KANOS
CAPITAL MANAGEMENT, LLC

Fourth Quarter 2022 Investor Letter

Portfolio Comments

Stocks bounced back in the fourth quarter of 2022, but a 'down' December tempered the advance. The equity markets hit the 2022 lows in mid-October after a worse-than-expected CPI inflation report, but markets then proceeded to rise during the rest of October and in November as earnings and economic expectations held up and inflation concerns eased. Tax-loss selling and continued central bank messaging that interest rates would continue to rise caused markets to drop during December, but China did an about-face from their zero-Covid policy and decided to reopen the economy, boosting Chinese and many Asian stocks, as well as worldwide travel and entertainment equities. Warmer-than-normal winter weather in Europe helped avert an energy crisis from occurring during 2022, and the war in Ukraine seemed to de-escalate somewhat during winter weather conditions, limiting its impact on the rest of the world.

Kanos portfolios generally outperformed the US stock market during the quarter with our overweight in energy and metals helping this outperformance. On average, portfolios rose 12.5% for the fourth quarter as metals and energy advanced strongly. Leaders to the upside were: Agnico-Eagle Mines (+23.9%), Royal Gold (+20.6%) and Newmont Mining (+13.6%) in precious metals, BHP Group (+23.9%) and Rio Tinto (+29.3%) in industrial metals, and Exxon Mobil (+27.4%) and Chevron (+26.0%) in energy. Another notable winner was Merck (+29.8%), higher due to its growth prospects, especially in Keytruda cancer therapies. Notable stocks to the downside included Alphabet [Google], down -7.7%, and Rare Earth minerals ETF, down -7.2%, both on recurrent recession fears, CF Industries [fertilizer], down -11.0% on supplies being more plentiful, and Wesdome Gold Mines (-18.2%) on expansion delays and dilution. Most commodity stocks were up, as were income-oriented investments as interest rates dropped during the quarter after peaking in early October.

Markets worldwide recovered during the fourth quarter, buoyed by easing inflation concerns and earnings optimism for the future. In US equity markets, the S&P 500 gained +7.56% during the quarter, while the Dow Jones Industrial Average led the way with a +16.01% gain (performance numbers reflect total returns). Sector-wise, the energy complex led all returns again, gaining +22.86%, while other double-digit winners included Industrials (+19.22%), Materials (+15.05%), Financials (+13.61%), Healthcare (+12.80%) and Consumer Staples (+12.63%). The only losing sector during the quarter was Consumer Discretionary (-9.09%), although Communications only managed a very small gain (+0.41%) (all performance numbers reflect total returns). Fixed income managed small gains, with the S&P US Aggregate Bond Index gaining +1.64% and the S&P US Government Bond Index gaining +0.55%. The 10-yr US Treasury bond ended at 3.826%. Importantly, the US Dollar dropped almost -15% during the quarter after hitting a multi-decade high in September. Commodities came back after a rough middle of the year: silver was the best performer of all assets, up over +25%, gold was up +10% and WTI crude oil was up almost +2%.

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For the year, the S&P 500 was down -18.11%, with only the Energy (+64.6%) and Utilities sectors (+1.57%) gaining; the sectors with the largest losses include: Communications (-37.66%), Consumer Discretionary (-36.23%), Technology (-28.19%) and Real Estate (-26.13%). Bonds had their worst year in decades, with the S&P Aggregate Bond Index down a whopping -12.03% and the S&P US Govt Bond Index down -10.83%. Commodities were the winners during the year, with Brent crude up approximately 10%, natural gas up almost 20% (in spite of a big December drop in price) and gold recovering late in the year to gain almost 1%. Bitcoin and other cryptocurrencies collapsed, with Bitcoin down -60+% while other cryptos did worse.

Introduction

Equity markets worldwide have been moving up during the first quarter, hopeful that the peak in inflation has been seen and thus powered by thoughts of central bank slowing their hiking programs and/or even easing (in the case of China). Earnings for the fourth quarter and outlooks going forward are a major concern for equity investors, and while earnings season has provided a lot of expectations 'beats,' management outlooks have proven disappointing so far, and market gains have been tempered somewhat after starting January rising strongly.

Inflation and central bank policy have taken their toll on other markets (bond markets, mostly), so equity markets appear to be the stars so far in 2023.

Economy

The economy has become the big conundrum for US investors. The economy itself was just reported to have grown 2.6% during the fourth quarter, around the same speed as the 2.9% reported for Q3, and much faster than the slight contractions of Q1 and Q2. However, fourth quarter GDP got a 1+% boost from inventory building, which is healthy during an expansion but can lead to further weakness if the economy is slowing or contracting. So 2023 GDP measures, especially from the first quarter, will be especially important to gauge whether more inventory is healthy or a soon-to-be headwind.

In addition to the positivity of GDP, employment has continued to hold up remarkably well, with weekly jobless claims printing a multi-decade low and monthly employment reports showing consistent gains. Many investors (including us) have been waiting for the proverbial "shoe to drop" concerning employment, expecting employment gains to wane or even turn into job losses. Why?

First, there have been a large number of high-profile layoff announcements by large companies, highlighted by almost every large tech company, in which thousands or even tens of thousands of employees are being laid off. These announcements haven't (so far) dented positive employment likely because small business has had trouble hiring desirable applicants during/since the pandemic, so they are probably hiring this high-tech talent as they become available, satisfying their job needs which had gone unmet since the pandemic.

Second, much of the US economic "soft data" has come in very weak: the Institute of Supply Management ((ISM) surveys of industry participants, which include General, Manufacturing and Non-manufacturing surveys, have all turned negative, which signals industrial contraction. In addition,

numerous regional Fed surveys, the Chicago, Empire (NY) and Dallas surveys in particular, have registered many months in a row of negative growth, indicating they seem deep in contraction range.

Finally, the Index of Leading Economic Indicators has now been down ten months in a row, signaling poor economic conditions ahead. Thus, many of the leading and coincident indicators economists use to see where we are in the economic cycle believe the economy must be in contraction or heading into contraction because so many indicators say so.

