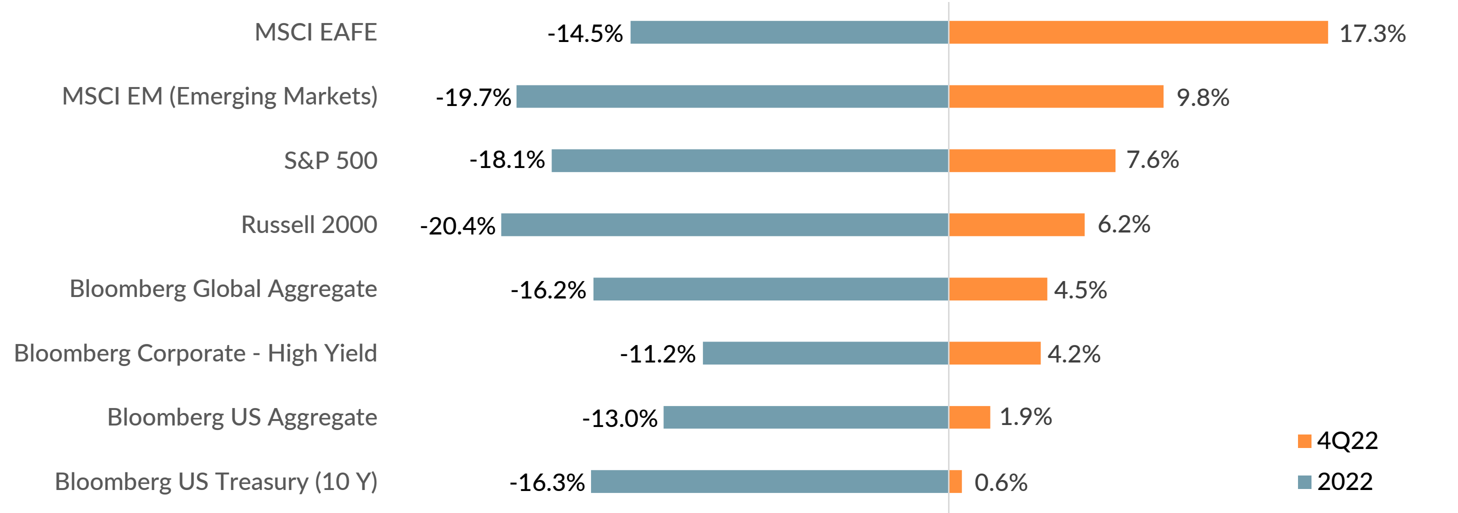
Q4 2022

THE QUARTERLY STATEMENT

GLENMEDE INVESTMENT MANAGEMENT

Market review: Fourth Quarter 2022



Sources: Glenmede Investment Management LP and FactSet *As of 12/31/2022*

Goodbye Bear Market of 2022. Hello Recession of 2023?

Quarterly recap

The Federal Reserve and inflation continued to take center stage in Q4 2022, although the narrative shifted from a focus on a “Fed Pivot” to a potential “Peak Fed” with some reprieve from cooler CPI prints for October and November. After four straight 75 basis point rate hikes, the Fed finished the year with a more muted 50 bps rate hike in December, but Fed speak remained hawkish. China relaxed its zero-COVID policy, creating a more optimistic tone for investors. However, concerns of a potential global recession remained.

The S&P 500 returned 7.6% in Q4 2022 — its only positive quarterly return for the year but still its worst year-to-date return since the global financial crisis of 2008, finishing down 18.1% for the year. Large cap value outperformed large cap growth in the quarter, marking three out of four quarters of outperformance, with the Russell 1000 Value Index returning 12.4% and the Russell 1000 Growth Index returning just 2.2%. Large cap value saw its best annual outperformance over growth since 2000, with the Russell 1000 Value Index declining 7.6% compared to the Russell 1000 Growth Index down 29.1%.

