SaratogaRIM

2022 Quarterly Report

July 13, 2022

Q2

Inflection Points

Market Statistics						Source: FactSet (June 30), Federal Reserve, Spot prices (June 30)	
Stocks		**Yields (%)**				**Commodities**	
DJIA	30,775.43	Fed Funds	1.75	US Tr. 3-Y	2.98	Baltic Dry Index	2,240
P/E ratio	15.58	Disc. Rate	1.75	US Tr. 5-Y	3.00	Gold ($/oz)	1,804
S&P 500	3,785.38	Libor 1-Mo	1.79	US Tr. 10-Y	2.98	Silver ($/oz)	20.42
P/E ratio	17.18	US Tr. 1-Y	2.67	US Tr. 30-Y	3.12	Crude ($/bbl) (NYM Light Sweet Crude)	105.76

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Letter to Investors

Sir Isaac (Newton) explained gravity with an enduring phrase: "What goes up must come down." We expect that, at some point, the same physics would apply to the underlying values of essentially all risk assets investors hold should the Fed successfully execute "policy normalization" – meaning an end to financial repression – read: the artificial suppression of interest rates and extraordinary money printing operations known as Quantitative Easing (QE).

– "Newton's Laws 2.0" essay from the SaratogaRIM 2021 Q4 (Annual) Report; Published 1/13/22

Stock valuations have contracted and, for the first time in several years, could soon approach levels we would view as more reasonable. That said, little in the current financial climate inspires optimistic commentary. As we stand roughly at the midpoint of 2022, the S&P 500 has officially entered bear market territory, having fallen by more than 20% since its January 3rd all-time high.

Against the backdrop of rising interest rates and the resulting heightened volatility, all eleven macro-sectors of the S&P 500 are now down at least 15% from their peaks. Furthermore, traditional diversification between stocks and bonds has failed to provide relief. In the first half of 2022, the traditional 60/40 portfolio (60% stocks, 40% Bonds) suffered a negative total return of 16.1%, marking the worst first six months of any year since 1976. Not even during the bear markets associated with the Great Financial Crisis or the dotcom bust did a 60/40 portfolio perform so poorly over any six-month time frame.

Elsewhere, participants in virtually all asset classes have navigated a sea of red, the color used to depict declining asset prices on computer monitors. Only six months ago, we wrote about inflation's worrying surge, noting that, eventually, financial gravity would reassert itself – a process that quite clearly appears to be unfolding around us.

Observers betting on inflation's transience have gone silent, or recanted. "I think I was wrong then about the path that inflation would take," said Treasury Secretary Janet Yellen on May 31st. "There have been unanticipated and large shocks to the economy that have boosted energy and food prices and supply bottlenecks that have affected our economy badly that I didn't at the time fully understand." To which she added: "Shocks to the economy have continued, but inflation is the number one concern."

It was a gotcha moment, to be sure. But looking beyond unanticipated warfare in Europe, and the resultant turmoil in global energy markets, the real import of Yellen's shift lies in her former position as Fed chair, which suggests an institutional underestimation of inflation's potential to wreak havoc. Along those lines, until recently, Yellen's successor, Fed Chairman Jerome Powell, had come under sharp criticism even within the hallowed halls of the Fed for being "late" to wind down its money-printing operations or meaningfully raise interest rates above zero.

Given that Yellen's epiphany on inflation appears to have been shared by Powell and his team, the most important dynamic to consider going forward is just how significant the impact of Fed tightening will be in terms of demand reduction, and will the unintended consequence be to push the economy into recession? The Fed hopes to thread the needle by engineering enough of a cooling to lower prices without crushing growth, a scenario often referred to as a "soft landing."

History doesn't appear to be on the Fed's side. Since the early 1980s, six of the eight rate-hiking cycles implemented by the world's largest central bank ended in recession. And unfortunately for the Fed, despite today's existence of powerful inflationary pressures on both the supply and demand sides of the economy (meaning supply shortages due to the pandemic or the war in Ukraine *plus* strong demand from multiple rounds of fiscal stimulus), its policies can only address half of the problem – by tamping down demand. Given the bluntness of the Fed's tools, such demand suppression could easily lead to demand *destruction* and a recession as real GDP growth will likely be negative for a second consecutive quarter.

Odds makers that matter (i.e., business leaders) increasingly believe a recession is on the horizon, if not already here. The Conference Board survey conducted in mid-May showed nearly two-thirds of CEOs and other C-suite executives expect a recession by the end of 2023 – triple the number expecting an economic contraction at the start of the year.

Stagflation

To date, the Fed has increased interest rates from a range of 0 – 0.25% to 1.50 – 1.75%, with current expectations projecting the level to be 3.50 – 3.75% at the end of 2022. This represents a massive disconnect from forecasts at the beginning of 2022, when expectations were for a Fed Funds Rate of roughly 1% by year's end. Clearly, inflation being higher than expected for longer than anticipated has forced the Fed's hand by triggering changes in expectations that, once untethered, are tough to control.

Powell's strategy is simple enough: he hopes that, by raising interest rates and allowing the Fed's balance sheet to run off (i.e., Quantitative Tightening, or "QT"), it will increase the cost of borrowing sufficiently to reduce consumer spending. This process also involves reversing the so-called "wealth effect", a behavioral theory which holds that people spend more as the value of their assets increase, and vice-versa. In an opinion piece written in April, Bill Dudley, former President of the Federal Reserve Bank of New York, elaborated on this aim, stating "financial conditions need to tighten. If this doesn't happen on its own, the Fed will have to shock markets to achieve the desired response … one way or another, to get inflation under control, the Fed will need to push bond yields higher and stock prices lower."

And, it has. It seems clear to us that the liquidity so recently provided by fiscal and monetary stimulus played a significant role in sending the values of financial assets such as stocks, bonds and real estate to levels rarely witnessed in the past. However, while the Fed has proven its ability to influence the direction of financial asset prices, it has displayed little control over the velocity of these moves. Greed and fear tend to exact a more significant influence in the moment, which can bring down asset prices far faster than they rose. High or rising volatility also tend to occur during declining markets like the one we've experienced so far this year. For example, Snapchat recently dropped 40% in a single day, the behemoths Facebook and Amazon both lost a quarter of their values in a single trading session, and several mega-retailers experienced their largest one-day declines since 1987.

We've already seen that the early stages of quantitative tightening have impacted financial assets. However, the effects of monetary policy on inflation tend to occur with a significant lag. While the delay can vary considerably, an analysis published in the *International Journal of Central Banking* concluded the "average transmission lag is twenty-nine months." In addition, famed economist Milton Friedman presented research in the 1970s indicating a roughly two-year lag between policy actions and their effect on prices. Most important, he concluded that, "clearly, monetary changes take much longer to affect prices than to affect output," the consequences of which we believe could manifest in a period of "stagflation."

Stagflation refers to an economy simultaneously experiencing high inflation and low or negative economic growth. The result is a double whammy for both consumers and investors. Everything becomes more expensive at the same time companies are increasing layoffs and minimizing wage increases to deal with the more challenging business environment. The last time we witnessed this toxic mix was the 1970s: a period that saw poor returns for stock and bond investors alike.

Mohamed El-Erian, chief economic adviser at Allianz, asserted in a recent interview that we are "already in a period of stagflation" in the U.S. He also noted that this environment is "the worst thing for central banks, especially for the Fed, because it puts its two objectives [low unemployment and stable prices] in conflict with each other."

Recent data appears to support these concerns. First-quarter real GDP contracted 1.4% on an annualized basis, and the Atlanta Fed's GDPNow models (a real-time estimate of GDP) currently forecast second-quarter GDP growth to fall 1.2%, a sizable decline from its estimate of 2.5% growth in mid-May. On the inflation side, the Cleveland Fed's Inflation Nowcasting models currently forecast July CPI headline inflation to increase 8.95% year over year after a higher-than-expected increase of 9.1% in June, which marked the fastest rise since 1981.

Pulling the Plug on Liquidity

As you can imagine, company fundamentals come second to 'narratives' in a world awash in liquidity. When seemingly unlimited amounts of money are available to even marginal businesses, the ability to produce current profits and cash flow are deemed far less relevant than the ability to attract speculative investment flows based on the potential of what may be produced decades down the road. That environment, built and sustained by the Fed's guiding hand since the Great Financial Crisis, led to sky-high valuations for many companies – *especially* those with no profits and little certainty that any would materialize in the future.

Today, with inflation hovering at its highest levels in nearly four decades, the Fed has only recently begun the process of draining liquidity out of the financial system by initiating a new Quantitative Tightening program (QT) to shrink its bloated balance sheet. And dwindling liquidity only exacerbates the volatility commonly seen during bear markets.