The Fed continues to believe that they can squelch inflation by raising interest rates and reducing demand, which will drive down prices and moderate inflationary forces. This has been their message since the summer, and they have not backed down from it. In spite of that, they only raised 50 basis points at their December meeting and only hiked 25 basis points at the just concluded February 1 meeting, showing a slowing of raising rates (and perhaps actions speaking louder than words?) Meanwhile, they continued to express the view that the Fed Funds Rate would move above 5% percent and stay there "for a long time," which would help in the fight against further inflation but will also slow the economy which is used to a Fed Funds Rate closer to 0-1% rather than the 4.5-5+% currently in effect and expected for the future. The interest rate futures market continues to price in rate cuts starting in late 2023, with participants betting the Fed will have succeeded with rate hikes, slowing the economy enough to moderate inflation but also stalling economic growth that requires immediate rate cuts. We agree that the Fed will move from hikes to cuts within the next year and a half, but we believe that if employment starts to drop, the Fed will have to start easing sooner than December 2023.

Asian economies also seem to be maintaining slower growth, although the biggest, China, is still difficult to analyze as they've stopped their zero-Covid social policy and eased financial conditions simultaneously, trying to head off both social unrest from months/years of lockdowns and an economy which seems to have stalled nearly completely, led by the contraction in the housing/construction sector of the Chinese economy, one of the largest segments. Lunar New Year has just ended in China, a time when people typically travel to see relatives or take vacations, so there has been a burst of travel, transportation and retail purchases that always help their economy – the real question this year is how much? Part of the answer is that Chinese authorities have cut some economic restrictions while the central bank, the PBOC, has injected liquidity and eased some short-term conditions, meaning the government is worried that growth is still anemic. Thus, China appears to continue to ease conditions to try to jump start their economy. Japan has seen the largest amount of inflation since the 1980s, but its economy continues to grow modestly, and their stock market has continued to rise, as has the yen (which was extremely oversold). Thus, Japan seems to be in relatively good shape. Other East Asian economies, hurt in recent months by a strong US dollar, have seen relief as the dollar has dropped from multi-year highs, making Asian exports earn more domestically while making imports of dollar-denominated commodities more reasonably priced, further helping economic growth and disinflating pricing pressures somewhat.

European economies are also benefitting from a weaker dollar and a mild winter, able to consume current supplies and inventories without having to pay further exorbitant prices for imported energy. In addition, economic growth has picked up somewhat as the US is still vibrant and China's economy has reopened to luxury European exports which Chinese had a hard time accessing during lockdowns.

Bottom line: The US economy continues to hold up, considering some of the weakness in economic statistics. A weaker dollar has helped worldwide growth, as has a relatively mild winter so far, at least in Europe. While we anticipate future economic weakness, we have stayed mostly fully invested in

attractive US and a few foreign stocks, so our portfolios have gained during January alongside worldwide stock markets.

Currencies

The US dollar's continuing drop has been one of the main financial drivers worldwide in the fourth and early in the current quarter. Currencies tend to trend, meaning they tend to move one way for longer since a lot of the determination of their movements is due to governmental and central bank decisions, which often stretch for months or years at a time. The dollar is no different, so since the US is expected to start easing in the next year from its formerly very tight financial management and high interest rates (which drove the US dollar so high in the first place), the dollar should continue to weaken over time. Having said that, its descent has been rapid and one-way for the most part, so we are not surprised to see a countertrend rally in the dollar underway currently.

The yen has shown a lot of strength, which is counter-intuitive to their loose monetary policy of the past few years. However, the yen became extremely oversold this fall, so its rise this winter is not unexpected. In addition, the Bank of Japan (BOJ) has been practicing Yield Curve Control (YCC) for the past couple of years, creating new yen to buy bonds and thus keeping 10-year Japanese government bonds (JGBs) at or under 0.25% yield to maturity, in order to keep Japanese interest rates low and thus Japanese industry competitive. They recently raised the limit to 0.50%, and the market continues to believe that they will have to give up YCC sometime soon, so as not to destroy the yen's value through further money creation. Thus, the interest rate differential for Japan versus the US is growing smaller, with Japanese interest rates rising and expected to rise further – this makes the yen more attractive, meaning Japanese investors who have had to invest overseas for years to earn a competitive yield are repatriating money to take advantage of now more competitive Japanese rates. This buying of yen and liquidation of overseas investments have driven some of the price action we've seen so far and may last for many more months and possibly years, providing a tailwind for the yen not seen in many years.

The European Central Bank (ECB) raised interest rates 0.50% at its meeting in early February and is expected to again at its subsequent meeting, making it the central bank tightening the most right now, meaning the euro also has gotten a bit of a tailwind after falling below 1-to-1 with the US dollar in October/early November. Thus, interest rate increases have and are expected to continue to drive the euro higher versus the dollar, and keep its gains on par with the yen, keeping its competitiveness.

Other central banks have slowed down their fight against inflation, as noted in our last letter: the Bank of Canada (BOC) appears to have raised interest rates for the last time in 2022 for this cycle. As mentioned above, China is easing rates selectively, putting pressure on the yuan, while reopening its economy, which encourages yuan usage and prices, so the yuan is slightly stronger but not moving like the yen and euro.

<u>Bottom line:</u> The US dollar has fallen and is expected to continue to fall. The yen and euro are the biggest beneficiaries, but most currencies have risen from recent lows as the dollar has fallen, helping competitiveness around the world. We have not made any investments in currencies, preferring to express these forces in companies that benefit even more from a weaker dollar, namely commodity companies like metals miners, energy companies, fertilizer companies and even defense contractors.

Equities

World equity markets continue to move higher during 2023 as investors see inflation moderating and thus interest rate raising coming to an end.

US markets have recovered some of the 2022 losses, surpassing early winter highs as inflation is dropping further and interest rate increases are better understood. Investors' attention has now moved to 2023 results being "not as bad as expected", while traders and investors force investments funds that were short stocks to cover their positions while others increasingly price in the possibility of a "soft landing."

Thus, the January/early February rally has "gotten legs," moving higher on the combination of "Fed finishing," 'better than expected' results and the resultant short covering. The market had been oscillating up and down going into the February 1st FOMC rate announcement and press conference, but a confident Chairman Jay Powell, the expected 25 basis point hike and investor confidence that this could be the last rate increase has propelled stocks higher during early February, when the largest US companies reported, the FOMC met and the strong January jobs report was announced.

The best performing stocks so far in 2023 were the worst performers in 2022, as some investors see at least a partial return to "normalcy" of an accommodative Fed, easier money conditions and an evaporating inflation problem, allowing for more constructive monetary policy (lower rates, reduced quantitative tightening). Small cap Growth/Tech has been the leader, while large cap Tech, Communications and Consumer Discretionary, the clear losers of 2022, are currently leading the pack. Healthcare, Consumer Staples and Utilities, sectors that held up very well last year, have been losers so far in 2023. Materials and Energy are ahead for the year so far, but not as much as the 2022 losers.

