous capital commitment. Banks provide capital into the system through various modalities and associated risks. This results in banks generating low returns on assets (only about 1%), which are then leveraged to a reasonable return on equity (approximately 10%). Exchanges, in comparison, generate approximately 40% operating margins, 7-10% returns on assets and 15-20% returns on equity (unleveraged).[7]

The primary shortcoming of exchanges—as opposed to traditional infrastructure assets—is that they have a higher degree of variability in short-term revenue. Exchanges' volumes, hence revenues, are highly sensitive to volatility over shorter periods of time. Volatility is a function of uncertainty, and uncertainty drives the needs to hedge, and creates opportunity for speculation (trading) profits.

For example, total U.S. equity volumes, which can be used as a proxy for total exchange volumes, averaged approximately 8 billion shares traded per day since the beginning of 2022. This peaked at approximately 10 billion shares per day in March of 2022 when the CBOE Volatility Index ("VIX") was averaging over 26. Volume declined to approximately 8 billion shares per day this June, when the VIX averaged 13.99.

Short-term variability obscures the fact that the average daily volume at the CME Group has grown at over 6.5% annualized between 2009 and 2022, despite 2009 being an elevated volatility/volume

[7] The ROA calculation removes third-party clearinghouse deposits from total assets. The ROE calculation adjusts for goodwill and intangible items from previous acquisitions.

year. This compares to approximately 4.55% annualized nominal GDP growth in the U.S. over this time period. Thus, despite the interim variability, the volumes (revenue) of exchanges outpaced nominal GDP, with minimal capital commitment. If we were to summarize the primary goals of infrastructure investing during periods of inflation, it would be revenue growth above nominal GDP with limited cost participation.

Agricultural companies are more complex, but exhibit many similar attributes to infrastructure assets. At their core, a small subset of seven companies controls over 50% of the world's grain and oilseed trade. The companies have integrated business models across the entire food/agriculture value chain. This includes procuring the crops from farmers, transporting and storing the crops, processing the raw materials into intermediate or finished products, and transporting and packing the products for end users. This is all done on a global scale, where crops are procured and processed at the source and distributed worldwide to the customers.

The revenue function of these companies is throughput, or the amount of grain and oilseeds that flow through the companies' systems, plus the difference (or spread) between the raw materials and the finished products. The latter is referred to as the "crush margin," or the amount of profit earned creating the end products. Thus, in order for agribusinesses to be successful, they simply require volume and price disparity between raw materials and end products.

Soybean crush margins are the largest profit driver for western agribusinesses, given the large volume of soybean oil used in cooking, as well as soybean meal used as animal feed. The market "board crush" refers to the crush margin based on CME futures for soybeans, soybean meal, and soybean oil, and it is a good proxy for agribusiness profits. This crush margin ran in the $1.50-$2.50 range for most of 2018-2020. However, even as soybean prices rose, soybean oil and soybean meal prices rose more—which is expected during periods of food inflation—and crush margins exceeded $4.00 for a period. This contributed to a more than doubling of operating cash flow for the incumbent companies.

Crush margins remain high, with the board crush at approximately $3.40 at quarter end. However, the global scale and logistics of major agribusinesses have resulted in higher margins. This is due to their ability to source and process in regions with abundant crops, such as in Brazil, and deliver to regions with weaker harvests, like Europe. This global dynamic has only been enhanced by food price inflation and global food security concerns related to the Russia/Ukraine conflict.

Agribusinesses have historically experienced volatile results, but are trending higher with nominal GDP and price levels. More recently, the companies have largely reduced higher risk, volatile business lines such as ethanol production, and emphasized value-add business segments such as nutrition supplements and flavors. This should only enhance the profit margins going forward, while reducing variability. Unlike exchanges, the global agribusinesses are not purely "capital light"

as they require significant working capital for their raw material/inventory factoring, and globally integrated network operations. These businesses are categorized as "opportunistic" beneficiaries for this reason. However, the business economics resemble capital light and infrastructure peers once scale is achieved.

We prefer our versions of infrastructure assets over traditional assets, primarily due their higher growth potential and lower valuations. The potential for volume growth at exchanges and agribusinesses—as well as royalty companies, brokerages, and data platforms—is far less finite than traditional infrastructure. Additionally, the potential for higher pricing is also embedded in these business models, which can add to volumetric growth.

The valuations are at substantial discounts to infrastructure peers, primarily due to cash flow variability and capital retention. The market has always overpaid for "smoothed" results, or at least the perception of smooth results. We are much happier earning a higher rate of return on less smooth results that are nonetheless growing long-term. Finally, the market also overpays for distributions, as there is always a premium on income generation. This ignores the benefits of retaining capital, and compounding (tax efficiently) over the long-term.

