

The Rise of the Oisruptors Quarterly Call Q2





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Insigneo

Introduction

The protagonists of our second quarterly conference call of the year will all have one thing in common – they will all be disruptors. Springtime is a time of disruption, a rupture of Winter's icy grip on nature and a rebirth. For Western Christians, the Easter holiday is commonly celebrated on the first Sunday after the first full moon of the spring or vernal equinox. The Orthodox Easter occurs on the Sunday following the first full moon after Passover. For both, the holiday is the most important and religiously significant celebration on the calendar. But Easter also has many symbols and traditions of pagan origin. In fact, the word "Easter" derives from the Old English word "Ēastre", a pagan festival also associated with the spring equinox that honored the Saxon goddess Eostre who was associated with spring,

renewal, and fertility. Many other facets of the modern holiday also have their roots in pre-Christian pagan beliefs, such as the use of hares and eggs as symbols of fertility and rebirth by the Romans, Persians, and Egyptians. These belief systems all recognized that this was a period of liminality because it marked a time of transition between different states of being – from Winter to Spring, from despair to hope, from death to life. In this quarterly conference, we will address disruptive themes like artificial intelligence and nuclear fusion. What are the opportunities, and how do we invest in them? What are some of the potential pitfalls? Before we look forward to the second quarter and some of these disruptive themes, let us take a brief backward glance at the first quarter.

Executive Summary

- We do not expect the recent US banking turmoil to evolve into a Global Financial Crisis-like event.
- In the near-term, a US recession is still not our base case. However, over a longer horizon (i.e., over a 6 to 12-month period), the probability of a US recession has increased materially and it is our base case scenario.
- 3. Incorporating all factors, our subjective US recessionary probabilities currently are as follows:
 - i. Over a six-month horizon, 50% chance of a mild recession, 40% chance of no recession, and 10% chance of a severe recession.
 - ii. Over a twelve-month horizon, 70% chance of a mild recession, 20% chance of a severe recession, and 10% chance of no recession.
- 4. With long-term inflation expectations well anchored and hovering around 2.25%, the Fed

would have the capacity to cut rates in response to a deteriorating economic outlook.

- We retain our neutral positioning on both equities and rates for the second quarter of the year, but our subsequent move will likely be to downgrade equites and upgrade bonds in the second half of this year.
- 6. Geographically, we still favor equities outside of the US over their American peers.

Q1 Recap & Summary Outlook

In our annual outlook, we wrote "the 60/40 portfolio is not dead" and that "2023 might induce a resurgence as we anticipate a much better year for fixed income, particularly high-grade bonds, and sovereigns, due to a more benign rate environment." As if by design, the first quarter saw a revival in financial markets. Global equites surged 7.4%, while global bonds were up 3%. In that same annual report, we also wrote that "if anything, global growth risks are asymmetrically tilted to the upside relative to subdued expectations." Certainly, Chinese growth figures have exceeded expectations, and the market has begun to sniff the end of tightening cycles in the developed world, two powerful tailwinds for returns. European equities were the best performing major market in the first quarter as they tend to be more tethered to global growth, and they are benefiting from being some of the cheapest markets in the world across many metrics.

We also thought that global growth would be above consensus estimates, and that would provide a moderate level of support for risk assets. Besides the Chinese growth optimism, the other key supposition to our view was that de-risking further was not prudent despite the uncertainty over the timing of the next US recession. If it came earlier (by the Summer), then we were likely to get a V-shaped type of year, weakness in the first

half followed by a rally in the second half. If the recession came later, then we would likely see an A-shaped type of year. Again, this is taken verbatim from our annual report: "If, however, the recession does not commence next year (perhaps in early 2024...), then the market could gain some ground in the beginning of the year only to give some of it away in the latter half of the year." As you will see shortly in our recessionary probabilities, the US recession has not started, but does loom over the horizon and the recent banking turmoil may only accelerate it. History informs us that US equities have generally performed well when the Fed stops hiking rates, as long as the economy does not enter a recession near the end of the tightening cycle. Since 1982, in more than 80% of the instances where the Fed at least pauses and a recession is not imminent, the S&P 500 rallies an average of more than 8% in the three-month period after the hiking cycle concludes. And in those cases where a recession is at hand, the market drawdowns tend to be subdued with 10 to 15% downside potential. In the near-term, a US recession is still not our base case.