Kanos portfolios have some big cap tech, biotech and some small tech "fallen angels," meaning many portfolios have seen some good performance from these beaten-down stocks. But the majority of our portfolios, value stocks that include mining/materials, energy, industrials, etc. have continued to move higher, adding to recent gains. <u>Absent further confirmation of favorable economic conditions and an actual supportive Fed, our portfolio compositions will not undergo any major changes.</u>

The Fed, while acting as if the trajectory of economic conditions will allow them to stop raising rates because inflation is falling in spite of employment holding up, continues to raise rates and talk relatively tough. They continue to maintain that they could raise rates further this spring, and they plan to keep rates at these levels at least into 2024. If this occurs, the environment is not conducive to growth stocks, and the winners of early 2023 may give back gains. We will continue to watch economic announcements, the markets and Fed closely to see whether any opportune portfolio changes are identified.

International stocks in general have benefitted from perceptions of better economic activity, a milder-than-expected winter and, of course, a lower US dollar, which improves the costs of commodities as well as cuts down on imported inflation as local currencies improve against dollar-denominated commodities, products and services.

Chinese stocks have rebounded along with US growth stocks, but we consider these stocks as uninvestible, as these stocks don't represent ownership of Chinese companies – they represent the claim

on profits/losses from the correspondingly-named corporation. However, there are people worldwide who either don't know or don't care about the ownership structure, and they have been buying Chinese stocks on the economic reopening theme. We believe our portfolios benefit from China's reopening through our commodity producer ownership, so we don't feel we need to take that ownership risk.

Other emerging markets are slightly higher but have not felt the benefits of a lower US dollar yet.

Bottom line: We continue to be mostly invested, emphasizing value stocks in the materials/mining, energy, industrials and healthcare segments, which we believe will benefit if economic conditions improve but will retain more of their value if economic conditions deteriorate and central banks respond. We have not invested in more mainstream companies overseas, in spite of a lower US dollar, because we continue to be unsure of future economic conditions in places we still think are fragile in their ability to restart consumer consumption growth. Thus, we are positioned in more producer-oriented companies, thinking that conditions will be more favorable due to continued demand, at-risk supply or supply chains, and tenuous geopolitical conditions that could change economies quickly if bad decisions occur.

Bonds

US bonds have rallied so far in 2023, along with other assets, as the Fed is considered nearly done raising rates, and inflation continues to ease. However, after gaining for much of January, bonds have settled back as market participants see clouds on the horizon as far as supply and demand for US bonds in the future.

The US debt levels are over $31 trillion, and the Biden Administration has passed budgetary bills to spend more than $1.7 trillion more than is expected to be brought in through taxes, in addition to past spending bills already on the books, including the completely-misnamed Inflation Reduction Act, all of which have multi-hundred-billion-dollar price tags. Who will buy all the Treasuries needed to finance this huge debt and growing deficits? The bond market is responding to that concern: China and Japan, traditionally the largest buyers of Treasuries, have recently bought fewer or even divested themselves of some Treasuries as the dollar soared. Oil producing countries, traditionally large buyers of Treasuries (due to their need to invest the large dollars from oil & gas sales), will continue to buy Treasuries but will have a hard time absorbing these huge amounts. US and other OECD investors and financial institutions have been buying large amounts of Treasuries as recessionary conditions have been expected for some time. However, the largest buyer over the past few years has been the Fed! And, of course, not only is the Fed not buying, but it is letting its current holdings run off without repurchasing, adding to the supply problem. In addition, leveraged loans used to fund buyouts and bonds assembled from bundled mortgages and auto loans are starting to show selective weakness as some segments of consumers start to have economic trouble with higher interest rates. Thus, US bonds, starting with government bonds, have started to show some weakness as supply concerns overcome the natural demand from investors seeking refuge in case of a recession. We have owned some bonds but have tended to use them as a trade or have our holdings repaid instead of reinvesting, not being able to answer where the buyers are going to come from, especially if inflation stays above (or far above) the Fed's 2% inflation target.

International rates have been rising, attracting more capital than in past years, but also making currently outstanding bonds worth less than before. As mentioned earlier, Japanese bonds are looking more

attractive than they have in many years, attracting more Japanese investors than in the past and robbing Japanese capital that has been invested in other OECD bonds (especially Treasuries) in the past. We believe that central banks around the world have been able to marshal the resolve to fight inflation on its initial appearance, but if it proves sticky or builds again, we doubt the resolve of all central banks around the world to return to raising interest rates, especially if it requires much higher rates. Thus, we are leery of bonds, as they have higher inflation and interest rate risk than in years/decades past.

Bottom line:
We continue to hold some bonds for some income for risk-averse clients, but we don't think bonds are risk/reward candidates right now, so we have sold our trading positions when bonds turned down in mid-to-late January, and we are going to be on the sidelines for bonds until we see how far inflation drops and how central banks respond going forward.

Commodities

Commodities rallied almost across the board during the fourth quarter (oil gained but was the weakest) as the US dollar dropped from multi-year highs. The same dynamics are still in place, along with the Ukraine invasion continuing to restrict some supplies and use a number of resources. In addition, falling real interest rates (as inflation falls) and rising geopolitical tensions affecting supply chains and resource shortages mean supply and demand for commodities continues to be favorable for higher prices over time.

Geopolitical tensions are ratcheting higher as more sophisticated weapons are being introduced into the Ukraine invasion, helping precious metals move higher. Fed actions fighting inflation hurt gold and silver in 2022 when markets saw restricted liquidity as hurting precious metals as much as risk assets like growth stocks and corporate bonds. However, as inflation has come down somewhat, and the Fed is being called upon to declare victory and pivot to more easy monetary conditions, more and more investors are starting to look to gold and silver as stores of value instead of a now-falling US dollar.

The Biden Administration's weaponization of money, where, in addition to economic sanctions against US/Western political enemies, it confiscated Russia's overseas reserves in March 2022 due to the Ukraine invasion has caused concern around the world. Other countries, either hostile or wary of the US' economic sanctions and reserve confiscation, have invested more and more monetary reserves in gold. 2022 gold buying by central banks exceeded 1,130 tons (according to the World Gold Council) and was the highest since 1967, another time of rising US inflation and falling trust in US monetary authorities to keep the dollar strong against gold (the dollar-gold peg was abandoned just four years later, in 1971). All these factors continue to make us bullish on precious metals and metals mining companies.