Small cap (Russell 2000 Index) also closed Q4 in positive territory with a return of 6.2%, but like its large cap counterparts, the quarter was not enough to save the index from its worst annual return since 2008 of -20.4%. Small cap value (Russell 2000

Value Index) outperformed small cap growth (Russell 2000 Growth Index) 8.5% versus 4.1%. Over the past two years, small cap value outperformed small cap growth by almost 18% annualized, erasing the outperformance of small cap growth during the pandemic boom of 2020.

Like domestic markets, international markets saw strength in Q4 for the first time in 2022. Developed international (MSCI EAFE Index) returned 17.3%, and international emerging markets (MSCI Emerging Markets Index) returned 9.8%.

The shift from Fed Pivot to Peak Fed led to a softening of the trend of higher yields and lower bond prices in fixed income. While U.S. Treasury yields ticked up across the curve and continued to pressure bond prices, other areas of fixed income strategies like corporate bonds saw positive returns for the quarter. The U.S. Treasury curve continued inverting in Q4, with the 2Y-10Y curve inversion getting to a low of 83 bps in December, a level not seen since October 1981, before retracing some of the inversion through quarter end. Yield curve inversion is often considered a precursor to a recession.

Investor focus for 2023 will likely be on a potential recession. We believe the market has not fully priced in much of the recent Fed tightening, and increased economic pain may lie ahead. While the U.S. equity markets entered a bear market in 2022, much of the price decline reflected multiple compression, not earnings declines. FactSet estimates 2022 earnings per share will likely increase relative to 2021, which is not the more typical impact to earnings in a recession. Specifically, using data from 1900 to present, the average decline in last-12-month EPS for the S&P 500 from the quarterly recession peaks to bottom, as defined by the National Bureau of Economic Research, is 15.3%. This "Waiting for Godot" moment of an earnings re-risk could continue to create market uncertainty and volatility.

We continue to favor "good earnings" versus "good stories" investing in 2023, leaning more toward value in both small and large cap stocks. However, we believe it is important to be dynamic as markets can reprice quickly and opportunities to add quality growth to portfolios may become attractive. For the first time in almost a decade, fixed income may be fighting for a bigger weight in asset allocation given current yields, and we would not be surprised to hear more conversations about rebalancing to fixed income from alternative investments and equities.

Revisiting 2022:
What We Got Right in Our Outlook

Our current Q4 report seems an appropriate time to revisit our Q4 2021 Quarterly Statement to assess what we got right about 2022. How would we grade ourselves? Overall, we'd say a B+. While we anticipated markets would likely see more volatility driven in part by central bank tightening, and therefore preferred companies with good earnings rather than good stories, we underestimated the pace at which central banks moved. Within our areas of investment ideas, our concerns of U.S. large cap market concentration and U.S. small cap exposure to negative earnings in their respective passive indices (S&P 500 and Russell 2000) was warranted. We also expected a more volatile market, although how that volatility manifested itself through more above-average daily moves versus more distinct periods of excess volatility was different than we anticipated.

Following we highlight, in italics, our 2022 forecast from our Q4 2021 report, following by actual 2022 results.

Forecast:

We anticipate the positive economic momentum coming out of 2021's stellar year of economic growth to ripple into 2022 in U.S. markets.

Result:

The broader equity market entered a bear market in 2022. Higher implied market volatility coming into 2022 suggested the probability of hitting a bear market above longer-term averages, but we cannot claim to have predicted the U.S. equity markets would enter a bear market in 2022. However, using earnings as a measure of the economy, the positive economic momentum continued through 2022. According to FactSet, 2022 U.S. estimates are expected to show growth of 5%.[1]

Forecast:

Key risks to the markets remain missteps by the Fed as it enters a quantitative tightening phase following an incredibly supportive environment in recent years.

Result:

We did not have specific expectations for monetary tightening, but even after the fact we admit we did not see a high probability of the Fed raising rates by a cumulative 4.25% in 2022, the most in over 40 years. Our probability was low for that magnitude of rate hikes — not because we did not think market conditions warranted the raises, but the past decade of Fed behavior almost always erred more dovish, even when taking a more hawkish stance could be argued. While both equity and fixed income markets finished in negative territory and the 60/40 portfolio saw its worst return since 2008, we would argue the market underestimated how hawkish the Fed would pivot rather than labeling it a misstep (for the moment).