However, over a longer horizon (i.e., over a 6 to 12-month period), the probability of a US recession has increased materially and it is our base case scenario. That means that our next major move, perhaps in the third quarter, will likely be to de-risk portfolios further. This means overweighting rates and underweighting equities, in stark contrast to our recommendations over the past few years. In terms of our current global asset allocation, we retain our neutral weights across most major asset classes that we have maintained since the beginning of the year and will remain tactically positioned this way over the next three months but unlikely for longer. We are glad to have participated in the rally across assets so far, but we do not want to overstay our welcome. In fact, we would recommend that investors, who have a particularly low tolerance for volatility, should increase their cash and quasi-cash positions now.

Macroeconomic Forecasts: Recession Deferred, But Not Cancelled

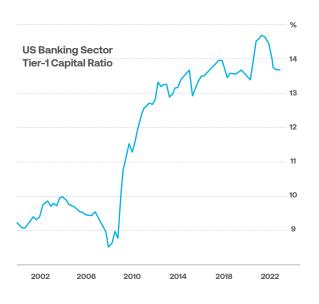
The collapse of Silicon Valley Bank and Signature Bank in the US, coupled with the forced merger between UBS and Credit Suisse in Europe, have led some to ask whether the world is on the verge of another financial crisis. We disagree, and do not expect the recent banking turmoil to evolve into a Global Financial Crisis-like event. Not only are banks better capitalized than they were in 2008, but the quality of their loan books is much higher as well. This chart shows that US Tier-1 Capital Ratios are more than 50% higher than in the runup to the GFC. In addition, lending standards are more stringent. The current sub-30% loan-to-value on US real estate has not been lower in more than 50 years. Both of these should provide adequate shock absorbers for most banks and prevent this banking crisis from morphing into a meltdown. Moreover, the Fed and other government agencies have already demonstrated the effectiveness of their tools to mitigate panic by implicitly guaranteeing bank deposits and allowing banks to post their portfolio holdings

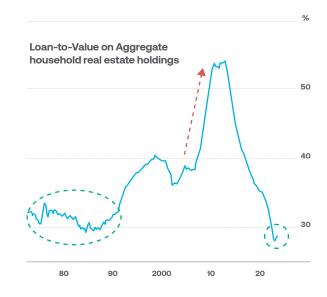
as collateral at par instead of mark-to-market.

Certainly, the banking crisis will have a negative impact on the economy by further curtailing credit, and it will disproportionately affect smaller, regional banks, which play a pivotal role in commercial, residential, and industrial real estate loans and consumer loans in the US. Ceteris paribus, this should lead to slower growth and accelerate the beginning of the next recession. But things are never "all else being equal". The looming end of the Fed tightening cycle is pushing rates lower across all tenors, potentially even offsetting the impact from diminished credit availability.

There is an interesting historical parallel. In September 1998, the collapse of the hedge fund Long-Term Capital Management triggered a USD 3.6 billion bailout by a consortium of banks and financial institutions to prevent a broader financial crisis. The Fed responded by cutting rates by 75 bps and the S&P 500 gained almost 70% before finally succumbing to the first, early 2000s Tech Bubble. To be sure, the US economy was in much better shape in the late 1990s (inflation was low and productivity gains were robust) than it is today, so we are not

US Banks: This is Not 2008. Both Bank & Household Balance Sheets are in Much Better Shape Today Than During the GFC Source: BCA Research



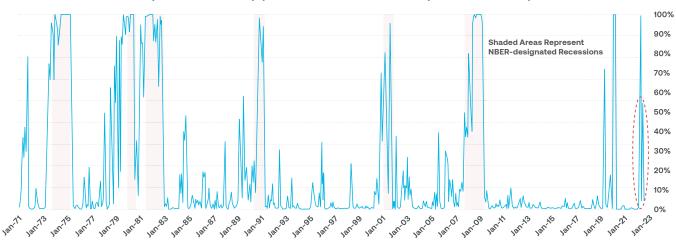




Probability of a US Recession Usign our Probit Model

Source: Insigneo-Forefront Recessionary Indicator

Over the Next 6 Months: ~3% (Pseudo-R2 = 54.57%) | Over the Next 12 Months: ~65% (Pseudo-R2 = 56.58%)



predicting those types of returns at the end of this tightening cycle. As mentioned previously, we expect to underweight equities soon, either when the S&P 500 reaches the upper end of our year-end targe range of 4100/4300 or over the next few months, whichever comes first. In any event, with long-term inflation expectations well anchored and hovering around 2.25%, the Fed would have the capacity to cut rates in response to a deteriorating economic outlook.

