SaratogaRIM

2022 Annual Report: Part 1

January 18, 2023

Q4

Pondering an Uncertain Future

Market Statistics							Source: FactSet (Dec. 31), Federal Reserve, * Spot prices (Dec. 31)
Stocks		**Yields (%)**				**Commodities**	
DJIA	33,147.25	Fed Funds	4.50	US Tr. 3-Y	4.24	Baltic Dry Index	1,515
P/E ratio	17.85	Disc. Rate	4.50	US Tr. 5-Y	4.00	Gold ($/oz)	1,820
S&P 500	3,839.50	Libor 1-Mo	4.39	US Tr. 10-Y	3.88	Silver ($/oz)	23.95
P/E ratio	17.83	US Tr. 1-Y	4.73	US Tr. 30-Y	3.97	Crude ($/bbl)* (NYM Light Sweet Crude)	80.26

Contents	Page

Letter to Investors

You have to be cognizant of history, or you'll repeat it, but you also have to understand that it may not apply. – Howard Marks

Prediction is very difficult, especially about the future. – Yogi Berra

There's much to discuss regarding the year just passed, but even more so about the future. Please note that this letter is *Part One* of our annual report. As promised last quarter, we are preparing an update on the Focus version of our strategy to cover its first 100 months since inception. That short publication will follow sometime in February, once a sufficient portion of the peer group we're measured against has reported their investment results for the year. Stay tuned for *Part Two*. *(Edit: Part Two is attached immediately following Part One, beginning on page 25.)*

With a nod to the wise men quoted above concerning the future, I think it is very likely that the era of cheap, easy money finally came to an end in 2022. Asset prices surely behaved as if this was the case; rarely have returns from so many asset classes stunk so badly at the same time. Stock markets had their worst year since 2008. Bond prices, too, were crushed. At the October lows, the long bond (30-year Treasury) was down 35%, its worst rout in a century and the Bloomberg Aggregate U.S. Bond Index had its worst year since its inception in 1977. Few asset classes escaped unscathed. Housing prices around the world peaked and began deflating. Further out in Crazytown, crypto imploded – for lack of a better word. By the time all was said and done, $35 trillion of global wealth was vaporized in 2022 – roughly equivalent to a third of global GDP. Cash and gold shined on a relative basis by doing nothing more than holding their value. These were all logical outcomes given the new tight money regime unfolding around us.

Going into 2023, there are still way too many who see last year as a one-off of little or no lasting significance. Widespread expectations persist that everything will soon revert to some semblance of the "normal" we've all experienced since the 2007-09 Global Financial Crisis (GFC). That would imply reverting back to pint-sized inflation and interest rates, resolving pandemic-induced supply crunches, governments working out their differences relatively peacefully and markets everywhere flourishing. Newsflash: I am not in that camp. The idea that everything will magically work itself out and that market returns can be assumed to be hunky-dory is likely wishful thinking. I think the next couple decades may prove to be very different from recent history (post-GFC) and that the market turbulence we experienced in 2022 wasn't a fluke or an anomaly. Rather, it was an inflection.

On New Year's Day, International Monetary Fund (IMF) Managing Director Kristalina Georgieva told CBS's Face the Nation that the global economy faces a "*tough year*" ahead and that it will be, "*tougher than the year we leave behind*." With the world's three biggest economies – U.S., EU & China – slowing simultaneously, the IMF is projecting that a third of the world's economies will experience outright recession in 2023. Georgieva added that, "even in countries that are not in recession, it would feel like recession for hundreds of millions of people."

Beyond the immediate future, I suspect that we have entered a turbulent transition period into what could be a very different type of longer-term environment – one defined by structural changes to the fabric of industrialized societies, economies and markets. The fundamental drivers of this transformation are demographics and the reversal of globalization. These factors could be set to drive market dynamics towards a much older version of normal than markets have encountered in a very long time.

My usual caveat: nothing, repeat, N-O-T-H-I-N-G I've written here at the end of 2022 is set in stone. The future (seeing as it hasn't happened yet) is by its very nature unpredictable. Yes, many of my thoughts conflict with today's mainstream forecasts. And yes, I realize what I'm about to describe is just one of the possible pathways forward. Technological breakthroughs enabling the widespread application of nuclear fusion could someday (well out in the future) be an absolute game changer, for example.

In any case, as professional investors, we play the hands we are dealt and remain perpetually vigilant for opportunities to invest in well-run, financially healthy businesses with sustainable competitive advantages when we can do so at sensible prices – just like we always have.

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To begin, consider a key question I've been thinking about deeply throughout 2022: What if the baseline inflation rate, *the cost of money over the next couple decades*, is not the mostly sub-2% rate it has been since the GFC, and in general over a good chunk of the last two or three decades? What if, instead, a new more volatile baseline, closer to historical norms, eventually emerges and runs just modestly higher, say between 3% and 4% on average? Not so different, you counter? As far as we can tell, as implied by assumptions derived from current market pricing, most folks in the markets have failed to consider this question, already assumed its irrelevance, or are simply obsessed with the very short-term guessing game over when the Federal Reserve (Fed) will pivot. Rather, markets appear to be fully anticipating a rapid return to the reflexive accommodative policies they have become conditioned to expect since the GFC.

A vocal minority of accomplished people are, correctly in my view, thinking about secular/structural changes already in play and the ramifications of a very different longer-term path inflation could take going forward. Their ranks include:

> **Charles Goodhart**, former Bank of England economist and London School of Economics luminary, who wrote in 1975, "whenever a government seeks to rely on a previously observed statistical regularity for control purposes, that regularity will collapse." This framing has since become known as Goodhart's Law.
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> **Larry Summers**, President Emeritus of Harvard University and former Treasury Secretary, who on January 6, 2023, disputed assumptions that the era of low interest rates anchored by disinflationary pressures are coming back anytime soon and projected that the biggest surprise for the markets in 2023 would be, "… that this is going to be remembered as a 'V' year when we recognized that we were headed into a different kind of financial era with different kinds of interest rate patterns."
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> **Mohamed El-Erian**, President of Queens' College, Cambridge, chief economic advisor at Allianz and former CEO of bond giant PIMCO, who in November said current financial conditions portend not just recession but "a profound economic and financial shift."
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> **Howard Marks**, Founder and Co-Chairman of Oaktree Capital, who in December wrote, "… I believe that the base interest rate over the next several years is more likely to average 2% to 4% (i.e., not far from where it is now) than zero to 2%."
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> **Ed Yardeni**, President of Yardeni Research Inc. and Chief Economist and peer of mine back at the beginning of my career at Prudential-Bache Securities in the mid-1980s, who recently noted, "It could be the start of a return to the 'old normal' before the financial crisis, when we had inflation and interest rates more like 3% to 4% and the economy growing around 2%."

Others belong on this list, of course. As for my own view, from a long-term investor's perspective I can't overstate the importance of this longer-term inflation question. I believe the luminaries mentioned above make strong cases that secular changes underway portend a future distinctly more challenging than what most market participants have built into forecasts, and in many cases, have experienced in their lifetimes.

To be clear, my analysis of what the step up to a 3% to 4% inflation regime would mean does not preclude cyclicality. Inflation would still be expected to dip lower during recessions and spike higher when the economy runs hot or bumps into supply shocks. Inflation, while probably more volatile than markets have become accustomed to, over the longer term would simply average a point or two higher than what we've experienced over the last couple decades.

In early January, Jim Bianco (of Bianco Research) lamented the financial media's reluctance to even consider this possibility. "*They are repeating the same mantra as everyone else. That is, stating overwhelming consensus views with a tone in their voice like they are telling you something unique. Reality ... inflation has peaked.*" Like me, he believes: "*The real question is whether inflation is going back to 2% and staying there. Or will it only get back to 2% on the back of a recession and rebound with the economy? Or, will it not even make it back to 2% even if we have a recession?*"

My issue is that today's obsession with what the Fed will or won't do over the VERY near term has blinded investors to longer-term economic transitions already in motion. Consequently, I believe the probability of a 3% to 4% inflation regime going forward is being dramatically underestimated.

Bears argue that the Fed's inflation-fighting interest rate hikes have already gone too far and that a severe recession is imminent. Bulls believe Chairman Jerome Powell's war on inflation is nearly complete and that he'll be cutting rates by the second half of 2023 against the backdrop of a mild recession at worst. Yet in this classically myopic hard- vs. soft-landing debate, neither camp seems to consider that longer-term inflation, and consequently yield curves, may very well eventually gravitate towards ranges that are uncomfortably above those experienced since the GFC. This is true even though some of the smartest people in the room have warned that the easy money/ near-zero percent interest rate environment has ended for the foreseeable future as secular shifts have altered the conditions that perpetuated the absence of any meaningful inflation since the GFC.

Over the coming months, the bull vs. bear debate will likely continue to dominate narratives, with the market fixated on betting on one outcome or the other, *blah, blah, blah*. However, this debate misses the point because both myopic scenarios fail to consider *where* inflation might stabilize beyond the current cycle. How secular forces – chiefly: aging workforces and protectionism – might very well yield longer-term equilibrium levels of inflation modestly higher than those currently imagined by the market. Also underappreciated is how illiquidity, due to Quantitative Tightening (QT), is likely to amplify market turbulence during the transition period as central banks pull money out of the financial system by shrinking their bloated balance sheets.

For its part, the Fed's current rate hiking cycle does seem likely to conclude over the coming months. Overnight rates, as defined by the Fed Funds rate, have spiked from essentially zero to the current range of 4¼% to 4½% in just 9 months. It has already been one of the most aggressive tightening campaigns in history following a 14-year stretch with interest rates pegged mostly near zero. And, while Jerome Powell's team likely has a bit further to go before reaching the peak for this tightening cycle, it seems clear that most of the heavy lifting is now behind them. Current expectations are for somewhere between another 50-100 basis points (half to a full percent) spread out over two or three smaller hikes in the first half of 2023.

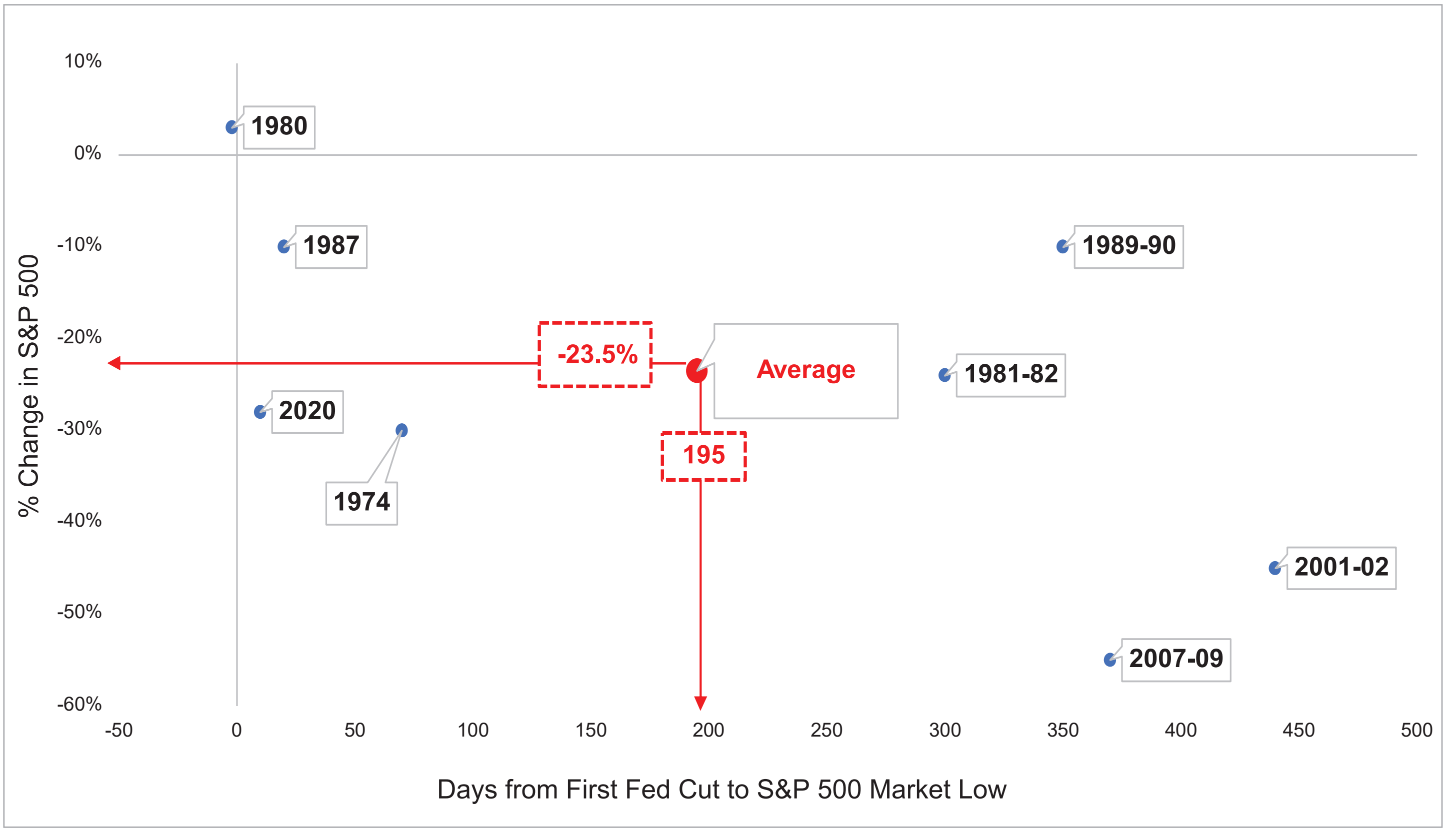
If, as now seems likely, the current tightening cycle really does peak soon, then November 10th will have been the near-term inflection point. On that date, the U.S. Bureau of Labor Statistics reported the October 2022 Consumer Price Index (CPI), which offered the first convincing evidence that inflation had finally ebbed after its post-pandemic surge. Markets understandably celebrated: the S&P 500 rose 5% and the benchmark 10-year Treasury yield plunged by more than a quarter of a percentage point on the day. Inflation continued to moderate in November.

That the 2021-22 inflation surge (to the annualized peak of 9.1% registered last June) would subside was inevitable. Temporarily snarled supply chains are functioning again as globalized industries are learning to manage around what has now become endemic COVID; meanwhile, the Fed's interest hikes (the biggest rate shocks in at least a generation) worked with a lag but eventually began impacting the demand side of the supply-demand mismatch, pushing them closer to balance. It was simple economics.

The Fed's longer-term struggle is more challenging than is widely appreciated because nothing within its own power – or that of other central banks – appears capable of delivering what most investors perpetually expect: a return to pre-2020 norms. Quite simply, central banks can't print workers. For the purposes of this letter, we differentiate between cyclical and pandemic-triggered price distortions and emergent structural and secular forces that should be more influential on baseline inflation further out in the future.

Regardless, Bulls should be careful about what they're hoping for. Even if the Fed were to pivot and start cutting interest rates again, history doesn't exactly bode well for the S&P 500 going forward (see Figure 1 on the following page). A recent research note from Jason Trennert's team at Strategas Securities LLP illustrates how many of the most difficult stock market environments have tended to occur only *after* the Fed pivoted from hawkish to dovish monetary policy, *not before*. Since the 1970s, bear markets – as measured by the S&P 500 – didn't hit bottom for another 195 days (on average) AFTER the first rate cut. Following such pivots, history has shown

Fig. 1: Trading Days from First Fed Rate Cut to S&P 500 Market Low vs. S&P 500 % Change from First Fed Cut to Market Low



Source: Strategas, SaratogaRIM. See full disclosures at the end of this report.

that, on average, stocks have tended to fall an additional 23.5% from the date of the initial CUT in the Fed Funds rate.

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Mohamed El-Erian, writing in *Foreign Affairs* last November, called out three "major structural and secular changes" that he believes will transcend current economic and market cycles. His article, titled, "Not Just Another Recession – Why the Global Economy May Never be the Same," posits a long-term "shift from insufficient demand to insufficient supply", combined with "the end of boundless liquidity from central banks, and the increasing fragility of financial markets." Each issue warrants a deeper dive.

On the Demand Side: In the years following the GFC, economists struggled to understand why no matter how hard central bankers pushed, they couldn't jump-start the economy. Larry Summers coined the term "secular stagnation" to describe the environment where insufficient economic demand persisted regardless of fiscal or monetary stimuli. Massive amounts (literally trillions of dollars) borrowed and spent by Congress, combined with years and years of the Fed's ZIRP (zero interest-rate policy) and its flooding of the financial system with seemingly bottomless pools of printed money via Quantitative Easing (QE), couldn't even nudge U.S. economic growth above its paltry average of 2.3% from 2009-2019. In that decade, it seemed as if the Fed was seeking some kind of monetary Viagra to arouse the economy from its rut. No matter how hard they tried, the Fed was frustrated in their efforts to push demand up to levels that would awaken robust economic growth.

The Fed routinely complained about not being able to boost inflation to its "desired" two percent target levels. Over time, getting inflation up became its primary mission.

Fast forward to the Trump Administration, which double-teamed the Fed's efforts. The economy was put on fiscal steroids with deficit spending and tax cuts, and then trillions of dollars more in emergency spending were deployed to combat the pandemic. Much of this stimulus was borrowed then given away in the form of stimulus checks to virtually everyone no strings attached, or via forgivable loans to companies. Next, the Biden Administration piled on even more fiscal stimulus as it continued to respond to the global pandemic. All the while, the Fed continued to flood the financial system with nearly $4 trillion more in freshly printed money. In response to the pandemic, roughly $8 trillion of fiscal and monetary assistance was pumped into markets and the economy by the Trump and Biden administrations in conjunction with the Fed. While the sheer scale of all that stimulus laid the kindling for the inflationary firestorm that followed, the spark that lit the fire clearly came from the supply side as the world tried to reopen coming out of the pandemic. Nevertheless, it's important to understand that other disruptions and underlying changes were at play well before the outset of the pandemic.

The Supply Side: Pandemic-induced supply snarls were always assumed to be temporary. Consequently, they are not my primary focus here. Yes, even against the backdrop of ongoing start/stop lockdowns and risks that new variants could emerge as China struggles coming out of their zero-COVID policy, I recognize that supply chain factors continue to have a significant influence on inflation. To me though, I think what's more important is what will come after the current inflationary surge subsides. For the purposes of this letter, I have chosen to focus on the longer-term and more critical structural/secular issues that I believe are ultimately going to be more consequential.

Starting with labor – even before the pandemic, longer-term demographic trends had gradually reduced the aggregate supply of workers. For decades, fertility rates in the United States and other developed economies have declined – since 1950, the global fertility rate has fallen by half. So, inevitably, as national populations aged, fewer people began entering the labor force every year than were leaving it.

The pandemic supercharged this process by increasing the percentage of our population opting for early retirement and exiting the labor force altogether. Many others were also simply forced to stop working to care for children or elderly family members. Add to these the number of working-age people who actually died from the virus itself, and the collective impact was a significant structural reduction of the aggregate supply of labor.

Compounding matters, the politics of immigration worldwide have only worsened. Global flows of labor have also been disrupted as political gridlock stymies efforts in the U.S. for comprehensive immigration reform, resulting in fewer foreign workers being able to obtain visas – at both the high and low ends of the spectrum. Globally, every major industrialized economy now has a birthrate below replacement level – making immigration the *only* remaining source of labor force expansion going forward. That's not a political opinion, it's a fact.

For reference, the ratio of jobs available in the United States to the number of unemployed Americans had long held steady around 1.2 to 1 prior to the pandemic. Since October of 2021, that ratio has ratcheted into a higher range of between 1.5 and 2 to 1. With wage inflation hovering around 5% and the U.S. unemployment rate closing out the year at a 52-year low of 3.5% – 3.469% before rounding – the number of jobs available in the U.S. today remains not far from double the number of people currently unemployed. At this point, it appears that the U.S. labor market may very well have entered a state of *chronic* shortage. Should this trend continue, there's a very real risk that persistent upward pressure on wages could be with us long into the future. This factor would greatly complicate/limit central banks' ability to provide monetary stimulus going forward, at least to the extent that market participants have become accustomed.

But demographics aren't the only structural issue on the supply side. When China entered the global economy in force in the early 1980s, it spurred a mass migration over the course of a couple decades from rural villages into cities as young people traded farming for factory jobs. This, in effect, *increased* the supply of labor globally by over a billion workers. Globalization, as this trend became known, whipped up persistent disinflationary tailwinds as higher paying jobs in the United States, Europe and industrialized Asian countries were outsourced to China's coastal economic zones in the name of efficiency.

By 2010, China's internal mass migration had largely run its course – following that of Japan, South Korea, Taiwan, etc. Further, geopolitical tensions brewing for the better part of a decade now threaten a reversal of globalization itself. Once again, the pandemic accelerated a trend already discernible: budding mercantilism. Urgent efforts now underway to "near shore" or "friend shore" supply chains serve both to prevent the recurrence of a crisis in one country reverberating too easily around the world, and also to redress perceived inequities in pre-pandemic terms of trade. Everywhere, more companies are now prioritizing resiliency over efficiency.

Resiliency sounds good in principle; bringing production back to the United States (or to other nations friendly to it) clearly reduces risks of future supply chain disruptions. The unavoidable cost of that resiliency, however, will be increased pricing structures. Morris Chang, founder of Taiwan Semiconductor, recently highlighted this notion by pointing out that chips made at his firm's existing manufacturing facility in Oregon are 50% more expensive than identical chips sourced from Asia. In mid-January, *The Economist* warned of deglobalization's myriad dangers in a cover story provocatively titled "Zero Sum."