Forecast:

Overall, the economic backdrop looks positive for U.S. stocks, but the shift from a supportive fiscal and monetary environment will likely be met with some market volatility.

Result:

In retrospect, we should have removed the word "some" from "some market volatility." Using the Cboe Volatility Index (VIX) as a proxy for market volatility, the VIX had a median closing price of 25.5, the fourth highest since data became available in 1990, with 2008, 2002 and 2020 the three higher years in descending order. The S&P 500 saw the fourth highest +/-2% intraday moves since 1990, with 2008, 2002 and 2009 the three higher years in descending order. Interestingly, the maximum intraday move in 2022 of 5.6% was more in line with the 33-year average of 5.1% versus being in the top four since 1990, like both median VIX and number of +/-2% moves. This suggests the market was oscillating in 2022 with several days of above-average daily moves but no specific period of excessive daily volatility.

Forecast:

The continued rotation from investing in a "good story" to investing in "good earnings" will likely continue in both large and small cap stocks, with value likely seeing some strength over growth this year.

Result:

As noted earlier, large cap value saw its best annual outperformance over growth since 2000 with over 21.5% of outperformance. Additionally, small cap value outperformed small cap growth by 11.9% in 2022 (the Russell 2000 Value Index declined 14.5% versus Russell 2000 Growth Index, down 26.4%). This is less than the 2021 outperformance of value versus growth in small cap (Russell 2000 Value Index returned 28.2% and Russell 2000 Growth Index, 2.8%). However, these back-to-back years of outperformance of small cap value versus small cap growth by almost 18% annualized has erased more than the outperformance of small cap growth during 2020.

Recapping 2022 Areas of Interest — and Outlining 2023 Expectations

In our Q4 2021 Statement, we highlighted three areas of the market where we believed there could be continued opportunity for 2022 — active small cap, active large cap and volatility strategies. Those observations from our Q4 2021 report are in italics below.

