



LYONS INVESTMENT MANAGEMENT

QUARTERLY NEWSLETTER

Q4 2022

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The market clawed back some losses in the fourth quarter as key developments for interest rates and the economy were positive relative to expectations. It was a painful year, especially for Technology stocks, but it's also important to put this decline in perspective. Despite a pandemic in the middle, the S&P 500 had three strong years in a row: 2019, 2020, and 2021. Then, after a loss of -18.11% in 2022, the Index is still up +9.42% per year on a trailing 5 year basis. That is not anything close to a generational bear market such as the 2009 Great Financial Crisis. Instead, it's more of a correction along the lines of the early 2020 decline, which was sharp but didn't really dent longer term returns. The story is not complete yet, though, just because the calendar turned. We don't know if this episode of market weakness is over yet. What we can say is that we've already been through a full year of market declines. Since the market tends to react quickly to bad news, that is a significant statement.

The key elements that will drive whether we will have a continued bear market or a rebound year in 2023 have shifted since the recent market low in October 2022. Now, it's no longer about the Fed and interest rate policy, but instead it's about the economy. Here are some key points:

- Two major, connected events happened in the fourth quarter. First, inflation peaked, and second, the Fed pivoted to smaller interest rate increases. The disaster scenario of out of control inflation with a Fed that was continually behind the curve is now out of the picture.
- The path of inflation and interest rates, while unknown, is now bounded to a sufficient degree. They are important but not decisive.
- The Fed will now be reactive to economic events as opposed to driving them. They are still shellshocked by the unexpected inflation surge and need to regain control as a primary objective. I think they will err on the side of keeping interest rates high.
- Despite the uncertainty, the market is acting with a strong consensus about how this economic downturn will develop. Asset prices are reflecting a mild economic downturn in the US (call it a recession or not) which causes a less than typical decline in corporate earnings.

The market consensus that everything will turn out ok sets up a negative asymmetry to returns for US stocks. If events disappoint to the downside, asset prices need to adjust to that reality. This will mean another year of negative returns, commensurate with the damage to corporate earnings. On the positive side, we could have a slowdown of growth which avoids a recession. That would set up a stock price rebound once the economic bottom is in sight. I see this as asymmetric because the consensus is skewed to the positive outcome despite a presently slowing economy which everyone also agrees on. Either way, it's all about the economy.

My own forecast is a bit different from the consensus. I think that the economy is weakening, and that it doesn't matter if current data points are not reflecting a slowdown. Reliable recession indicators like the LEI (Leading Economic Indicators) and the slope of the yield curve are very negative. This is like a ball rolling down a hill, and it will stop when the physics dictate it. At the very least, time is required for the economy to absorb the hit from higher interest rates. Real estate, the most interest rate sensitive asset class, seems like it has further to go to reflect the rise in interest rates. The most likely sequence of events, as I see it, is for the market consensus to break in the face of actual economic weakness. Under this scenario, stocks will fall but then bottom and begin to rebound once we're in recession. I have to note that so far in 2023 the market completely disagrees with this forecast. Instead, economically sensitive stocks that are the most obviously exposed to a recession are rallying strongly.

Value beat growth in 2022 by a large margin. As it turned out, the economic features that growth stocks care about, mainly those that impact valuation multiples, were negative while those that value stocks care about, mainly profit margins, were positive. As I wrote last quarter, I think these changes are longer term in nature and that growth investors will have to change significantly to prosper (and value investors will have to unlearn lessons from the past few years). However, the

coming period of economic weakness may not be so kind to value investors. The profit margins that were boosted by inflation may deflate in a real recession, especially for the most cyclical stocks. Quality, defined as low economic sensitivity, naturally tends to outperform during such periods.

With every passing quarter I'm more convinced that we're setting up a better period for the types of stocks that saw investor funds flow out during the massive rise in Technology stocks. Foreign stocks are certainly on that list, as well as small cap stocks. The beginnings of trends are often hard to see and believe.



We all know that stock returns vary a lot from year to year. Stocks are very sensitive to near term expectations of key drivers such as economic growth and interest rates. This is all part of the game that market professionals play in order to get ahead of their competition and generate outperformance. They dominate market trading and their positions swing from one asset to the next, causing a hyper focus on the short term. These rotations don't matter much for the longer-term direction of returns.

This behavior is the underpinning for a mean reverting market. It's one reason the waves up and down and the stories told around them aren't a helpful focus for most investors. The exciting trends of the day as well as the fears will almost certainly be different in just a year's time, and prices will reflect that change. Covid was a desperate threat to the market, until it wasn't. The issues of the day are all made to sound like they are critically important. I'm guilty of that in my own writing. What matters depends very much on your time horizon.

After saying that the short term is over-hyped, the standard financial advice is to remind people that markets go up over long time periods. That is historically true (at least for US stocks), but I also think it's useful to take a more nuanced view.