As of early March, 2023, our proprietary Insigneo-Fore-front Recessionary Indicator ("IFRI") is reflecting only an approximately 3% chance that the US economy will experience a recession over the next 6 months. This figure will likely be revised higher once we run the model in April. However, over the next 12 months, the IFRI is assigning 65% odds that the US economy will fall into a recession. Although there could be multiple inflection points along the way, we are fairly confident that the US economy will eventually succumb to, at a minimum, recession-like conditions, implying falling growth and inflation rates most likely by early to mid-2024. In the graph above, one can track the evolution of the IFRI over time, going all the way back to 1971 with the shaded areas demarcating official

historical US recessions.

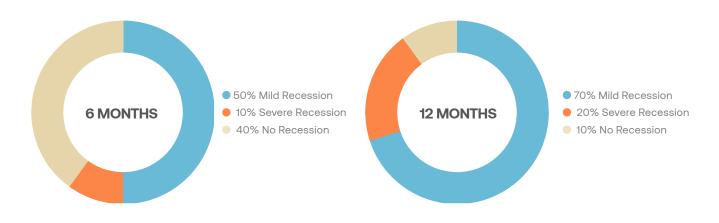
Our IFRI is a statistical probit model, and it is only one factor input into our assessments. At a broader level, we employ decision trees in regressions to arrive at numerical subjective recessionary probabilities. Incorporating all factors, our subjective US recessionary probabilities currently are as follows:

- 1) Over a six-month horizon, 50% chance of a mild recession, 40% chance of no recession, and 10% chance of a severe recession.
- 2) Over a twelve-month horizon, 70% chance of a mild recession, 20% chance of a severe recession, and 10% chance of no recession.

There are two main takeaways from this assessment. First, a US recession has likely only been delayed rather than averted. Second, the increased odds of a severe recession largely arise from the heightened risk of a Fed policy mistake stemming from overtightening financial conditions. Within our framework, a "severe recession" is defined as one where the US unemployment rate exceeds 6%.

Subjective Recessionary Probabilities Over 2-Quarters & 4-Quarters Incorporating All Factors

Source: Insigneo



With the global economy still demonstrating signs of resiliency, we are upwardly revising our global growth forecasts higher. As this table reflects, we now expect global real GDP growth to be 2.4% in 2023 from 1.6% previously. Much of this is attributable to the robust growth impulse in China. Our projections for Chinese real GDP growth in 2023 have risen substantially to 5.9%, above already elevated expectations coming into the year. The Chinese government is intervening through credit and fiscal spending to achieve a 5.5%

Economic Growth Revised Mostly Higher, Particularly in China & Globally Source: Insigneo

REGION	2023 ESTIMATE (from annual outlook)	2023 ESTIMATE (Q2 revision)	
US	0.7%	1.1% ↑ Δ=0.4%	
China	4.8%	5.9% ↑↑ Δ=1.1%	
EU	0.1%	0.3% ↑ Δ=0.2%	
Japan	1.1%	1.1% ↔ Δ=0	
World	1.6%	2.4% ↑↑ Δ=0.8%	

growth target, which we believe they will exceed. In Europe, rapidly falling natural gas prices and EUR 750 billion in fiscal support, have also ameliorated concerns about a recession in Europe, though we still forecast the region to achieve only modest 0.3% real GDP growth for the year.