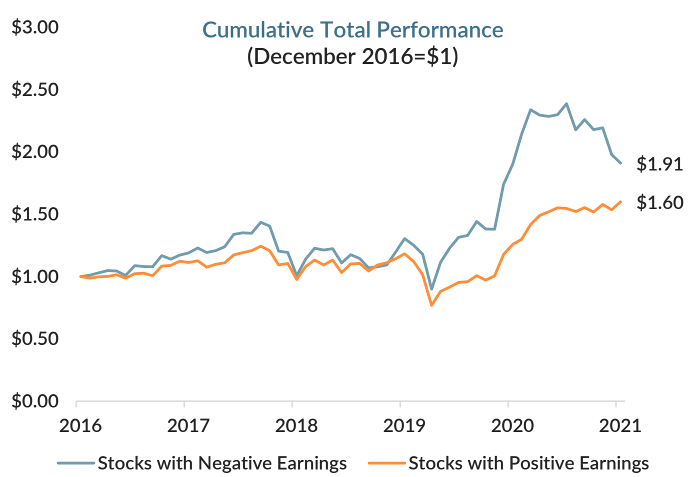
Active Small Cap

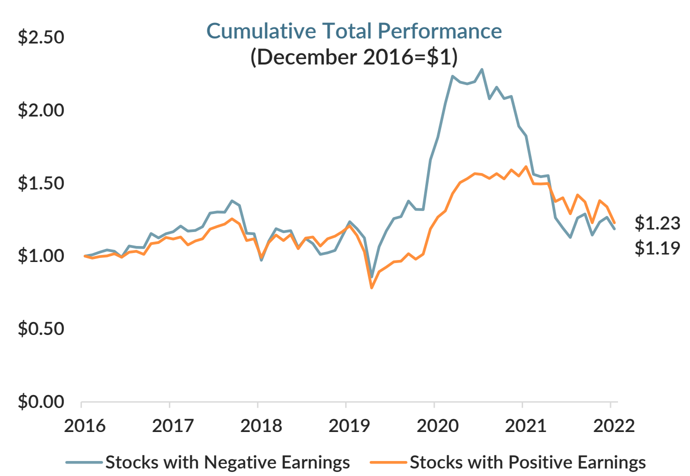
We believe small cap stocks entered the correction phase of the negative earners[2] outperformance in second-half 2021 and could continue to see relative weakness in these names throughout 2022. Given the concentration of negative earners in the Russell 2000, we continue to believe passive investors could experience notable underperformance during this cycle shift and therefore prefer actively managed strategies focused on higher quality, undervalued companies.

Over the past 35 years, the small cap universe has had cyclical periods of negative earner outperformance. As of year-end 2022, 26% of the Russell 2000 comprised negative earners (rolling-12-month weight), down from 35% at the end of 2021 and off the all-time high of 38% in mid-2021, but still above the average of 19.9% since August 1993 when sector data became available. The chart on the left in Exhibit 1 (from our Q4 2021 report) shows that from 2016 to 2021, negative earners, with an annualized return of 13.6%, outpaced positive earners at 9.7% ($1.91 vs. $1.60 in total dollar growth during this time period). Our expectation was that the peak outperformance was experienced in mid-2021, and the correction that had started in second-half 2021 would continue into 2022.

Reviewing actual returns, the chart on the right in Exhibit 1 shows that a correction did occur, starting in mid-2021 through year-end 2022. From 2016-2022, positive earners, with an annualized return of 3.5%, outpaced negative earners at 2.8% ($1.23 vs. $1.19 in total dollar growth during this time period). This compares to an annualized standard deviation of 26.5% for positive earners versus 41.9% for negative

EXHIBIT 1: Positive versus negative earnings in the Russell 2000





Sources: Glenmede Investment Management LP, FactSet and FTSE/Russell
Past performance is not indicative of future performance.

As of 12/31/2022

earners from 2016-2022. As we expected, we did see a correction in mid-2021 through 2022, although both positive and negative earners had negative returns. Positive earners declined an annualized 14.0% and negative earners down 33.8% ($0.79 vs. $0.52 in total dollar growth during this time period).

2023 Expectations

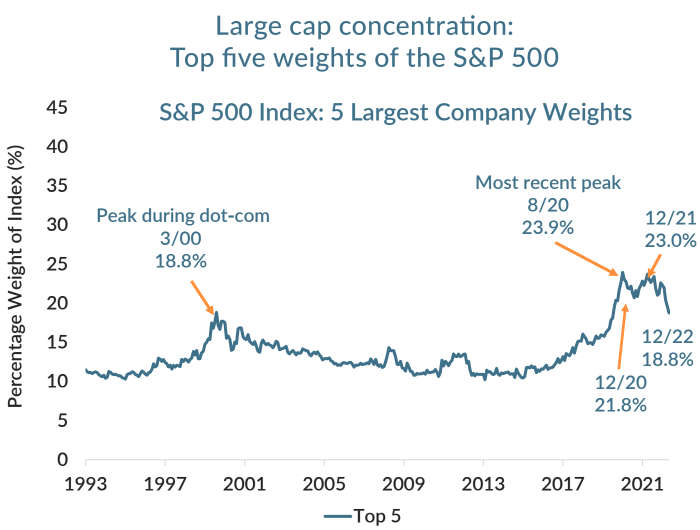
Using the longest available history for which we have usable data for the Russell 2000 (since December 31, 1986), positive earners have experienced almost 3x the annualized return with less than two-thirds the risk (annualized return for positive earners of 9.4% vs. negative earners with 3.2% and standard deviation of 19.6% vs. 33.4%, respectively). Admittedly, a significant portion of this longer-term outperformance is the avoidance of large drawdowns following market bubble bursts like the internet bubble in the early 2000s, the global financial crisis of 2008 and the post-COVID growth correction of 2022. Even with the correction of the most recent outperformance period of negative earners, we still believe investing in positive-earning companies over negative-earning companies is a more prudent focus for long-term investing. We continue to prefer actively managed strategies focused on higher quality, undervalued companies to a passive allocation in small cap because of the above-average weight relative to longer-term weighting in the Russell 2000 to negative earners.