Furthermore, with international security concerns now at the forefront in the wake of Russia's invasion of Ukraine, the world is contemplating the potentiality of a future war over Taiwan. The concern is that Beijing could become emboldened to act on its longstanding policy goal of absorbing the island and its 23 million people despite the grave harm such a campaign would inflict on the global economy. Putting it all together, globalization's disinflationary tailwinds have now clearly morphed into de-globalization's inflationary headwinds. Like everything else we're talking about here, these forces seem destined to persist far beyond the ultra-short forecast ranges typical in finance.

Complicating the Picture: El-Erian and others emphasize the declining feasibility – or even viability – of boundless liquidity injections as a central bank policy tool going forward. As outlined above, the Fed and its cohort of globally important central banks worldwide have, for the past 14+ years, collectively flooded financial markets with liquidity whenever economies or markets wobbled. They did so through massive quantitative easing programs with freshly printed money pumped directly into bond markets. This liquidity eventually flooded into and inflated all other asset classes.

Initially wheeled out by Ben Bernanke as a tool to pump emergency liquidity into markets during the last financial crisis, QE was not originally intended for casual use. Since then, however, the absence of inflation, *and hence consequences*, enabled the Fed to normalize QE as a policy tool and to deploy it at any sign of economic weakening or downward market volatility. Over time, markets became conditioned to take such rescues as guaranteed, a protection widely referred to as the "Fed Put."

With the reemergence of inflation, the Fed has, at least for now, been forced to abandon QE as its go-to policy tool. That's because QE is stimulatory, and as such can't be wielded at the same time the Fed is trying to quell inflation. "Unlike in the 2008 financial crisis and the early months of COVID-19, simply bailing out private and public agents with loose macro policies would pour more gasoline on the inflationary fire," wrote Nouriel Roubini, chief economist at Atlas Capital Team LP last November. The Fed can fight inflation *or* protect the stock market, but not both at the same time. So in effect, the Fed Put has expired. Today, not only has the Fed stopped pumping additional liquidity into financial markets, it's sucking it out through QT, currently to the tune of $95 billion per month.

Over time, the conditioning of markets to always expect easy money has had numerous perverse effects. It encouraged overreliance on extreme leverage, distorted market pricing signals, and forced investors (many unschooled in the pitfalls of structured finance) to move out the risk spectrum. Investors who normally would have been in plain vanilla 60/40 stock/bond portfolios or similar safe and sane approaches were drawn into more heavily leveraged, or less well understood and regulated assets increasing their exposure to risk and ultimately to financial losses. Suffice it to say, numerous entities that *were viable* in a Goldilocks environment with unlimited access to liquidity and zero percent interest rates *have quickly become nonviable* in this new era of tighter money with interest rates approaching five percent.

Examples are already emerging. This brings us to El-Erian's third key structural issue.

The Increasing Fragility of Financial Markets: In October, the British bond market collapsed and required emergency intervention from the Bank of England. This action became necessary when the heavily leveraged bond schemes that had been allowed to permeate the English pension system since the GFC suddenly collapsed in the face of rising interest rates. Across the channel in Europe, Credit Suisse's credit default swaps (derivative-based insurance against default) soared late last year to 2008 levels as economic and monetary shocks brought the global bank and wealth manager to its knees. It was forced to secure emergency liquidity injections. On this side of the pond, the lightning-fast collapse of the digital currency exchange FTX symbolizes a larger implosion of the crypto market in general, and according to a recent Bloomberg analysis, the amount of U.S. debt deemed "distressed" rose by 300% in 2022. This is but an early body-count of the casualties we'd expect to see during a rapid transition from ultra-loose to even somewhat tight financial conditions. Who knows what these tips of ice portend on today's stormy sea?

As El-Erian contends: *"These changes will affect individuals, companies, and governments – economically, socially, and politically. And until analysts wake up to the probability that these trends will outlast the next business cycle, the economic hardship they cause is likely to significantly outweigh the opportunities they create."*

Investors in every type of asset can expect to feel their impacts long into the future. Indeed, these structural, secular changes may be the driving forces not just in financial markets but in society over the coming decades. Accordingly, I fully expect to contend with these headwinds for the remainder of my career.

To my thinking, these structural factors are intertwined and will likely result in a prolonged period of turbulence in financial markets going forward as stubborn belief systems are inevitably forced to adjust. Markets will eventually come to grips with and gradually adapt to a new environment foreign to all but the oldest market participants – many of whom are already too old to remember. This process will take time and probably more than one bear market to accomplish. I would also point out that, from a relative performance perspective, we expect this new environment would likely be much more conducive to SaratogaRIM's style of investing than the era of free money and excessive leverage just ended.

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We examined Charles Goodhart's 2019 book (written with co-author Manoj Pradham) in some detail in Q2 of last year. Entitled *The Great Demographic Reversal*, the book addressed in comprehensive fashion the demographic, societal aging, and inflation trends I've discussed above and also recognized as forces working against a return to the low-inflation, zero-interest world that abruptly ended last March. One passage from that book's concluding chapter neatly summarizes the challenges financial markets face today:

> *Whereas we believe that these background demographic and structural issues provide a critical backdrop to future macroeconomic developments, especially at turning points, such as now, they rarely get mentioned in the greater bulk of economic forecasts, which have a horizon of two years, or less. This is in some part because, over such short horizons, both demography and structure can usually be taken as given and constant. As a result, forecasts, however much fancied up by some form of mathematical model, usually involve some combination of continuation of current outcomes (momentum) plus a partial reversion to an estimated equilibrium level (return to normal). But if equilibrium itself is changed, what is the model reverting to? Conventional forecasting approaches may be insufficient at a time when the Great Reversal is taking place.*

As dedicated long-term investors, we take these longer-term challenges seriously and consider the implications on both the supply and demand sides of the global economy all the way down to the individual company level. We share the view that these changes a) are significant, and b) were supercharged by the pandemic, yet seem set to continue well into the future, impacting how the global economy functions in ways we believe few investors have yet to appreciate. Understanding how these challenges will impact businesses at the individual company level will be important as we advance. For example, we fully expect to see ongoing opportunities in healthcare and the field of industrial automation as people live longer and technological innovations in artificial intelligence and robotics become critical for businesses seeking to cope with chronic shortages of human labor.

Last quarter we started our letter with a quote from Ray Dalio. "*Tell me what the inflation rate will be down the road*," he said, "… *and I can pretty much tell you what will happen*." Every month, Bloomberg conducts a survey of about 70 economists, and one of the things they ask for is a six-month CPI forecast. In other words, how much more will households be paying for basic goods half a year down the road?

As Figure 2 illustrates, since the end of 2011, the median forecast for inflation six months out has remained essentially constant – it's always 2%! These expectations have not changed to this day. In other words, even after the events of 2022, with $5 gas and turkeys priced off many a Thanksgiving table, the economic community still believes that the Fed will always succeed in achieving its 2% inflation mandate. It is as if economists work their entire lives in a permanent state of sensory deprivation or subcontract to government statisticians in China.

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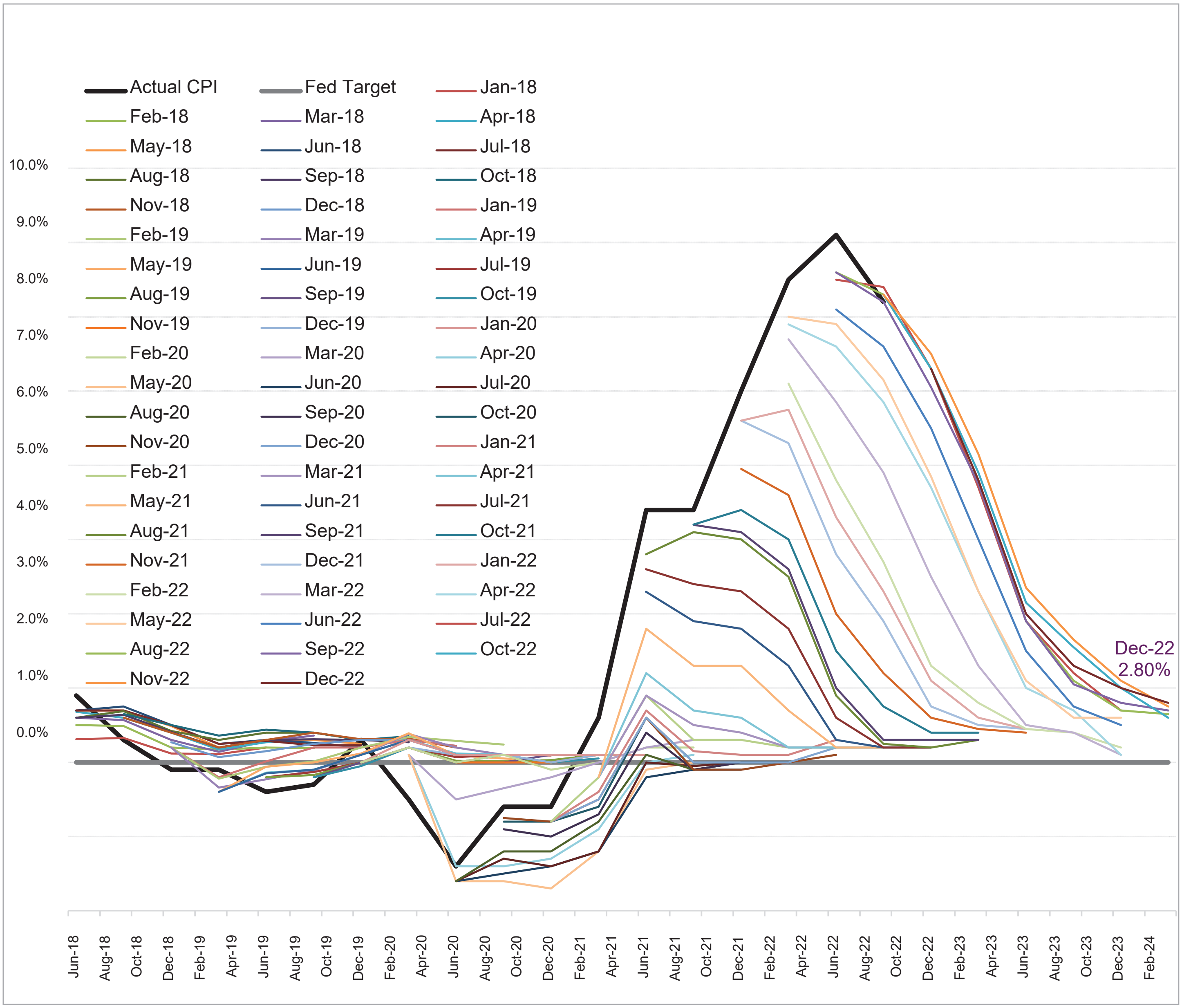
Such surveys reflect market expectations built into the pricing of not just stocks and bonds but all asset classes. And in recent history, markets have essentially priced themselves as if any inflationary deviation from the Fed's 2% ideal is, by definition, transitory. Even today, prices (yields) along the U.S. Treasury yield curve beyond five years clearly confirm that this belief system still permeates asset pricing structures. And note, the ten-year U.S. Treasury yield *is the most important interest rate in the world* in terms of valuation

Fig. 2: Wall Street U.S. Inflation Forecasts Always Return to ~2% (*Monthly from January 2018 - December 2022*)



Source: Bloomberg, Bureau of Labor Statistics, Bianco Research, SaratogaRIM. See full disclosures at the end of this report.

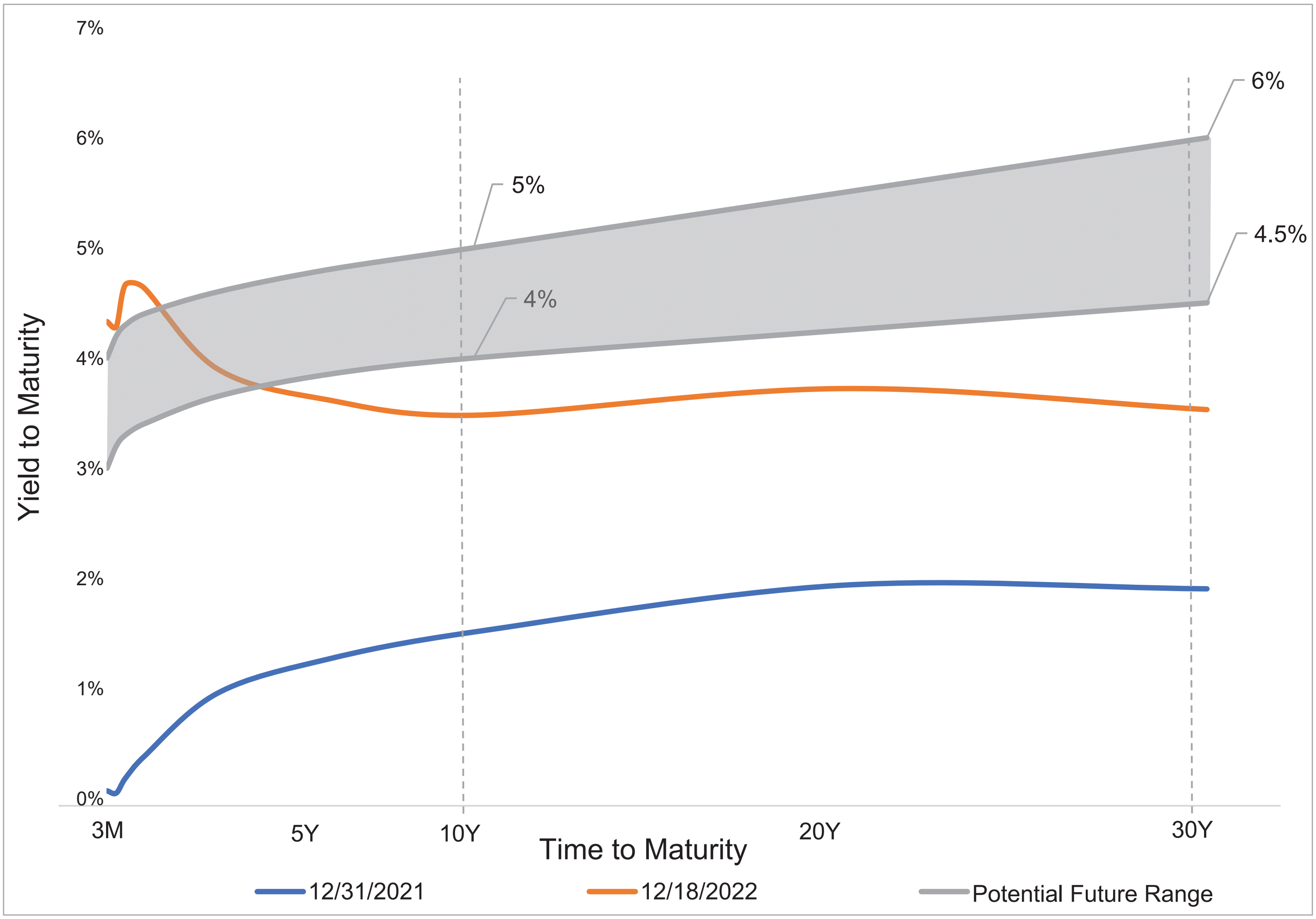
analysis because it sets the discount factor used as the "risk free" rate in the vast majority of discounted cash flow calculations.

Which lands us right back where we started, with a question: What if the baseline inflation rate over the next two or three decades isn't the sub-2% rate the world is expecting? What if, instead, the new baseline is 3% to 4%?

If baseline inflation eventually settles into an average range of 3% to 4%, then the shape of the Treasury yield curve should be expected to eventually change. The Y-intercept (the price of overnight money as set by the Fed) should approximate the inflation rate, so the Fed Funds rate would also typically be expected to run around 3% to 4%. But further out the yield curve, rates should usually be expected to be *higher* than the price of overnight money. This term premium, as it's known, incorporates the propensity to demand more compensation for tying up funds for longer periods. So, if baseline inflation eventually settles into a persistent range of 3% to 4%, you would expect a 10-year Treasury to eventually adjust upwards towards a range of 4% to 5% – from the 3½% level it was priced at in mid-December. Furthermore, again assuming normally shaped upward sloping yield curves, the long bond (30-year) should eventually be expected to settle into an even higher range, between maybe 4½% to 6%. Figure 3 shows how the Treasury yield curve looked twelve months ago, in mid-December, and how it could eventually look in a 3% to 4% inflation regime.

These ranges seem reasonable if the future is one where 3% to 4% inflation rates become routine. Such a regime change would have meaningful ramifications for valuations and investors of all types.

Fig. 3: Treasury Yield Curve



Source: FactSet Research Systems, SaratogaRIM. See full disclosures at the end of this report.

Starting from the premise that any investment is defined as an exchange of a certain amount of money today for a future stream of cash flows, the intrinsic value today of an investment is the sum of the present values of those future cash flows. This is true whether you are talking about future dividends (or cash flows) on stocks, coupon payments on bonds, or lease payments on any income-producing real estate or other asset. And to the extent that many of these types of assets are expected to generate income long into the future, isolating how interest rate differentials apply to the present value calculation for just one year's worth of those cashflows is a good way to illustrate how rising interest rates impact underlying value.

We use the simple present value calculation embedded in the pricing of a 10-year Zero Coupon Treasury as an example. From the 3½% 10-year Treasury rate available as I'm writing, the following table illustrates how the present value of a single $1,000 cash flow ten years out would fall from $708.92 to $613.91 if the ten-year rate rose to 5%.

10-year, Zero Coupon Bond

Rate	3.5%	4.0%	4.5%	5.0%
Price	$708.92	$675.56	$643.93	$613.91

Given the long duration structure of many asset classes, it's also instructive to illustrate how longer-term present value calculations are even more sensitive to changes in interest rates. Notice how the same changes in interest rates used above disproportionally impact the pricing of a 30-year Zero Coupon Bond relative to that of the 10-year. The same increase in rates from 3½% to 5% causes the price of the 30-year to fall from $356.28 to $231.38. The present value of a $1,000 cash flow thirty years out drops by $124.90 or 35% vs. the smaller 13% decline in the present value of a cash flow 10 years out. This, by the way, is why longer duration assets are always more sensitive to changes in interest rates.

30-year, Zero Coupon Bond

Rate	3.5%	4.0%	4.5%	5.0%	5.5%	6.0%
Price ($)	356.28	308.32	267.00	231.38	200.64	174.11

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At the end of the day, I think Ray Dalio is right. The key question isn't when the Fed will pivot or even how high the Fed Funds rate will be when it does. Over the longer term, investment results will be driven much more by where inflation eventually settles further down the road, say 3, 5 or 7 years from now. Therefore, I believe it's potentially a big mistake to blindly accept that today's universal 2% inflation forecast will prove accurate as a descriptor of our longer-term future.

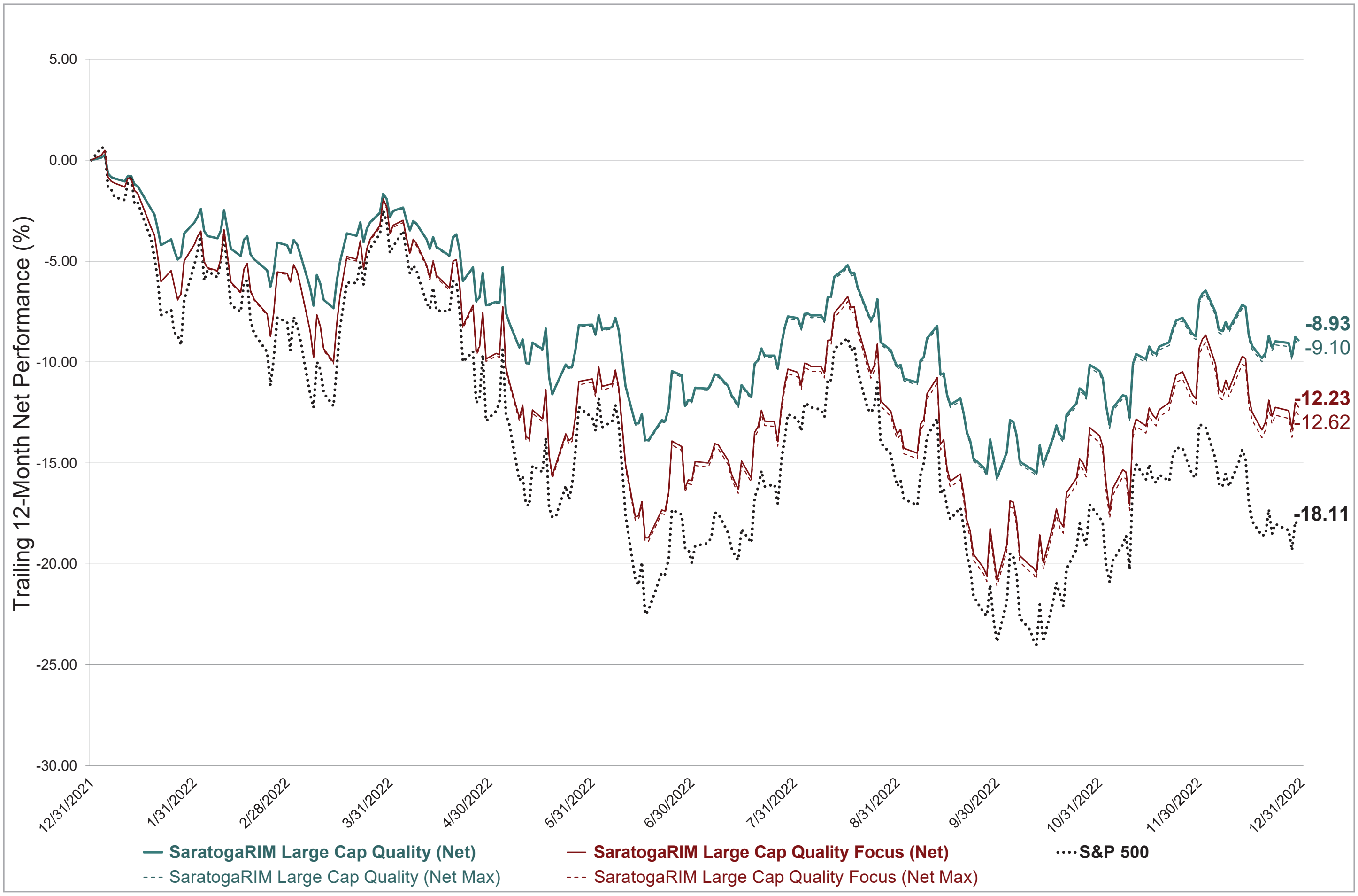
In closing (and despite the fact that I spent much of the pandemic essentially hibernating in my basement), please don't label me a permabear. Show me attractively priced stocks of the types of great businesses we're always focused on, and we'll be all over them regardless of the environment. What I refuse to do is pay prices higher than something is worth or invest where I don't believe we're likely to be adequately compensated for risk. Investors should anticipate a very turbulent adjustment period over the next couple of years and be under no delusion that investing during this period will be easy. Yet, it's imperative to understand that the direction we're heading is not unambiguously negative. Despite anticipated heightened volatility, it's far more important for investors to remain squarely focused on the long-term opportunities market downturns invariably deliver to those who are patient.