Market Forecasts: Status Quo for Now But More Defensive Positioning Likely Warranted Later

Let us begin with an organizing principle: the era of low rates and easy money is over and both stocks and bonds merit higher risk premia relative to the previous investment regime. So, though we believe that a new structural bear market in bonds began in 2020 when the US 10-year Treasury hit an all-time low of 0.52%, that does not mean that rates will only move up in a straight line. Rates will fall during a recession, and the one we are predicting will begin sometime between late 2023 and early 2024 could see this bond's yield

fall to a range of 2% to 2.5%. But the overall pattern will be one of higher highs and higher lows in rates for as long as we are in this multi-year structural bear market. At the end of last year, we raised our fixed income allocations to neutral from underweight for the first time since the early days of the pandemic. As previously stated, we are looking to overweight rates and increase duration next quarter, or if the US 10-year yield rises to 4%, whichever comes first.

On the equity side, we also remain neutral given heightened negative investor sentiment and bearish positioning. According to the most recent American Association of Individual Investors' survey, bears surpassed bulls by 23 points. For perspective, the survey's 36-year historical average is for bulls to exceed bears by 6 points. And according to the latest March Bank of America's Global Fund Manager Survey, portfolio managers are currently two standard deviations underweight equities. Not to mention that this is the most anticipated recession in US history as determined by professional economic forecasters. Usually, when there is this level of pessimism and consensus on an outcome, it never pans out as expected. In the extremes, taking the contrarian position is an

attractive one. As was our stance last quarter, geographically, we still favor equities outside of the US over their American peers. This chart below suggests that American stocks are still trading more than one standard deviation overvalued versus their median premium to ex-US stocks. US equities trade at 18x forward earnings, while Non-US stocks are trading at only 12.5x. In other words, US stocks are still too costly.

In sum, we retain our neutral positioning on both equities and rates for the second quarter of the year, but our subsequent move will likely be to downgrade equites and upgrade bonds in the second half of this year.

The US Dollar should continue its almost 7% slide on a trade-weighted basis that began in September 2022. Despite this weakness, the Greenback is still almost 20% overvalued on a Purchasing Power Parity Basis. The Dollar's ongoing fall should put a bid under emerging markets and commodities. The latter, especially, should be supported by stronger global growth and the largely unsatisfied structural under capacity across vast swaths of the commodity complex. Even in a recessionary scenario, these tight supply conditions

US Equites are Still Expensive vs Peers: MSCI US is more than 1 standard deviation overvalued versus median ex-US premium

- MSCI US 12m Fwd PE relative to
 MSCI World ex US
- Median
- -- 1 Stdev

Source: JP Morgan Research



Key US Market Forecasts: Our US Equity Market Target is Unchanged, But the Rate Forecast is

Lower Source: Insigneo

	2023 ESTIMATE (from annual outlook)	2023 ESTIMATE (Q2 revision)
S&P 500	4100 - 4300	4100 - 4300 ↔ Δ=0
US 10-Year Treasury	3.4% to 3.65%	3.15% to 3.40% ↓ Δ=-25 bps

will limit price declines. Just factoring in electric vehicle demand alone, refined copper production must double over the next 10 years. Current and planned productive capacity will not get us there, only higher prices will. And, of course, oil and the energy sector remain our favorite portfolio hedge for geopolitical risk.

The most prevalent sources of uncertainty are the timing of the onset of the US recession, and geopolitical events around the world. We are attuned to heightened risks emanating from the Russia-Ukraine conflict, the US debt ceiling x-date, and Iranian-Israeli escalation.

And now we turn our attention to our disruptors.

The Al Disruptors

On November 30th, 2022, ChatGPT, an artificial intelligence chatbot, was unveiled to the world. Ever since, there has been a resurgence of enthusiasm (and investment inflows) into artificial intelligence and machine learning. Unequivocally, ChatGPT is a leap forward in machine learning algorithms, and its development

caught many, including Microsoft Founder Bill Gates (OpenAI is partially owned by Microsoft), by surprise. Fearing that they would be left behind, since then Google, Baidu, and Meta have all announced plans to accelerate their own generative AI platforms. So, what is generative AI, and how can investors participate? Well, let's ask ChatGPT...

Ahmed: "What is Generative AI and how can I invest in it?"

Chat GPT: "Generative AI refers to a subset of artificial intelligence (AI) that involves creating or generating new content, such as images, music, or text, that is not directly copied from existing data. Generative AI models learn from large datasets and are capable of generating new content that is similar to the data they were trained on, but not identical.