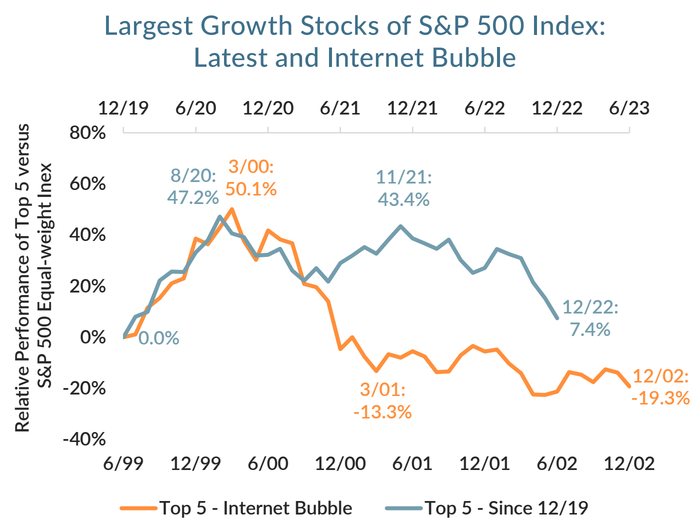
Active Large Cap

While we may not have seen peak concentration for this cycle of the top five weighted companies, over the past three years the total weight of the top five has increased 54%, from 14.9% in December 2018 to 23.0% in December 2021. Since December 2018, the outperformance of the top five relative to the index has been an annualized excess return of 20.1%. If history were to repeat itself, the top five weighted stocks could experience underperformance relative to the index over the next several years.

As seen in Exhibit 2 (left chart), the top five weights in the S&P 500 (Apple, Microsoft, Amazon, Alphabet and Tesla) accounted for 18.8% of the index as of year-end 2022, down from 23.0% at year-end 2021 and 21.8% at year-end 2020. An all-time high of 23.9% was reached in August 2020, implying markets may have seen peak concentration, which we did not forecast heading

EXHIBIT 2: Large cap concentration





Sources: Glenmede Investment Management LP and FactSet
Past performance is not indicative of future performance.
As of 12/31/2022

Top 5-Internet bubble represents MSFT, INTC, WMT, CSCO and GE (orange line), Top 5-Since 12/19 represents APPL, MSFT, GOOGL, AMZN and FB (until 12/20) and TSLA (since 12/20).

into 2022. Concentration of this magnitude (top five components with a weighting greater than 14% in the S&P 500) is rare, so we continue to believe the dot-com period (June 1999-December 2002) may be a reasonable proxy for how the index and the top five weighted stocks performed historically. Coincidentally, peak concentration level during the dot-com era was 18.8% in March 2020, in line with current levels.

The chart on the right in Exhibit 2 shows the performance of the top five weightings of the S&P 500 relative to the average stock during both the dot-com period and the current concentration cycle (December 2019-December 2022). From the end of 2019 to peak concentration in August 2020, the top five weights of the S&P 500 outperformed the average stock in the index by 47.2% (not annualized). This is similar to the dot-com period, where the outperformance was 50.1% in March 2000 for the top five weights.

Unlike the dot-com period, where the most concentrated stocks gave back the overperformance over the next nine months and eventually underperformed by over 22% in the 26 months after the peak (not annualized), this cycle's outperformance of the top five weights has been much stickier, although we started to see some correction in 2022. Specifically, the top five weights underperformed the average stock by over 31% but have not closed the gap of the longer period's outperformance. As of year-end 2022, these top five weights still had an outperformance of 7.4% (not annualized) relative to the average stock in the S&P 500, but well off the two monthly highs seen in August 2020 (47.2%) and November 2021 (43.4%).