One historical symptom of bear markets has been the prevalence of so-called bear market rallies. During bear markets, it is common for stock prices to experience rocket-like surges and spark false hopes that THE low has been made, only to fade and eventually see lower lows. These look like good blastoffs but fail to reach orbit; each surge is surpassed in magnitude by another sell-off to a new low. Also called relief rallies, they can be large and seductive.

During the dotcom crash, for example, the Nasdaq recorded eight bear market rallies of roughly 20% or more, four of which exceeded 30% and the largest that ran up 56% before faltering as markets yet again retreated to new lows. These rallies and subsequent declines serve as traps that can entice investors to make behavioral mistakes and crush nest eggs as the mentality among beaten down investors shifts from "it can't go lower" to "it's never coming back." It is precisely during these types of environments that many investors make the worst decisions by panic selling at or near the bottom. Long-term investors must ignore these types of impulses.

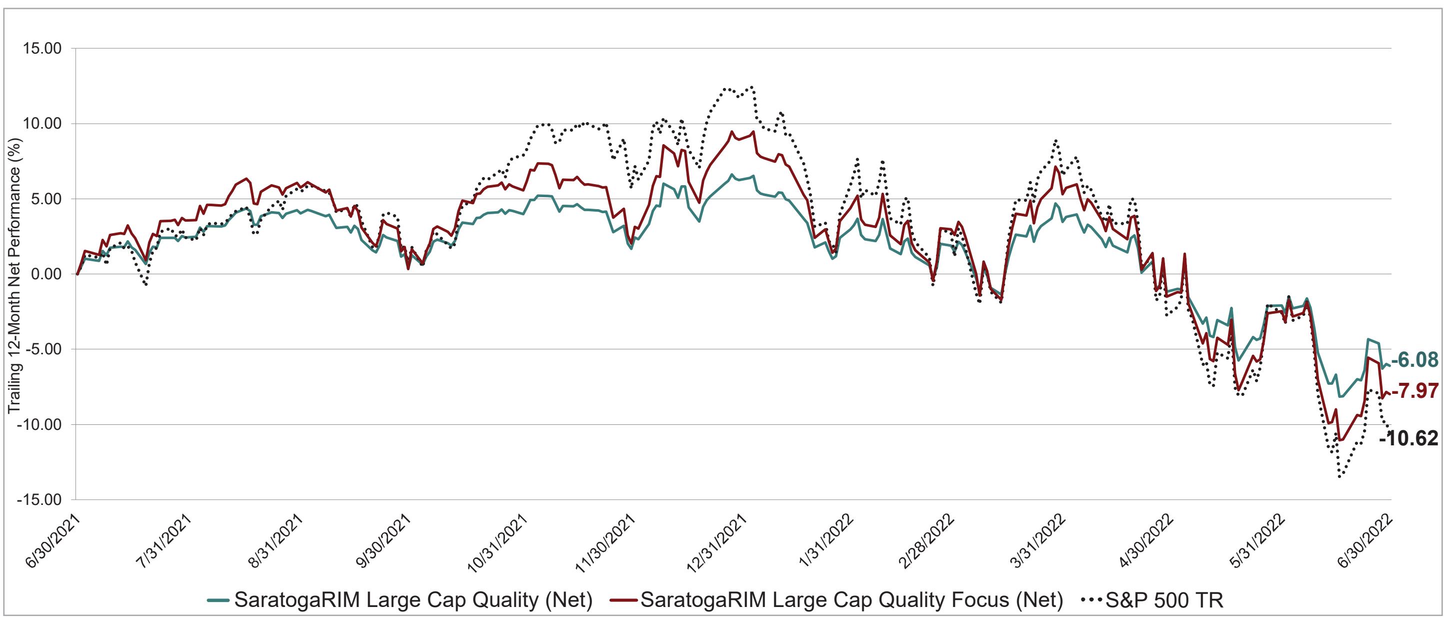
While our strategies are not immune to the impact of deep corrections or full-blown bear markets, we have historically tended to avoid the worst of the downdrafts and consequently recovered quicker than the overall market – attributes, we would argue, stem from our focus on high quality businesses paired with disciplined valuation.

It is clear that the stocks of all companies are subject to the rip currents and rising and falling tides of the markets – but only to a degree. Great companies are financially strong enough to withstand storms and have business models not dependent on liquidity from the Fed to keep navigating forward. That's a critical observation as we appear to be exiting a world of massive liquidity we have all lived in since the Financial Crisis (and the Everything Bubble created by it) and entering a new world where company fundamentals will be increasingly important. And we believe that our adherence to a process that limits our investable universe to high quality businesses with defensible competitive advantages, and our discipline to only invest in them when reasonably priced, should reduce our downside risks and allow our client base of long-term investors to confidently weather this volatile investment climate.

Marc Crosby, CFA, CPA
President | Analyst | Portfolio Manager

Trailing 12-Month Investment Results

Fig. 1: SaratogaRIM Large Cap Quality & Focus vs. S&P 500 TR Trailing 12-Months (6/30/21 - 6/30/22)



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 18) and GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (page 21).

Over the 12 months that ended June 30th, net of fees, the SaratogaRIM Large Cap Quality and Large Cap Quality Focus composites were down 6.08% and 7.97% respectively. Over the same period, the S&P 500 Total Return Index lost 10.62%. 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 following Composite Statistics and GIPS Composite Reports in addition to the full disclosures at the end of this report.

Demographic Inflection | By George Wehrfritz & Adam Sato

There are decades when nothing happens, and there are weeks when decades happen. – Vladimir Lenin

The impish Bolshevik revolutionary got that right, sort of. Change is actually a constant, yet even those of us who pay close attention often barely notice it in real time because it usually unfolds at a glacial pace – until, that is, it doesn't. A worthier take comes from the legendary American Novelist Ernest Hemingway, who (while running with the bulls in Pamplona) wrote this in his first novel, *The Sun Also Rises*:

> *How did you go bankrupt? Two ways. Gradually, then suddenly.*

Both observations seem timely given the upended state of today's world. Before our eyes, it seems, the post-Cold War era has given way to a post-post chapter, accelerated by the lingering Coronavirus pandemic, sealed by Russia's hot war in Ukraine and increasingly defined by tensions in the globally-important U.S.-China relationship. Meanwhile, inflation is on the march and, less noticeably, ageing populations in every industrialized country have reached demographic inflection points with important long-term economic ramifications. In 2022 key narratives are moving in fast-forward.

Some of the implications jump from today's headlines:

> **"With unemployment close to a 50-year low and nearly two job openings for every one unemployed worker – the largest disparity in the U.S. economy on record by far – American workers are enjoying more power than they've had in decades."** *Barron's* cover story, May 16th.

> **"U.S. job openings hit a high point, 11.5 million, in March,"** read a *New York Times* business brief in early May;

> **"Thousands of nurses at Stanford hospitals are striking over wages and mental health,"** *NPR* reported on April 25th, noting that 93% of union members voted in favor of the action (which was settled ten days later after nurses won major concessions);

> **"Fast-food prices hit highest increase in 41 years,"** Los Angeles broadcaster *KTLA* reported on April 19th. "It's just everything's going up in the past year," lamented one local fast-food connoisseur. "I guess it's all correlated to inflation, gas, groceries, fast food. We're all taking a hit."

Each of us are living variants of these stories. Huge monthly job creation tallies dwarfed by huger worker departures. Soaring prices at the gas pumps; sticker shock at the grocery over costs of favorite menu items jumping 2X or 3X. Thirty-year mortgage rates that now approach 6% even for well-qualified buyers. Help Wanted signs festooning strip malls and high streets, interspersed with FOR LEASE banners suggesting a glut in commercial real estate that, when combined with the surfeit of cubicles in office towers, bodes ill for investors who failed to anticipate the overnight shift to a new work-from-home business model necessitated by the global pandemic. Collectively, we are witnessing one of those weeks-as-decades moments in which history seemingly accelerates.

In such times, we would argue, investors must be particularly vigilant as they weigh assumptions about the future. This is never an easy task given that humans typically draw too heavily from the recent past, a mental shortcut retained since our time as tree-dwellers. Behavioral finance calls this the "availability heuristic," aka the "recency bias," a dramatic example of which comes from Nassim Nicholas Taleb's 2007 bestseller, *The Black Swan*, in which he imagines a farm-raised turkey nurtured lovingly from hatchling to maturity until "on the afternoon of the Wednesday before Thanksgiving, something *unexpected* will happen to the turkey. It will incur a revision of belief."