Investing in generative AI can be done in several ways. Here are a few options:

Investing in AI-focused Companies...AI-focused Funds... AI Startups...AI ETFs...When investing in generative AI or any other technology-related field, it's important to conduct thorough research, understand the risks involved, and consider consulting with a financial advisor to make informed investment decisions."

Our Compliance Department would be particularly proud of ChatGPT's disclosures, but I digress.

Ahmed: How smart are you?

ChatGPT: "As an Al language model, I do not possess intelligence or consciousness in the same way that humans do. I am a computer program that uses machine learning algorithms to generate text based on patterns learned from large amounts of data. While I can generate text that may appear to be smart or knowledgeable, I do not have subjective experiences,

emotions, or personal opinions. My responses are generated based on statistical patterns and associations found in the data I was trained on, and I do not have the ability to think, reason, or have independent thoughts. My purpose is to assist and provide information to the best of my abilities based on the data and training I have received. It's important to remember that I am a tool designed to assist, and my responses should always be verified with reliable sources before making any decisions based on them."

Ok, that is functionally equivalent to an average undergraduate-level response at a mid-tier US university.

Ahmed: "How will the S&P 500 end the year?"

ChatGPT: "As an Al language model, I do not have the ability to predict or provide specific future outcomes, including the performance of financial markets such as the S&P 500. The performance of the S&P 500, like any financial market, is influenced by a wide range of factors, including economic conditions, geopolitical events, corporate earnings, investor sentiment, and many other variables that are difficult to predict with certainty.

— "In essence, what makes ChatGPT and other generative AI technologies so disruptive is that they can perform a wide range of cognitive and non-routine tasks."

Predicting the performance of the S&P 500 or any other financial market requires sophisticated analysis, expertise, and knowledge of various factors that can impact market movements. It's important to rely on qualified financial professionals, conduct thorough

research, and consider a variety of sources when making investment decisions."

Well, it is reassuring to know that ChatGPT will not become Insigneo's next CIO.

Ahmed: "Write me a poem about the S&P 500's performance last year"

ChatGPT: "The stock market's tale, a rollercoaster ride, With S&P 500 as the guide, In times of boom, it climbed so high, Investors' dreams reached for the sky.

But then came turbulence, a sudden shake, As bears emerged from their slumber's break, Stocks stumbled, fell, a downward trend, Fear and uncertainty around did bend.

Volatility reigned, emotions ran high, Investors watched with wary eye, With news and events, the market swung, A tumultuous year, it had sprung.

But through the ups and downs, it survived, As history showed, it had thrived, For long-term investors, a reminder true, Markets can be unpredictable, it's true.

So stay the course, remain steadfast, Diversify, for risks to be cast, With patience, wisdom, and prudent plan, The S&P 500, a long-term span."

ChatGPT's poem is not a Shakespearean sonnet, but that was surprisingly good. On a more serious note, OpenAI trained ChatGPT to understand natural language by using a deep learning algorithm called a large language model, and then fed it a gargantuan amount of written texts so that it could learn the structure and relationship between words in the English language for it to sound human. To be specific,

ChatGPT's current language model (GPT-3.5) required 800 GB of storage and contained 175 billion parameters. Its successor language model, GPT-4, will be released later this year and it was trained on more than 170 trillion parameters. In other words, GPT-4 will be a thousand times more proficient at any task since a model's parameters are the components learned from previous training data. In essence, what makes ChatGPT and other generative AI technologies so disruptive is that they can perform a wide range of cognitive and non-routine tasks. Traditionally, these have been the most difficult to automate. The white-collar workforce is at greater risk of disruption than in previous waves of automation. That being said, disruptive technologies actually tend to create jobs and industries that simply did not exist beforehand, more than offsetting jobs lost due to the technology. In fact, the emergence of new occupations created in the wake of disruptive technologies, like generative AI, account for the overwhelming bulk of long-term employment growth. A recent study by Goldman Sachs estimates that, with widespread adoption, generative AI could boost US labor productivity growth by 1.5% over a 10-year period, and eventually raise real global GDP by 7%.