2023 Expectations

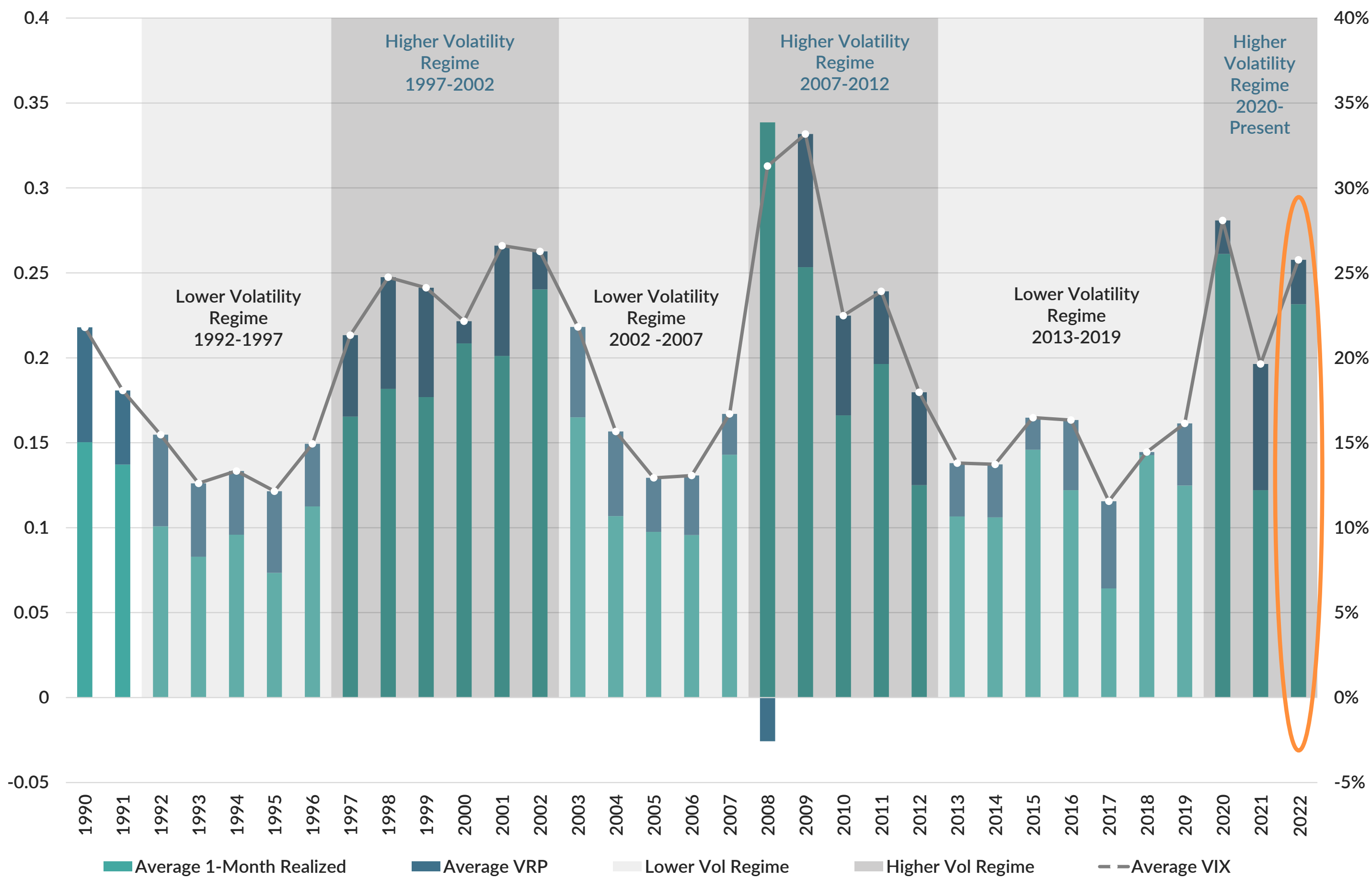
Using the dot-com as a rhyme to history, we continue to believe the top five weighted stocks could experience underperformance relative to the average stock. With the continued S&P 500 concentration risk, more normalization of the current five largest weighted stocks could create underperformance for passive strategies allocated to these stocks. We continue to prefer active strategies with lower concentrations in these mega caps or large cap allocations that are more diversified versus strategies with higher exposures to these five largest companies.