Forecasting with specificity is a great way to end up headless. Instead, we advocate assessing ranges of plausible outcomes to imagine possible futures. So, given this year's huge appetite for disruption, this essay will examine three related changes some might have missed or discounted: ageing societies and the disruptions they foster; China's slowdown and what it portends; and globalization's uncertain future.

Similar thoughts swirled as the global elite gathered this year in Davos, the first such power-forum since the pandemic began in early 2020. According to one key participant, they found a changed world. "Tension between the U.S. and China was accelerated by the pandemic and now this invasion of Ukraine by Russia – all these trends are raising serious concerns about a decoupling world," former European Commission President Jose Manuel Barrosa, who now heads Goldman Sachs International, told the *Financial Times*. "Friction from nationalism, protectionism, nativism, chauvinism if you wish, or sometimes even xenophobia, and for me, it is not clear who is going to win."

To be sure, 2022 has already upended central bank policies, further empowered workers, reset global trading norms and disrupted forecasts of when – or even if – China's economy will surpass that of the United States in size and global influence. Across the industrialized world, national governments face an end to the biggest growth driver over the past 30+ years: the abundant supply of cheap labor unfettered when China and Eastern Europe joined the global economy.

Welcome to the future.

Reversals

Wikipedia defines the availability heuristic as follows:

> *The* ***availability heuristic****, also known as* ***availability bias****, is a mental shortcut that relies on immediate examples that come to a given person's mind when evaluating a specific topic, concept, method or decision. The availability heuristic operates on the notion that if something can be recalled, it must be important, or at least more important than alternative solutions which are not as readily recalled.*

If, for example, new SUVs had in recent years sold at prices 5-10% below MSRP, a car shopper in early 2020 might have assumed that's what they'd get when shopping for a new ride. Similarly, newbie investors who jumped into crypto currencies and/or meme stocks that year could have, for a time, mistakenly believed they were financial geniuses. Even now, multinational corporations with extensive supply chains running across East Asia might assume that – once Covid-related disruptions pass – manufacturing would simply return to business as usual. It's how the human brain works.

Over the Easter holiday, Kevin circulated a book entitled *The Great Demographic Reversal*, which examines the cumulative impacts of ageing across the industrialized world, in particular, the waning of China's one-off gains due to rampant labor mobilization and Eastern Europe's inclusion in the global economy following the Soviet Union's collapse. The book theorizes that synchronized global ageing spells an end to the "capitalist heaven" investors have enjoyed for decades, defined by cheap labor, easy money and rapid globalization. "Read it and read it carefully," Kevin urged in a text message, noting that if the authors ultimately prove correct, we'd be not only be thinking about the book's key tenets "for the remainder of our careers," but the higher levels of baseline inflation rates would lead to persistently elevated interest rates which would flow directly into valuation metrics, ours, and everyone else's.

Its co-authors (Charles Goodhart, British Economist, former member of the Bank of England's Monetary Policy Committee and retired chair of banking and finance at the London School of Economics, and Manoj Pradhan, a former managing director at Morgan Stanley) looked prescient upon the book's publication in early 2020, more so given that it was written *before* the Covid-19 pandemic. They warned of persistently higher inflation over coming decades based on changing age compositions of major industrialized economies, a force *separate and distinct* from pandemic-induced supply shocks or stimulus check-driven spending.

In youthful countries, they posit, disinflation and even deflation begin to hold sway when a baby boom hits working age, but inflation reasserts as the ratio of dependents to workers grows, which happens whenever more people are leaving the workforce than entering it. Recently, as applied to a swell of post-WW2 Baby-Boomers retiring early throughout the pandemic, this has been referred to as "The Great Resignation." A population's age structure matters because workers produce more than they consume, but dependents young or old "consume and do not produce. Dependents are "inflationary," according to Goodhart and Pradhan.

This idea defies long-embedded beliefs about inflation based on the late University of Chicago economist Milton Friedman's famous assertion that, "inflation is always and everywhere a monetary phenomenon." If Freidman's contentions were correct, inflation would have emerged long before mid-2021 given the unprecedented monetary largess unleashed by the Federal Reserve and other central banks around the world since 2008/09. Instead, according to Bureau of Labor Statistics, $100 worth of the goods comprising its CPI basket purchased in Jan. 2010 would have cost just $119 in Jan. 2020, whereas $100 invested in the S&P 500 over the same period would have yielded $419. Conclusion: global demography, much more than the Fed, held prices in check over the period.

The implication is that the past three decades – what the authors call a historical "sweet spot" – owes everything to demographics. As will what's coming next: swelling ranks of retirees and a dearth of young people coming of age to replace them. "The re-birth of inflation is our highest conviction view among the effects of demographics, and it is one that both financial markets and policy-makers are dismissing at their own peril." Possible effects also include lower potential growth rates among OECD economies, and eventually chronic labor shortages. On a positive note, from a societal perspective, the sheer magnitude of these demographic forces seem likely to reverse the decades-long rise in income inequality.

Whether that's good or bad depends somewhat on who you are. Workers might earn more but also pay more to consume. Retirees could see their nest eggs diminish due to the ravages of higher inflation juxtaposed with lackluster portfolio returns. Rising populism, falling support for free and borderless commerce and efficiency losses due to trade's softening contribution to global GDP would further dampen potential growth rates. Central bankers could face slow growth *and* persistent price rises, aka stagflation.

By the numbers, the demographic tidal shift is extraordinary. In China, young people represented 40% of the population in 1970 but just 18% in 2019; retirees jumped from 4% to 11% over the same period (see Fig. 2). In Poland, the working age population shrank from its peak of 26.4 million in Q4 2009 to 23.0 million in Q4 2021, according to OECD data. In Japan, the UK, China and the U.S., the median age in 2020 stood at 48.2, 40.8, 38.7 and 38.3, respectively, according to the UN Population Division. (Who would have guessed that the age of the average Chinese citizen just surpassed that of the average American?)

One grave concern globally: The prevalence of dementia in the 38 OECD members – a good proxy for age-related healthcare demand – will rise from about 15 cases per 1,000 people today to nearly 25/1000 in 2037, the OECD estimates. Japan's ratio could move from today's

Fig. 2: Percentage of Young and Retired Dependents (Non-Workers) in the Population

% of Young People	China	Japan	UK	USA	Germany
1970	40%	24%	24%	28%	23%
2010	19%	13%	17%	20%	14%
2019	18%	13%	18%	19%	14%
Change 1970-2010	-21%	-11%	-7%	-8%	-9%
Change 2010-2019	-1%	0%	1%	-1%	0%

% of Retired People	China	Japan	UK	USA	Germany
1970	4%	7%	13%	10%	24%
2010	8%	22%	17%	13%	21%
2019	11%	28%	19%	16%	22%
Change 1970-2010	4%	15%	4%	3%	-3%
Change 2010-2019	3%	6%	2%	3%	1%

Source: Goodhart and Pradhan, UN Population Statistics, SaratogaRIM. See full disclosures at the end of this report.

20/1,000 to 40/1,000. According to the World Bank, the share of the global population that is working age peaked at 66% in 2015 and will decline for the remainder of this century. A corollary to all of this is that as people live longer, armies of new healthcare workers will be needed to care for the elderly, and in particular those suffering from dementia and Alzheimer's. And because these are low-end service jobs, the growing redirection of workers into them could place further stress on the demand side of the labor equation.

Taken together, these changes likely represent a secular end to the pro-growth dynamic governing the global economy since the end of the Cold War. Or as Goodhart and Pradhan put it:

> *The main thesis of [our] book is that the great demographic reversal will shortly raise inflation and interest rates. With public sector debt ratios at high levels, and continuing worsening pressures from demography, the aim and objectives of Ministers and Central Banks may soon cease to be comfortably aligned and may come into conflict.*

Their analysis "carries far-reaching implications," says Harvard political economist Benjamin Friedman. "They foresee that the next thirty years will differ sharply from the past thirty."

China: A Reappraisal

From 1990 to 2017, China's working-age population (adults aged 15-64) grew four times faster than that of Europe's and America's *combined*. Experts credit late paramount leader Deng Xiaoping's "reform and openness" policies and China's entry into the World Trade Organization for channeling this tsunami of young workers into the global economy. Over the course of three decades this mass migration from rural China to the mega-factories of the cities made China the manufacturing outsourcing hub of the world. In doing so, it also exported persistent disinflationary forces by massively expanding the global supply of labor.

Nevertheless, and despite the fact that it took decades to run its course, the impact was a one-off. To rise further, Beijing must replace its obsolete export- and investment-driven growth model and navigate significant demographic headwinds set to worsen between now and 2049 – the year by which Communist Party leaders hope to have achieved economic and geopolitical hegemony over the United States in time to mark the 100th anniversary of Chairman Mao's 1949 revolution. Believe it or not, that goal is official policy.