Analysis by Rosenberg Research shows that since World War II the economy generated its best performance – as measured by GDP growth and unemployment – when inflation ran in the 4% to 6% and 2% to 4% ranges, respectively. If this holds true in the future, a 3% to 4% inflation regime looks like it could be right in the sweet spot for future economic activity and very profitable for high-quality businesses. Furthermore, with the era of easy money now in the rear-view mirror, we're finally seeing improvement in the pricing environment around us. It's still early days, but as interest rates rise and valuations fall, future returns are being pulled back into line with what longer-term investors should be hoping for. In other words, the investment environment that seems likely to emerge after the rough transition period currently underway runs its course looks like it could be much better for true long-term investors than anything we have seen in a very long time.

Kevin Tanner | Chairman | CEO | CIO

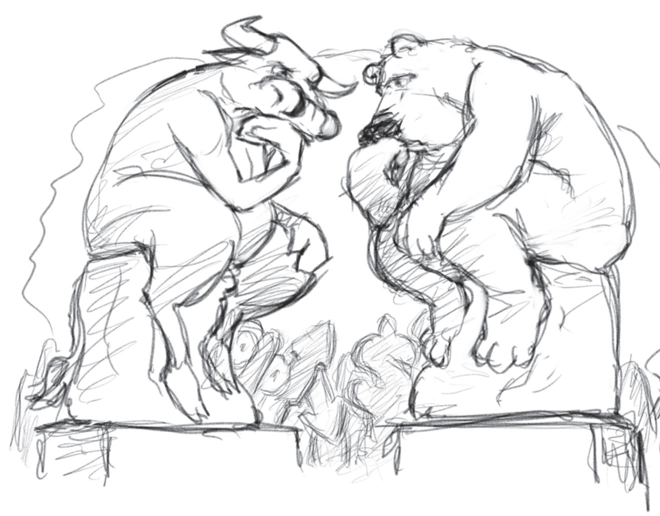
Trailing 12-Month Investment Results

Fig. 4: SaratogaRIM Large Cap Quality & Focus vs. S&P 500 TR Trailing 12-Months (12/31/21 - 12/31/22)



Source: FactSet, SaratogaRIM. Past investment results are not a guarantee of future results. Data presented net-of-fees. See full disclosures at the end of this report. See GIPS Composite Report: SaratogaRIM Large Cap Quality (page 17) and GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (page 21).

Over the 12 months that ended December 31st, net of fees, the SaratogaRIM Large Cap Quality and Large Cap Quality Focus composites were down 8.93% and 12.23% respectively. Net of maximum fees (which we refer to as Net Max), the SaratogaRIM Large Cap Quality and Large Cap Quality Focus composites were down 9.10% and 12.62% respectively. Over the same period, the S&P 500 Total Return Index lost 18.11%. These results were consistent with what we would expect at this phase in the economic and market cycles. As with any discussion of investment results, the SEC requires that we remind you that past performance is no guarantee of future returns. Please see the Large Cap Quality and Large Cap Quality Focus Composite Statistics and GIPS Composite Reports in addition to the full disclosures at the end of this report.



SaratogaRIM Large Cap Quality

Composite Statistics

Q4 2022

Saratoga Research & Investment Management | SaratogaRIM.com | (408) 741-2330 | 14471 Big Basin Way, Suite E, Saratoga, CA 95070

Firm Overview: Saratoga Research & Investment Management, founded in 1995, is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing common sense investment principles for individual and institutional investors.

Composite Overview: The SaratogaRIM Large Cap Quality Composite includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite allows cash to accumulate at certain stages of the market cycle and has no maximum cash position size. See the GIPS Composite Report (Page 4) for the complete composite description.

SaratogaRIM Large Cap Quality (LCQ) - Snapshot

Composite Name	SaratogaRIM Large Cap Quality
Inception Date	2/29/2000
Firm Total Assets	$ 2,603,781,000
Composite Assets	$ 1,156,119,000
GIPS Compliance	Yes

Investment Results

As of Date: 12/31/2022 Source Data: Total, Monthly Return

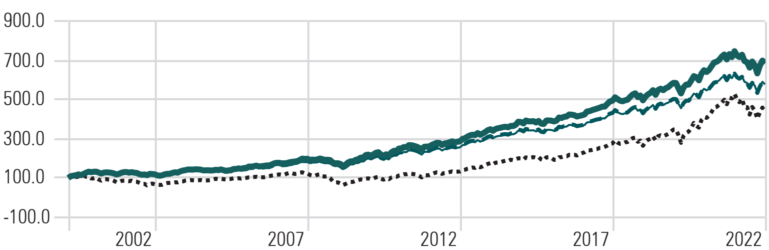
	Quarter to Date	Year to Date	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Gross)	7.99	-8.42	-8.42	5.35	6.74	8.28	9.10	8.64	9.19	8.80
SaratogaRIM LCQ (Net)	7.84	-8.93	-8.93	4.76	6.14	7.67	8.50	7.96	8.43	8.00
SaratogaRIM LCQ (Net Max)	7.79	-9.10	-9.10	4.56	5.94	7.46	8.29	7.82	8.37	7.98
S&P 500 TR USD	7.56	-18.11	-18.11	7.66	9.42	11.48	12.56	8.81	9.80	6.64

Investment Growth Relative to Benchmark

Time Period: 3/1/2000 to 12/31/2022

Source Data: Total Return

SaratogaRIM LCQ (Gross) SaratogaRIM LCQ (Net) SaratogaRIM LCQ (Net Max) S&P 500 TR USD

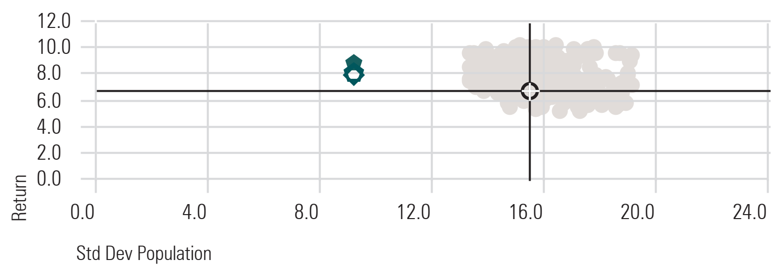


Standard Deviation vs. Annualized Rate of Return Relative to Benchmark & Peer Group

Time Period: 3/1/2000 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQ (Gross) SaratogaRIM LCQ (Net) SaratogaRIM LCQ (Net Max) S&P 500 TR USD

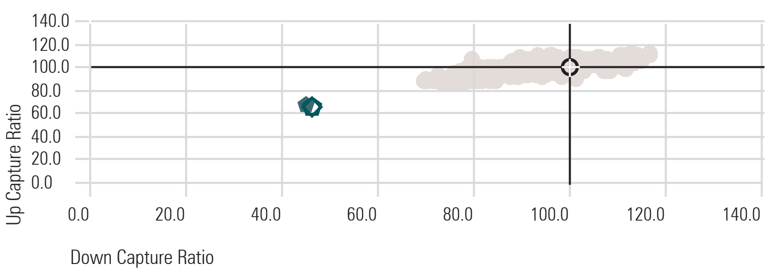


Market Capture Relative to Benchmark & Peer Group

Time Period: 3/1/2000 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQ (Gross) SaratogaRIM LCQ (Net) SaratogaRIM LCQ (Net Max) S&P 500 TR USD

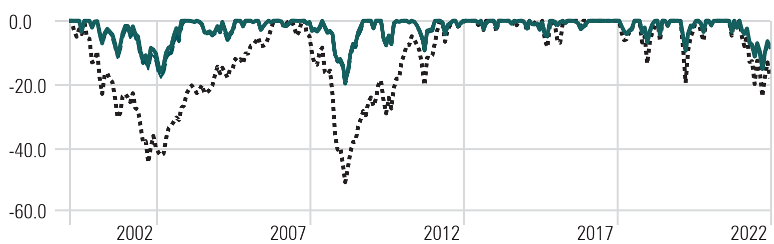


Drawdown Relative to Benchmark

Time Period: 3/1/2000 to 12/31/2022

Source Data: Total, Monthly Return

SaratogaRIM LCQ (Gross) SaratogaRIM LCQ (Net) SaratogaRIM LCQ (Net Max) S&P 500 TR USD



Sector Weightings - GICS

Portfolio Date: 12/31/2022

	LCQ	S&P 500
Consumer Discretionary %	11.67	9.80
Consumer Staples %	12.90	7.20
Energy %	0.00	5.23
Financials %	4.91	11.66
Healthcare %	18.87	15.82
Industrials %	13.66	8.65
Information Technology %	26.85	25.74
Materials %	3.06	2.73
Communication Services %	8.08	7.28
Utilities %	0.00	3.18

Holding Fundamentals

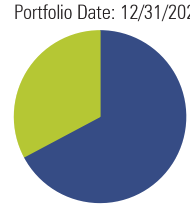
Dividend Yield	1.78
P/E Ratio (TTM)	22.92
P/CF Ratio (TTM)	18.79
P/B Ratio (TTM)	4.01
ROE % (TTM)	31.77
ROA % (TTM)	11.63
Net Margin %	15.60
Est. LT EPS Growth	9.35
Historical EPS Growth	14.45

Market Capitalization

Average Market Cap (mil)	196,303.41
Market Cap Giant %	67.01
Market Cap Large %	24.63
Market Cap Mid %	8.35

Asset Allocation

Portfolio Date: 12/31/2022

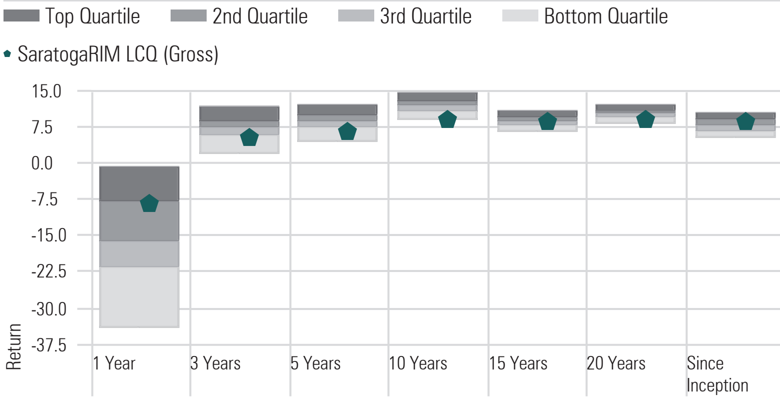


	%
Stock	67.2
Bond	0.0
Cash	32.8
Other	0.0
Total	**100.0**

GICS Sector Weightings, Holding Fundamentals, and Market Capitalization statistics reflect the weightings of the stock portion of the portfolio. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. See Disclosures and Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality (Page 4).

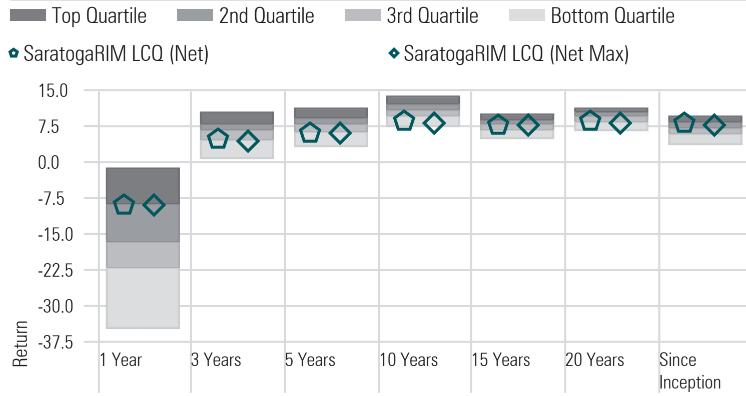
Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Gross)	-8.42	5.35	6.74	9.10	8.64	9.19	8.80
Median	-16.24	7.41	8.87	12.02	8.83	10.19	7.73
Average	-16.03	7.16	8.72	11.86	8.72	10.23	7.80
Count	1,781	1,678	1,571	1,241	964	647	451
5th Percentile	-0.82	11.37	12.04	14.38	10.83	11.97	10.16
25th Percentile	-7.97	8.82	10.13	12.93	9.61	10.91	8.98
50th Percentile	-16.24	7.41	8.87	12.02	8.83	10.19	7.73
75th Percentile	-21.52	5.88	7.45	10.89	7.95	9.64	6.74
95th Percentile	-33.99	2.18	4.70	9.00	6.45	8.41	5.19

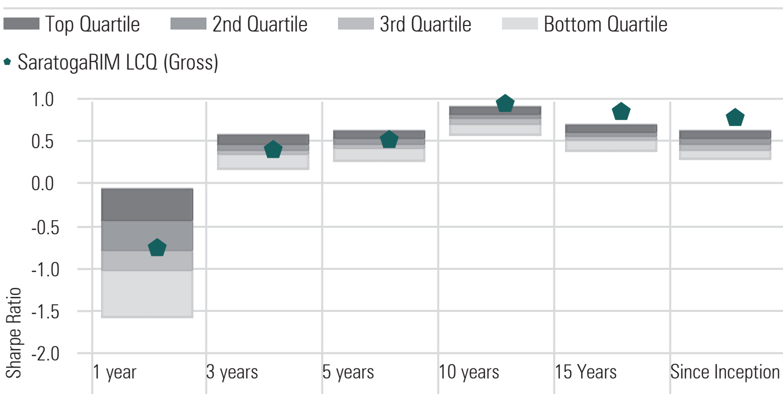
Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Net)	-8.93	4.76	6.14	8.50	7.96	8.43	8.00
SaratogaRIM LCQ (Net Max)	-9.10	4.56	5.94	8.29	7.82	8.37	7.98
Median	-16.88	6.35	7.77	10.92	7.85	9.39	6.80
Average	-16.82	6.04	7.59	10.72	7.62	9.11	6.77
Count	1,765	1,665	1,557	1,235	961	646	452
5th Percentile	-1.36	10.27	11.16	13.59	10.01	11.20	9.38
25th Percentile	-9.00	7.87	9.25	12.10	8.80	10.09	8.04
50th Percentile	-16.88	6.35	7.77	10.92	7.85	9.39	6.80
75th Percentile	-22.36	4.51	6.11	9.54	6.60	8.22	5.77
95th Percentile	-34.94	0.54	3.29	7.22	4.76	6.43	3.69

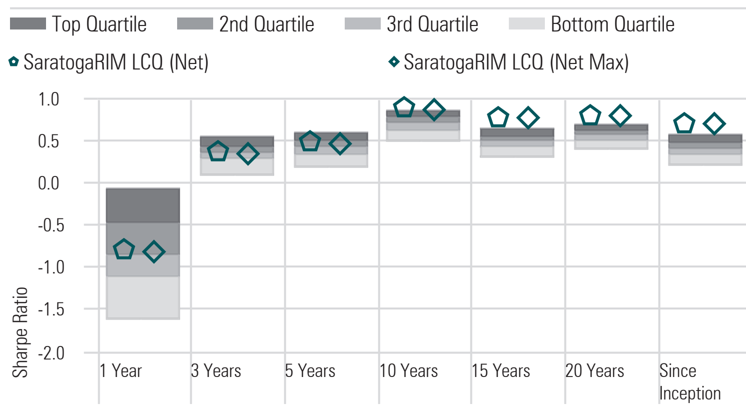
Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Gross)	-0.74	0.43	0.54	0.95	0.86	0.90	0.79
Median	-0.80	0.40	0.47	0.78	0.55	0.63	0.46
Average	-0.77	0.39	0.47	0.76	0.55	0.63	0.46
Count	1,781	1,678	1,571	1,241	964	647	451
5th Percentile	-0.05	0.58	0.64	0.92	0.69	0.75	0.63
25th Percentile	-0.43	0.47	0.54	0.83	0.60	0.68	0.53
50th Percentile	-0.80	0.40	0.47	0.78	0.55	0.63	0.46
75th Percentile	-1.04	0.33	0.40	0.71	0.50	0.60	0.39
95th Percentile	-1.57	0.17	0.27	0.57	0.40	0.51	0.30

Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Net)	-0.78	0.38	0.49	0.89	0.79	0.82	0.71
SaratogaRIM LCQ (Net Max)	-0.80	0.36	0.47	0.87	0.78	0.81	0.71
Median	-0.84	0.35	0.42	0.71	0.49	0.58	0.40
Average	-0.81	0.34	0.41	0.69	0.49	0.57	0.40
Count	1,765	1,665	1,557	1,235	961	646	452
5th Percentile	-0.08	0.53	0.59	0.86	0.64	0.70	0.57
25th Percentile	-0.48	0.42	0.50	0.78	0.55	0.63	0.47
50th Percentile	-0.84	0.35	0.42	0.71	0.49	0.58	0.40
75th Percentile	-1.10	0.27	0.34	0.62	0.43	0.51	0.32
95th Percentile	-1.60	0.10	0.20	0.49	0.32	0.40	0.21

Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding.
See Disclosures and Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality (Page 4).

Disclosures & Definitions

See additional important disclosures and composite-specific information within the GIPS Composite Report (Page 4).

Saratoga Research & Investment Management ("SaratogaRIM" or the "Firm") is an SEC Registered Investment Advisor. SEC Registration does not constitute an endorsement of the Firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration.

This report was generated by SaratogaRIM through Morningstar Direct's Presentation Studio using data from Morningstar Direct and Advent Axys. SaratogaRIM composite performance statistics are based off gross-of-fee or net-of-fee monthly performance data uploaded to Morningstar. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. The Peer Group statistics within this report contain U.S. Large Cap separate account managers that appear in the Morningstar database for the relevant periods shown as of the report generated date. The information and statistical data contained herein have been obtained from sources that SaratogaRIM believes to be reliable but in no way are warranted by the Firm as to accuracy or completeness.

Results of the SaratogaRIM Large Cap Quality Composite do not reflect the results of any one portfolio in the composite. Performance figures are based on historical information and do not guarantee future results. Actual current performance may be higher or lower than the performance presented. All investing entails the risk of loss. This summary is for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities and may not be relied upon in connection with any offer or sale of securities. It is not intended to serve as a substitute for personalized investment advice. Prospective clients should recognize the limitations inherent in the composite strategy and should consider all information presented regarding the Firm's investment management capabilities. The contents of this report are only a portion of the original material and research and should not be relied upon in making investment decisions.

Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 0.75% for all non-fee-paying accounts. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the SaratogaRIM Large Cap Quality Composite (0.75%, labeled "Net Max"). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request.

Definitions: Standard Deviation measures the dispersion of a dataset relative to its mean. Sharpe Ratio is a risk-adjusted measure that is calculated by using excess return and standard deviation to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. Excess Return measures the difference in return, cumulative or annualized, between the strategy and a benchmark. Market Capture Ratios measure the extent to which a strategy participates in market moves over time; Up (Down) Market Capture measures relative performance in months which the benchmark generates positive (negative) returns over time. Drawdown is a measure of peak-to-trough decline over the period of time until a new high is reached.