Volatility Strategies

While the transition from a lower to higher volatility regime is typically more favorable for long volatility strategies, the transition from higher to lower volatility like the current environment tend to be more favorable for short volatility strategies. With the compensation for short volatility risk remaining elevated relative to history in this higher volatility regime, we continue to prefer strategies with short volatility exposure.

Unlike 2020, when exposure to long volatility tended to be profitable, we anticipated short volatility strategies could have more profitable outcomes in 2022, as they did in 2021 when measuring exposure through the volatility risk premium (VRP). Exhibit 3 shows the levels of the average monthly option expiration VIX closing price (proxy for expected volatility) versus the average monthly option realized volatility of the S&P 500 for each calendar year. While 2022 remained positive with the average monthly option expiration VRP measuring a positive 2.6% (with an average monthly option expiration VIX closing price of 25.8 versus average realized volatility between monthly option expirations of 23.2%), this VRP level was below both the 33-year average of 4.1% and the near-record year of 2021 at 7.8%. In short, while the higher average daily moves with no period of excessive volatility spikes was atypical and reduced the VRP, overall VRP as calculated above was positive.

EXHIBIT 3: VIX levels versus realized volatility of the S&P 500



Sources: Glenmede Investment Management LP and Bloomberg *As of 12/31/2022*
Average 1-month realized is the average realized volatility between each expiration cycle per each calendar year. Average VIX is the average VIX closing price on expiration for the calendar year. VRP is defined as the market implied volatility (expected) minus market realized volatility (historical). VRP is calculated as the VIX closing price at each expiration minus the realized volatility between expiration cycles. The average VRP is this average of the VRP calculation in each calendar year. Lower volatility regime is defined as 1-month VIX average below 15 and 1-month realized volatility below 12% for prolonged periods of time. Higher volatility regime as 1-month VIX average above 20 and 1-month realized volatility above 16% for prolonged periods of time. Past performance is not indicative of future performance.

2023 Expectations

Exhibit 3 shows periods over the past 33 years with lower and higher volatility. The lower volatility regime is defined as 1-month VIX average below 15 and 1-month realized volatility below 12% for prolonged periods of time, and the higher volatility regime as 1-month VIX average above 20 and 1-month realized volatility above 16% for prolonged periods of time. A more normal volatility period, that is, VIX at 15-20 and 1-month realized volatility of 12%-16%, occurs within both higher and lower volatility regimes, so for illustrative purposes we distinguish between higher and lower volatility regimes only. We believe we will remain in a higher volatility cycle, which historically has been accompanied with a higher VRP measure relative to the longer-term average. With the potential compensation for short volatility risk remaining elevated relative to history in this higher volatility regime, we continue to prefer strategies with short volatility exposure.

[1] *Earnings Insight. FactSet. January 6, 2023. https://advantage.factset.com/hubfs/Website/Resources%20Section/Research%20Desk/Earnings%20Insight/EarningsInsight_010623A.pdf.*

[2] *We define a negative earner as any company without earnings over the trailing 12 months. For additional reading on negative earners, please see Why Profitability Matters: Positive versus Negative Earners and Negative Earners Could Create Positive Alpha for Active Strategies.*

THE QUARTERLY STATEMENT
is a Glenmede Investment Management LP newsletter written in collaboration with the investment teams and:

Stacey Gilbert
Chief Investment Officer/
Portfolio Manager,
Derivatives

1650 Market Street, Suite 1200, Philadelphia, PA 19103-7391
215-419-6662 | gimclientsupport@glenmede.com
glenmedeim.com

GLENMEDE
INVESTMENT MANAGEMENT