Other commodities rose during early 2022, first on supply concerns, then on war-shortage concerns, although some of those first-half gains were given back on recession fears and resolution of supply chains. However, the supply/demand balance has failed to improve because global supply continues to be constrained by the Ukraine war (sanctioned Russia supplies large amounts of ag, metal and energy commodities) while global demand, constrained by Covid in China during 2022, has grown from 2022 lows as the Chinese economy is now wide open. Thus, industrial metals, chemicals, fertilizer, energy of all types, and many others, including rare earths, lithium, and other green and high-tech materials are

facing favorable supply/demand dynamics, and we own and will continue to own producers and fabricators in many of these fields going forward.

We continue to believe the premise that the world's underinvestment will be a main driving force in higher commodity prices during the next few years. In addition, continued demand from East and South Asian countries, highlighted by China and India, will underpin supply concerns of the abovementioned materials for many years to come. Throw in the environmental actors who continually act to restrict exploration for and production of supplies, and companies that have efficient, well-established operations should be good investments for a long time. Thus, we continue to like base metals mining and production companies producing copper, lithium, iron ore, coal, nickel, tin and rare earth minerals.

Finally, we think there continues to be a case for owning agricultural companies. The high price of natural gas around the world has led to much higher fertilizer prices, which, in many cases worldwide, is used extensively to produce the huge crop yields experienced in recent years. Meanwhile, Ukraine and Western Russia, formerly the breadbasket of Europe and the Near East, have been producing less and have had tougher transportation out as the war rages around this important production zone (and possibly escalates). Farmers around the world have had to conserve their use of fertilizers this year due to cost concerns – this will almost certainly lead to lower aggregate crop yields, meaning food will be more and more expensive and harder to source, making food production and distribution companies far more valuable than in the past.

Bottom line:
We continue to like both precious and industrial metals and metals mining companies, fertilizer and chemical companies and agricultural producers & trading companies. We believe China's reopening and the war in Ukraine in the short-term, along with continued underinvestment and resource nationalism in the longer-term, make these commodity companies attractive now and into the future.

Energy

A combination of factors has kept energy prices lower than many expected this winter: a mild winter in Europe has been a major factor, allowing the Europeans to use contracted supplies and their full storage facilities of oil and gas, although they also turned back to a large increase in coal usage, as well as some burning of wood and wood products, by far the most ecologically "unfriendly" type of fuel. In addition, higher prices help solve high prices; US production has climbed to 12.2 million bbls/day while total daily world supplies have increased to 102 million bbls/day (estimated) at the end of November 2022. Finally, releases from government storage helped satisfy demand in 2022, keeping a lid on prices across the globe.

Having said that, the world has shot most of its proverbial "bullets" for holding down oil prices, and 2023 brings new challenges, led by China's growing thirst for more energy of all kinds. West Texas Intermediate (WTI) crude oil reached its low of 2022 in early December near $70/bbl but has since rebounded to around $80/bbl. Brent crude, a more representative crude traded worldwide, only got down to $75/bbl in December, currently trading near $85/bbl. December is traditionally a weak demand time for oil and oil products, so prices often hit a low during this time, so signs point to higher prices as winter starts to retreat in March and usage starts to return, which should be especially strong

with China returning to full capacity, and Chinese authorities easing regulations and cheapening financing costs to foster increased economic growth.

We also believe that the withdrawal of Western oil services contractors from Russia, combined with sanctions on exports to Russia of many technology and industrial materials/parts will start to take its toll on Russian oil production capacity in 2023, since Russia has been producing near its historical high production levels, which tends to put stress on facilities and systems, causing breakage and wearing out parts, which Russia is going to have trouble replacing now that Western sources and know-how are gone. The inevitable reduction of Russian production and therefore exports will cause Russia's big customers, namely China and India, to have to go out in oil markets more frequently, tightening the supply/demand mix and almost certainly putting upward pressure on prices.

Natural gas prices are lower in the US due to recent lower January temperature and future forecasts, but any cold forecast, especially if paired with a colder forecast in Europe, could have a serious impact on natgas prices. It continues to be the most volatile commodity out there, but its use has never been more important if the world has a below average period of cold in February/March.

Bottom line: We continue to favor oil and gas investments, including supermajors, independent producers, refiners and pipeline companies. We also own some coal companies as Europe and Asia continue to grow worldwide coal consumption in aggregate. We believe higher prices, continued high demand and lack of any significant production increases will allow these investments to pay very attractive current yields while leading to additional capital appreciation over time as prices rise.

Summary

The wrecking ball of a strong US dollar has left the financial markets, making all assets more attractive and brightening prospects both in the US and worldwide. Inflationary pressures have receded both in the US and worldwide as a result of higher interest rates, slowed economic growth and the war in Ukraine falling into near stalemate.

2023 has arrived with a patina of hope as central banks around the world are seen to be finishing their rate hike cycles, and many investors currently believe that interest rates are only high enough to cause economic slowdowns without widespread damage that could cause more serious recessions in OECD countries.

We are more sanguine, thinking that the "economic medicine" of higher interest rates will impact the economic world more so than many think because interest rates have been so low for so long that new economic growth will have a hard time working at these interest rate levels. Interest rate hikes are thought to take months to work their way into economies, so we are not sure the US economy has felt anywhere near the full impact of rate hikes. Thus, we think central banks will have to ease to jumpstart economies before 2023 is out, stopping QT and lowering rates. This financial easing, along with the combination of governmental and environmental constraints on expanding natural resource extraction will make current natural resource companies (in many industries) more valuable, producing what's needed with less competition, fulfilling growing demand from industry and consumers. Thus, our portfolios are overweighted to the materials/mining, energy, industrial and healthcare industries, as the era of easy money with no inflation appears to be over.

Future themes for our investment attention will be North American reshoring and self sufficiency of supplies, so many of our future investment exploration will incorporate these ideas, with emphases on industrials and healthcare.

