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GNH CAPITAL GROUP
of Wells Fargo Advisors

Q1 - YTD (May) 2023 — STRATEGY & MARKET UPDATE – BLENDING NATURAL & ARTIFICIAL INTELLIGENCE IN NAVIGATING THE MARKETS

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EXECUTIVE SUMMARY

Q1 and YTD 2023 (May) saw a significant rise in the broader indices, which we believe was reflected in our strategies. Long before programs like AlphaZero™ (chess) and ChatGPT™ (discourse) demonstrated the power of generative patterning, we developed a generative understanding of the market as a dynamic self-regulating system that tends to construct and maintain a directional equilibrium—in the form of a bullish or bearish regime—through a combination of both advances <u>and</u> retracements. Over the last five quarters, the "natural" view on Wall Street has pointed to a bearish market falling apart. We have countered that with our assessment of a market in control that has purposefully retreated to undercut the Federal Reserve's interest rate crusade, which the market considers harmful. We believe the rebound and resilience the market has exhibited in Q1 and YTD, in the face of additional headwinds (three additional Fed rate increases, a wave of unexpected bank failures, and compounding geopolitical turmoil), lends ample support to our view and offers a greater potential for sustained advantage.

2023 Q1 & YTD (May)

Q1 2023 was a come-back quarter, with the broader indices rising by middle-single digits and the S&P 500 hitting 4,109. In our view, our strategies reflected this strength. This has continued unabated as we approach the middle of Q2. The robust Q1 advance has brought the market significantly higher than the bottom of Oct. 13 (S&P 500 3,492), dispelling any lingering doubts that we are still in a 'bear market.' We invite investors to pay attention to the S&P 500's persistent loitering close to the ceiling of the range we have spotlighted—3,600 to 4,100 S&P 500 points. The market has been practicing cracking that ceiling and has not been persuaded by any recent "crises du jour" (banking woes, war news, China complications—you name it) to drift lower! This is an indication of strength and even *intentionality*.

A three-way contrast: The market's systemic intelligence vs. Wall Street's "natural" view vs. our strategies' logic.

These days the buzzwords "AI/Artificial Intelligence" and "ChatGPT™" are exploding in the headlines and have started reverberating in the world of money and investments. And increasingly, we are being asked by many of you to assess the role of various forms of pattern recognition in investing.

This is a hugely important topic for us, and we are calling your attention to the answers and disclosures we will give below. This relates to the strategy's assessment of the current market condition and our positioning.

In one sentence, our unique market understanding would not have existed without a powerful, home-grown pattern-recognition capability that reflects our team's distinctive academic pedigree. In more detail:

There are unmistakable signs that our ongoing assessment transcends what comes "naturally" to Wall Street:

> In a capsule, the "natural" Wall Street assessment of the market since the start of 2022 holds that inflation is a menace that undermines the economy (as evidenced in the banking squeeze), threatens to shrink corporate earnings (hence the layoffs), and depresses consumer power. The Federal Reserve is seen as the White Knight coming to the rescue, delivering a painful but much-needed remedy that the market must endure as it sinks under all the weight of adversity.

This seems intuitive enough, right? The market has buckled under the combined weight of the 'disease' (inflation) and the 'treatment' (Fed rate hikes).

Yet, as our investors and followers know, we have expressed a very different view through the positioning of our strategies—the diametrically opposite one!

> Our view is that the market has engineered a purposeful decline designed to stop the Federal Reserve's interest rate crusade, a crusade which the market considers not only ineffective (higher rates cannot cure supply-driven inflation) but also downright harmful (banking squeeze, increased cost of capital that reduces earnings, higher housing inflation). The market's decline is designed to effect corporate layoffs, which get the Fed's attention by endangering its first mandate—preserving full employment.

In these two opposing assessments, we see a largely overlapping set of facts but a very different patterning. What has the advantage of our view been in this contest?

Simple—we believe that Wall Street's "natural" view contradicts the data. A false assessment is investors' worst enemy, thus, any correction to that view is advantageous. Our approach has identified several contradictions and provided critical revisions:

> Our strategies point out that the current supply-driven inflation has little to do with the demand-driven inflation of the 70s/80s—the US dollar is king now but was weak then, gold is weak now but was strong then, and market-based interest rates this time have refused to rise to inflation highs, while readily matched them back then. Wall Street's and the Fed's shared view of our inflation is counterfactual.
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> Moreover, the question arises, if inflation was a problem (orange line), how is it possible that between its trough in March 2020 and the end of 2021, the market (light blue line) more than <u>doubled</u> while inflation more than <u>tripled</u> (see chart)? And how can one explain within the "natural" Wall Street view that the market rose by +27% (S&P 500; blue line) in 2021 alone while inflation nearly quadrupled? Wall Street's conventional, "natural" wisdom is not "wise" at all.

Finally, how is it possible that since Oct. 13, amid compounding adversities—including additional Fed rate increases and disturbing and entirely unexpected economic casualties like the recent bank failures—the market has continued to rise vigorously (+18% for the S&P 500)? And how come the interest rates set by the open market (dark purple line) have diverged from the Fed's path of relentless rate increases and instead have fallen dramatically, supporting the stock market's advance?

Simply put, the "natural" view conflicts with the data. In contrast, we observe that the same data aligns well with our assessment:

The market recognized that our supply-driven inflation was not a problem and rose significantly in the second half of 2020 and throughout 2021. The market peaked and started declining in Jan. 2022, only when the Fed began raising rates (green line).

The evidence that the market fell in protestation to the central bank's misguided crusade lies in the specific path and pace of its decline:

First, the market stopped falling in June 2021 and rallied to Aug. 2021, trusting that inflation's pivot in June 2021 would dissuade the Fed from further raising rates.