Like Putin's vision of a lightning victory in Ukraine, however, China's grand plan makes for good propaganda but faces a challenging set of reality checks. For starters, China's growth peaked in 2012, when its GDP expanded by almost 18%, but has since declined to Beijing's current 5.5% growth target for 2022 (or, the IMF's projection of 4.4%). Since 2000, China's debt-to-GDP ratio has soared from around 120% (a high number for a developing economy) to about 270% in 2020 (historically unprecedented). Much of that, argues Beijing-based financial writer Michael Pettis, went to funding "inflated" growth consisting mainly of "nonproductive, or insufficiently productive, investment in infrastructure and real estate," he wrote on his widely-read Chinese financial blog in April. He continued: "The purpose of inflated growth is to bridge the gap between genuine growth and the GDP growth target deemed necessary to achieve the Chinese leadership's political objectives."

Historians will note that (then) Chinese premier Wen Jiabao first declared China's economy "unstable, unbalanced, uncoordinated and unsustainable" way back in 2007, making "rebalancing" Beijing's top policy priority. Ten years later, in a cheeky 2017 article entitled "Wen and Now," *South China Morning Post* columnist Tom Holland said China's leaders "have done little to correct course" or subdue a building binge typified by its run-up to the 2008 Beijing Olympics. In 2020, according to World Bank data, Chinese household consumption stood at 38.1% — up from its nadir of 34.3% in 2007-08.

Consider also the degree to which Beijing has abandoned Deng-era norms. Some examples:

- Deng's favored aphorism – *it matters not whether the cat is black or white so long as it catches mice* – legitimized market-capitalism and private enterprise. In contrast, current strongman Xi Jinping's emphasis on nurturing "strategic industries" dominated by state-linked enterprises reflects his vision of a top-down planned economy.

- High barriers to entry, originally justified as transitional, even today fetter foreign participation in key Chinese industries ranging from Fintech to social media to streaming to search. Regulations mandate that multinationals take local partners and support technology transfers – suggesting a future in which foreign investors could be shown the door. Deng supported some restrictions, though his vision promised a waning of such rules once China had "caught up" with leading industrialized nations. Xi, in contrast, is a steadfast State Capitalist.

- Deng-era leadership dynamism is waning. Come October, Xi is likely to claim an unprecedented 3rd term at the helm of China's state apparatus in defiance of succession rules that Deng imposed to set term- and age-limits on even the country's top leaders on the logic that change is good.

Lastly, events continue to unfold in Shanghai, where Covid-19 surges drive on and off again lockdowns in the mega-city, representing ongoing threats to global supply chains and a poignant leadership *failure* for Xi and his much-touted Zero-Covid policies. Looking backwards, some wonder why China hasn't imported vaccines rather than touting its home-grown treatment, shown to be markedly less effective in Hong Kong than the European import many locals clamor for. To many China-watchers, Beijing's paramount concern seems not to be public health, but rather fear of undermining the ongoing state media campaign which casts Xi as the only world leader who "beat" the pandemic at home.

Now, about heuristics: If your shorthand assumptions regarding China hold that its one-party system is more efficient than "messy" western democracies, or that its leaders have superior long-term vision, or that its rise to preeminence is somehow preordained, we suggest that you think again. "China's greatest contribution to global growth and globalization is past us," argue Goodhart and Pradhan based on demographics. Pettis, drawing upon his long study of developing economies brought low by uncontrollable debt, thinks Beijing's most likely scenario is policy malaise leading to a "Japan-style lost decade."

In June, China-based macroeconomist Arthur Kroeber, founder of the research firm Gavekal-Dragonomics, described in an interview with *National Public Radio* a list of Chinese challenges. His litany included rapid ageing, reluctance to abandon investment-driven growth and unproven local technologies necessary to beat U.S. and European tech-transfer restrictions. He also estimated that China faces "another 12 months of pretty strict Covid controls." If everything goes to Beijing's plan, he said, China could (as so often forecast) become the largest economy globally sometime in the 2030s. Yet should its grand plans flounder, and market-based approaches become necessary, the result could be real GDP growth stalling Japan-like in the 2-3% range. "Then," he said, "you can construct a scenario in which [China] never overtakes the Unites States."

When asked the chances Beijing would avoid a Japan-like stall, he said: "I'd rate the odds at about a coin flip."

Globalization 2.5?

It's no secret that global economic integration rests heavily on the U.S.-China relationship. Former Australian Prime Minister (2007-10) Kevin Rudd, a trained Sinologist and current head of the Asia Society, warns that neither of these systemically-important powers seem intent on preserving an order that clearly benefits them both.

His new book, *The Avoidable War*, examines the danger of a superpower conflict over Taiwan. Speaking about the U.S.-China stand-off recently, he said the following about China's predicament:

> *"[If] you throw on the compounding factors of demography – peaking population, and shrinking workforce, ageing populations and increasing ageing dependency ratios, and the last piece of the jigsaw, the level of decoupling from the international free trade … system in the name of self-sufficiency or whatever, all of this ultimately impacts on growth drivers. Population, workforce participation, productivity growth, they all get torpedoed amidships. So, describing Xi Jinping's strategy is one thing, analyzing the extent to which China is actually shooting a hole in its own foot is another. And I think there's a lot of hole-shooting at the moment."*

Rudd pulled no punches in his critique of U.S. performance, which he calls "paradoxical" in a sense that America seems bent on abandoning a global trading order of its own design:

> *"Trade has become a dirty word on both sides of Congress. I regard this as the single greatest gap in America's effort to frame a coherent regional and global response to China's rise."*

He sees two giants at loggerheads. Beijing's policies seemingly crafted to disrupt the existing global order; in turn, U.S. countermeasures that often undermine the very superstructure of global trade. Can the relationship be saved?

C. Fred Bergsten, one-time economic deputy to National Security Advisor Henry Kissinger and founding director of the Peterson Institute in Washington, believes that the U.S.-China consensus forged after Nixon's breakthrough visit is salvageable. He makes that argument in a new book *The United States vs. China: The Quest for Global Economic Leadership*, in which he blasts Trump Administration policies that “trashed the WTO” and “rolled-back globalization and envisaged at least partial decoupling of the … superpowers.” Bergsten’s guidance: Washington must move to reclaim global economic leadership, call upon Beijing to defend the current trading system and seek agreement with China on “conditional competitive cooperation” – while also decoupling economic relations from trigger issues like human rights and seeking to strengthen traditional alliances to confront China.

Princeton political scientist Aaron Friedberg sees little prospect in trying to save the old system. In a compelling new essay, he dubs it Globalization 2.0 and argues that it collapsed four years ago amid the U.S.-China trade war, when a shared faith that “expanding cross-border flows of goods, capital, information, ideas and people are inevitable, irreversible, and, for the most part, positive developments” evaporated. Writing in the Winter 21/22 issue of the *Texas National Security Review*, he says nationalism, protectionism and populism in the industrialized democracies have eroded “the durability of popular support for continued economic and societal openness.”

Friedberg advocates a policy reset modeled on five possible scenarios and their implications.

In his construct, Globalization 1.0 began when Great Britain vanquished Napoleon at Waterloo in 1815 and lasted until warfare again engulfed Europe in 1914. Version 2.0 took form with the emergence of a Western alliance after 1945 (based on the Bretton Woods system and a shared fear of communism) and went global after the Soviet Union’s collapse, rendering the U.S. a unipolar hegemon. Today, he writes, China’s rise and Russia’s survival undermine the old notion that “economic and political development went hand in hand, thwarting the rise of a fully democratic world order.” He thinks Beijing gamed the WTO system to gain technology while retaining its one-party superstructure with policies supporting “mercantilist Leninism.”

He deems the following three scenarios as possible but unlikely:

> **1. De-globalization** – systemic breakdown of global trading norms triggered by U.S. decline leaving states to defend their narrow national interests.
>
> **2. Re-globalization** – the WTO-centered system regains relevance, U.S. abandons unilateralism and China embraces liberalization; both cooperate to strengthen existing dispute resolution mechanisms.
>
> **3. Hegemony with Chinese Characteristics (Globalization 3.0)** – rise of a Sino-centric order that is illiberal and resembles old Imperial system of vassal states and tutelage.

The remaining two are actual variations of a theme:

> **4. Regional Blocs** – geographic trade deals with China becoming preeminent in East Asia.
>
> **5. Value-based Blocs (Globalization 2.5)** – advanced industrial democracies hanging together to form trade deals like NAFTA and the Trans-Pacific Partnership in a coalition loosely resem-

bling the Cold War alliance that opposed Soviet expansion.