Kanos Quarterly Commentary

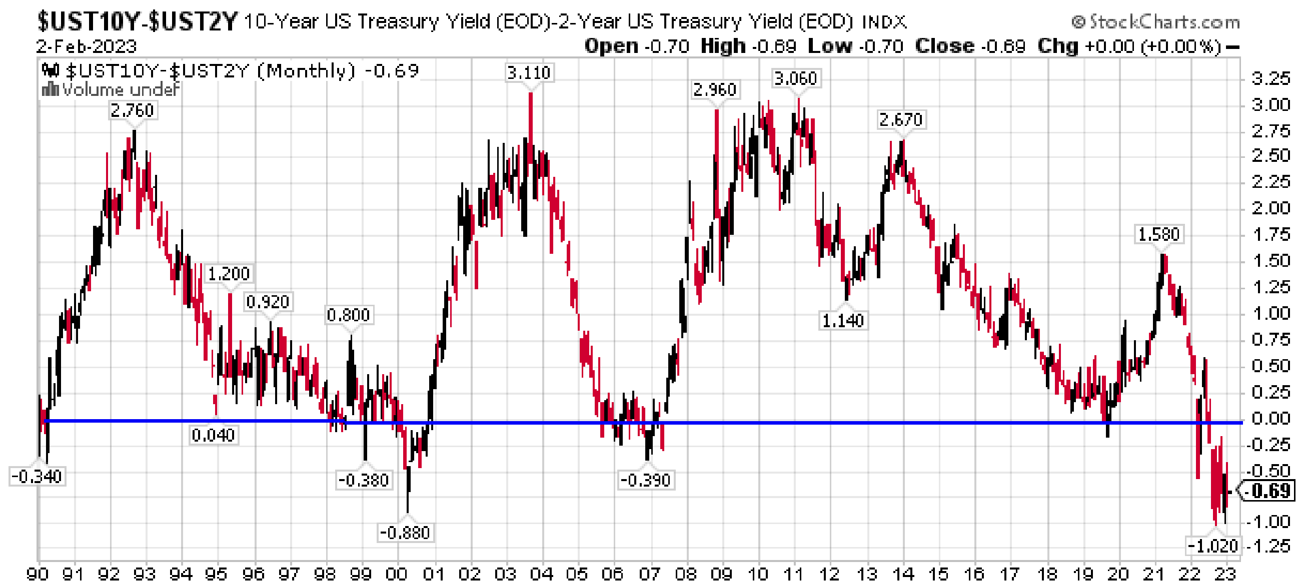
Charts That Are Important

Here at Kanos we have integrated charts into our processes over time. We look at them to gauge the strength and direction of various markets, to optimize timing on entering or exiting positions, and to use as potential predictive tools.

Prices often move together, while in other cases one price seems to lead another. These relationships are often useful for trying to better judge where prices might be going in the future (we also look for fundamental reasons for price movements and pricing relationships).

Thus, this quarter we thought we would share some charts that we think are important right now for judging how certain parts of the market might react in the future, based on past relationships. Of course, we don't have charts that consistently predict the future, but when some have a long track record of preceding certain events, attention must be paid.

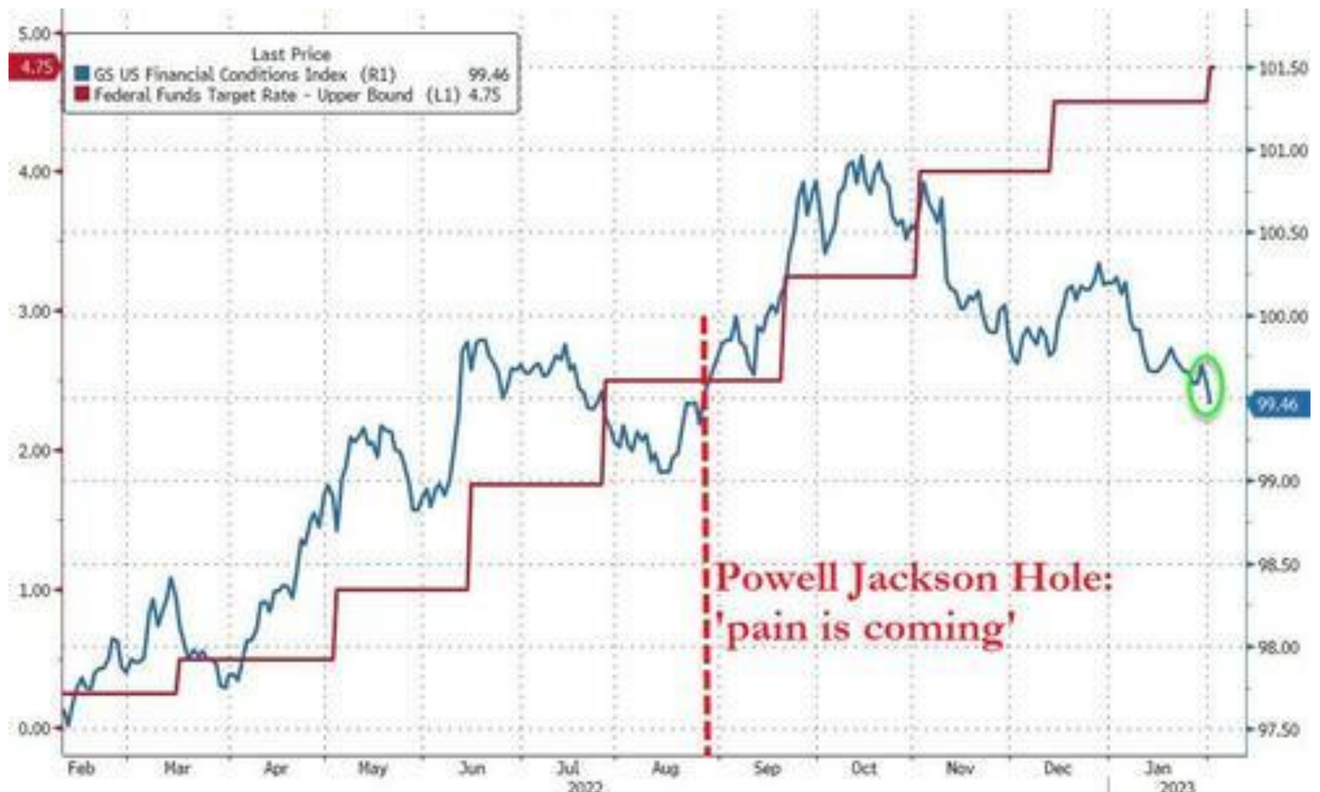
1) **Yield Curve:** One widely-followed example is the yield curve indicator, specifically the 2s-10s, or the spread between the 2-year Treasury Note and the 10-year Treasury Note. When this spread turns negative, there is a good chance a recession follows within 24 months. In the chart below of the last 32+ years, recession has happened every time the '2-10 spread' went negative except for the late 1998 Long-Term Capital Blowup/Russian Debt Default. Here is the chart – and the current spread has been as large as 102 basis points (currently 69 basis points):



The above chart helps us understand that this very negative reading of the '2-10 spread' tells us that there will most probably be a recession within the next 24 months. The recession generally "shows itself" when the '2-10 spread' heads back up toward a positive reading (recessions occurred in 1991, 2001-2002, 2008/2009, and 2020).