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The inflation experience of the 1970s offers valuable lessons about where to be positioned for what we believe is a transformational economic shift today. Components of inflation price baskets will wax and wane, but markets with reliable demand and constrained supply are likely to trend consistently higher. Investing in hard asset businesses is an enduring philosophy, and we are likely entering a period of particular significance for such allocations, while most investors and indexes remain under allocated.

We will continue to monitor the operations of our portfolio companies and remain vigilant in seeking additional businesses that meet our strict investment criteria. There is certainly a limited universe of true "hard asset, capital light" businesses, and fewer yet which meet our valuation criteria.

As a final word on valuation—as it underpins everything that we do at Horizon Kinetics—hard assets and the related companies (energy, base metals, precious metals, agriculture, land etc.) are all trading as if a severe, protracted recession is imminent. Virtually every other asset class that we follow is trading as if the blue-sky "soft landing," or no recession scenario, is all but assured. This dynamic stacks the investment odds heavily in our favor.

August 2023

IMPORTANT RISK DISCLOSURES

Please consider carefully a fund's investment objectives, risks, charges, and expenses. For this and other important information, obtain a statutory and summary prospectus by contacting 646-495-7333. Read it carefully before investing.

Past performance is not a guarantee of future returns, and you may lose money. Opinions and estimates offered constitute our judgment as of the date made and are subject to change without notice. This information should not be used as a general guide to investing, or as a source of any specific investment recommendations.

Fund holdings and sector allocations are subject to change, and are not a recommendation to buy or sell any security.

The Horizon Kinetics Inflation Beneficiaries ETF (Symbol: INFL) is an exchange traded fund ("ETF") managed by Horizon Kinetics Asset Management LLC ("HKAM"). HKAM is an investment adviser registered with the U.S. Securities and Exchange Commission. You may obtain additional information about HKAM at our website at www.horizonkinetics.com.

Definitions:

S&P 500 Energy comprises those companies included in the S&P 500 that are classified as members of the GICS® energy sector. **The Organization for Economic Co-operation and Development (OECD)** is a group of 37 member countries that discuss and develop economic and social policy.
CPI: Refers to the Consumer Price Index (CPI), a measure of the average change over time in the process paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographical areas.
PCE: Refers to the Personal Consumption Expenditures Price Index. A measure of the prices that people living in the United States, or those buying on their behalf, pay for goods and services. The PCE price index is known for capturing inflation (or deflation) across a wide range of consumer expenses and reflecting changes in consumer behavior.
Basis points (BPS) are used to show the change in the value or rate of a financial instrument, such as 1% change equals a change of 100 basis points and 0.01% change equals one basis point.
SOFR: The Secured Overnight Financing Rate (SOFR) is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities.

Risks:
Investing involves risk, including the possible loss of principal. Shares of any ETF are bought and sold at market price (not NAV), may trade at a discount or premium to NAV and are not individually redeemed from the Fund. Brokerage commissions will reduce returns. The Fund's

investments in securities linked to real assets involve significant risks, including financial, operating, and competitive risks. Investments in securities linked to real assets expose the Fund to potentially adverse macroeconomic conditions, such as a rise in interest rates or a downturn in the economy in which the asset is located. The Fund is non-diversified, meaning it may concentrate its assets in fewer individual holdings than a diversified fund. Therefore, the Fund is more exposed to individual stock volatility than a diversified fund. The Fund invests in foreign securities which involve greater volatility and political, economic and currency risks and differences in accounting methods. These risks are greater for investments in emerging markets. The Fund may invest in the securities of smaller and mid-capitalization companies, which may be more volatile than funds that invest in larger, more established companies. The fund is actively managed and may be affected by the investment adviser's security selections.

Murray Stahl is member of the Board of Directors of Texas Pacific Land Corporation ("TPL"), a large holding in certain client accounts and funds managed by Horizon Kinetics Asset Management LLC ("HKAM"). Officers, directors and employees may also hold substantial amounts of TPL, both directly and indirectly, in their personal accounts. HKAM seeks to address potential conflicts of interest through the adoption of various policies and procedures, which include both electronic and physical safeguards. All personal and proprietary trading is also subject to HKAM's Code of Ethics and is monitored by the firm's Legal and Compliance Department.

The Horizon Kinetics Inflation Beneficiaries ETF (INFL) is distributed by Foreside Fund Services, LLC ("Foreside"). Foreside is not affiliated with Horizon Kinetics LLC or its subsidiaries.