Friedberg thinks Globalization 2.5 is the most likely outcome because it unites the industrial democracies, faces no ideological hurdles, aligns the U.S. with its East Asian allies, embraced democratic Europe and – if India is included – "comprises more than 60% of global GDP," compared to China's 17% share.

Nevertheless: "Strategically motivated separation between the two countries will likely intensify as geopolitical tensions between them grows," he writes. And Globalization 2.5 would entail higher barriers to trade, cause significant disruption to existing patterns of trade and investment, require meaningful adjustment costs and incur strong "objections from firms and sectors that continue to benefit from the status quo."

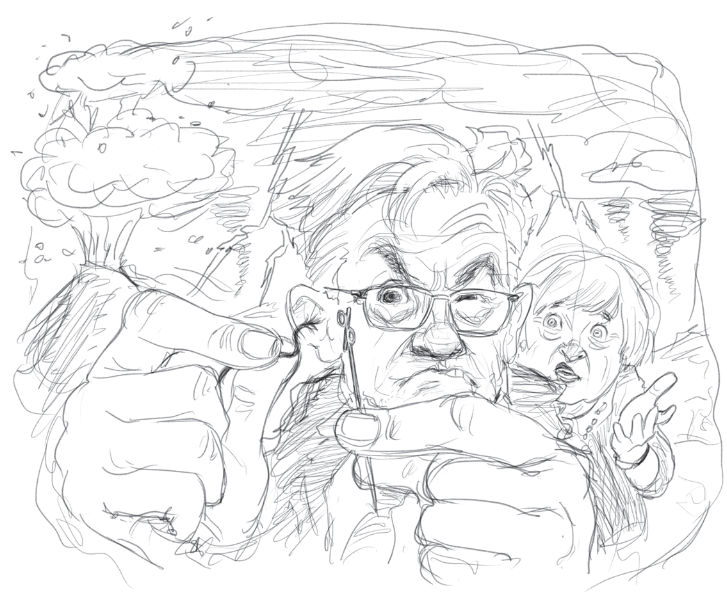
Summing Up

It's become cliché to mine investment wisdom from the humorist Mark Twain. But during this demographic inflection period we'd be wise to heed this observation: "It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."

As argued above, it seems prudent to revisit assumptions based (knowingly or not) on the availability heuristic. A good beginning, as we have argued in past quarters, would be to consider what the new equilibrium level of inflation might look like after the supply side normalizes. How much higher might interest rates be forced to go and what might the shape of the Treasury yield curve look like? To what extent were past Fed policies complicit? And what is the likelihood it can contain demand enough to sufficiently reduce inflation without triggering a recession?

Russia's unprovoked expansionism in Ukraine raises new questions about global energy markets and, by extension, about rules-based global trade. As does China's public embrace of Putin. That its leaders see fit to sanctify a hot war at the edge of Europe suggests fragility in the current order of things. While resurgent U.S. unity with its NATO allies and fellow non-NATO industrialized democracies to sanction Putin's Russia and arm Ukraine has been heartening, it remains premature to conclude that such unity will carry over to the fraught U.S.-China relationship.

Demographic trends suggest that these conflicts will play out against a trying economic backdrop and absent any quick Fed fix. The bottom line is that investors should look around and consider just how much the current world order in changing. And perhaps more importantly, it would be prudent to consider that the next twenty or thirty years may look very different from those that preceded them. ■



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SaratogaRIM Large Cap Quality

Composite Statistics

Q2 2022

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 advisors.

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 3) 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	$ 2,562,237,000
Composite Assets	$ 1,228,067,000
GIPS Compliance	Yes

Investment Results

As of Date: 6/30/2022 Source Data: Total, Monthly Return

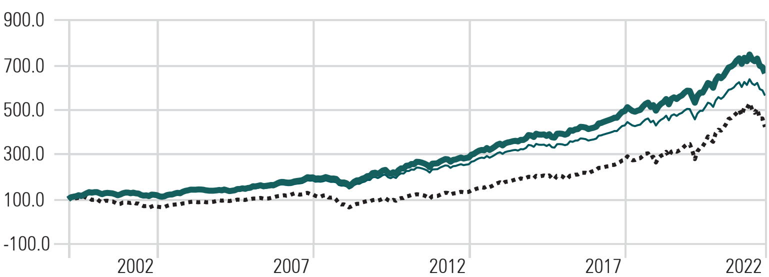
	Year to Date	1 Year	3 Years	5 Years	7 Years	10 Years	15 Years	20 Years	Since Inception
SaratogaRIM LCQ (Gross)	-11.26	-5.57	6.50	7.83	8.16	9.17	9.02	8.98	8.85
SaratogaRIM LCQ (Net)	-11.50	-6.09	5.93	7.25	7.58	8.58	8.34	8.22	8.06
S&P 500 TR USD	-19.96	-10.62	10.60	11.31	11.14	12.96	8.54	9.08	6.69

Investment Growth Relative to Benchmark

Time Period: 3/1/2000 to 6/30/2022

Source Data: Total Return

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

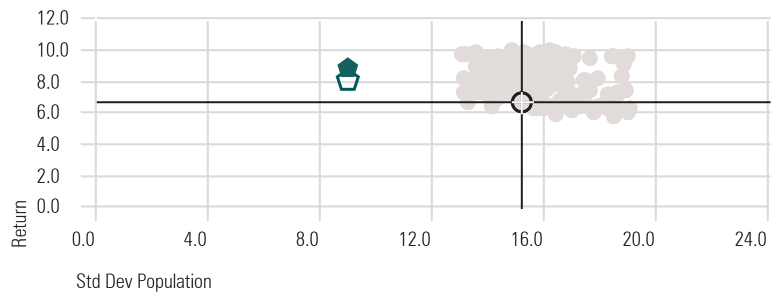


Standard Deviation vs. Annualized Rate of Return Relative to Benchmark & Peer Group

Time Period: 3/1/2000 to 6/30/2022

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

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

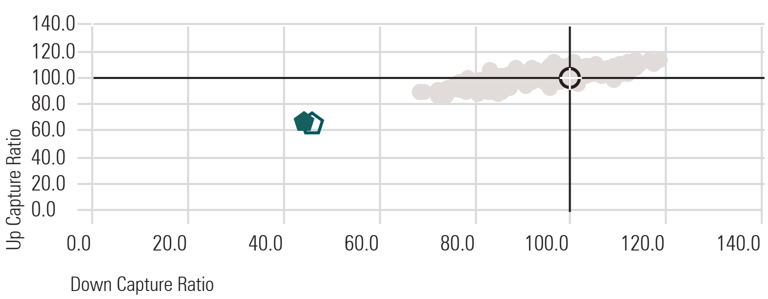


Market Capture Relative to Benchmark & Peer Group

Time Period: 3/1/2000 to 6/30/2022

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

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

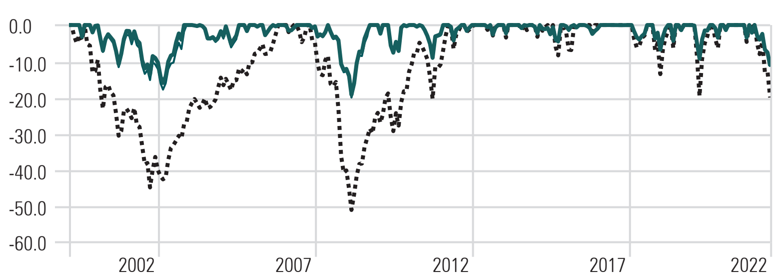


Drawdown Relative to Benchmark

Time Period: 3/1/2000 to 6/30/2022

Source Data: Total, Monthly Return

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



Sector Weightings - GICS

Portfolio Date: 6/30/2022

	LCQ	S&P 500
Consumer Discretionary %	9.92	10.54
Consumer Staples %	13.19	6.99
Energy %	0.00	4.35
Financials %	4.38	10.84
Healthcare %	18.26	15.14
Industrials %	14.65	7.81
Information Technology %	27.21	26.84
Materials %	3.05	2.60
Communication Services %	9.35	8.87
Utilities %	0.00	3.10

Holding Fundamentals

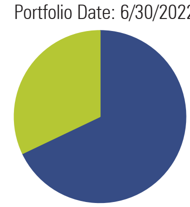
Dividend Yield	1.85
P/E Ratio (TTM)	21.81
P/CF Ratio (TTM)	18.65
P/B Ratio (TTM)	3.82
ROE % (TTM)	33.24
ROA % (TTM)	12.33
Net Margin %	16.88
Est. LT EPS Growth	11.56
Historical EPS Growth	16.69

Market Capitalization

Average Market Cap (mil)	192,528.45
Market Cap Giant %	62.84
Market Cap Large %	28.14
Market Cap Mid %	9.01

Asset Allocation

Portfolio Date: 6/30/2022



	%
Stock	67.9
Bond	0.0
Cash	32.1
Other	0.0
Total	**100.0**

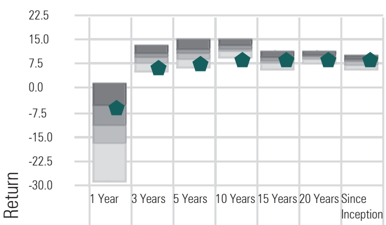
GICS Sector Weightings, Holding Fundamentals, and Market Capitalization statistics reflect the weightings of the stock portion of the portfolio. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. See Disclosures and Definitions (Page 2) and the GIPS Composite Report: SaratogaRIM Large Cap Quality (Page 3).