Benchmark Disclosures: Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The S&P 500® Total Return Index has been selected as the benchmark for comparison purposes. The S&P Total Return Index assumes that all dividends and distributions are reinvested. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. Portfolios are managed according to their respective strategies which may differ significantly in terms of security holdings, industry weightings, and asset allocation from those of benchmarks. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or any other fees, expenses, or charges. | The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P®, and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

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Composite Performance Statistics

							3 Yr Ann Standard Dev						
Year	Composite Gross TWR	Composite Net TWR	Composite Net Max TWR*	S&P 500 Total Return	Composite Median Net TWR	Standard Deviation	Composite Net TWR	S&P 500 Total Return	# of Portfolios in Composite	End of Period Composite Assets	% of Firm Assets	# of Firm Portfolios*	End of Period Total Firm Assets
2000 (2/29)	31.62	30.58	30.82	-2.45	n/a	n/a	-	-	44	13,012,273.41	48.66	45	26,739,562.04
2001	-1.54	-2.51	-2.27	-11.93	-1.56	2.87	-	-	56	24,787,551.38	67.21	57	36,880,632.99
2002	-8.93	-9.74	-9.60	-22.06	-11.01	1.84	-	-	80	28,949,501.66	73.79	81	39,231,009.25
2003	18.16	17.09	17.27	28.68	16.51	2.09	-	-	88	37,399,754.37	70.92	97	52,738,112.73
2004	1.33	0.40	0.56	10.88	-0.53	2.06	-	-	90	39,743,734.02	68.14	99	58,324,543.15
2005	7.02	6.02	6.21	4.91	5.48	2.29	-	-	89	39,293,990.53	63.75	101	61,636,483.18
2006	17.03	15.93	16.17	15.80	14.56	3.14	-	-	82	44,027,113.77	60.11	95	73,239,570.18
2007	11.68	10.62	10.86	5.49	10.20	2.86	-	-	85	48,997,165.75	61.86	101	79,207,247.76
2008	-11.48	-12.34	-12.15	-37.00	-12.39	3.24	-	-	113	50,664,984.48	62.60	129	80,940,276.87
2009	25.04	23.91	24.05	26.46	23.93	2.60	-	-	261	149,105,345.03	81.27	280	183,475,714.03
2010	14.26	13.42	13.42	15.06	13.87	0.79	-	-	494	308,291,988.80	73.47	522	419,588,547.25
2011	4.32	3.70	3.53	2.11	3.27	0.53	11.86	18.71	1,176	675,883,971.31	89.07	1,278	758,793,592.13
2012	9.93	9.31	9.11	16.00	9.33	0.61	9.98	15.09	1,539	950,046,377.00	90.92	1,648	1,044,968,031.90
2013	21.65	20.98	20.75	32.39	21.10	1.63	7.85	11.94	1,823	1,259,241,527.31	89.72	1,990	1,403,561,332.55
2014	10.59	9.99	9.76	13.69	10.37	0.94	6.30	8.97	1,912	1,338,659,044.57	82.94	2,130	1,614,090,418.39
2015	1.84	1.28	1.07	1.38	1.07	1.00	6.96	10.47	1,989	1,266,678,096.48	77.33	2,266	1,638,083,262.32
2016	6.95	6.35	6.15	11.96	6.32	0.89	6.48	10.59	2,194	1,329,320,194.32	73.81	2,537	1,800,890,893.30
2017	17.72	17.07	16.85	21.83	16.93	1.52	6.15	9.92	2,380	1,481,531,427.12	70.11	2,851	2,113,160,549.13
2018	0.42	-0.14	-0.34	-4.38	-0.28	0.48	6.54	10.80	2,479	1,401,704,942.18	69.61	2,971	2,013,567,458.02
2019	18.03	17.38	17.14	31.49	17.62	2.08	7.39	11.93	2,583	1,505,375,555.14	64.51	3,088	2,333,608,905.18
2020	11.05	10.44	10.22	18.40	10.73	0.95	9.93	18.53	2,428	1,458,530,696.52	55.43	3,161	2,631,534,466.80
2021	14.96	14.32	14.09	28.71	14.75	1.15	9.56	17.17	1,921	1,439,757,287.98	48.68	2,984	2,957,751,865.10
2022	-8.41	-8.92	-9.10	-18.11	-9.05	0.78	11.63	20.87	1,739	1,156,118,739.10	44.40	2,815	2,603,780,552.47

Items with an asterisk (*) are presented as supplemental information from SaratogaRIM and are not required by the GIPS Standards.

Firm Description: Saratoga Research & Investment Management ("SaratogaRIM" or "the Firm") is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing common sense investment principles. SEC Registration does not constitute an endorsement of the Firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. The Firm's investment process is designed to meet the long-term needs of conservative individual and institutional investors. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration. The Firm was founded in 1995; prior to March 7, 2007, Saratoga Research & Investment Management was known as Tanner & Associates Asset Management.

Composite Description: The SaratogaRIM Large Cap Quality Composite (SaratogaRIM Equity Composite) includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite allows cash to accumulate at certain stages of the market cycle and has no maximum cash position size. Individual position sizes typically range from 1.5% to 6% of the total portfolio value, but there is no maximum size for an individual position. While the investment criteria for this composite narrows the investable universe to predominantly large-cap companies based in the U.S., the composite has no restrictions on market cap size or where the company is domiciled. Investment ideas that do not meet the stated composite criteria ("outside the box ideas") are allowed so long as they do not cumulatively represent more than 10% of the total portfolio value. Prior to December 31, 2009, client-directed securities may have been permitted so long as they did not represent more than 10% of the total portfolio value. The minimum requirement to establish a new account is $100,000. The minimum asset level is $50,000 (prior to August 30, 2010, there was no account minimum). Inception date: February 29, 2000. Creation date for GIPS: August 30, 2010.

GIPS Compliance: SaratogaRIM claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. SaratogaRIM has been independently verified by The Spaulding Group for the periods March 1, 2000 through December 31, 2021. The verification report is available upon request. | A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report. | GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein. | A list of SaratogaRIM's composite descriptions are available upon request. Policies for valuing investments, calculating performance, and preparing GIPS reports are available upon request. To obtain GIPS-compliant performance information for SaratogaRIM's strategies and products, please contact Marc Crosby, President, at (408) 741-2332 or Marc@SaratogaRIM.com.

Disclosures: Results of the SaratogaRIM Large Cap Quality Composite do not reflect the results of any one portfolio in the composite. Valuations are computed and performance is reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. Composite returns are calculated using asset-weighted Time Weighted Rate of Return ("TWR"), beginning market values, and external cash flows. Time-weighted return is a method of calculating period-by-period returns that reflects the change in value and negates the effects of external cash flows. Gross and Net TWRs are calculated based on the geometric linking of the monthly internal rate of return for portfolios present for the entire month. Individual portfolios are revalued monthly; portfolios are also revalued intra-month when large external cash flows occur in excess of 10% of the portfolio's fair value. Daily reconciliation is performed between the Firm's records and the custodian and broker records through Advent to verify client assets. Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 0.75% for all non-fee-paying accounts. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the SaratogaRIM Large Cap Quality Composite (0.75%, labeled "Net Max"). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fee portfolio returns around the median net-of-fee portfolio return in the composite. Dispersion is based only on portfolios that were in the composite for the full annual period and is only shown for the annual periods where the composite had more than 5 portfolios for the full year. The 3-year annual standard deviation (external dispersion) is based on net-of-fee returns. As of January 2022, SaratogaRIM's composite descriptions have been revised to better reflect the criteria used in determining composite inclusion/exclusion. The resultant updates to composite constituents for the SaratogaRIM Large Cap Quality Composite caused performance differentials that modestly exceeded the Firm's materiality threshold in four years (two years being positive and two years being negative). However, since inception annualized performance was affected by an immaterial amount (0.0026%). For additional information and calculation details, please contact Marc Crosby (Marc@SaratogaRIM.com).

Benchmark Disclosures: Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The S&P 500® Total Return Index has been selected as the benchmark for comparison purposes. The S&P Total Return Index assumes that all dividends and distributions are reinvested. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. Portfolios are managed according to their respective strategies which may differ significantly in terms of security holdings, industry weightings, and asset allocation from those of benchmarks. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or any other fees, expenses, or charges. | The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P®, and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

SaratogaRIM Large Cap Quality Focus

Composite Statistics

Q4 2022

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Composite Overview: The SaratogaRIM Large Cap Quality Focus Composite includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite will likely have a greater turnover ratio than other composites as it typically restricts cash to no more than 5% of the total portfolio value. See the GIPS Composite Report (Page 4) for the complete composite description.

SaratogaRIM Large Cap Quality Focus (LCQF) - Snapshot

Composite Name	SaratogaRIM Large Cap Quality Focus
Inception Date	8/29/2014
Firm Total Assets	$ 2,603,781,000
Composite Assets	$ 853,936,000
GIPS Compliance	Yes

Investment Results

As of Date: 12/31/2022 Source Data: Total, Monthly Return

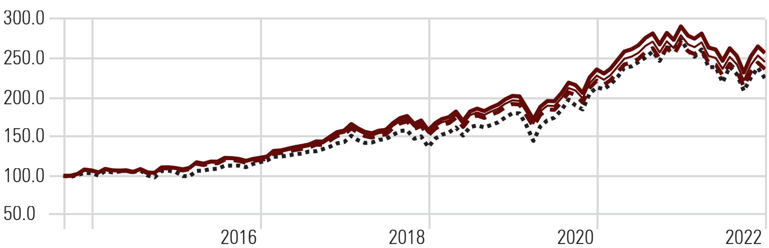
	Quarter to Date	Year to Date	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	10.74	-11.74	-11.74	8.30	10.23	12.88	11.98
SaratogaRIM LCQF (Net)	10.58	-12.23	-12.23	7.72	9.64	12.28	11.38
SaratogaRIM LCQF (Net Max)	10.46	-12.62	-12.62	7.22	9.14	11.77	10.88
S&P 500 TR USD	7.56	-18.11	-18.11	7.66	9.42	11.48	10.19

Investment Growth Relative to Benchmark

Time Period: 9/1/2014 to 12/31/2022

Source Data: Total Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

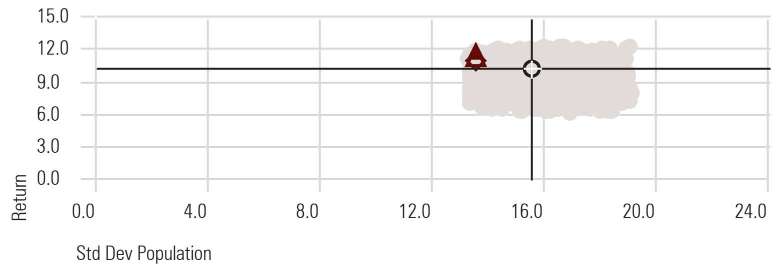


Standard Deviation vs. Annualized Rate of Return Relative to Benchmark & Peer Group

Time Period: 9/1/2014 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

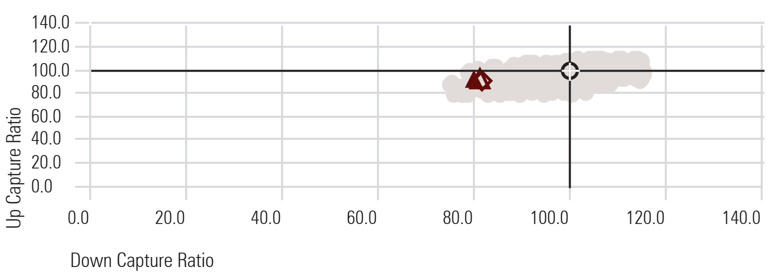


Market Capture Relative to Benchmark & Peer Group

Time Period: 9/1/2014 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

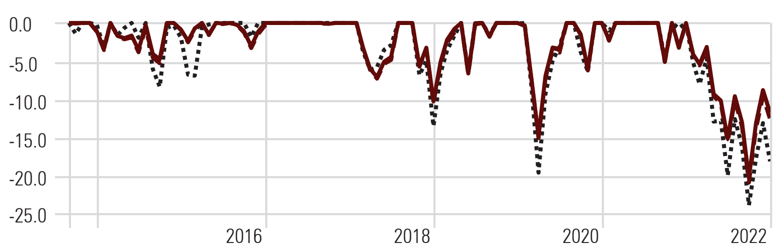


Drawdown Relative to Benchmark

Time Period: 9/1/2014 to 12/31/2022

Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD



Sector Weightings - GICS

Portfolio Date: 12/31/2022

	LCQF	S&P 500
Consumer Discretionary %	11.62	9.80
Consumer Staples %	10.44	7.20
Energy %	0.00	5.23
Financials %	4.24	11.66
Healthcare %	22.17	15.82
Industrials %	12.66	8.65
Information Technology %	26.58	25.74
Materials %	2.61	2.73
Communication Services %	9.68	7.28
Utilities %	0.00	3.18

Holding Fundamentals

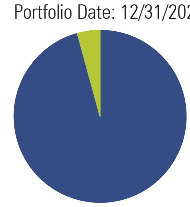
Dividend Yield	1.74
P/E Ratio (TTM)	24.04
P/CF Ratio (TTM)	18.94
P/B Ratio (TTM)	3.91
ROE % (TTM)	30.82
ROA % (TTM)	11.44
Net Margin %	15.62
Est. LT EPS Growth	9.71
Historical EPS Growth	14.16

Market Capitalization

Average Market Cap (mil)	211,582.04
Market Cap Giant %	67.10
Market Cap Large %	26.04
Market Cap Mid %	6.86

Asset Allocation

Portfolio Date: 12/31/2022

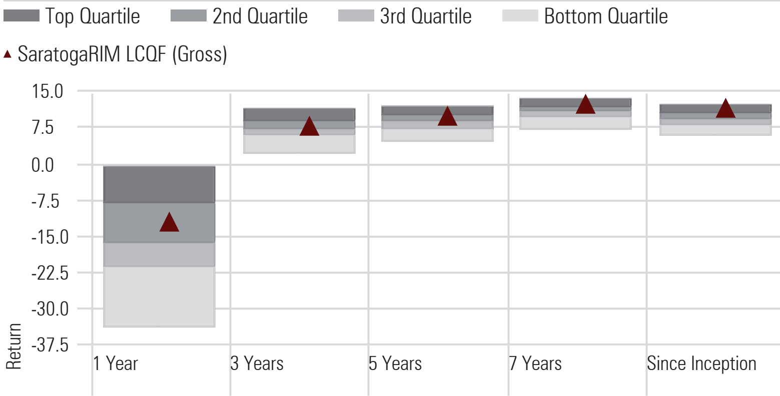


	%
Stock	95.7
Bond	0.0
Cash	4.3
Other	0.0
Total	**100.0**

GICS Sector Weightings, Holding Fundamentals, and Market Capitalization statistics reflect the weightings of the stock portion of the portfolio. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. See Disclosures and Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (Page 4).

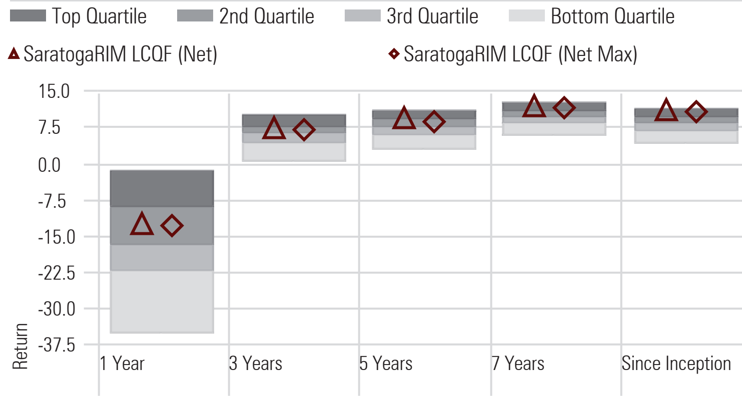
Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-11.74	8.30	10.23	12.88	11.98
S&P 500 TR USD	-18.11	7.66	9.42	11.48	10.19
Median	-16.24	7.41	8.87	10.91	9.56
Average	-16.03	7.16	8.72	10.76	9.41
Count	1,781	1,678	1,571	1,418	1,317
5th Percentile	-0.82	11.37	12.04	13.48	12.27
25th Percentile	-7.97	8.82	10.13	11.86	10.61
50th Percentile	-16.24	7.41	8.87	10.91	9.56
75th Percentile	-21.52	5.88	7.45	9.69	8.25
95th Percentile	-33.99	2.18	4.70	7.47	6.15

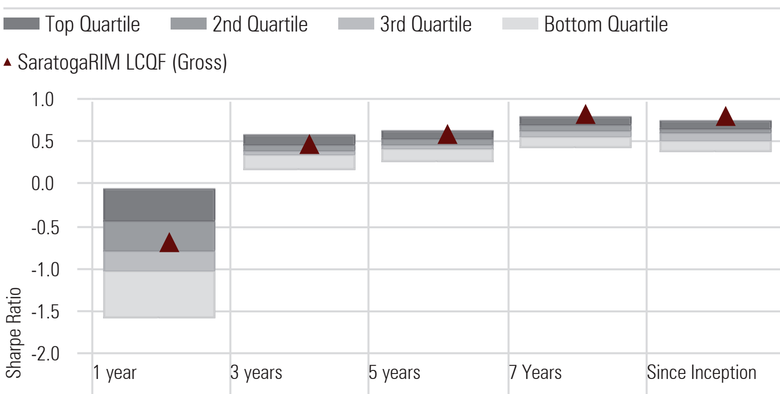
Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-12.23	7.72	9.64	12.28	11.38
SaratogaRIM LCQF (Net Max)	-12.62	7.22	9.14	11.77	10.88
S&P 500 TR USD	-18.11	7.66	9.42	11.48	10.19
Median	-16.88	6.35	7.77	9.83	8.48
Average	-16.82	6.04	7.59	9.63	8.29
Count	1,765	1,665	1,557	1,405	1,309
5th Percentile	-1.36	10.27	11.16	12.62	11.47
25th Percentile	-9.00	7.87	9.25	11.09	9.79
50th Percentile	-16.88	6.35	7.77	9.83	8.48
75th Percentile	-22.36	4.51	6.11	8.35	6.97
95th Percentile	-34.94	0.54	3.29	5.94	4.49

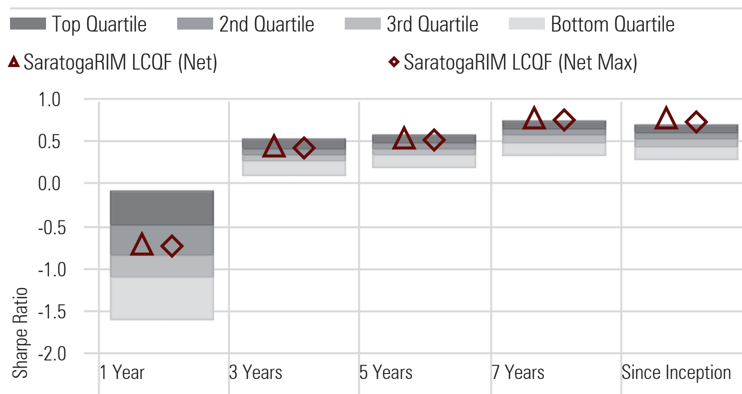
Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-0.68	0.49	0.60	0.84	0.83
S&P 500 TR USD	-0.85	0.41	0.50	0.68	0.64
Median	-0.80	0.40	0.47	0.64	0.59
Average	-0.77	0.39	0.47	0.63	0.58
Count	1,781	1,678	1,571	1,418	1,317
5th Percentile	-0.05	0.58	0.64	0.79	0.75
25th Percentile	-0.43	0.47	0.54	0.70	0.66
50th Percentile	-0.80	0.40	0.47	0.64	0.59
75th Percentile	-1.04	0.33	0.40	0.57	0.52
95th Percentile	-1.57	0.17	0.27	0.45	0.38

Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-0.71	0.46	0.57	0.81	0.79
SaratogaRIM LCQF (Net Max)	-0.74	0.43	0.54	0.78	0.76
S&P 500 TR USD	-0.85	0.41	0.50	0.68	0.64
Median	-0.84	0.35	0.42	0.58	0.53
Average	-0.81	0.34	0.41	0.57	0.52
Count	1,765	1,665	1,557	1,405	1,309
5th Percentile	-0.08	0.53	0.59	0.74	0.69
25th Percentile	-0.48	0.42	0.50	0.65	0.61
50th Percentile	-0.84	0.35	0.42	0.58	0.53
75th Percentile	-1.10	0.27	0.34	0.50	0.44
95th Percentile	-1.60	0.10	0.20	0.36	0.30

Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding.
See Disclosures & Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (Page 4).

Disclosures & Definitions

See additional important disclosures and composite-specific information within the GIPS Composite Report (Page 4).

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This report was generated by SaratogaRIM through Morningstar Direct’s Presentation Studio using data from Morningstar Direct and Advent Axys. SaratogaRIM composite performance statistics are based off gross-of-fee or net-of-fee monthly performance data uploaded to Morningstar. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. The Peer Group statistics within this report contain U.S. Large Cap separate account managers that appear in the Morningstar database for the relevant periods shown as of the report generated date. The information and statistical data contained herein have been obtained from sources that SaratogaRIM believes to be reliable but in no way are warranted by the Firm as to accuracy or completeness.

Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in the composite. Performance figures are based on historical information and do not guarantee future results. Actual current performance may be higher or lower than the performance presented. All investing entails the risk of loss. This summary is for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities and may not be relied upon in connection with any offer or sale of securities. It is not intended to serve as a substitute for personalized investment advice. Prospective clients should recognize the limitations inherent in the composite strategy and should consider all information presented regarding the Firm’s investment management capabilities. The contents of this report are only a portion of the original material and research and should not be relied upon in making investment decisions.

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Definitions: Standard Deviation measures the dispersion of a dataset relative to its mean. Sharpe Ratio is a risk-adjusted measure that is calculated by using excess return and standard deviation to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. Excess Return measures the difference in return, cumulative or annualized, between the strategy and a benchmark. Market Capture Ratios measure the extent to which a strategy participates in market moves over time; Up (Down) Market Capture measures relative performance in months which the benchmark generates positive (negative) returns over time. Drawdown is a measure of peak-to-trough decline over the period of time until a new high is reached.