2) **Fed Funds vs. FCI:** A very recent chart that has been interesting investors is the chart showing the Fed Funds Rate versus the Goldman Sachs Financial Conditions Index (FCI). The Fed Funds rate is the interest rate set by the Fed Open Market Committee (FOMC) for very short-term borrowing/lending among large US banks. The FCI is an index produced by Goldman Sachs on an ongoing basis that shows whether the financial markets have liquidity or are constrained; it factors in a handful of macro variables such as interest rates, credit spreads, stock prices, and currency levels to generate a reading of how constrained conditions are. The reason it's so important right now is Fed Chairman Jay Powell has referenced that the Fed is trying to tighten financial conditions, after having very easy financial conditions during and after the pandemic to make sure the financial markets would continue to function smoothly. Now that the pandemic is over and excess liquidity has helped cause a bout of severe inflation, the Fed is trying to tighten policy, and is looking at the FCI as one gauge to see where conditions are becoming tighter. In fact, August's Jackson Hole Fed Conference, Powell said that 'pain is coming' in the form of higher interest rates and resulting tighter financial conditions (higher FCI).

Here is the current chart, comparing the Fed Funds Rate (red line) to the FCI (blue line), as of February 2, 2023, from the ZeroHedge article, "Central Bank 'Pause' Panacea Prompts Massive Stock Short Squeeze:"



Note that since October, <u>the FCI has dropped, even as the Fed Funds Rate has continued higher, including after the just-instituted February 2023 25 basis point hike.</u> Why is this? Almost certainly, this

is the rise in the stock and bond markets since mid-October when inflation was judged to have topped and the markets think the Fed should be thinking about reducing rates in the distant future.

This is important because the Fed told us they were going to use the FCI as one gauge for tightening financial conditions, enough to stop raising rates. If the FCI is down (and continues to drop), by its own game plan, as well as the ongoing drumbeat from every Fed spokesperson, the Fed will have to continue to raise rates past the time it has signaled that it would stop (after the next [March] meeting) in order to get to tighter financial conditions. The markets will absolutely not like this because the Fed has been subtly signaling that 5%-ish was the "terminal rate" [the highest rate to be realized in the hiking cycle] and that it would hike till March 2023. If the Fed then adjusts after sending this message since October 2022, the financial markets would freak out and almost certainly go down strongly (both the bond and stock markets). Thus, it is very important in the future that the Fed clarify whether the FCI is still a target – Powell failed to do so in his most recent press conference, so it is still a very important issue that remains unresolved.

3) **Labor Market vs. Statistics:** Another economic anomaly is the strength of the labor market (as reported) versus other economic statistics. The labor statistics reported continue to show employment gains month after month, signaling an economy that it hitting on most cylinders. However, "softer" economic statistics, like business surveys and business cycle indicators continue to point to a softening economy this fall and winter. A good illustration of this is from a ZeroHedge article on 1/27/2023 called, "Massive Short-Squeeze Sparks Surge In Stocks Despite Hawkish Shift In Rates." The chart below shows labor statistics [green line] (as represented by the Bloomberg US Labor Market Surprise Index), which have risen much of the time since bottoming in mid-summer. Meanwhile, US "soft" economic data [maroon line] (as represented here by the Bloomberg US Surveys & Business Cycle Indicators Surprise Index) shown below shows a peak in September 2022 and has been heading downward most of the time since.

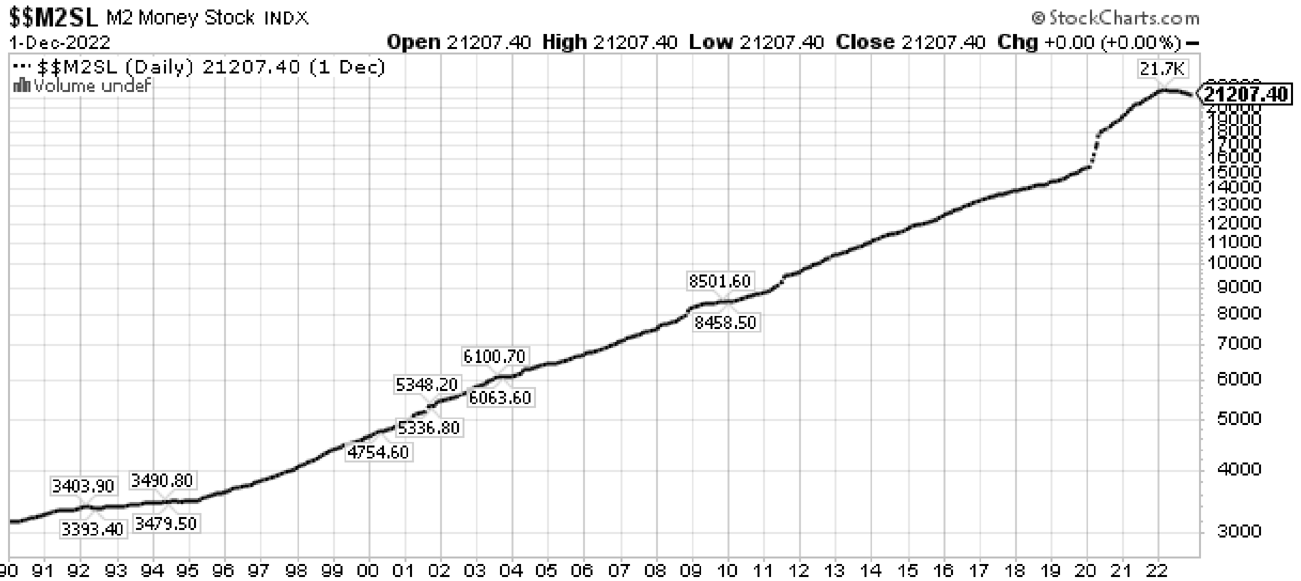
This anomaly is historically unusual – employment tends to track soft economic data, both getting stronger and weaker in mostly coincident time spans. So, in the near future, will the economic data pick back up and reach back toward the labor strength? Or will the economy continue to be weak enough that employment eventually begins to track the other economic statistics and weaken. History says that it is the latter, so we will keep an eye out for weakening labor data, which could also mark the beginning of the anticipated 2023 recession.