Investment Results Relative to Peer Group

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

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

• SaratogaRIM LCQ (Gross)

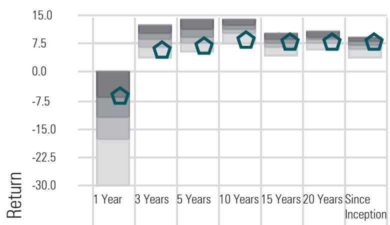


As of Date: 6/30/2022

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

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

• SaratogaRIM LCQ (Net)

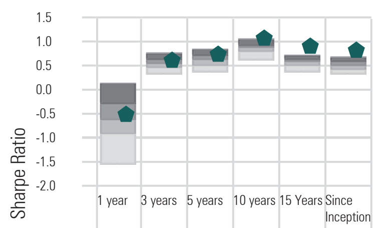


Sharpe Ratio Relative to Peer Group

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

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

• SaratogaRIM LCQ (Gross)

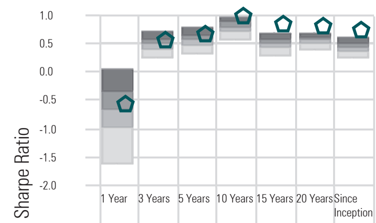


As of Date: 6/30/2022

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

Top Quartile 2nd Quartile 3rd Quartile Bottom Quartile

• SaratogaRIM LCQ (Net)



Investment Results Relative to Peer Group (Gross)

As of Date: 6/30/2022 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)	-5.57	6.50	7.83	9.17	9.02	8.98	8.85
Median	-11.35	9.44	10.56	12.30	8.62	9.58	8.08
Average	-12.02	9.42	10.61	12.27	8.60	9.61	8.04
Count	766	724	690	556	434	302	216
5th Percentile	1.24	13.39	14.88	15.08	11.29	11.39	10.03
25th Percentile	-5.47	10.99	12.27	13.38	9.65	10.38	9.14
50th Percentile	-11.35	9.44	10.56	12.30	8.62	9.58	8.08
75th Percentile	-16.97	7.74	8.94	11.19	7.56	8.87	7.04
95th Percentile	-28.88	5.40	6.63	9.39	5.72	7.71	5.82

Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 6/30/2022 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)	-0.52	0.62	0.73	1.06	0.93	0.90	0.82
Median	-0.61	0.55	0.61	0.85	0.56	0.60	0.49
Average	-0.65	0.54	0.61	0.84	0.55	0.60	0.48
Count	766	724	690	556	434	302	216
5th Percentile	0.12	0.75	0.83	1.02	0.71	0.72	0.65
25th Percentile	-0.30	0.62	0.70	0.92	0.62	0.65	0.56
50th Percentile	-0.61	0.55	0.61	0.85	0.56	0.60	0.49
75th Percentile	-0.92	0.45	0.51	0.77	0.49	0.55	0.40
95th Percentile	-1.54	0.33	0.38	0.64	0.36	0.47	0.32

Investment Results Relative to Peer Group (Net)

As of Date: 6/30/2022 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)	-6.09	5.93	7.25	8.58	8.34	8.22	8.06
Median	-12.19	8.45	9.47	11.31	7.69	8.71	7.26
Average	-12.86	8.35	9.52	11.16	7.53	8.55	7.05
Count	767	725	691	557	437	303	218
5th Percentile	0.19	12.61	13.94	14.17	10.40	10.56	9.21
25th Percentile	-6.43	10.08	11.33	12.46	8.79	9.46	8.26
50th Percentile	-12.19	8.45	9.47	11.31	7.69	8.71	7.26
75th Percentile	-17.56	6.73	7.82	10.07	6.35	7.75	5.96
95th Percentile	-29.73	3.72	5.26	7.56	4.36	6.16	4.12

Sharpe Ratio Relative to Peer Group (Net)

As of Date: 6/30/2022 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)	-0.57	0.57	0.67	0.99	0.86	0.81	0.74
Median	-0.68	0.49	0.55	0.78	0.50	0.55	0.43
Average	-0.70	0.48	0.55	0.77	0.49	0.54	0.42
Count	767	725	691	557	437	303	218
5th Percentile	0.05	0.69	0.78	0.96	0.67	0.67	0.59
25th Percentile	-0.35	0.57	0.65	0.86	0.57	0.60	0.50
50th Percentile	-0.68	0.49	0.55	0.78	0.50	0.55	0.43
75th Percentile	-0.98	0.40	0.45	0.69	0.42	0.48	0.34
95th Percentile	-1.61	0.26	0.32	0.55	0.29	0.38	0.24

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Disclosures: Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report (Page 3) due to rounding. Valuations are computed and performance reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. The 3-year standard deviation (external dispersion) is based on net-of-fees returns. Net-of-fees returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Gross-of-fees returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fees portfolio returns around the median 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. 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 also are 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. SaratogaRIM fee is normally 1% for the SaratogaRIM Large Cap Quality Composite; may be negotiated, as warranted by special circumstances. 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. The information and statistical data contained herein have been obtained from sources that we believe to be reliable but in no way are warranted by us as to accuracy or completeness. Statistics are based off of the most recent quarterly portfolio unless otherwise noted. Statistics are based off of gross-of-fee and/or net-of-fee monthly performance data uploaded to Morningstar. The Peer Group statistics contain U.S. Large Cap separate account managers that appear in the Morningstar database for the relevant periods shown as of the report publish date.

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

Q2 2022

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Composite Performance Statistics

Year	Gross TWR	Net TWR	S&P 500 Total Return	Median TWR	Standard Deviation	3 Yr Ann Standard Dev Quality Composite	3 Yr Ann Standard Dev S&P 500 Total Return	# of Portfolios in Composite	% Non-Fee Paying Accts	End of Period Composite Assets	% of Firm Assets	# of Firm Portfolios*	End of Period Total Firm Assets
2000 (2/29)	31.62	30.58	-2.45	n/a	n/a	-	-	44	0.0%	13,012,273.41	48.66	45	26,739,562.04
2001	-1.38	-2.36	-11.93	-1.56	2.87	-	-	56	0.0%	24,787,551.38	67.21	57	36,880,632.99
2002	-8.89	-9.71	-22.06	-11.01	1.84	-	-	80	0.0%	29,173,809.14	74.36	81	39,231,009.25
2003	18.13	17.07	28.68	16.51	2.09	-	-	88	0.0%	37,849,193.44	71.77	97	52,738,112.72
2004	1.36	0.42	10.88	-0.53	2.06	-	-	90	0.2%	39,743,734.02	68.14	99	58,324,543.15
2005	7.02	6.02	4.91	5.48	2.29	-	-	89	0.2%	39,328,760.93	63.81	101	61,636,483.18
2006	17.03	15.93	15.80	14.56	3.14	-	-	82	0.2%	44,027,113.77	60.11	95	73,239,570.18
2007	11.71	10.66	5.49	10.20	2.86	-	-	85	0.2%	48,996,740.18	61.86	101	79,206,822.19
2008	-11.49	-12.34	-37.00	-12.39	3.24	-	-	113	0.6%	50,664,984.48	62.60	129	80,940,276.87
2009	24.98	23.86	26.46	23.93	2.60	-	-	261	0.4%	149,451,162.21	81.46	280	183,475,714.03
2010	14.48	13.42	15.06	13.87	0.79	-	-	494	0.3%	308,291,988.80	73.47	522	419,588,547.25
2011	4.31	3.69	2.11	3.27	0.53	11.86	18.71	1,176	0.4%	675,883,971.31	89.07	1,279	758,793,592.13
2012	9.93	9.30	16.00	9.33	0.61	9.98	15.09	1,539	0.4%	952,886,545.56	91.19	1,649	1,044,972,076.70
2013	21.65	20.98	32.39	21.10	1.63	7.85	11.94	1,823	0.3%	1,260,548,713.94	89.81	1,990	1,403,561,332.54
2014	10.58	9.98	13.69	10.37	0.94	6.30	8.97	1,912	0.7%	1,338,763,052.59	82.94	2,131	1,614,090,418.39
2015	1.77	1.22	1.38	1.07	1.00	6.96	10.47	1,989	1.6%	1,268,091,067.90	77.41	2,266	1,638,083,262.30
2016	6.94	6.36	11.96	6.32	0.89	6.48	10.59	2,194	1.8%	1,330,011,476.70	73.85	2,537	1,800,890,893.30
2017	17.71	17.08	21.83	16.93	1.52	6.15	9.92	2,380	2.0%	1,481,531,427.12	70.11	2,851	2,113,160,549.13
2018	0.41	-0.13	-4.38	-0.28	0.48	6.54	10.80	2,479	2.3%	1,402,520,781.74	69.65	2,971	2,013,567,458.02
2019	18.03	17.40	31.49	17.62	2.08	7.39	11.93	2,583	2.5%	1,505,375,555.14	64.51	3,088	2,333,608,905.18
2020	11.05	10.46	18.40	10.73	0.95	9.93	18.53	2,428	2.8%	1,458,530,696.52	55.43	3,161	2,631,534,466.80
2021	14.96	14.34	28.71	14.75	1.15	9.56	17.17	1,921	3.2%	1,439,757,287.98	48.68	2,979	2,957,760,686.85
06/30/22	-11.26	-11.50	-19.96	n/a	n/a	9.88	18.38	1,815	3.4%	1,228,067,334.14	47.93	2,938	2,562,236,560.75