It is important to consider the investment implications. For the past several years, cloud computing has been the biggest driver of profit growth among cloud companies as they commercialized cloud infrastructure. It is possible that generative AI could take the baton and lead the next great wave of innovation and monetization in enterprise software. In addition, a distinctive ecosystem is starting to develop around this new technology. Companies that can facilitate computing power, seamless networks, cloud storage, and Big Data could be the biggest beneficiaries. In this space, scale matters because the development and maintenance of generative Al models are capital intensive. That means that the incumbent, well-known leaders like Microsoft, Nvidia, Alphabet, Amazon, and Salesforce among others stand to benefit the most. Since Al is becoming a trendy term today as money pours into the sector again, avoid companies that have recently begun to use it during their conference calls and quarterly reports. Sidestep this "Al-washing" by focusing on companies that have been doing this for a while and have the size to adequately monetize it. On the next chart, we see some of the biggest daily generators of data on a global basis. Since data that contains greater variety, arriving in increasing volumes

Al's Job Disruption: Generative Al Technologies Can Perform Non-routine Cognitive Tasks

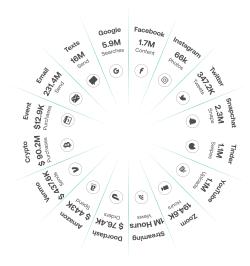
Source: Bruun, E., Duka, A. (2018). Artificial Intelligence, Jobs and the Future of Work: Racing with the Machines. Basic Income Studies. 13. 10.1515/bis-2018-0018.

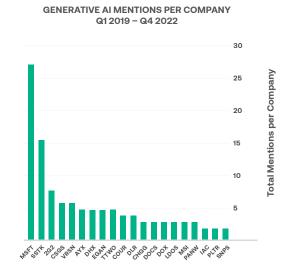
Non-Routine Manual Non-Routine Cognitive Degree of Cognition Routine Manual Routine Cognitive

Invest in Al Companies That "Walk the Talk"

Source: Goldman Sachs







and with more velocity are crucial to the development of generative AI, companies that generate the most data will be better positioned to build better technologies. Finally, you want to focus on companies that have been in this space for a while and are not latecomers to the party. The chart on the right depicts, by most mentions from left to right, the companies that have been working, researching, and thinking about generative AI over the past three years, and not just since ChatGPT mania first started.

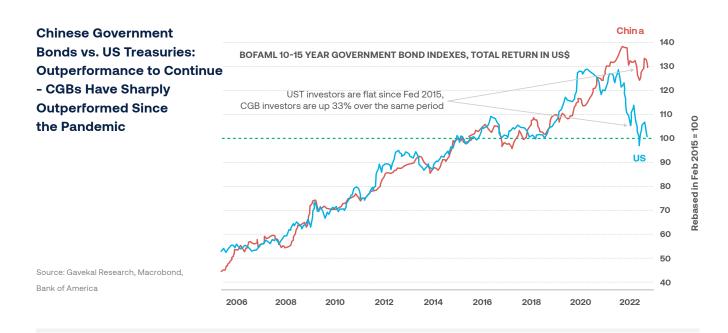
While we are bullish on generative Al's long-term investment prospects, there has been a speculative burst of frenzied buying since the ChatGPT announcement. These stocks are expensive, and their valuations would require flawless execution in delivering expected earnings growth. A more attractive entry point might present itself once the expected recession commences.

The Chinese Disruptors

Back in August of 2021, we published a white paper and

a news article titled, "Is China an Emerging Market or a Developed one?" Our answer then and now is the same – it depends. It is a hybrid market exhibiting both emerging and developed market characteristics. When modeling equities, Chinese stocks behave much more like emerging markets, especially in cases where policy decisions matter more than company or industry fundamentals. But the country's bond markets (i.e., its sovereign, quasi-sovereign, and high-grade corporates) are more akin to developed markets, like Treasuries, Bunds, and Gilts. In fact, as the next chart reflects, since the pandemic year, Chinese sovereign bonds have been a better store of value than US Treasuries, outperforming the latter by a substantial margin. If one bought a long-dated US Treasury bond after February of 2015, then one is sitting on nominal losses today. In contrast, if one had purchased a Chinese sovereign bond, then that trade would be sitting on absolute returns of over 30%