4) **Savings vs. Consumer Credit:** We have all heard how much Americans saved during the pandemic when there was little on which to spend our salary, savings or government handouts. However, as the US reopened more fully after 2020, Americans spent at a rate not seen before in our history. How much consumption since 2020 was financed from income, and how much came out of pandemic savings? The following chart graphs US savings as a % of personal disposable income versus the Federal Reserve aggregate amount of consumer credit outstanding (essentially, credit card debt). In the chart below, the blue line is the amount of consumer debt outstanding, while the red line is the % savings of disposable income.

Graph from ZeroHedge's 1/27/2023 article entitled, "Americans' Spending Drops Again in December, Fed's Favorite Inflation Signal Slows."

As the graph shows pretty starkly, the savings rate did shoot up sharply in early 2020 as the lockdowns made purchasing much more difficult, and government pandemic relief payments added two more spikes to the savings rate. Meanwhile, consumer credit outstanding dropped initially during the pandemic lockdowns but has zoomed to its highest level in history, while the savings rate has now fallen to its lowest level this century. To us, this shows that Americans have used up all of their pandemic savings and are now buying things on credit, illustrating the precarious nature of many Americans' financial situations as our economy slows to near recessionary conditions.

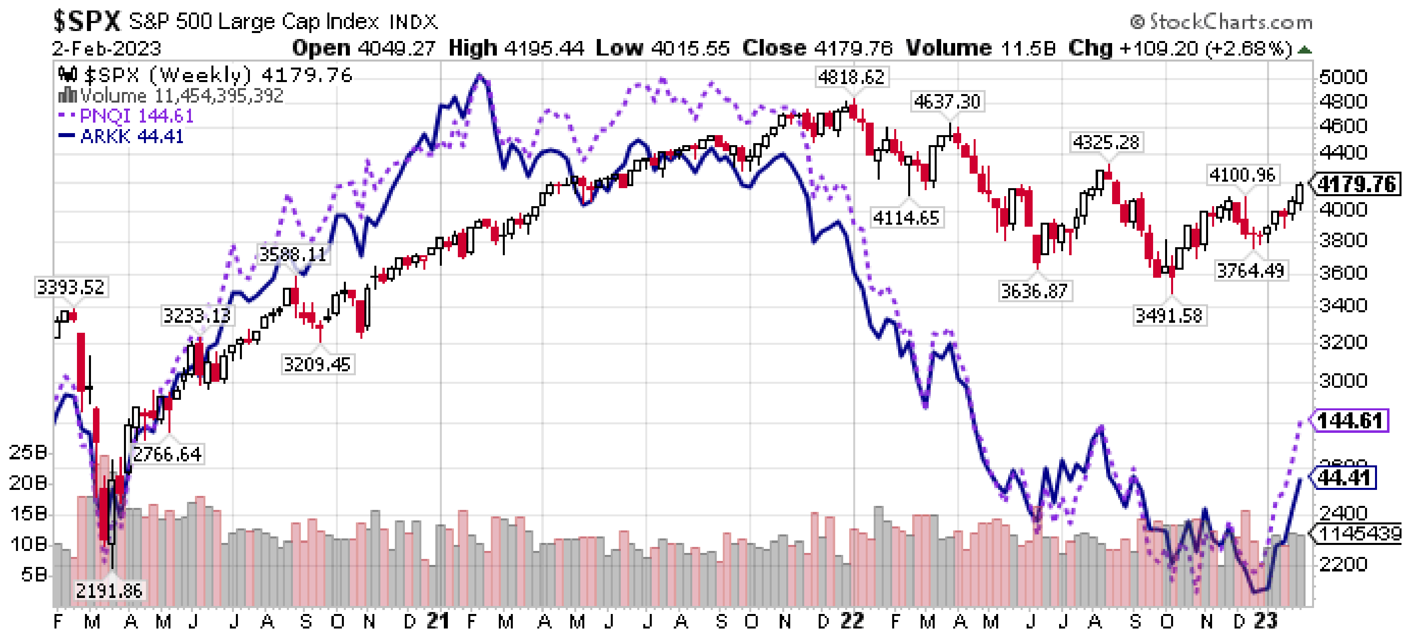
5) **M2 Money Supply:** This next chart illustrates the supply of money in the US economy – called M2. It is the monetary aggregate that includes cash, checking accounts, savings accounts and "easily convertible near money" like money market funds.



As the chart above shows, M2 has only dropped on a very few occasions over the past 30+ years, mostly around recessions. There were slight drops in 1992 and 1994 (followng the 1990-91 recession), 2001 (following the 2000-01 recession), 2009 (following the 2008-2009 recession and financial crisis) and now. However, the magnitude of the 2022-23 drop dwarfs the other drops, which were all minor. Now, the money supply has dropped from $21.7 trillion to $21.2 trillion, down approximately $500 billion, a very large amount. While one can argue that we are still far above the pre-pandemic amount of M2 by almost $2 trillion, the shrinkage will start to affect markets that count on liqudity and are used to more than two years of almost unlimited liquidity. It will affect all financial markets, but in differeing quantities and ways. Almost certainly, speculation will suffer as formerly "unlimited" resources prove finite, and people are forced to sell when positions go against them, especially if levered (there is also record leverage in the financial system).

6) **Former Market Leaders vs. the S&P 500:** Switching gears somewhat, we would now like to look at stock market situations that might help us forecast where the market may go in the future. If we look at the price moves of some of the former leaders in the bull market after the pandemic, their movements may help us gauge where the general market might move. In other words, since these "leaders" moved up before the overall market (as represented by the S&P 500), their drops since peaking may help map out where the overall market may go since it peaked around the end of 2022.