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GIPS Composite Report

SaratogaRIM Large Cap Quality Focus

Q4 2022

Saratoga Research & Investment Management | SaratogaRIM.com | (408) 741-2330 | 14471 Big Basin Way, Suite E, Saratoga, CA 95070

Composite Performance Statistics

Year	Composite Gross TWR	Composite Net TWR	Composite Net Max TWR*	S&P 500 Total Return	Composite Median TWR	Standard Deviation	3 Yr Ann Standard Dev Composite Net TWR	3 Yr Ann Standard Dev S&P 500 Total Return	# of Portfolios in Composite	End of Period Composite Assets	% of Firm Assets	# of Firm Portfolios*	End of Period Total Firm Assets
2014 (8/31)	6.95	6.71	6.59	3.46	n/a	n/a	-	-	31	59,408,640.33	3.68	2,130	1,614,090,418.39
2015	2.85	2.29	1.83	1.38	2.71	0.18	-	-	88	122,809,323.37	7.50	2,266	1,638,083,262.32
2016	11.96	11.35	10.83	11.96	11.19	0.63	-	-	151	198,406,977.89	11.02	2,537	1,800,890,893.30
2017	28.23	27.52	26.96	21.83	27.49	0.49	8.70	9.92	287	362,440,319.53	17.15	2,851	2,113,160,549.13
2018	0.38	-0.18	-0.62	-4.38	-0.41	0.60	10.30	10.80	303	316,630,422.08	15.72	2,971	2,013,567,458.02
2019	27.67	26.98	26.39	31.49	27.10	0.63	11.41	11.93	403	533,438,674.16	22.86	3,088	2,333,608,905.18
2020	16.71	16.08	15.56	18.40	16.14	1.00	15.84	18.53	626	793,063,147.30	30.14	3,161	2,631,534,466.80
2021	23.31	22.64	22.09	28.71	22.46	0.67	15.07	17.17	924	1,039,079,017.33	35.13	2,984	2,957,751,865.10
2022	-11.74	-12.22	-12.62	-18.11	-12.43	0.52	17.57	20.87	913	853,935,678.90	32.80	2,815	2,603,780,552.47

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Firm Description: Saratoga Research & Investment Management ("SaratogaRIM" or "the Firm") is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing common sense investment principles. SEC Registration does not constitute an endorsement of the firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. The Firm's investment process is designed to meet the long-term needs of conservative individual and institutional investors. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration. The Firm was founded in 1995; prior to March 7, 2007, Saratoga Research & Investment Management was known as Tanner & Associates Asset Management.

Composite Description: The SaratogaRIM Large Cap Quality Focus Composite includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite will likely have a greater turnover ratio than other composites as it typically restricts cash to no more than 5% of the total portfolio value. Individual position sizes typically range from 1% to 10% of the total portfolio value, but there is no maximum size for an individual position. This composite has higher levels of concentration, particularly in the top 10 positions; collectively, the top 10 positions make up at least 50% of the portfolio. While the investment criteria for this composite narrows the investable universe to predominantly large-cap companies based in the U.S., the composite has no restrictions on market cap size or where the company is domiciled. Investment ideas that do not meet the stated composite criteria ("outside the box ideas") are allowed so long as they do not cumulatively represent more than 10% of the total portfolio value. The minimum requirement to establish a new account is $100,000 (reduced from $250,000, effective May 1, 2019). The minimum asset level is $75,000 (reduced from $225,000, effective May 1, 2019). Inception date: August 31, 2014. Creation date for GIPS: August 31, 2014.

GIPS Compliance: SaratogaRIM claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. SaratogaRIM has been independently verified by The Spaulding Group for the periods March 1, 2000 through December 31, 2021. | A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The SaratogaRIM Large Cap Quality Focus Composite has had a performance examination for the periods September 1, 2014 through December 31, 2021. The verification and performance examination reports are available upon request. | GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein. | A list of SaratogaRIM's composite descriptions are available upon request. Policies for valuing investments, calculating performance, and preparing GIPS reports are available upon request. To obtain GIPS-compliant performance information for SaratogaRIM's strategies and products, please contact Marc Crosby, President, at (408) 741-2332 or Marc@SaratogaRIM.com.

Disclosures: Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in the composite. Valuations are computed and performance is reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. Composite returns are calculated using asset-weighted Time Weighted Rate of Return ("TWR"), beginning market values, and external cash flows. Time-weighted return is a method of calculating period-by-period returns that reflects the change in value and negates the effects of external cash flows. Gross and Net TWRs are calculated based on the geometric linking of the monthly internal rate of return for portfolios present for the entire month. Individual portfolios are revalued monthly; portfolios are also revalued intra-month when large external cash flows occur in excess of 10% of the portfolio's fair value. Daily reconciliation is performed between the Firm's records and the custodian and broker records through Advent to verify client assets. Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 1.00% for all non-fee-paying accounts. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the SaratogaRIM Large Cap Quality Focus Composite (1.00%, labeled "Net Max"). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fee portfolio returns around the median net-of-fee portfolio return in the composite. Dispersion is based only on portfolios that were in the composite for the full annual period and is only shown for the annual periods where the composite had more than 5 portfolios for the full year. The 3-year annual standard deviation (external dispersion) is based on net-of-fee returns.

Benchmark Disclosures: Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The S&P 500® Total Return Index has been selected as the benchmark for comparison purposes. The S&P Total Return Index assumes that all dividends and distributions are reinvested. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. Portfolios are managed according to their respective strategies which may differ significantly in terms of security holdings, industry weightings, and asset allocation from those of benchmarks. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or any other fees, expenses, or charges. | The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P®, and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

Disclosures

See additional important disclosures and composite-specific information within the GIPS Composite Reports for SaratogaRIM Large Cap Quality (page 17) and Large Cap Quality Focus (page 21).

Saratoga Research & Investment Management ("SaratogaRIM" and "the Firm"), founded in 1995, is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing an investment process built on common sense investment principles for individual and institutional investors. SEC Registration does not constitute an endorsement of the Firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration.

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As additional peer group comparison data for the relevant period becomes available through Morningstar, statistics within the Composite Statistics pages may be updated and subsequently replaced within the version of this quarterly report that is published to SaratogaRIM.com. The Composite Statistics report generation date can be found within the footers of each Composite Statistics report. The original Quarterly Report publish date is located on the upper right hand corner of the Quarterly Report cover page and the main report page footers.

2022 Q4 (Annual) Report Charts: All charts and tables within this report are created by SaratogaRIM. Fig. 1 recreated a chart from Strategas. Fig. 2 recreated a chart from Bianco Research using data from Bloomberg and the Bureau of Labor Statistics. Fig. 3 displays yield curves created using data from FactSet and a depiction of a potential future range created by SaratogaRIM. Fig. 4 illustrates cumulative daily return estimates calculated by FactSet utilizing month-end holdings data for the relevant period shown and may differ from actual performance. Ending label data points represent actual net performance and net max performance. Past investment results are not a guarantee of future results. For further information or clarification regarding any of the charts or concepts within this report, please email your *specific* questions to InvestorRelations@SaratogaRIM.com.

Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 0.75% for all non-fee-paying accounts in the SaratogaRIM Large Cap Quality composite/1.00% in the SaratogaRIM Large Cap Quality Focus composite. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the corresponding composite, labeled "Net Max" (0.75% for the SaratogaRIM Large Cap Quality Composite/1.00% for the SaratogaRIM Large Cap Quality Focus Composite). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request. Results of the SaratogaRIM Large Cap Quality Composite & the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in those composites.

Benchmarks are selected based upon similarity to the investment style of the Firm's composites and accepted norms within the industry. Benchmarks are provided for comparative purposes only and holdings of the Firm's clients' portfolios will differ from actual holdings of the benchmark indexes. Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The benchmarks presented were obtained from third-party sources deemed reliable but not guaranteed for accuracy or completeness. Indices are unmanaged, hypothetical portfolios of securities that are often used as a benchmark in evaluating the relative performance of a particular investment. An index should only be compared with a mandate that has a similar investment objective. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or management fees.

The S&P 500 Total Return is the total return version of the S&P 500 Index, which has been widely regarded as the best single gauge of large-cap U.S. equities since 1957. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. (Note: A total return index assumes that all dividends and distributions are reinvested.) The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P® and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

Direct clients may access their portfolio information and reports including client-specific information through SaratogaRIM's Client Portal. If you are a direct client needing Client Portal access or assistance, please call (408) 741-2330 or email ClientService@SaratogaRIM.com. The Firm recommends that you compare your Saratoga Research & Investment Management reports with the ones you receive from your custodian(s). The custodian of record is required under current law to provide separate account statements. Market values reflected in the custodian's statement and those cited in this report may differ due to the use of different reporting methods. To the extent that any discrepancies exist between the custody statement and this report, the custody statement will take precedence. Values may vary slightly because of situations such as rounding, accrued interest or the timing of information reporting. A fee statement showing the amount of the Asset-Based fee, the value of clients' assets on which the Asset-Based fee is based and the specific manner in which the Asset-Based fee was calculated are available from SaratogaRIM upon request. As a general rule, SaratogaRIM does not disclose private information regarding clients' accounts unless the Firm relies on certain third parties for services that enable the Firm to provide its investment services to their clients. The Firm may also disclose nonpublic information where required to do so under law.

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SaratogaRIM

2022 Annual Report: Part 2

March 20, 2023

Q4

SaratogaRIM Large Cap Quality Focus: 100-Month Checkup

Market Statistics — Source: FactSet (Dec. 31), Federal Reserve, * Spot prices (Dec. 31)

Stocks		Yields (%)				Commodities	
DJIA	33,147.25	Fed Funds	4.50	US Tr. 3-Y	4.24	Baltic Dry Index	1,515
P/E ratio	17.85	Disc. Rate	4.50	US Tr. 5-Y	4.00	Gold ($/oz)	1,820
S&P 500	3,839.50	Libor 1-Mo	4.39	US Tr. 10-Y	3.88	Silver ($/oz)	23.95
P/E ratio	17.83	US Tr. 1-Y	4.73	US Tr. 30-Y	3.97	Crude ($/bbl)* (NYM Light Sweet Crude)	80.26

Contents	Page

SaratogaRIM Large Cap Quality Focus: 100-Month Checkup

From Inception Date of 9/1/2014 through 12/31/2022

By Kevin Tanner (KT) & Phil Spencer (PS)

Since March 1st of 2000, Saratoga Research & Investment Management (SaratogaRIM) has successfully managed portfolios consisting of some combination of cash and long-term investments in sensibly priced stocks of very high-quality businesses. We define "quality" as companies characterized by healthy balance sheets utilizing not more than moderate levels of financial leverage, relatively non-capital-intensive business models and sustainable competitive advantages (moats) which enable them to earn persistently above average profitability.

SaratogaRIM launched its first fully-invested version of its strategy on September 1, 2014. We built the SaratogaRIM Large Cap Quality Focus strategy (Focus) on the exact same research process as our original SaratogaRIM Large Cap Quality version (Quality), except we imposed a 5% maximum cash restriction. We decided to launch the strategy because the performance history of Quality excluding cash was impressive and there was intense demand from professional investors who were attracted to our security selection and sector exposure but wanted to control asset allocation on their end.

Focus was well received from the start. Demand from the professional investment community ramped up quickly and, by the end of 2020, Focus had surpassed Quality in assets under management and represented more than half of our total business. As of December 31, 2022, Focus has 100 months (eight years and four months) of investment results.

Going in, our assumption was that the "fully invested" mandate would result in somewhat higher portfolio turnover (and consequently shorter average holding periods) for Focus than we had historically experienced managing our Quality strategy. This has in fact been the case, but not to the extent I expected. Over its first 100 months, the turnover ratio for Focus averaged 16.27% on an annual basis. That implies an average holding period of a little over six years (6.15), which is less than the seven-plus-year holding period experienced with Quality.

Taxable investors in both strategies benefit from our long-term investment approach in a couple of ways. First, the vast majority of our returns tend to come in the form of long-term capital gains which are taxed at lower rates than dividends or short-term capital gains are. Longer holding periods also enable us to benefit from the compounding of our winners. The original investors in our Focus strategy currently own multiple positions that have increased in value several times over since inception.

In the section that follows, Phil Spencer, our Director of Research, discusses the performance of our Focus strategy versus our primary benchmark, the S&P 500 TR. He then spends some time analyzing strategy alpha. Following that, I will finish with some final thoughts on process and analysis of our Focus strategy's Sharpe Ratio and asymmetrical exposure to risk and reward over its first 100 months.

– KT

***

"There's only one thing in the investment world that isn't two-edged, and that's 'alpha': superior insight or skill. Skill can help in both up markets and down markets."

– Howard Marks

In 2014 we conducted an analysis of the historical equity returns within our original Quality strategy to evaluate the feasibility of launching a fully-invested version. The results of our study led us to believe that we could construct – and effectively manage – Quality-style portfolios with a 5% maximum cash constraint and still be able to deliver the asymmetrical risk and reward characteristics that we were known for. We believed this approach could outperform over full market cycles while simultaneously taking less risk than our primary benchmark, the S&P 500. In September of 2014, we launched the SaratogaRIM Large-Cap Focus version of our strategy.

With the first 100 months of performance in the books, we decided to take this opportunity to review and evaluate how well we have delivered on our expectations. This timeframe included some extraordinary circumstances, including a pandemic-induced market crash (and one of the most phenomenal rebounds ever), unprecedented levels of fiscal and monetary support, multi-decade high inflation, and a bear market. We're not yet through this environment, but we believe we have delivered on our objectives so far.

Past performance does not guarantee future returns. Net of fees, from its inception on September 1, 2014 through December 31, 2022, $100 invested in our Focus composite would have grown to $245.45 ($236.46 Net Max) versus the $224.46 that it would have grown to had it been invested in the S&P 500 TR on the same day. That equates to an 11.38% Net (10.88% Net Max) compound annual return vs. 10.19% for the index. It is also important to note that Focus was less volatile (particularly on the downside) than the S&P 500 TR. The standard deviation of returns for Focus was 13.64%, versus 15.67% for the S&P 500 TR over the same timeframe.

For the purpose of assessing performance, we compare ourselves to two benchmarks in this analysis: the S&P 500 TR Index and the S&P 500 Quality Index (the "Quality Index"). The S&P 500 is our primary benchmark, representing U.S. large cap stocks. The Quality Index invests in the top 100 S&P 500 constituents based on quality score. Per Standard & Poor's, the quality score "is calculated based on return on equity, accruals ratio and financial leverage ratio." The Quality Index is a reasonable benchmark since we invest in high quality companies, though our approach to defining "quality" differs from the approach used to construct the index.

Figure 1 highlights some performance characteristics calculated against the two different benchmarks.

In our 2019 Q4 (Annual) Report, we included a section titled "An Alpha Discussion and a Return to Regression." In it, we discussed "alpha" and the Capital Asset Pricing Model (or, "CAPM") as a way to assess the Focus strategy's performance over its first five years. The goal was to show that, up to that point, we had demonstrated skill as active managers.

As a reminder, within the CAPM framework – see formula on the following page – alpha is interpreted as the difference between a strategy's actual excess return and its expected excess return based on its market (or "systematic") risk. Excess return in this context is in excess of the risk-free rate, and expected excess return is based on the strategy's market beta and the market excess return.

Fig. 1: SaratogaRIM Large Cap Quality Focus (Net) vs. S&P 500 TR & S&P 500 Quality (9/1/2014 - 12/31/2022)

	Return	Std Dev	Sharpe Ratio		
SaratogaRIM Large Cap Quality Focus (Net)	11.38 (Net) 10.88 (Net Max)	13.64	0.79		
S&P 500	10.19	15.67	0.64		
S&P 500 Quality	9.98	15.15	0.64		
	Alpha	**Beta**	**Upside Capture Ratio**	**Downside Capture Ratio**	**Overall Capture (Asymmetry) Ratio**
Focus vs. S&P 500	2.47	0.83	91.84	81.04	1.13
Focus vs. S&P 500 Quality	2.49	0.85	92.93	81.28	1.14

Source: Morningstar Direct, SaratogaRIM. Past investment results are no guarantee of future results. SaratogaRIM net-of-fees returns are calculated net of (after) actual management fees but still gross of any custodial, external consultant or advisory fees. Returns labeled "Net Max" use the current maximum fee rate charged by SaratogaRIM for the composite. Management fees vary by client type; composite returns presented on a net basis should not be interpreted as any one client's net returns. This report is incomplete without Disclosures & Definitions (page 18) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (page 17).

$$r_{\text{Strategy - Risk-Free}} = \alpha_{\text{Strategy}} + \beta_{\text{Strategy, Market}} \times (r_{\text{Market}} - _{\text{Risk-Free}}) + \varepsilon$$

The market beta describes how a stock covaries with the market as a proportion of market variance. In other words, if the market is up 1%, a stock with a beta of 1 would be up 1% and a stock with a beta of 0.5 would be up 0.5% (on average). This model is fine if you own "the market," but for active managers, it doesn't fully explain risk or returns because active managers are intentionally different.

"Cherish forever what makes you unique, 'cuz you're really a yawn if it goes." – Bette Midler

In his 2014 memo "*Dare to Be Great II*," Howard Marks points out the "absolute pre-requisite" for having a *chance* at generating "superior" results: you have to be different. If an investor wants to *simply* own the market, their performance will always be proportional to the market. If they want to lower their risk, they can blend their market exposure with a risk-free asset to lower their portfolio beta. If they want more risk, they can borrow money and increase their portfolio beta.

Being different from the market means systematic risk is no longer the only contributor to risk and excess return. In addition to systematic risk, active managers take *idiosyncratic*, or *stock-specific risk*. *Alpha* measures the return received for taking that risk. The investor who simply owns some combination of the market and a risk-free asset will generate no alpha – they are not different from the market, and they are not taking idiosyncratic risk.

Active managers *want* to take idiosyncratic risk. We believe that having a thoughtful process – informed by a timeless philosophy and supported by fundamental analysis and domain knowledge – gives us an edge in assessing risk and reward at the company level on a forward-looking basis. If the alpha we generate over time from taking idiosyncratic risk is positive, we believe it reflects our skill.

Idiosyncratic return between securities is generally uncorrelated, but it can be decomposed into parts that *may* be correlated through other characteristics or "factors." In his book *Advanced Portfolio Management*, Giuseppe Paleologo, Head of Risk Management at Hudson River Trading, describes this intuitively:

> A wave breaking on the shore does not have a perfect, sinusoidal shape. It is made of a large wave, and then of a few smaller waves riding on it, and then many ripples on top of the smaller waves. These effects *sum up*. Similarly, stock returns are the effect of a large shock (the market), then a few smaller ones (sectors, the larger style factors), then a few even smaller ones.

In other words, there are some common forces that drive returns that can be identified, and stocks will be correlated to each other through those factors. For instance, a tech stock's return is likely to be explained by market *and* sector movement on any given day. Some of their idiosyncratic risk is *shared* and thus *not diversifiable*. It makes sense to review these types of factor exposures when assessing performance.

The sober reality is that many of the exposures that affect returns are hard (or impossible) to estimate. Risk can be hard to define or quantify. As John Maynard Keynes said, in many cases there may be "no scientific basis on which to form any calculable probability" for a given risk source. Regardless, we can include a long list of factors in an attribution analysis to try to understand our past performance. Doing so would likely explain a lot of our alpha after the fact.

On one hand, this type of exercise is valuable for understanding risk – knowing what has happened in the past can help us construct portfolios in the future, for instance. On the other hand, a complicated model that measures all of our past factor exposures probably wouldn't be that informative for predicting *future* alpha – our alpha doesn't come from targeting risk factors. *However, we do typically focus on two key long-term drivers of return: quality and value.* Those "exposures" are just a result of timeless investment principles, *not a bet on factor returns*. Furthermore, our measures of quality and value don't actually fit very well within the academic definitions of those factors.

There are many ways to define "quality," but they typically entail rating stocks on three characteristics: high profitability, earnings persistence, and low leverage. We believe our approach to identifying high quality companies is more holistic (and effective) than this, but our companies share these characteristics. Our alpha should correlate with quality factor returns as a result. If high quality stocks are outperforming the market, our stocks should also outperform. The same could be said for undervalued stocks, but our approach to valuation is so different from the price-to-book factor definition that we exclude it from the ensuing analysis.

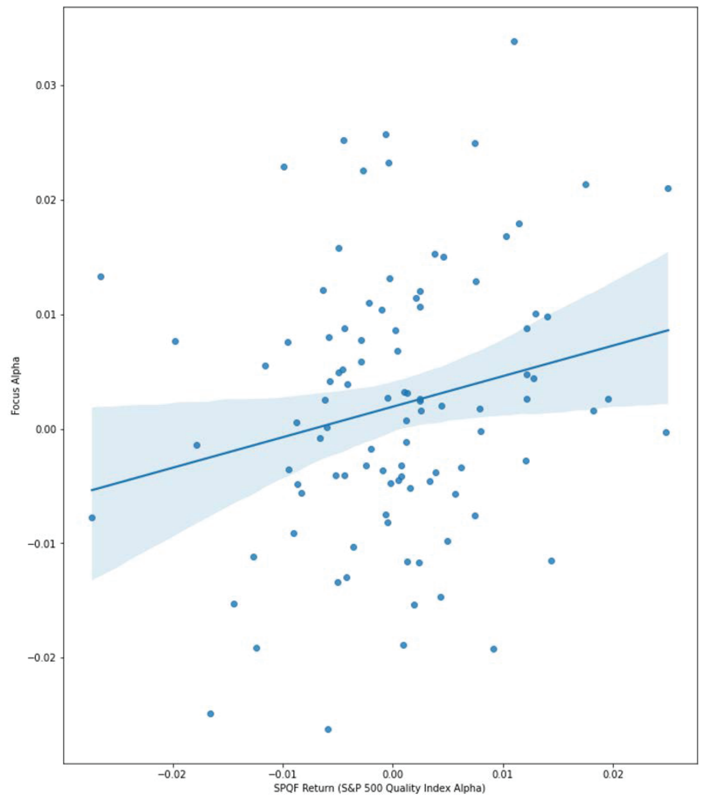
While our primary benchmark is the S&P 500, we can also look at the S&P 500 Quality Index, which tilts the S&P 500 towards the quality factor by investing in the top companies by quality score. For our analysis, we calculate the alpha generated by the S&P 500 Quality Index TR against the S&P 500 TR as a proxy for S&P's version of quality. Going forward, we refer to this S&P-based quality factor as "SPQF." We want to determine whether SPQF is a good measure of *our* quality exposure, and we can do so by running a regression of our alpha on SPQF. The regression plot in Figure 2 suggests that our alpha is weakly but positively correlated with SPQF returns ($\rho = 0.21$).