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" and "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: Valuations are computed and performance reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. The 3-year standard deviation (external dispersion) is based on net-of-fees returns. Net-of-fees returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Gross-of-fees returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fees portfolio returns around the median 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. 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 also are 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. SaratogaRIM fee is normally 1% for the SaratogaRIM Large Cap Quality Composite; may be negotiated, as warranted by special circumstances. Results of the SaratogaRIM Large Cap Quality Composite do not reflect the results of any one portfolio in the composite. 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

Q2 2022

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

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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 3) 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	$ 2,562,237,000
Composite Assets	$ 935,705,000
GIPS Compliance	Yes

Investment Results

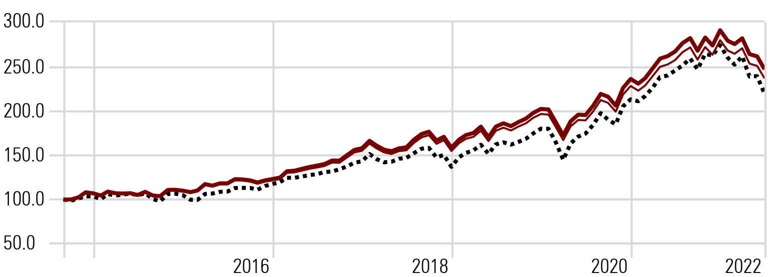
As of Date: 6/30/2022 Source Data: Total, Monthly Return

	Year to Date	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-15.14	-7.48	10.67	12.31	12.98	12.23
SaratogaRIM LCQF (Net)	-15.37	-7.96	10.08	11.71	12.38	11.63
S&P 500 TR USD	-19.96	-10.62	10.60	11.31	11.14	10.55

Investment Growth Relative to Benchmark

Time Period: 9/1/2014 to 6/30/2022

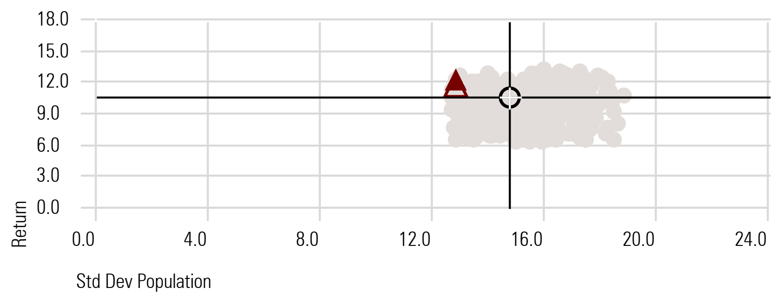
Source Data: Total Return



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

Time Period: 9/1/2014 to 6/30/2022

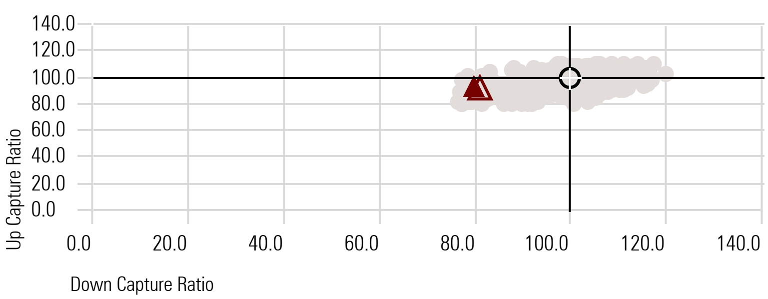
Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return



Market Capture Relative to Benchmark & Peer Group

Time Period: 9/1/2014 to 6/30/2022

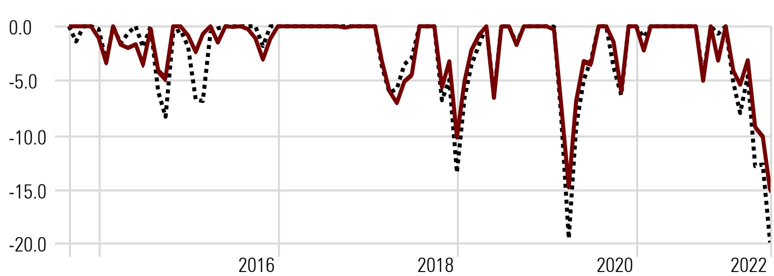
Peer Group (5-95%): Large Cap SA Source Data: Total, Monthly Return



Drawdown Relative to Benchmark

Time Period: 9/1/2014 to 6/30/2022

Source Data: Total, Monthly Return



Sector Weightings - GICS

Portfolio Date: 6/30/2022

	LCQF	S&P 500
Consumer Discretionary %	9.26	10.54
Consumer Staples %	10.67	6.99
Energy %	0.00	4.35
Financials %	3.60	10.84
Healthcare %	20.99	15.14
Industrials %	14.58	7.81
Information Technology %	27.26	26.84
Materials %	2.72	2.60
Communication Services %	10.93	8.87
Utilities %	0.00	3.10

Holding Fundamentals

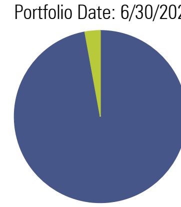
Dividend Yield	1.78
P/E Ratio (TTM)	22.69
P/CF Ratio (TTM)	18.82
P/B Ratio (TTM)	3.77
ROE % (TTM)	32.72
ROA % (TTM)	12.22
Net Margin %	16.90
Est. LT EPS Growth	11.95
Historical EPS Growth	17.20

Market Capitalization

Average Market Cap (mil)	201,969.48
Market Cap Giant %	63.25
Market Cap Large %	27.81
Market Cap Mid %	8.94

Asset Allocation

Portfolio Date: 6/30/2022

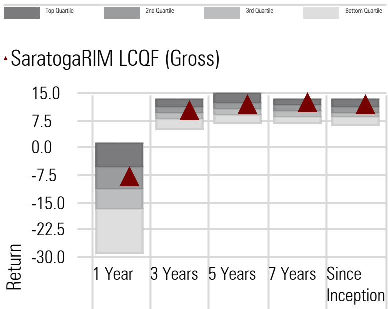


	%
Stock	97.1
Bond	0.0
Cash	2.9
Other	0.0
Total	**100.0**

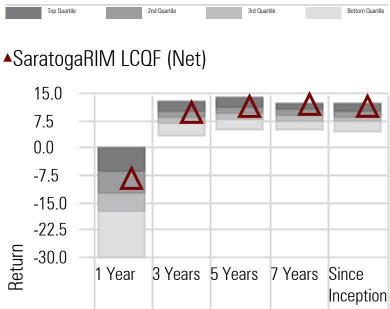
GICS Sector Weightings, Holding Fundamentals, and Market Capitalization statistics reflect the weightings of the stock portion of the portfolio. Results of Morningstar's calculations may vary slightly from SaratogaRIM's own reported statistics within the GIPS Composite Report due to rounding. See Disclosures and Definitions (Page 2) and the GIPS Composite Report: SaratogaRIM Large Cap Quality Focus (Page 3).