My writings on this subject a few years ago stemmed from our then recent investments in Chinese, Renminbi-denominated bonds within our model portfolios as



safe-haven assets that behaved well in markets that were shedding risk. We first noticed this phenomenon during the height of the pandemic-induced market turmoil when Chinese sovereign bonds were less volatile than their developed market counterparts. Our research indicated that Chinese government bonds were exhibiting safe-haven characteristics with low correlations to global equity risk and US Treasuries. Last year's bond market sell-off was a severe test, and

these investments allowed us to outperform fixed income benchmarks across the world. We recently updated our analysis this quarter and found that they remain a good portfolio diversifier with low correlations to US Treasuries and global equity indices.

These financial results are starting to match the economic reality on the ground. The country is increasingly running at its own pace, further removed from the

The Unhedged China Treasury Index is a Good Diversifier, as Correlations are Low versus US Treasuries and Global Equity Indices



Source: Insigneo, Morningstar

global cycle than ever before. Last year, the Chinese government was easing both monetary and fiscal policy, while everywhere else they were tightening policy. This year, the Chinese economy will likely grow above potential, while the West will be lucky to escape a recession and likely only grow below potential GDP trend levels. In other words, China's growth is increasingly uncorrelated to American and European growth. Some of this decoupling is structural and inevitable. The country has made a concerted effort to emphasize domestic demand drivers of growth, like consumption, and become less reliant on its previous export-led model of growth. But some of this decoupling is also policy-driven. Both the US and China have made strategic policy decisions that will further dissociate their economies, especially in security-focused industries like biotechnology, artificial intelligence, and robotics. Sure, Americans are still willing to buy furniture manufactured in China and the Chinese are willing to watch an American action film, but neither country will want their access to advanced semiconductors to be dictated by the other's government.

— "If you are a **Chinese saver**, or a saver from any country that might stand opposite of US interests sometime in the future, then **your marginal propensity to want to hold Dollars is less** than it was before the US froze Russia's assets..."

We are not only seeing decoupling in supply and logistical chains, but in financial assets as well. In the wake of the Russian invasion of Ukraine, I wrote that the single biggest mistake that the US and its allies made was to freeze the Russian central bank's assets held in US

Dollars. It undermined the sanctity of the rules-based and transparent system that made people want to hold Dollars in the first place. It's safe-haven status was violated when these seizures took place without due process of law and on the grounds of political expediency. Essentially, the American government telegraphed to the world that their Dollars were only good as long as we wanted them to be good. If you are a Chinese saver, or a saver from any country that might stand opposite of US interests sometime in the future, then your marginal propensity to want to hold Dollars is less than it was before the US froze Russia's assets because one day you might be in the political crosshairs. Are there any countries definitively off this list? Canada? Probably. The UK? Possibly. Turkey, a NATO ally? No, it will be on this hypothetical list. Even nations like Israel and Brazil are marginally less comfortable holding US Dollars today than they were a few years ago. What will they buy instead? Gold? Renminbi? A basket of commodities? Probably, all of the above.

It seems that every article one reads today mentions the word "deglobalization" in it. We have written about it extensively ourselves. But this expression has now become a trope, lazily brandished around and bereft of much intellectual reflection. Deglobalization is a process. It is a trend, not an endpoint. The world will be less globalized, but we are not going back to being isolated hunter-gatherer kinship clans either. We are likely to observe a partial split of the Western world (i.e., North America, Europe, Japan, Australia, etc.) and an integrating Global South (i.e., the "BRICS", the Middle East, etc.) in finance and advanced technologies. But globalization is likely to remain the dominant paradigm in other industries. As an investor, true portfolio diversification will require global exposure more than ever. US-centric or those that heavily lean to the US will likely not lead to adequate risk adjusted returns going forward. Remember, at the end of World War II, the US represented roughly 40% of global GDP. That figure today is down to a quarter of global output. In any event,

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the bottom line for investors is the following: with the rapid increase in money supplies in the West and the deterioration of government balance sheets, one should reduce their exposure to the debt of countries pursuing these policies. This means allocating money to government debt in places where they are not pursuing such policies. It means owning bonds in Asia, including Chinese sovereigns, where their savings will not be inflated away by fiscally profligate governments. On the other hand, one should still prefer to own equites in the West where productivity gains will likely be more robust.