Directionally, this relationship is what we expected to find, but it doesn't really explain much of our alpha. We can include the S&P 500 TR and SPQF in a multi-factor regression, but we find that the performance of the model doesn't improve much. Alpha within this model drops very slightly from 0.21% per month to 0.20% per month, or 2.39% per year after fees. This shows that we measure quality differently than Standard & Poor's (and get different results).

A Better Measure of Quality

The investment firm AQR Capital Management deserves credit for being leaders in the field of "quality factor" research. Cliff Asness, Andrea Frazzini, and Lasse Pedersen published *Quality Minus Junk* in 2013. In the paper, they dive deep into quality return characteristics and define a factor called "Quality Minus Junk," or "QMJ." The paper is a "must read" for anyone interested in the subject – Asness et al. lay out strong evidence and rationale for quality-oriented investing. For instance, they find that there tends to be persistence in quality over time, saying that

Fig. 2: Relationship between Focus (Net) Alpha & SPQF Returns (9/1/2014 - 12/31/2022)

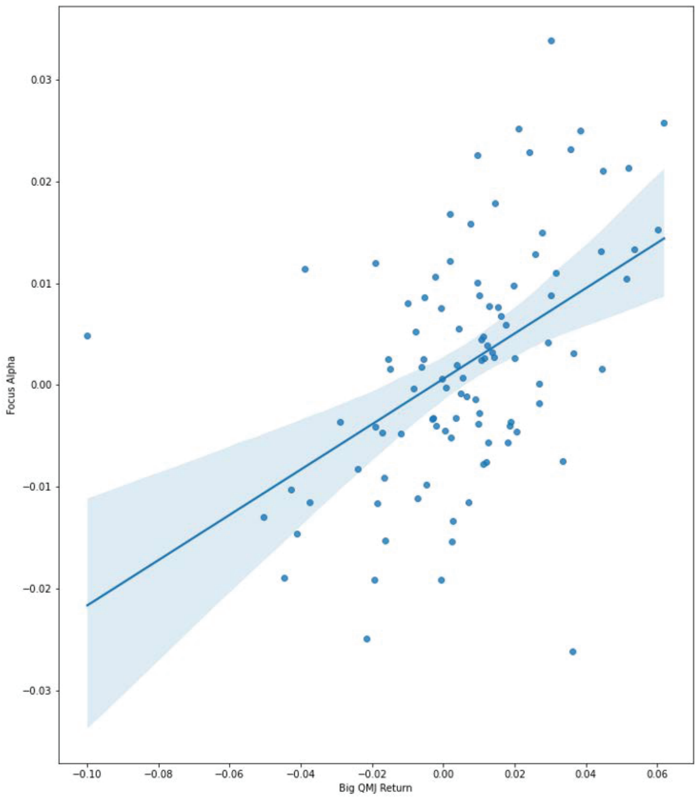


Source: Morningstar Direct, SaratogaRIM. Past investment results are not a guarantee of future results. This report is incomplete without Disclosures & Definitions (page 18) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (page 17).

"profitable, growing and safe stocks continue on average to display these characteristics over the following 5 or 10 years." They also arrive at a far more comprehensive definition of "quality" than the one used by Standard & Poor's. We believe their definition of quality is a good proxy for the shared idiosyncratic risk in our Focus strategy.

QMJ reflects the performance of a portfolio that ranks stocks on quality as defined by profitability, growth, safety, and a payout factor. It then goes long the top 30% of companies and short the bottom 30%, weighting the portfolios by value. Since we are in the large cap space, we will look at the "Big QMJ" (or "BQMJ") return data provided on the AQR Capital Management website. BQMJ only considers companies with a market capitalization greater than the median of all NYSE-listed securities. This implies there should be around 1000 stocks included, covering the majority of large- and mid-cap companies that trade in the U.S. BQMJ approximates factor returns and is not an investable product; hence, it does not include fees or transaction costs.

Fig. 3: Relationship between Focus (Net) Alpha & BQMJ Returns (9/1/2014 - 12/31/2022)



Source: AQR Capital Management, SaratogaRIM. Past investment results are not a guarantee of future results. BQMJ approximates factor returns and is not an investable product; hence, it does not include fees or transaction costs. This report is incomplete without Disclosures & Definitions (page 18) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (page 17).

The regression plot in Figure 3 shows the linear relationship between Focus alpha and BQMJ returns. We plot our alpha on the y-axis and the BQMJ return on the x-axis. Like we saw with our S&P-based Quality Factor, there is a positive relationship between the two series. In comparison to the SPQF regression, the correlation is much stronger (ρ = 0.48). This tells us we should use BQMJ in our multi-factor model instead of SPQF.

As expected, a multi-factor model that uses S&P 500 TR and BQMJ to explain Focus returns performs well. This model has an R^2 of 0.933, meaning it explains 93.3% of the variation in Focus strategy returns. This compares to an R^2 of 0.917 for the SPQF multi-factor model and 0.896 for the single-factor model. Alpha drops to 0.0435% per month, or 0.52% per year after fees and transaction costs. In other words, BQMJ appears to be a good generalization of the idiosyncratic risk we have in our portfolio, but we still generate positive alpha.

As fundamental long-term investors, we simply try to invest in great businesses when prices offer an asymmetrical risk-reward tradeoff. We appreciate the value of the research in understanding drivers of stock performance – in many cases, the literature is highly validating of what we do. We believe this should give investors increased confidence that the alpha we generate can be attributed to the types of idiosyncratic risk *we want to take*. Finally, we believe that the alpha we have generated on top of that risk exposure – even after including fees and transaction costs – demonstrates our ability to get paid for being different from the market. In the end, that may be as good a description of skill as anything.

– PS

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In our 2017 Q4 (Annual) Report, we featured an essay titled *Playing Smart*, in which we examined our original Quality strategy's risk-adjusted return characteristics (as measured by Sharpe Ratio) over its own historical track record up to that point. We did so to illustrate the important role that asymmetrical exposure to risk and reward played in our investment approach and to explain why it matters over the long-term. In the pages that follow, we offer a similar analysis applied to our Focus strategy over its first 100 months.

Playing Smart 2.0

Professional investors tend to ask great questions when they're studying our approach. One of the most common stems from the fact that many of our holdings are ubiquitous household names in the S&P 500. "Why," many prospective professional users of our strategies have wondered over the years, "should we pay you to own these types of names when we can get them passively?" True enough, our portfolio companies generally enjoy broad name recognition and strong fundamentals – the implication being that any knucklehead can see they're a good thing. Part of our answer to this question has always been that our entire portfolio is the product of a stringent vetting process. Diligent valuation work is vital because even the greatest businesses in the world can end up as terrible investments if purchased when prices are too high.

It's the second part of our answer that generally catches attention. "The smartest reason to hire

SaratogaRIM," it goes, "is for knowing what *not* to own."

We believe too much attention is paid to market darlings, new technologies and (over recent years) distractions like Unicorns, SPACs, so called Meme stocks and cryptocurrencies. Chatter about them fills the news 24/7 and keeps a small army of talking heads employed. But over whole market cycles, the differences between our investment results (for every version of our strategy) and those of the benchmark we're most often measured against (the S&P 500) stem far more heavily from what we don't own than from what we do.

Why that's true is the subject of the rest of this essay. Part of our explanation has always been found in the differences between the psychologies of amateur and professional tennis. Accepting the occasional sin of omission as a cost that helps us avoid future sins of commission also plays a role. And, although we've earned a reputation as successful stock pickers, we actually expend far more energy excluding the types of businesses that embody known types of recurring risks. Basically, we build portfolios with companies that 1) have survived a stringent vetting process and 2) can be purchased below what we consider to be their intrinsic values. Perhaps most importantly, we're driven by an investment process that's proven itself over the course of time.

Playing to Win

In 1975, investor Charles Ellis crafted what may be the ultimate sports allegory for long-term investors. In an essay titled *The Loser's Game*, he observed that, unlike in professional tennis, which he deems "a winner's game" because players possess the skills to win points by blasting ace serves, charging the net and placing shots within millimeters of their targets, *amateurs typically win tennis matches by avoiding unforced errors*. They win by keeping the ball in play and patiently waiting for their opponents to lose points by making mistakes. Great investors do the same, he argued. They don't speculate on trendy fads, flip back and forth on sector rotation, bet the farm on pending macroeconomic outcomes, or chase momentum on pretty much anything. Rather, they play to win the long game – while their opponents (read: the investment herd) rush around like they're on Center Court at Wimbledon. Over time, history has demonstrated that those of us who display discipline and decision-making consistency do reasonably well on the upside while tending to make fewer and less costly mistakes on the downside.

From the beginning, we engineered our investment process to avoid certain types of recurring errors that have periodically derailed the compounding of wealth over the ages. To do this, we've always heeded the advice of Berkshire Hathaway's legendary vice chairman, Charlie Munger: "Invert, always invert." That means flipping one's assumptions to imagine everything going wrong. "Instead of looking for success, make a list how to fail instead," he said. Munger has always counseled investors to ask two questions: "Where don't you want to go?" And, perhaps more importantly, "How would you get there?" Answer those and you've built a simple framework for not losing money, or as the now 99-year-old Munger himself once put it, "Tell me where I'm going to die … so I don't go there."

Our belief as investors has always been that, over the long run, we maximize our chances of winning by avoiding costly mistakes. Our attitude is reflected in another one of our favorite Mungerisms that mirrors Ellis's tennis analogy: "It is remarkable how much long-term advantage people like us have gotten by trying to be consistently not stupid, instead of trying to be very intelligent."

The list of history's greatest investing blunders reveals that the vast majority stem from three broad categories: business model risk (disruption), financing risk (excessive leverage), and valuation risk (paying too much). SaratogaRIM's investment approach seeks to mitigate each of them. We minimize business model risk through our qualitative analysis and study of economic moats. One of the primary purposes of our screening modules is to minimize financing risks, and our zealous attention to valuation and insistence on a margin of safety serves to help us avoid overpaying.

We fully recognize that Black Swans (i.e., rare unanticipated events) exist and that some types of risks simply can't be sufficiently protected against. Examples of such events that we discussed in our 2017 essay include nuclear wars and global pandemics. Even so, we think a key goal of risk mitigation should be to contain – if not eliminate – *unnecessary* risk exposures other investors might be taking on by seeking to be overly clever. We believe that – by almost any definition – the quality factor itself is inherently less exposed to these types of risk than is the overall market. As for ourselves, we seek to accomplish this by sticking to what we know and by being sufficiently – though not excessively – diversified. Said differently, we believe that we should actively manage the types of risks that we can and that, over the long run, it's a winning strategy to make as few unforced errors as possible.

The Best Offense is a Strong Defense

Over the course of economic expansions and bull markets, latent risks build gradually. By the peak, they permeate the financial system undetected or under-appreciated – which is to say, they're accidents waiting to happen. Most unforced investment errors occur months or years before their consequences become apparent. Ignorant of the tidal nature of financial markets, investors become lulled during tranquil environments when stocks are priced for a future that anticipates smooth sailing ahead. But as Warren Buffett once famously warned, "It's only when the tide goes out that you learn who's been swimming naked."

You also learn who still has their swimsuits on. Indeed, most benefits of prudent long-term investment approaches come into full view only after the financial tide has turned – a pattern that manifests repeatedly over whole market cycles and is observable in the long-term track records of active equity managers.

Historically, the best long-term track records aren't necessarily generated by managers whose portfolios rise the fastest during bull markets. Rather, they tend to come from managers who register more mundane gains on the upside but are far more effective at limiting their downside during market selloffs. Great investors ignore the urge to "go with the flow" during bull runs and use risk management strategies to avert large losses. "The road to long-term investment success runs through risk control more than through aggressiveness," explained Howard Marks in his classic book *The Most Important Thing*. "Over a full career, most investors' results will be determined more by how many losers they have, and how bad they are, than by the greatness of their winners."

Marks went so far as to define asymmetry as the "*goal*" of investing, or as he puts it, "**to expose yourself to return in a way that doesn't expose you commensurately to risk, and to participate in gains when the market rises to a greater extent than you participate in losses when it falls.**" SaratogaRIM has embraced this concept since day one and we believe the track records of Focus and Quality illustrate how asymmetry has driven exceptional risk-adjusted outperformance since each of their respective inception dates.

The table and charts on the following two pages in Figures 4, 5 and 6 are derived from investment results of all 1,307 strategies categorized as Large-Cap (Value, Growth or Blend, as of March 7, 2023) in the Morningstar database with track records spanning the eight-plus-year period from Focus's inception on September 1, 2014 to December 31, 2022.

Performance attributes are illustrated by Sharpe Ratio rankings and the asymmetry ratios between relative exposures to upside and downside capture over that timeframe using net (after fee) investment results. The Sharpe Ratios, which measure risk adjusted return, are ranked from top to bottom (best to worst) then sorted into quintiles – five equal sized buckets – then related to the corresponding asymmetrical exposure to reward and risk (upside/downside capture) as demonstrated in aggregate within each bucket/quintile.

The evidence is observable in the highlighted columns in Figure 4 showing the Up and Down Capture Ratios. You'll note that Down Capture Ratios are sequential – the top Sharpe Ratio quintile has the lowest Downside Capture Ratio, which is then followed by sequentially higher (worse) downside captures for the second, third, fourth and fifth (lowest) Sharpe Ratio quintiles. The same is not true for upside capture; the second quintile actually captures a larger part of the upside than the top quintile. Also note that the range between the highest and lowest downside capture statistics for the Sharpe Ratio quintiles is much wider than is the range for upside capture. It's the ratio between these two ratios (Upside Capture/ Downside Capture = Overall Capture) that demonstrates asymmetry – which in turn is reflected by the risk adjusted returns being measured by Sharpe Ratios.

The results are unequivocal: investment approaches better at managing downside risks – those typically manifest during extreme economic and market environments – have clearly benefited over the long term from asymmetrical exposure to risk and reward. That is, they've tended to capture a smaller part of losses when the market has fallen than they have of gains when the market has risen. That's how they've been able to generate the enviable risk adjusted returns over time that they have.

Since its inception, Focus has earned the 18th highest Sharpe Ratio out of the 1,307 Large-Cap strategies with track records going back that far in the Morningstar database – which puts Focus in the top 1.4% of its peer group (full rankings list available upon request).

Fig. 4: Since Focus Inception Sharpe Ratio & Market Capture Relative to Benchmark & Peer Group Sorted by Sharpe Ratio Quintile (Net) (9/1/2014 - 12/31/2022)

	Sharpe Ratio	Upside Capture Ratio	Downside Capture Ratio	Overall Capture (Asymmetry) Ratio	Asymmetry Ratio -1
SaratogaRIM Large Cap Quality Focus (Net)	0.79	91.84	81.04	1.13	0.13
SaratogaRIM Large Cap Quality Focus (Net Max)	0.76	90.56	81.75	1.11	0.11
S&P 500 TR USD	0.64	100.00	100.00	1.00	0.00
Peer Group Quintiles Sorted by Sharpe Ratio					
Count	1307	1307	1307	1307	1307
(Top) 1st Quintile	0.68	96.37	91.47	1.06	0.06
2nd Quintile	0.59	97.16	98.58	0.99	-0.01
3rd Quintile	0.53	93.47	99.09	0.94	-0.06
4th Quintile	0.46	91.40	102.18	0.90	-0.10
(Bottom) 5th Quintile	0.33	85.53	105.17	0.81	-0.19

Fig. 5: Since Focus Inception Sharpe Ratio & Overall Capture Ratio Relative to Benchmark & Peer Group Quintile Averages (Net) (9/1/2014 - 12/31/2022)

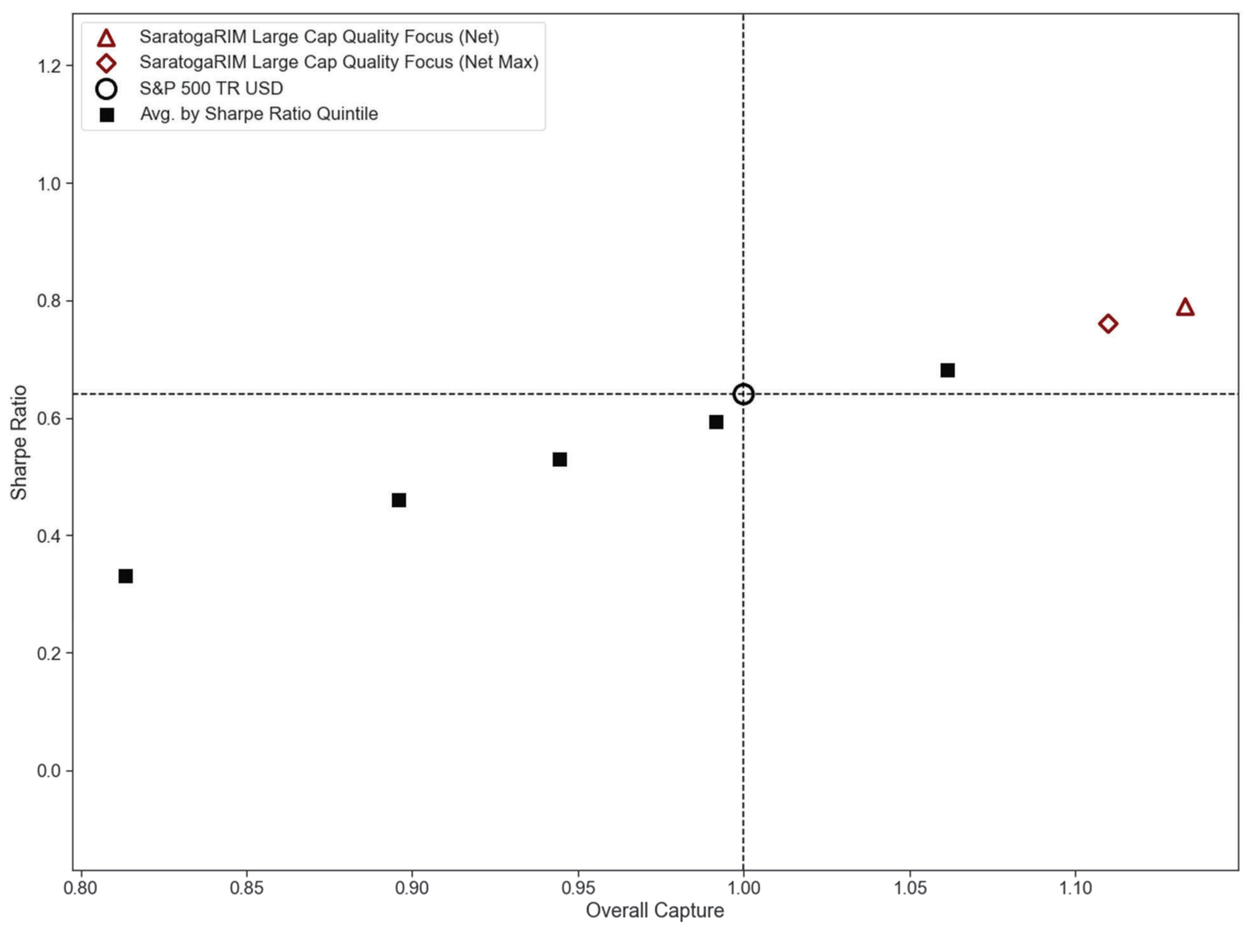
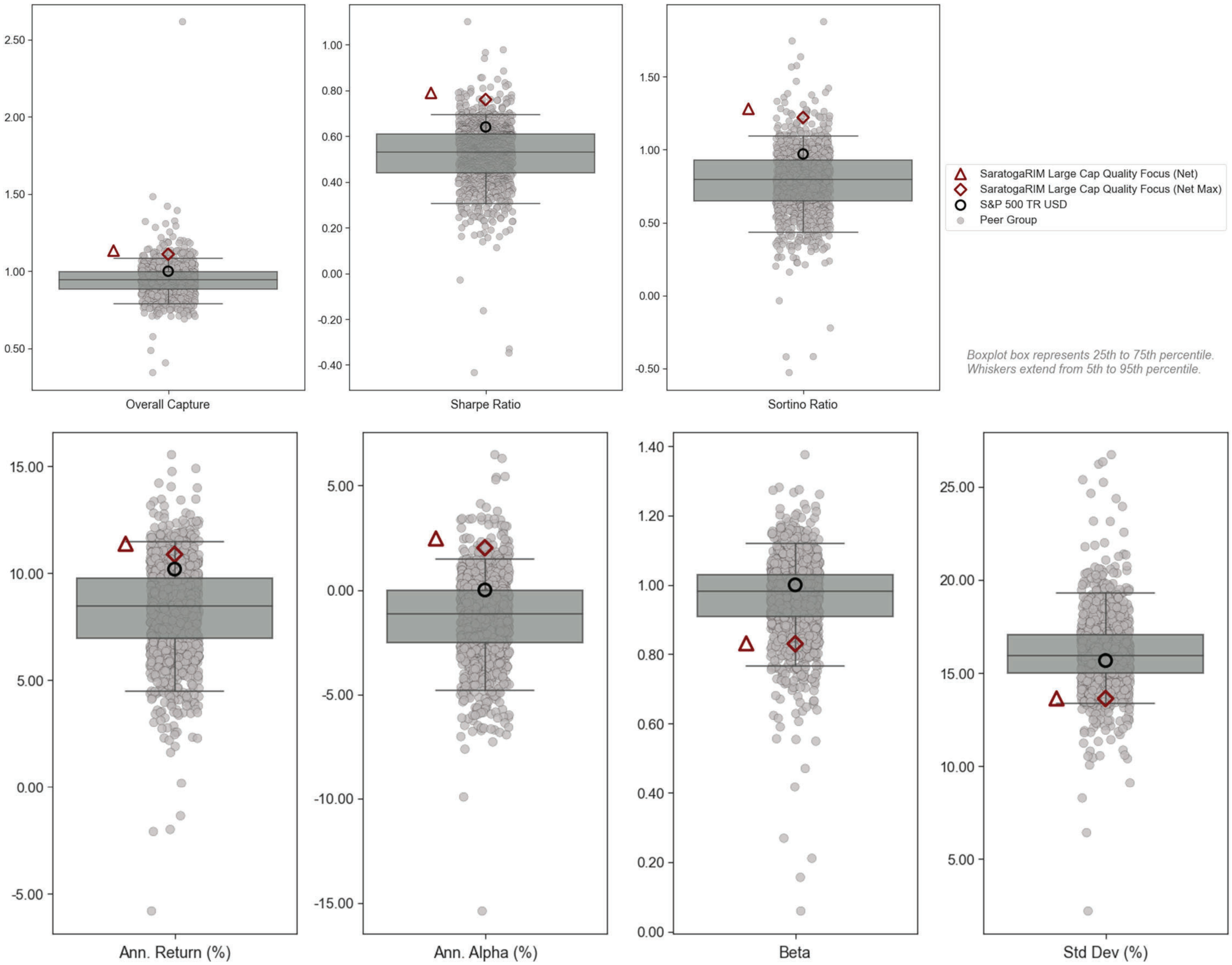


Fig. 4 & 5 Source: Morningstar Direct, SaratogaRIM. Past investment results are not a guarantee of future results. Figures are sorted by Sharpe Ratio ranking. SaratogaRIM and Peer Group data presented net of (after) management fees. Peer Group information available within Disclosures & Definitions (p. 18). SaratogaRIM net-of-fees returns are calculated net of actual management fees but still gross of any custodial, external consultant or advisory fees. Returns labeled "Net Max" use the current maximum fee rate charged by SaratogaRIM for the composite. Management fees vary by client type; composite returns presented on a net basis should not be interpreted as any one client's net returns. This report is incomplete without Disclosures & Definitions (p. 18) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (p. 17).