Investment Results Relative to Peer Group | As of Date: 6/30/2022

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



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



Investment Results Relative to Peer Group (Gross)

As of Date: 6/30/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-7.48	10.67	12.31	12.98	12.23
S&P 500 TR USD	-10.62	10.60	11.31	11.14	10.55
Median	-11.35	9.44	10.56	10.13	9.69
Average	-12.02	9.42	10.61	10.13	9.69
Count	766	724	690	629	598
5th Percentile	1.24	13.39	14.88	13.57	13.20
25th Percentile	-5.47	10.99	12.27	11.55	11.07
50th Percentile	-11.35	9.44	10.56	10.13	9.69
75th Percentile	-16.97	7.74	8.94	8.74	8.25
95th Percentile	-28.88	5.40	6.63	6.87	6.32

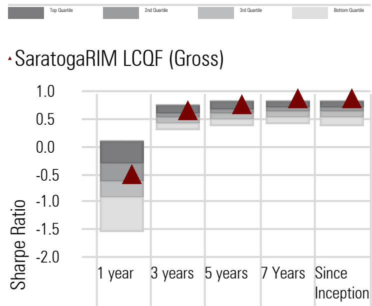
Investment Results Relative to Peer Group (Net)

As of Date: 6/30/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

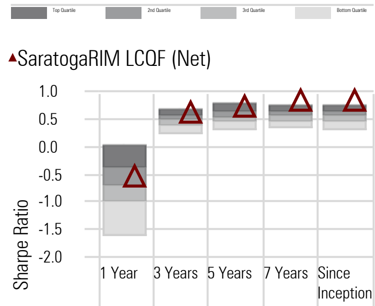
	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-7.96	10.08	11.71	12.38	11.63
S&P 500 TR USD	-10.62	10.60	11.31	11.14	10.55
Median	-12.19	8.45	9.47	9.00	8.58
Average	-12.86	8.35	9.52	9.03	8.62
Count	767	725	691	630	599
5th Percentile	0.19	12.61	13.94	12.45	12.18
25th Percentile	-6.43	10.08	11.33	10.59	10.19
50th Percentile	-12.19	8.45	9.47	9.00	8.58
75th Percentile	-17.56	6.73	7.82	7.64	7.23
95th Percentile	-29.73	3.72	5.26	5.42	4.71

Sharpe Ratio Relative to Peer Group | As of Date: 6/30/2022

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



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



Sharpe Ratio Relative to Peer Group (Gross)

As of Date: 6/30/2022 Source Data: Gross, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Gross)	-0.46	0.69	0.79	0.92	0.90
S&P 500 TR USD	-0.56	0.60	0.65	0.71	0.70
Median	-0.61	0.55	0.61	0.64	0.64
Average	-0.65	0.54	0.61	0.63	0.63
Count	766	724	690	629	598
5th Percentile	0.12	0.75	0.83	0.83	0.84
25th Percentile	-0.30	0.62	0.70	0.72	0.72
50th Percentile	-0.61	0.55	0.61	0.64	0.64
75th Percentile	-0.92	0.45	0.51	0.55	0.55
95th Percentile	-1.54	0.33	0.38	0.43	0.41

Sharpe Ratio Relative to Peer Group (Net)

As of Date: 6/30/2022 Source Data: Net, Monthly Return Peer Group: Large Cap SA

	1 Year	3 Years	5 Years	7 Years	Since Inception
SaratogaRIM LCQF (Net)	-0.49	0.66	0.75	0.88	0.86
S&P 500 TR USD	-0.56	0.60	0.65	0.71	0.70
Median	-0.68	0.49	0.55	0.57	0.57
Average	-0.70	0.48	0.55	0.57	0.56
Count	767	725	691	630	599
5th Percentile	0.05	0.69	0.78	0.78	0.77
25th Percentile	-0.35	0.57	0.65	0.67	0.67
50th Percentile	-0.68	0.49	0.55	0.57	0.57
75th Percentile	-0.98	0.40	0.45	0.48	0.47
95th Percentile	-1.61	0.26	0.32	0.34	0.33

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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. The information and statistical data contained herein have been obtained from sources that we believe to be reliable but in no way are warranted by us as to accuracy or completeness. Statistics are based off of the most recent quarterly portfolio unless otherwise noted. Statistics are based off of gross-of-fee and/or net-of-fee monthly performance data uploaded to Morningstar. The Peer Group statistics contain U.S. Large Cap separate account managers that appear in the Morningstar database for the relevant periods shown as of the report publish date.

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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Composite Performance Statistics

Year	Gross TWR	Net TWR	S&P 500 Total Return	Median TWR	Standard Deviation	3 Yr Ann Standard Dev Focus Composite	3 Yr Ann Standard Dev S&P 500 Total Return	# of Portfolios in Composite	% Non-Fee Paying Accts	End of Period Composite Assets	% of Firm Assets	# of Firm Portfolios*	End of Period Total Firm Assets
2014 (8/31)	6.95	6.71	3.46	n/a	n/a	-	-	31	0.0%	59,408,640.33	3.68	2,131	1,614,090,418.39
2015	2.84	2.28	1.38	2.70	0.25	-	-	88	0.0%	122,809,323.37	7.50	2,266	1,638,083,262.30
2016	11.93	11.33	11.96	11.18	0.63	-	-	151	0.0%	198,406,977.89	11.02	2,537	1,800,890,893.30
2017	28.21	27.49	21.83	27.49	0.55	8.70	9.92	287	0.1%	362,440,319.53	17.15	2,851	2,113,160,549.13
2018	0.35	-0.20	-4.38	-0.41	0.58	10.30	10.80	303	0.3%	316,630,422.08	15.72	2,971	2,013,567,458.02
2019	27.67	26.98	31.49	27.10	0.62	11.41	11.93	403	0.3%	533,438,674.16	22.86	3,088	2,333,608,905.18
2020	16.71	16.08	18.40	16.13	1.01	15.84	18.53	626	0.6%	793,063,147.30	30.14	3,161	2,631,534,466.80
2021	23.36	22.69	28.71	22.46	0.67	15.07	17.17	924	0.6%	1,039,079,017.33	35.13	2,979	2,957,760,686.85
06/30/22	-15.14	-15.37	-19.96	n/a	n/a	15.36	18.38	973	0.7%	935,704,726.35	36.52	2,938	2,562,236,560.75

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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: Valuations are computed and performance reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. The 3-year standard deviation (external dispersion) is based on net-of-fees returns. Net-of-fees returns are calculated net of actual management fees and transaction costs and gross of custodian fees and external consultant or advisory fees. Gross-of-fees returns are calculated gross of management, custodial and external consultant or advisory fees and net of transaction costs. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fees portfolio returns around the median 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. 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 also are 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. SaratogaRIM fee is normally 1.2% for the SaratogaRIM Large Cap Quality Focus Composite; may be negotiated, as warranted by special circumstances. Results of the SaratogaRIM Large Cap Quality Focus Composite do not reflect the results of any one portfolio in the composite.

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

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See additional important disclosures and composite-specific information within the GIPS Composite Reports for SaratogaRIM Large Cap Quality (page 18) and Large Cap Quality Focus (page 21). 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 page 2 footer 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 Q2 Report Charts: All charts and tables within this report are created by SaratogaRIM. Fig. 1 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. Past investment results are not a guarantee of future results. Fig. 2 was inspired by an original table within *The Great Demographic Reversal* by Charles Goodhart and Manoj Pradhan using information originally obtained from the UN Population Statistics. For further information or clarification regarding any of the charts or concepts within this report, please email your *specific* questions to InvestorRelations@SaratogaRIM.com.

Valuations are computed and performance reported in U.S. dollars based on trade dates as of month-end, net-of-fees, while accounting for dividend reinvestment. The 3-year standard deviation (external dispersion) is based on net-of-fees returns. Gross-of-fees returns are calculated gross of any management, custodial, external consultant or advisory fee but net of transaction costs. Application of management fees reduces gross performance. Net-of-fees returns are calculated net of actual management fees but still gross of any custodial, 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. Composite returns are calculated using asset-weighted TWR, beginning market values, and 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 also are revalued intra-month when large external cash flows occur in excess of 10% of the portfolio's fair value. Dispersion is calculated as the asset-weighted standard deviation of annual net-of-fees portfolio returns around the median 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.

Daily reconciliation is performed between the firm's records and the custodian and broker records through Advent to verify client assets. SaratogaRIM fee is normally 1% for the SaratogaRIM Large Cap Quality

Composite & 1.2% for the SaratogaRIM Large Cap Quality Focus Composite; may be negotiated, as warranted by special circumstances. 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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