The Energy Disruptors

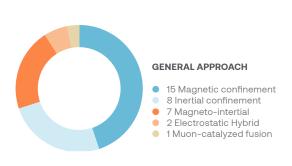
It is important to monitor a recent development in nuclear fusion research that might be a watershed moment. On December 13, 2022, the US Department of Energy announced that scientists at the National Ignition Facility (NIF) at the Lawrence Livermore National Laboratory achieved fusion ignition. Fusion ignition refers to the point at which the energy released from a self-sustaining fusion reaction exceeds the energy required to produce it. The prospects of fusion are quite

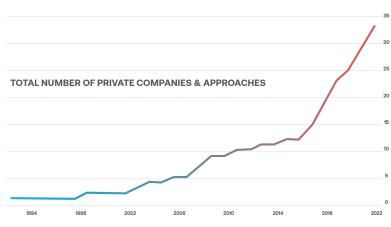
tantalizing. It is the process that drives the abundant energy that sustains stars, it produces no greenhouse gases, and it does not produce the radioactive waste associated with traditional fission reactors. The reasons that nuclear fusion development have stalled for many years are largely centered around the scientific and engineering challenges associated with producing a net energy positive, sustainable reaction that can be harnessed into an electrical grid.

Despite this seminal experiment, nuclear fusion is still far removed from achieving commercial viability, but it should still be recognized as an important milestone towards that goal. And there have been some noteworthy private developments as well. Commonwealth Fusion Systems, an MIT start-up that recently raised more than USD 1 billion in private funding, announced in September 2021 that they had developed a new type of magnet that could eventually be used to create a circular containment vessel called a tokamak. In February 2022, researchers at Torus, a UK firm, achieved the most heat ever for a fusion experiment, more than doubling the previous record. And construction began this year on a massive USD 20 billion thermonuclear experimental reactor in France funded

A Snapshot of the Global Fusion Industry

Source: Fusion Industry Association







A Snapshot of the Global Fusion Industry

Source: Fusion Industry Association

TOTAL FUNDING & LOCATIONS

TOTAL \$4,860,314,000 (\$4.8BN+)



by seven nations around the world. All the recent momentum in nuclear fusion research and design has led to a sizeable infusion of private capital. The Global Fusion Industry reports that the number of private companies is increasing rapidly as the rate of scientific breakthroughs accelerates. Many prominent investors like Jeff Bezos, Bill Gates, George Soros, Alphabet, and Royal Dutch Shell have recently made sizeable investments into some of these companies.

If this pace continues, then nuclear fusion has the potential to be a viable energy source by midcentury, but scientists still face significant technological challenges. The success of these start-ups will be a determining factor for the future of this technology. For now, investors who wish to access these opportunities must do so through the private markets. In

the near future, we will probably begin to see some of these investments and start-ups attempt to access the public markets.

House Views Matrix

	TACTICAL (UP TO 3 MONTHS)	CYCLICAL (UP TO 12 MONTHS)
US Equities¹	UNDERWEIGHT	UNDERWEIGHT
European Equities	OVERWEIGHT	OVERWEIGHT
Japanese Equities	OVERWEIGHT	OVERWEIGHT
Emerging Market Equities	OVERWEIGHT	OVERWEIGHT
Chinese Equities	OVERWEIGHT	OVERWEIGHT
US Treasuries ²	NEUTRAL	NEUTRAL
Investment Grade Fixed Income	NEUTRAL	NEUTRAL
High Yield Fixed Income	NEUTRAL	NEUTRAL
Emerging Market Sovereign	OVERWEIGHT	OVERWEIGHT
US Dollar	UNDERWEIGHT	UNDERWEIGHT
Energy ³	OVERWEIGHT	NEUTRAL
Precious Metals	NEUTRAL	NEUTRAL
Cash	NEUTRAL	OVERWEIGHT

¹Relative to global equities in USD

² Relative to aggregate fixed income markets in USD

³ Relative to an overall commodity allocation

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