Fig. 6: Since Focus Inception Risk/Reward Analysis Relative to Benchmark & Peer Group (Net) (9/1/2014 - 12/31/2022)



NOTE: For Overall Capture, Sharpe Ratio, Sortino Ratio, Return, and Alpha, higher numbers are better. For Beta and Standard Deviation, lower numbers are better. Source: Morningstar Direct, SaratogaRIM. Past investment results are not a guarantee of future results. SaratogaRIM and Peer Group data presented net of (after) management fees. Peer Group information available within Disclosures & Definitions (p. 18). SaratogaRIM net-of-fees returns are calculated net of actual management fees but still gross of any custodial, external consultant or advisory fees. Returns labeled "Net Max" use the current maximum fee rate charged by SaratogaRIM for the composite. Management fees vary by client type; composite returns presented on a net basis should not be interpreted as any one client's net returns. This report is incomplete without Disclosures & Definitions (p. 18) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (p. 17).

Definitions: Overall Capture (Asymmetry) Ratio measures the ratio of Upside Capture or Downside Capture, with a higher measure reflecting more favorable asymmetry. **Upside (Downside) Market Capture** measures relative performance in months which the benchmark generates positive (negative) returns over time. **Sharpe Ratio** is a risk-adjusted measure that is calculated by using excess return and standard deviation to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. **Sortino Ratio** is the excess return over the risk-free rate divided by the downside semi-variance, and so it measures the return to "bad" volatility (volatility caused by negative returns is considered bad or undesirable by an investor, while volatility caused by positive returns is good or acceptable).

Alpha is a measure of risk-adjusted excess performance based on volatility and return for the portfolio and the benchmark. **Beta** is a measure of relative volatility calculated by taking the covariance of the portfolio's returns with the benchmark's returns and dividing by the variance of the benchmark's returns. **Standard Deviation** measures the dispersion of a dataset relative to its mean.

Process, Process, Process

The problem with historical track records is that, by definition, they're backward looking. And, of course, past performance is no guarantee of future returns. Yet there are critical questions that help evaluate the historical investment results of any investor. How were those results generated? Were they the result of luck or skill? Is there anything particular about a manager's record in the past that can help us make judgments about what they might accomplish in the future? The answers hinge not just on the historical context of the timeframe observed but also on whether results were generated by the consistent execution of a process, and whether that process was built to withstand the tests of time. In our own case, we believe our approach has benefited from at least three factors that stem from the consistent execution of our investment process over the long run: persistent profitability, reasonable levels of financial leverage and our sensitivity to valuation.

In his own thinking about process, Munger once laid out four guiding principles: preparation, patience, discipline and objectivity. He advised, "Quickly eliminate the big universe of what not to do, follow up with a fluent multidisciplinary study of what remains, then act decisively when, *and only when*, the right circumstances appear." If we could boil down our entire investment process into one sentence, that would be it. "When practiced correctly," Munger explains, it "should result in buying great businesses at good prices and keeping one's portfolio turnover low."

As for our own approach, we filter out businesses most vulnerable to extreme economic environments and initially narrow our investable universe to fewer than 400 financially healthy businesses that have generated persistently above average profitability over time. We then discern whether sustainable competitive advantages exist. The objective being to ascertain whether the "business moat" remains intact and is likely to persist into the future. We narrow our investable universe to fewer than 100 companies with business models we understand and advantages we deem sustainable. We then use discounted cash flow analysis and minimum acceptable risk-adjusted return projections that guide our position exposures on a stock-by-stock basis.

Stupidity can be costly. Munger, we are quite certain, would lump into the "stupid" category any investment program that lacks an adequate margin of safety, does not appropriately compensate for risk or requires having to move in/out of positions faster than the "greater fool" on the other side of a trade. As our clients well know, that's never been our modus operandi. But from the outside looking in, we're certain that most people fail to appreciate how truly exclusionary our approach really is. There are fewer than 100 companies in the world that we would invest in at any price. As far as we're concerned, the rest of them essentially don't exist except to the extent they are partners with, customers of, or competing against companies in our investable universe.

Behavioral Tomfoolery

Most investors – professional and amateur alike – seem hardwired to attempt to maximize gains in up markets. This seems to have always been the case. The allure of potentially making a quick buck will forever be seductive. At times, usually near peaks and emboldened by recent success, many will become overconfident, crave novelty and complexity, and grow too amenable to the use of leverage despite the accompanying risks. It's human nature.

Like amateur tennis players, most investors tend to push too hard and set themselves up to commit unforced errors. Repeated cycle after cycle as they have been throughout history, such errors undermine the compounding process critical to growing nest eggs over time. In the process, they make the few of us who remain consistently not stupid look downright smart by comparison.

A second form of risk-avoidance is long-term passive investing. Owners of ETFs tracking the S&P 500 – or even quality factor indices – hug their benchmarks and secure a very high probability of achieving average investment results with virtually no chance of falling short. The strategy is far superior to reckless gambling, but we believe SaratogaRIM's long-term approach towards investing in sensibly priced stocks of very high-quality businesses has proven even better. Our edge – sharpened more by what we don't own than by what we do – comes from our ongoing efforts to avoid big, costly mistakes. It is also why – despite some high-profile overlap – our portfolios bear little resemblance to the S&P 500 index and behave differently enough to make a persistently positive impact over time.

Closing Thoughts on the General Economic and Investment Environment

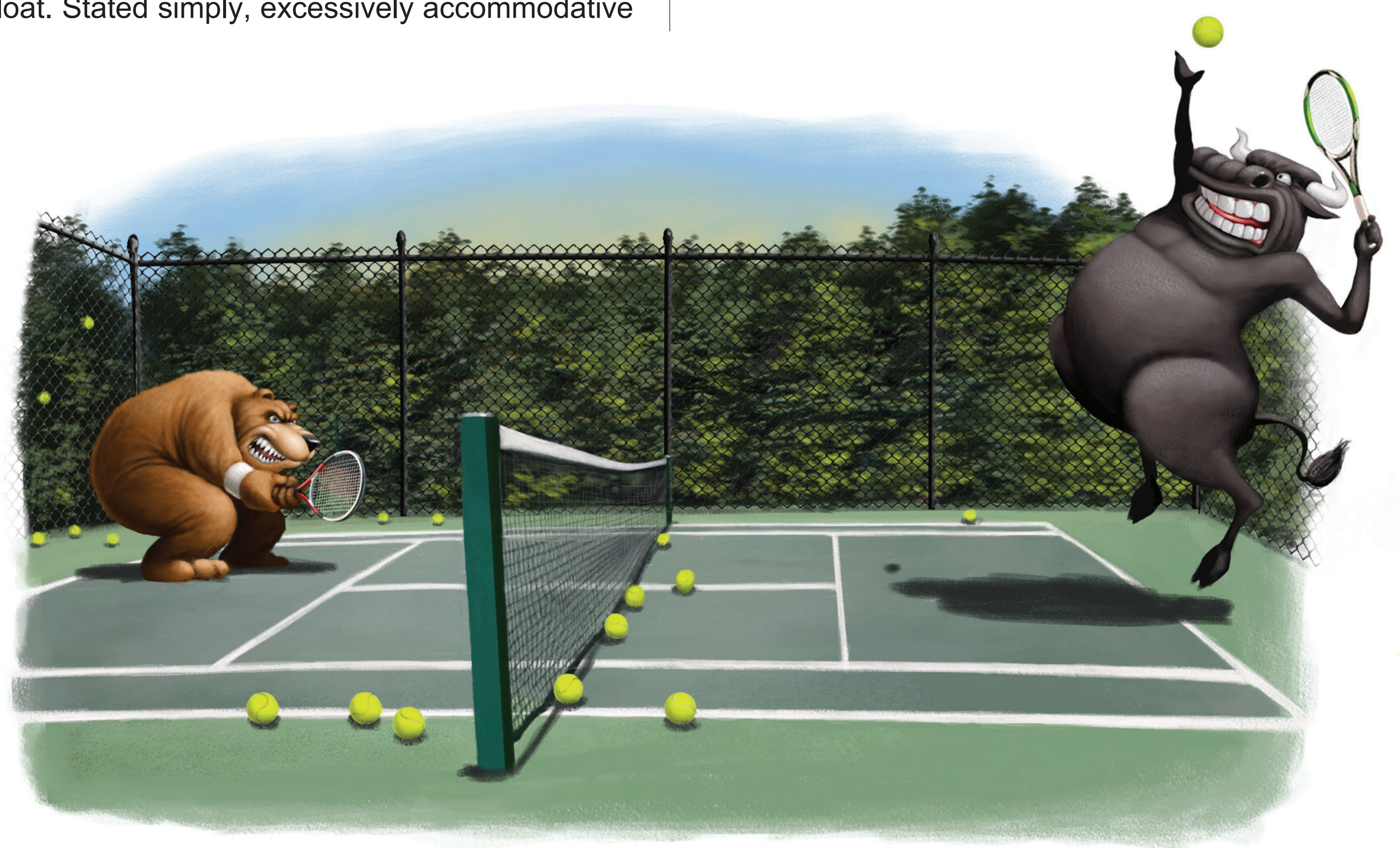
In the abstract of the *Quality Minus Junk* paper (published in 2013) that Phil cited earlier, AQR defined quality as a set of characteristics that, **"all-else-equal,"** should warrant a premium from investors. In other words, investors should be willing to pay more for the stocks of companies that are safe, profitable, growing, and well-managed than for stocks of companies lacking those traits, all-else-equal.

However, all-else was **NOT** equal over the vast majority of the first 100 months for Focus. While a regime change may have occurred in 2022 (as we outlined in part one of our 2022 Q4 (Annual) Report on January 18th), almost the entire history of our fully invested strategy has been dominated by extremist monetary policy orchestrated by the world's largest central banks. At a high level, this encouraged risk-taking and inflated the valuations of assets of all types.

Repeated waves of liquidity injections (through quantitative easing) combined with zero-percent interest rates (free money) over much of the last decade also made it easier for otherwise distressed firms (the opposite of quality) to stay afloat. Stated simply, excessively accommodative monetary policy, implemented over a long timeframe, spurred speculative bubbles in assets like unprofitable technology stocks, cryptocurrencies, meme stocks, and SPACs. Intuitively, these dynamics probably muted the risk-adjusted returns for the quality factor itself, at least in a relative sense. Said another way, while all asset prices were inflated by abnormally low interest rates, riskier types of businesses with far less attractive prospects almost certainly benefited more from that environment than our approach of investing in sensibly priced high-quality businesses did.

While past performance can never guarantee future results, we do believe that our ability to outperform the market and generate alpha with less volatility over the last 100 months – despite the aforementioned headwinds – is a testament to our skill and value proposition. If the future ends up playing out anything like the scenario I outlined in part one of this quarterly report, I believe the relative longer-term prospects for the quality factor in general and for Focus in particular are bright.

– KT ■



SaratogaRIM Large Cap Quality Focus

Composite Statistics

Q4 2022

Saratoga Research & Investment Management | SaratogaRIM.com | (408) 741-2330 | 14471 Big Basin Way, Suite E, Saratoga, CA 95070

Firm Overview: Saratoga Research & Investment Management, founded in 1995, is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing common sense investment principles for individual and institutional investors.

Composite Overview: The SaratogaRIM Large Cap Quality Focus Composite includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite will likely have a greater turnover ratio than other composites as it typically restricts cash to no more than 5% of the total portfolio value. See the GIPS Composite Report (Page 4) for the complete composite description.

SaratogaRIM Large Cap Quality Focus (LCQF) - Snapshot

Composite Name	SaratogaRIM Large Cap Quality Focus
Inception Date	8/29/2014
Firm Total Assets	$ 2,603,781,000
Composite Assets	$ 853,936,000
GIPS Compliance	Yes

Investment Results

As of Date: 12/31/2022 Source Data: Total, Monthly Return

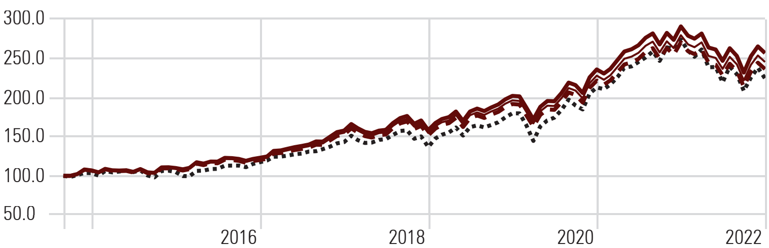
	Quarter to Date	Year to Date	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	10.74	-11.74	-11.74	8.30	10.23	12.88	11.98
SaratogaRIM LCQF (Net)	10.58	-12.23	-12.23	7.72	9.64	12.28	11.38
SaratogaRIM LCQF (Net Max)	10.46	-12.62	-12.62	7.22	9.14	11.77	10.88
S&P 500 TR USD	7.56	-18.11	-18.11	7.66	9.42	11.48	10.19

Investment Growth Relative to Benchmark

Time Period: 9/1/2014 to 12/31/2022

Source Data: Total Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

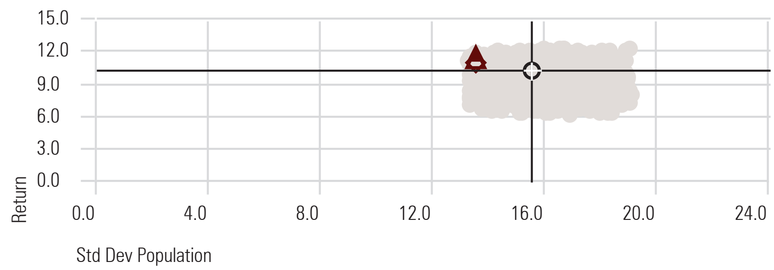


Standard Deviation vs. Annualized Rate of Return Relative to Benchmark & Peer Group

Time Period: 9/1/2014 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

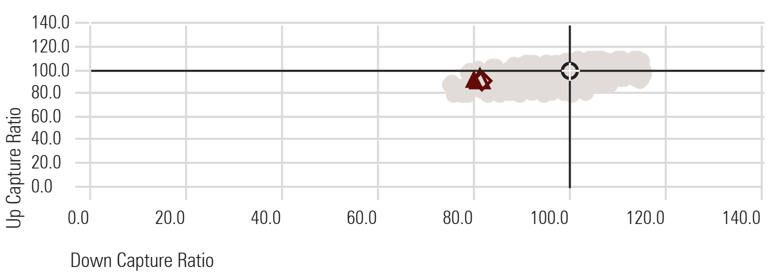


Market Capture Relative to Benchmark & Peer Group

Time Period: 9/1/2014 to 12/31/2022

Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD

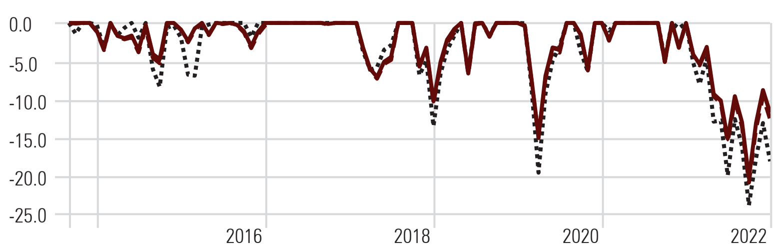


Drawdown Relative to Benchmark

Time Period: 9/1/2014 to 12/31/2022

Source Data: Total, Monthly Return

SaratogaRIM LCQF (Gross) SaratogaRIM LCQF (Net) SaratogaRIM LCQF (Net Max) S&P 500 TR USD



Sector Weightings - GICS

Portfolio Date: 12/31/2022

	LCQF	S&P 500
Consumer Discretionary %	11.62	9.80
Consumer Staples %	10.44	7.20
Energy %	0.00	5.23
Financials %	4.24	11.66
Healthcare %	22.17	15.82
Industrials %	12.66	8.65
Information Technology %	26.58	25.74
Materials %	2.61	2.73
Communication Services %	9.68	7.28
Utilities %	0.00	3.18

Holding Fundamentals

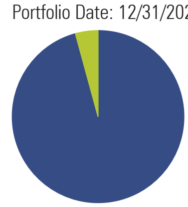
Dividend Yield	1.74
P/E Ratio (TTM)	24.04
P/CF Ratio (TTM)	18.94
P/B Ratio (TTM)	3.91
ROE % (TTM)	30.82
ROA % (TTM)	11.44
Net Margin %	15.62
Est. LT EPS Growth	9.71
Historical EPS Growth	14.16

Market Capitalization

Average Market Cap (mil)	211,582.04
Market Cap Giant %	67.10
Market Cap Large %	26.04
Market Cap Mid %	6.86

Asset Allocation

Portfolio Date: 12/31/2022

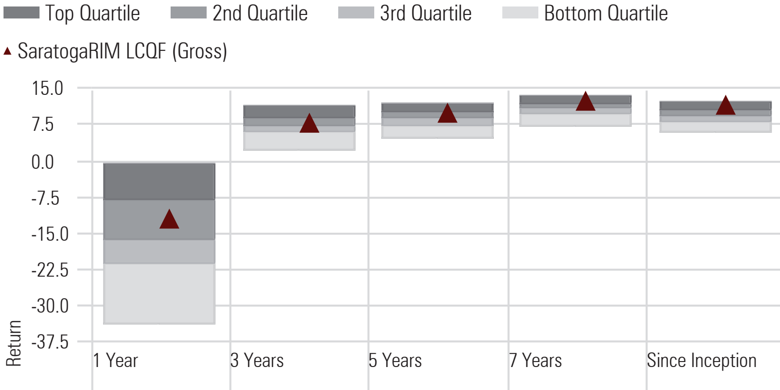


	%
Stock	95.7
Bond	0.0
Cash	4.3
Other	0.0
Total	**100.0**

GICS Sector Weightings, Holding Fundamentals, and Market Capitalization statistics reflect the weightings of the stock portion of the portfolio. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. See Disclosures and Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (Page 4).