Two leaders we are going to highlight are the 1) Invesco NASDAQ Internet ETF (ticker: PNQI) and 2) Cathy Wood's ARK Innovation ETF (ticker: ARKK). The PNQI ETF contains most of the internet giants: Alphabet (Google), Meta (Facebook), PayPal, Amazon, Alibaba, Adobe, Shopify, Netflix, Salesforce, etc. The ARK Innovation ETF contains "disruptive technology" companies including Tesla, Roku, Teledoc, Square, Zoom Video, Shopify, Spotify Twilio and Coinbase, just to name a few. The chart below plots the PNQI and ARKK ETFs versus the S&P 500 on the S&P 500 chart during the last three years.



The PNQI ETF's price action is the purple dotted line, the ARKK ETF's price action is the solid blue line, and the S&P 500's price action is the red and black (candlestick) plot. The chart shows that after the pandemic bottom in March 2020, the PNQI and ARKK ETFs outperformed the S&P 500 substantially in 2020, but both peaked in February 2021 and have proceeded to give back most of their gains from the past three years. By graphing them from the common bottom in March 2020, their outperformance during the bull market roughly marked the top the S&P 500 eventually reached almost one year later. Since they were leaders on the upside, their movements on the downside should give a general scale of downside exposure of the S&P 500. They are graphed to scale on the S&P 500 chart – thus, their movements could "forecast" where the S&P 500 might follow: their movements indicate a movement to the 2500-2800 level on the S&P, which is currently trading at 4180. While this is a dire "forecast" and may not occur, this exercise points to the possibility of further downside action in the general market due to the prior movements of some of the largest market cap companies and former outperformers on the upside.

7) **Crude oil vs. Oil Equities:** Another interesting chart is the price of WTI crude oil versus a basket of US crude oil producers' equity prices. One would assume that companies stock prices would follow the underlying commodity price pretty closely, since oil prices have a strong bearing on the profitability of these exploration and production companies. In the following chart (below), in which WTI crude oil (the blue solid line) is plotted versus the S&P Oil & Gas Exploration & Production ETF (the red and black candlestick plot), it shows a tight correlation between the two prices on the left side of the chart, representing the October 2020 to January 2022 timeframe.

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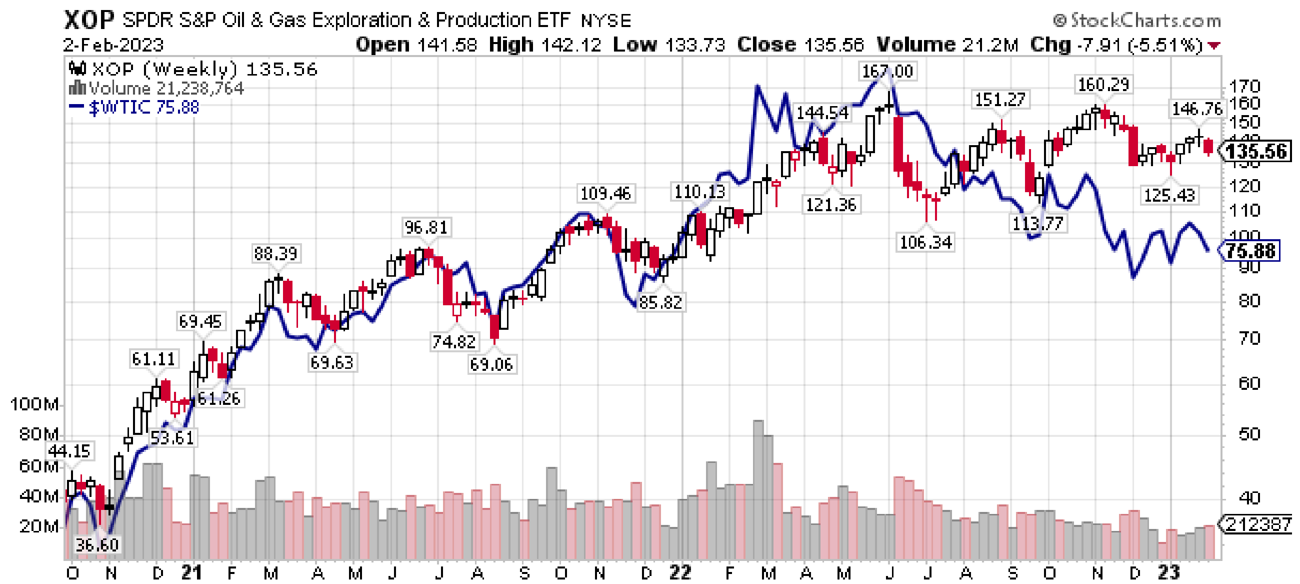

However, in early 2022, WTI crude oil got more expensive relative to the e&p companies, which then shot higher at the end of February when Russia invaded Ukraine, further upsetting the oil markets. Interestingly, since June 2022, the e&p company stocks have far outperformed crude oil itself. So much so that many in the financial markets have said, "how will this 'gap' be resolved? Will crude rise to match the strength of the production companies, or will the e&p companies follow crude oil down in weakness since the delayed Chinese reopening after Covid and a mild European winter have used less energy than originally thought?"

We tend to lean toward the view that crude prices will strengthen to match the strength of e&p company prices. Why? First, we think that crude oil prices have been suppressed as much as possible by governments to mollify their citizens who are already getting large increases in all their energy bills. How? One way is obvious: the Biden Administration emptied the US Strategic Petroleum Reserve by approximately 200 million barrels (around 1 million barrels a day for more than six months), which by itself represents more than many OPEC countries produce daily. However, the SPR is a temporary source that can only be used once. In addition, we think that many other producers, namely Saudi Arabia, used the high prices from the onset of the invasion of Ukraine to sell some inventory to make extra money. This "temporary oversupply" depressed crude oil prices during the typical seasonally weak winter time period. As temperatures and economic activity pick up, we think prices will rise, and we believe e&p company stocks reflect the future cash flows from higher crude oil prices. Second, we think the e&p companies trade at a premium for their reserves that can be produced economically in the future, while green, ESG and environmental movements and governmental agendas will limit the ability to grow production in the future, making e&p companies more valuable post-Ukraine invasion, due to the limitations on Russian energy going forward.

We believe these graphs show that the risk of recession is real, that a number of economic indicators are already tilting toward growing economic weakness and that the stock market, while still having opportunities for profit, is facing further downside pressure before a sustainable bull market can form. Finally, we think US Exploration & Production companies are attractive for their present situations and valuations as well as their future prospects.

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