Then, when the Fed failed to get the message, the market resumed its decline, making a final bottom on Oct. 13 (S&P 500 3.491.58).

Why did the broader market make a bottom at that particular juncture?

> Not surprisingly, this was the point at which the bond market was persuaded to break ranks with the Fed, cease its rate climb, and begin taking rates lower. In doing so, the bond market defied the central bank and aligned itself with the favorable trends of falling inflation and a rising equities market.
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> The market's purposeful fall was designed to exert pressure on the Fed through layoffs, which began in Q4 2022 and have expanded ever since. Similarly, the market has even celebrated the banking failures, something inexplicable from the standpoint of the "natural" view. Ordinarily, such collapses would have increased concerns and sent the market lower instead of leaving it flat or propelling it higher, as it happened! The market has tolerated and even celebrated those failures because it had expected them to happen, and they add more ammunition to the market's mission to corner the Fed!

What has powered our not-so-"natural" but well-evidenced assessment? Quite a bit of alternative patterning that stems from two key conceptualizations:

First, traditional economics, conventional finance, and mainstream Wall Street consider the market a piñata of all other factors—including earnings, the Fed, the economy, and geopolitics. We believe that this passive understanding of the market as a purely dependent variable is an anachronism that severely disadvantages portfolio management.

By combining several converging analytical tools, we have arrived at a completely different view of the market that gives us an actionable edge: We see the market as an autonomous system with potent self-regulation that allows it to revert resiliently to is long-standing trajectory despite the external influences it encounters as it interfaces with all other factors.

Second, in our ongoing assessment, we make it a point to look at market states and behaviors generatively. Here are two examples:

During the CoViD crash, Wall Street just saw the collapse of consumer demand and supply chains and extrapolated from that a protracted recession and a severe bear market. This calculus failed to grasp that the collapse of commodity prices enabled corporations to reduce their input costs drastically and that the collapse in interest rates allowed them to refinance their long-term debt for pennies on the dollar, dramatically lowering their long-term cost of capital. Our strategies calculated that this combined benefit—cheaper inputs and lower cost of capital—far outweighed the temporary loss of revenue corporations were bound to experience owning to the shutdowns.

Additionally, by discerning that the precipitous collapse in the market indices in March of 2020 was characteristic of a *crash* but <u>not</u> a bear market, the generative pattering of our approach enabled us to anticipate the crash would unfold in three phases, each dominated by a distinctive modality:

> We expected the first phase of the crash to be dominated by **trading psychology**, during which only specialized behavioral finance concepts and volume analysis could be used to track the market.
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> The second phase was expected to be fueled by **quantitative considerations** for which technical analysis tools were to be helpful.
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> And only the third phase was expected to be amenable to **traditional finance tools** of fundamental analysis (earnings, sales, margins…).

We believe this roadmap gave us a significant advantage in negotiating the historical turmoil of the 2020 crash. Unfortunately, a mismatch of modalities and phases and a purist devotion to a single modality across all stages led most strategists, analysts, portfolio managers, and investors astray in 2020.

Where does our strategies' innovative patterning stem from?

The foundational elements of our proprietary market and economic research work and our unique portfolio management tools have their roots in my academic tenure, particularly in my graduate work at UC Berkeley. Berkeley has always been a pioneering hotbed of Artificial Intelligence research, and, at its core, AI is, first and foremost, an engine of pattern-recognition breakthroughs. Existing relationships are seen in a new light, fresh patterns are detected in what previously was considered amorphous or chaotic, and novel pathways for effective action are blazed.

Curiously enough, the "Artificial" in "AI" is often a misnomer. Most AI stems from the transposition to machine programming of transformative sequences that occur in nature but defy the naïve or simplistic human understanding. In this sense, the only true artificiality is in the stale forms of human knowledge that try to comprehend the new through the distorting lens of the old.

This same holds true for our approach's innovative patterning of the dynamic of the markets and the economy. Here is the parallel:

Have you observed how a climber scales the highs? One hand or foot will seemingly backtrack to allow the corresponding limb to advance in a coordinated way that propels the climber higher. Within this pattern, partial retracements are as crucial as advancements, as they free up valuable resources that allow the advancement of other system parts, thus contributing to the progression of the overall system.

Our approach finds the same pattern in the functioning of the markets and applies it in their navigation: Specifically, as long as we have evidence that the market regime remains bullish, corrections and retracements—like those we saw in the 2018 Market-vs-Fed skirmish, the CoViD crash and the ongoing decline since 2022—are part and parcel of the market's natural self-regulation (homeorhesis) that sustains its upward trajectory.

And how do our strategies track the health and continuity of the market regimes and detect signs of regime change?

They do that through two different analytical prisms—one **macroeconomic** (driving the positioning of our CORE and FOCAL strategies) and the other **market-based** (driving the workings of our QUAD strategy). So, while we agree that markets are largely unpredictable, we believe they are eminently navigable.

LAST WORD

We invite you to spread the word about your GNH Capital Group experience within your circles of influence. The last five years have been challenging for most investors. They have been battered by the historic bond market fall and whipsawed in the steep downdraft of 2018, the crash of 2020, and the turmoil of 2022. And throughout the last fourteen years, they have been torn between the Scylla of speculation and greed and the Charybdis of worry and indecision. As our veteran clients have discovered, our strategies' adaptability and risk controls have been an excellent antidote to haphazard performance and a booster of investor confidence. Please assist us in spreading the word.

We remain grateful for your trust, loyalty, support, and friendship!

On behalf of GNH Capital Group's entire team with Henrik, Richard, Chad, and Isabel,

Kostas

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