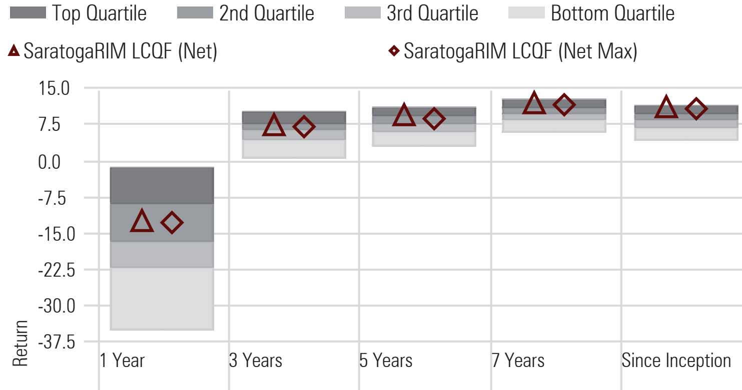
Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Investment Results Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-11.74	8.30	10.23	12.88	11.98
S&P 500 TR USD	-18.11	7.66	9.42	11.48	10.19
Median	-16.24	7.41	8.87	10.91	9.56
Average	-16.03	7.16	8.72	10.76	9.41
Count	1,781	1,678	1,571	1,418	1,317
5th Percentile	-0.82	11.37	12.04	13.48	12.27
25th Percentile	-7.97	8.82	10.13	11.86	10.61
50th Percentile	-16.24	7.41	8.87	10.91	9.56
75th Percentile	-21.52	5.88	7.45	9.69	8.25
95th Percentile	-33.99	2.18	4.70	7.47	6.15

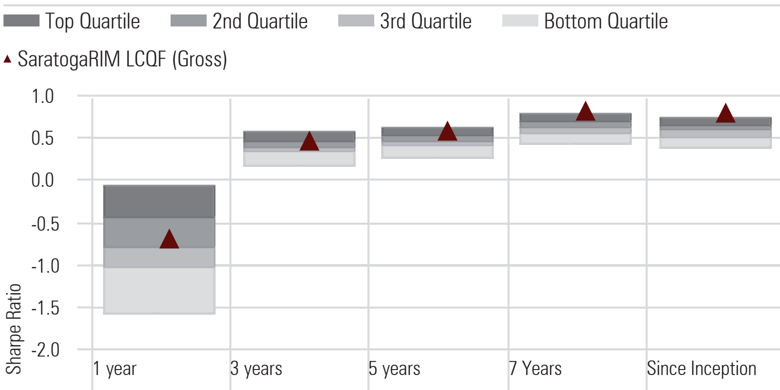
Investment Results Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-12.23	7.72	9.64	12.28	11.38
SaratogaRIM LCQF (Net Max)	-12.62	7.22	9.14	11.77	10.88
S&P 500 TR USD	-18.11	7.66	9.42	11.48	10.19
Median	-16.88	6.35	7.77	9.83	8.48
Average	-16.82	6.04	7.59	9.63	8.29
Count	1,765	1,665	1,557	1,405	1,309
5th Percentile	-1.36	10.27	11.16	12.62	11.47
25th Percentile	-9.00	7.87	9.25	11.09	9.79
50th Percentile	-16.88	6.35	7.77	9.83	8.48
75th Percentile	-22.36	4.51	6.11	8.35	6.97
95th Percentile	-34.94	0.54	3.29	5.94	4.49

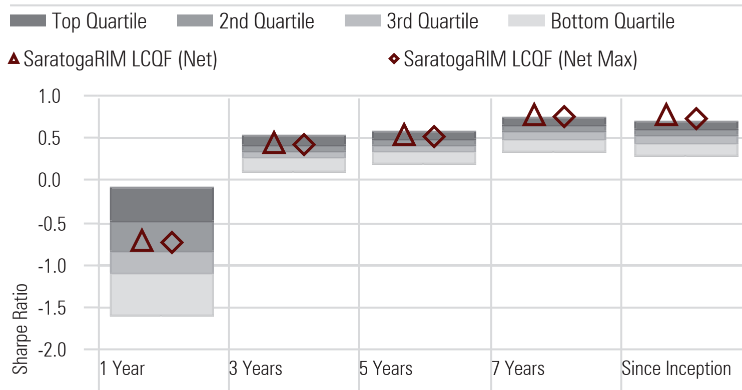
Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Gross, Monthly Return



Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Peer Group (5-95%): Large Cap SA Source Data: Net, Monthly Return



Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 12/31/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-0.68	0.49	0.60	0.84	0.83
S&P 500 TR USD	-0.85	0.41	0.50	0.68	0.64
Median	-0.80	0.40	0.47	0.64	0.59
Average	-0.77	0.39	0.47	0.63	0.58
Count	1,781	1,678	1,571	1,418	1,317
5th Percentile	-0.05	0.58	0.64	0.79	0.75
25th Percentile	-0.43	0.47	0.54	0.70	0.66
50th Percentile	-0.80	0.40	0.47	0.64	0.59
75th Percentile	-1.04	0.33	0.40	0.57	0.52
95th Percentile	-1.57	0.17	0.27	0.45	0.38

Sharpe Ratio Relative to Peer Group (Net)

As of Date: 12/31/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-0.71	0.46	0.57	0.81	0.79
SaratogaRIM LCQF (Net Max)	-0.74	0.43	0.54	0.78	0.76
S&P 500 TR USD	-0.85	0.41	0.50	0.68	0.64
Median	-0.84	0.35	0.42	0.58	0.53
Average	-0.81	0.34	0.41	0.57	0.52
Count	1,765	1,665	1,557	1,405	1,309
5th Percentile	-0.08	0.53	0.59	0.74	0.69
25th Percentile	-0.48	0.42	0.50	0.65	0.61
50th Percentile	-0.84	0.35	0.42	0.58	0.53
75th Percentile	-1.10	0.27	0.34	0.50	0.44
95th Percentile	-1.60	0.10	0.20	0.36	0.30

Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding.
See Disclosures & Definitions (Page 3) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (Page 4).

Disclosures & Definitions

See additional important disclosures and composite-specific information within the GIPS Composite Report (Page 4).

Saratoga Research & Investment Management (“SaratogaRIM” or "the Firm") is an SEC Registered Investment Advisor. SEC Registration does not constitute an endorsement of the Firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration.

This report was generated by SaratogaRIM through Morningstar Direct’s Presentation Studio using data from Morningstar Direct and Advent Axys. SaratogaRIM composite performance statistics are based off gross-of-fee or net-of-fee monthly performance data uploaded to Morningstar. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. The Peer Group statistics within this report contain U.S. Large Cap separate account managers that appear in the Morningstar database for the relevant periods shown as of the report generated date. The information and statistical data contained herein have been obtained from sources that SaratogaRIM believes to be reliable but in no way are warranted by the Firm as to accuracy or completeness.

Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in the composite. Performance figures are based on historical information and do not guarantee future results. Actual current performance may be higher or lower than the performance presented. All investing entails the risk of loss. This summary is for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities and may not be relied upon in connection with any offer or sale of securities. It is not intended to serve as a substitute for personalized investment advice. Prospective clients should recognize the limitations inherent in the composite strategy and should consider all information presented regarding the Firm’s investment management capabilities. The contents of this report are only a portion of the original material and research and should not be relied upon in making investment decisions.

Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled “Net” now include a model fee rate of 1.00% for all non-fee-paying accounts. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the SaratogaRIM Large Cap Quality Focus Composite (1.00%, labeled “Net Max”). Calculations are available upon request. Information pertaining to the Firm’s advisory fees is set forth in SaratogaRIM’s current disclosure statement, which is available upon request.

Definitions: Standard Deviation measures the dispersion of a dataset relative to its mean. Sharpe Ratio is a risk-adjusted measure that is calculated by using excess return and standard deviation to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. Excess Return measures the difference in return, cumulative or annualized, between the strategy and a benchmark. Market Capture Ratios measure the extent to which a strategy participates in market moves over time; Up (Down) Market Capture measures relative performance in months which the benchmark generates positive (negative) returns over time. Drawdown is a measure of peak-to-trough decline over the period of time until a new high is reached.

Benchmark Disclosures: Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The S&P 500® Total Return Index has been selected as the benchmark for comparison purposes. The S&P Total Return Index assumes that all dividends and distributions are reinvested. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. Portfolios are managed according to their respective strategies which may differ significantly in terms of security holdings, industry weightings, and asset allocation from those of benchmarks. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or any other fees, expenses, or charges. | The S&P 500 Index is a product of S&P Dow Jones Indices LLC (“SPDJI”), and has been licensed for use by SaratogaRIM. Standard & Poor’s®, S&P®, and S&P 500® are registered trademarks of Standard & Poor’s Financial Services LLC (“S&P”); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC (“Dow Jones”); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

GIPS Composite Report

SaratogaRIM Large Cap Quality Focus

Q4 2022

Saratoga Research & Investment Management | SaratogaRIM.com | (408) 741-2330 | 14471 Big Basin Way, Suite E, Saratoga, CA 95070

Composite Performance Statistics

Year	Composite Gross TWR	Composite Net TWR	Composite Net Max TWR*	S&P 500 Total Return	Composite Median TWR	Standard Deviation	3 Yr Ann Standard Dev Composite Net TWR	3 Yr Ann Standard Dev S&P 500 Total Return	# of Portfolios in Composite	End of Period Composite Assets	% of Firm Assets	# of Firm Portfolios*	End of Period Total Firm Assets
2014 (8/31)	6.95	6.71	6.59	3.46	n/a	n/a	-	-	31	59,408,640.33	3.68	2,130	1,614,090,418.39
2015	2.85	2.29	1.83	1.38	2.71	0.18	-	-	88	122,809,323.37	7.50	2,266	1,638,083,262.32
2016	11.96	11.35	10.83	11.96	11.19	0.63	-	-	151	198,406,977.89	11.02	2,537	1,800,890,893.30
2017	28.23	27.52	26.96	21.83	27.49	0.49	8.70	9.92	287	362,440,319.53	17.15	2,851	2,113,160,549.13
2018	0.38	-0.18	-0.62	-4.38	-0.41	0.60	10.30	10.80	303	316,630,422.08	15.72	2,971	2,013,567,458.02
2019	27.67	26.98	26.39	31.49	27.10	0.63	11.41	11.93	403	533,438,674.16	22.86	3,088	2,333,608,905.18
2020	16.71	16.08	15.56	18.40	16.14	1.00	15.84	18.53	626	793,063,147.30	30.14	3,161	2,631,534,466.80
2021	23.31	22.64	22.09	28.71	22.46	0.67	15.07	17.17	924	1,039,079,017.33	35.13	2,984	2,957,751,865.10
2022	-11.74	-12.22	-12.62	-18.11	-12.43	0.52	17.57	20.87	913	853,935,678.90	32.80	2,815	2,603,780,552.47

Items with an asterisk (*) are presented as supplemental information from SaratogaRIM and are not required by the GIPS Standards.

Firm Description: Saratoga Research & Investment Management ("SaratogaRIM" or "the Firm") is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing common sense investment principles. SEC Registration does not constitute an endorsement of the firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. The Firm's investment process is designed to meet the long-term needs of conservative individual and institutional investors. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration. The Firm was founded in 1995; prior to March 7, 2007, Saratoga Research & Investment Management was known as Tanner & Associates Asset Management.

Composite Description: The SaratogaRIM Large Cap Quality Focus Composite includes all discretionary portfolios that invest in what the Firm believes to be high-quality companies with low balance sheet, business model (including capital intensity) and valuation risk. This composite will likely have a greater turnover ratio than other composites as it typically restricts cash to no more than 5% of the total portfolio value. Individual position sizes typically range from 1% to 10% of the total portfolio value, but there is no maximum size for an individual position. This composite has higher levels of concentration, particularly in the top 10 positions; collectively, the top 10 positions make up at least 50% of the portfolio. While the investment criteria for this composite narrows the investable universe to predominantly large-cap companies based in the U.S., the composite has no restrictions on market cap size or where the company is domiciled. Investment ideas that do not meet the stated composite criteria ("outside the box ideas") are allowed so long as they do not cumulatively represent more than 10% of the total portfolio value. The minimum requirement to establish a new account is $100,000 (reduced from $250,000, effective May 1, 2019). The minimum asset level is $75,000 (reduced from $225,000, effective May 1, 2019). Inception date: August 31, 2014. Creation date for GIPS: August 31, 2014.

GIPS Compliance: SaratogaRIM claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. SaratogaRIM has been independently verified by The Spaulding Group for the periods March 1, 2000 through December 31, 2021. | A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. The SaratogaRIM Large Cap Quality Focus Composite has had a performance examination for the periods September 1, 2014 through December 31, 2021. The verification and performance examination reports are available upon request. | GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein. | A list of SaratogaRIM's composite descriptions are available upon request. Policies for valuing investments, calculating performance, and preparing GIPS reports are available upon request. To obtain GIPS-compliant performance information for SaratogaRIM's strategies and products, please contact Marc Crosby, President, at (408) 741-2332 or Marc@SaratogaRIM.com.

Disclosures: Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in the composite. Valuations are computed and performance is reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. Composite returns are calculated using asset-weighted Time Weighted Rate of Return ("TWR"), beginning market values, and external cash flows. Time-weighted return is a method of calculating period-by-period returns that reflects the change in value and negates the effects of external cash flows. Gross and Net TWRs are calculated based on the geometric linking of the monthly internal rate of return for portfolios present for the entire month. Individual portfolios are revalued monthly; portfolios are also revalued intra-month when large external cash flows occur in excess of 10% of the portfolio's fair value. Daily reconciliation is performed between the Firm's records and the custodian and broker records through Advent to verify client assets. Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 1.00% for all non-fee-paying accounts. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the SaratogaRIM Large Cap Quality Focus Composite (1.00%, labeled "Net Max"). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fee portfolio returns around the median net-of-fee portfolio return in the composite. Dispersion is based only on portfolios that were in the composite for the full annual period and is only shown for the annual periods where the composite had more than 5 portfolios for the full year. The 3-year annual standard deviation (external dispersion) is based on net-of-fee returns.

Benchmark Disclosures: Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The S&P 500® Total Return Index has been selected as the benchmark for comparison purposes. The S&P Total Return Index assumes that all dividends and distributions are reinvested. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. Portfolios are managed according to their respective strategies which may differ significantly in terms of security holdings, industry weightings, and asset allocation from those of benchmarks. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or any other fees, expenses, or charges. | The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P®, and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

Disclosures & Definitions

See additional important disclosures and composite-specific information within the GIPS Composite Report for SaratogaRIM Large Cap Quality Focus (page 17).

Saratoga Research & Investment Management ("SaratogaRIM" and "the Firm"), founded in 1995, is an SEC Registered Investment Advisor specializing in the construction and management of equity portfolios composed of high caliber businesses utilizing an investment process built on common sense investment principles for individual and institutional investors. SEC Registration does not constitute an endorsement of the Firm by the Commission, nor does it indicate the advisor has attained a particular level of skill or ability. Advisory services are not made available in any jurisdiction in which SaratogaRIM is not registered or otherwise exempt from registration.

The opinions herein are those of Saratoga Research & Investment Management. The contents of this report are only a portion of the original material and research and should not be relied upon in making investment decisions. The Firm's quarterly reports focus primarily on its equity strategies. Under no circumstance is this an offer to sell or a solicitation to buy securities. This material is not a recommendation as defined in Regulation Best Interest adopted by the Securities and Exchange Commission. All data, information and opinions are subject to change without notice. Opinions and statements of a fundamental nature are geared towards the long-term investor. SaratogaRIM is not a tax/legal advisor and therefore assumes no liability for any tax/legal research. Any information that is furnished to you should be thoroughly examined by a professional tax/legal advisor.

As additional peer group comparison data for the relevant period becomes available through Morningstar, statistics within the Composite Statistics pages may be updated and subsequently replaced within the version of this quarterly report that is published to SaratogaRIM.com. The Composite Statistics report generation date can be found within the footers of each Composite Statistics report. The original Quarterly Report publish date is located on the upper right hand corner of the Quarterly Report cover page and the main report page footers.

Referenced throughout the report: AQR Capital Management, Cliff Asness, Andrea Frazzini, and Lasse Pedersen. "*Quality Minus Junk*" (http://www.econ.yale.edu/~shiller/behfin/2013_04-10/asness-frazzini-pedersen.pdf).

2022 Q4 (Annual) Report Part 2 Charts: All charts and tables within this report are created by SaratogaRIM. Past investment results are not a guarantee of future results. All figures use net-of-fees returns; see "Fees" section on the following page. **Fig. 1** highlights net performance characteristics of the SaratogaRIM Large Cap Quality Focus composite calculated against two different benchmarks referenced throughout the document: the S&P 500 TR Index and the S&P 500 Quality Index (the "Quality Index") using data from Morningstar Direct. The S&P 500 is SaratogaRIM's primary benchmark, representing U.S. large cap stocks. The Quality Index invests in the top 100 S&P 500 constituents based on quality score. Per Standard & Poor's, the quality score "is calculated based on return on equity, accruals ratio and financial leverage ratio." The Quality Index is a reasonable benchmark since SaratogaRIM invests in high quality companies, though the Firm's approach to defining "quality" differs from the approach used to construct the index. **Fig. 2** is a regression plot created by SaratogaRIM using data from Morningstar Direct to calculate the alpha generated by the S&P 500 Quality Index TR against the S&P 500 TR as a proxy for S&P's version of quality. **Fig. 3** is a regression plot created by SaratogaRIM using data from AQR Capital Management—a source believed to be reliable but is not necessarily complete and cannot be guaranteed. The plot displays the linear relationship between Focus alpha and AQR Capital's "Big Quality Minus Junk" ("BQMJ") returns, and there is a positive relationship between the two series. In comparison to the SPQF regression (Fig. 2), the correlation is much stronger, which tells us we should use BQMJ in our multi-factor model instead of SPQF. BQMJ approximates factor returns and is not an investable product; hence, it does not include fees or transaction costs. **Fig. 4**, **Fig. 5** and **Fig. 6** use net peer group comparison data based off of the U.S. Separate Account Managers categorized as value, blend, or growth within the Morningstar database with figures starting from the SaratogaRIM Large Cap Quality Focus composite inception date (September 1, 2014) through December 31, 2022, as of March 7, 2023. "Count" (1,307) refers to the number of managers who reported in Morningstar by March 7, 2023. Definitions of metrics used can be found below. Fig.4 & Fig. 5 are sorted by Sharpe Ratio. Full Sharpe Ratio rankings list is available upon request. For further information or clarification regarding any of the charts or concepts within this report, please email your *specific* questions to InvestorRelations@SaratogaRIM.com.

Definitions: Alpha is a measure of risk-adjusted excess performance based on volatility and return for the portfolio and the benchmark. Beta is a measure of relative volatility calculated by taking the covariance of the portfolio's returns with the benchmark's returns and dividing by the variance of the benchmark's returns. **R-Squared** is the coefficient of determination. This measure determines the proportion of variability in the data that can be explained by the model (i.e. the benchmark). **Sharpe Ratio** is a risk-adjusted measure that is calculated by using excess return and standard deviation to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. **Sortino Ratio** is the excess return over the risk-free rate divided by the downside semi-variance, and so it measures the return to "bad" volatility (volatility caused by negative returns is considered bad or undesirable by an investor, while volatility caused by positive returns is good or acceptable). **Standard Deviation** measures the dispersion of a dataset relative to its mean. **Upside (Downside) Market Capture** measures relative performance in months which the benchmark generates positive (negative) returns over time. **Overall Capture (Asymmetry) Ratio** measure the ratio of Upside Capture or Downside Capture, with a higher measure reflecting more favorable asymmetry.

Fees: Gross-of-fee returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Net-of-fee returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Management fees vary by client type; composite returns presented on a net basis should not be interpreted as any one client's net returns. Prior to October 31, 2022, non-fee-paying accounts were included in composite net-of-fee return calculations without a fee rate; per the SEC Marketing Rule effective November 4, 2022, net-of-fee returns labeled "Net" now include a model fee rate of 1.00% in the SaratogaRIM Large Cap Quality Focus composite. Additionally, a separate net-of-fee return calculation has been added to SaratogaRIM marketing materials using the current maximum fee rate charged by SaratogaRIM for the corresponding composite, labeled "Net Max" (1.00% for the SaratogaRIM Large Cap Quality Focus Composite). Calculations are available upon request. Information pertaining to the Firm's advisory fees is set forth in SaratogaRIM's current disclosure statement, which is available upon request. Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in those composites.

Benchmarks are selected based upon similarity to the investment style of the Firm's composites and accepted norms within the industry. Benchmarks are provided for comparative purposes only and holdings of the Firm's clients' portfolios will differ from actual holdings of the benchmark indexes. Benchmarks are unmanaged and provided to represent the investment environment in existence during the time periods shown. The benchmarks presented were obtained from third-party sources deemed reliable but not guaranteed for accuracy or completeness. Indices are unmanaged, hypothetical portfolios of securities that are often used as a benchmark in evaluating the relative performance of a particular investment. An index should only be compared with a mandate that has a similar investment objective. An index is not available for direct investment, and does not reflect any of the costs associated with buying and selling individual securities or management fees.

The S&P 500 Total Return is the total return version of the S&P 500 Index, which has been widely regarded as the best single gauge of large-cap U.S. equities since 1957. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. (Note: A total return index assumes that all dividends and distributions are reinvested.) The S&P 500 Index is a product of S&P Dow Jones Indices LLC ("SPDJI"), and has been licensed for use by SaratogaRIM. Standard & Poor's®, S&P® and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by SaratogaRIM. SaratogaRIM's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P 500 Index.

The S&P 500® Quality Index is designed to track high quality stocks in the S&P 500 by quality score, which is calculated based on return on equity, accruals ratio and financial leverage ratio.

Direct clients may access their portfolio information and reports including client-specific information through SaratogaRIM's Client Portal. If you are a direct client needing Client Portal access or assistance, please call (408) 741-2330 or email ClientService@SaratogaRIM.com. The Firm recommends that you compare your Saratoga Research & Investment Management reports with the ones you receive from your custodian(s). The custodian of record is required under current law to provide separate account statements. Market values reflected in the custodian's statement and those cited in this report may differ due to the use of different reporting methods. To the extent that any discrepancies exist between the custody statement and this report, the custody statement will take precedence. Values may vary slightly because of situations such as rounding, accrued interest or the timing of information reporting. A fee statement showing the amount of the Asset-Based fee, the value of clients' assets on which the Asset-Based fee is based and the specific manner in which the Asset-Based fee was calculated are available from SaratogaRIM upon request. As a general rule, SaratogaRIM does not disclose private information regarding clients' accounts unless the Firm relies on certain third parties for services that enable the Firm to provide its investment services to their clients. The Firm may also disclose nonpublic information where required to do so under law.

If you wish to become a client of SaratogaRIM, you will be required to sign an Investment Advisory Agreement that exclusively governs the relationship between you and SaratogaRIM. You will also be required to review SaratogaRIM's most recent Privacy Notice, Form CRS, and Form ADV, which are publicly available on SaratogaRIM.com/documents. To receive a printed copy of the Firm's Privacy Notice, Form CRS, or Form ADV, please contact Marc Crosby, President, at (408) 741-2332 or Marc@SaratogaRIM.com.

Cover page artwork by Scott Pollack

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