The history also shows us that bull markets matter. Stocks don't rise in a straight line like interest from a bond. Instead, you see long periods of waves up and down with no progress ("outside a bull market"), and even longer periods where prices rise steadily ("inside a bull market"). For example, emerging market stocks have been outside a bull market since 2007, and there's been virtually no progress over that long period when measured in dollars. That doesn't mean at all that it's an asset class that can't generate returns, just that this hasn't been the time. Contrast this with the US, where we have seen a bull market since 2009, and significant price gains have occurred. From 2000 to 2009, US stocks were outside a bull market, although that was admittedly hard to see during much of the period. This story shows that while stocks of different types are correlated in the short term, they can be very uncorrelated in the time horizons that matter for returns (as opposed to risk). Sometimes, a bull market in one place (like we have recently seen with US Technology stocks, for example), draws in so much investor money that no other bull market can exist simultaneously. The drivers of bull markets are pretty simple and unsurprising, although they are hard to see and predict in the moment. Corporate earnings go up, interest rates go down, and stocks become valued at a higher level reflecting the stickiness of success. For emerging markets in 2007, it looked like the future would be an uninterrupted success story, and the stocks were valued accordingly. It didn't work out that way for the next 15 years.

With this context, it becomes very important to figure out where the bull market is and where it isn't. We may or may not be at an important inflection point for the major US indices. On the one hand, this is the most serious down period during the current bull market. It has been accompanied by a classic boom/bust in growth stocks, where there is no doubt that an inflection point occurred. We have had the first real bout of inflation seen since the beginning of the prior bull market in 1982. Lastly, large cap US stocks are priced very expensively. On the other hand, this drop as of now looks much more like a correction than the end of past bull markets. History says bull markets don't die with a whimper. Interest rates are no longer rising and corporate profits may hang in there during a mild recession. Many stocks outside of the growth darlings suffered only minor losses. It's not hard to envision economic conditions that would permit this to be simply another correction, albeit a painful one.

So, the big picture answer is trickier than normal at this moment. Instead of the "markets always go up" view, I think it makes sense to understand that a further decline in the US market might not be a buying opportunity if it means the end of this bull market. It certainly might turn out fine, but risk is elevated. It's also anti-historical to believe that hot investment areas that have clearly declined will see a return to favor. If this is a time of change then extrapolation is not the right strategy. Instead, a balanced asset mix that considers how assets are priced would be a reasonable approach.



Lyons Investment Management

Fundamental Small Cap Value Strategy

Q4
2022

PERFORMANCE AS OF 12/31/2022

	QTR	YTD
Small Cap Value	11.63%	-4.53%
Russell 2000	6.23%	-20.44%

PORTFOLIO STATS AS OF 12/31/2022¹

	SCV	S&P 500
Number of Holdings:	55	503
Mkt Cap Mil (Avg.):	\$2,220	\$67,160
P/E (TTM):	8.4	19.2
P/B:	1.6	3.7
ROE (Median):	20.0%	17.1%

TOP 5 HOLDINGS AS OF 12/31/2022²

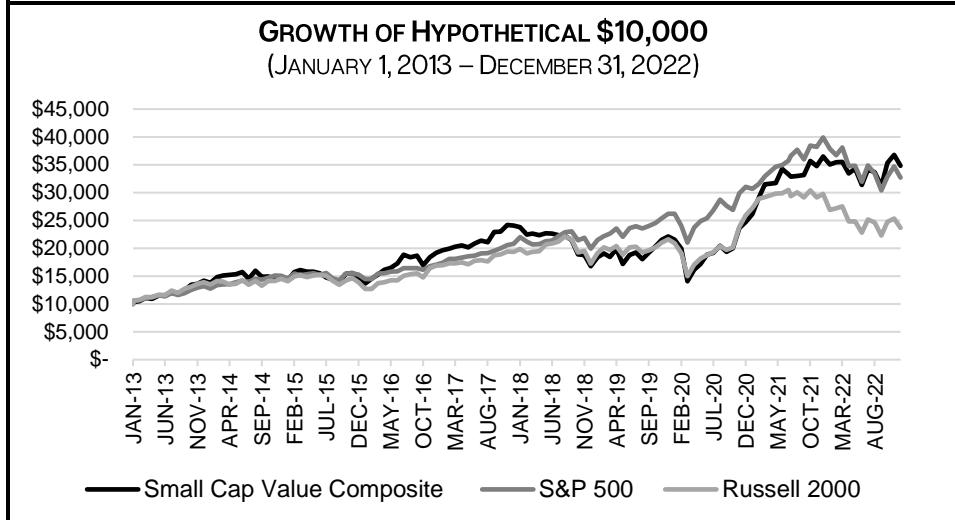
BELFB	Bel Fuse Inc Class B
AMRK	A-Mark Precious Metal
PLPC	Preformed Line Products Co.
PKBK	Parke Bancorp
AVNW	Aviat Networks

LARGEST CONTRIBUTORS Q4 2022³

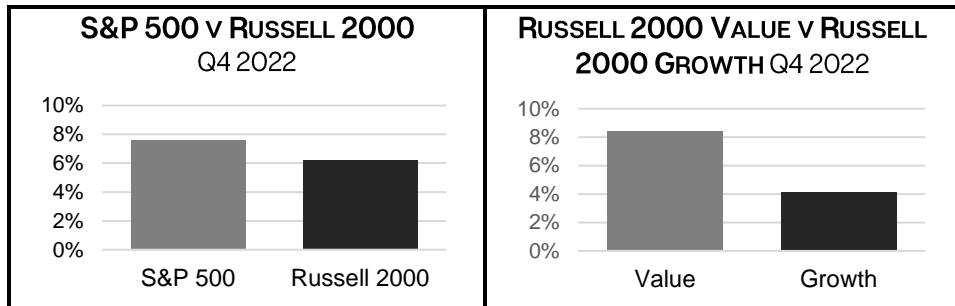
		Impact
BELFB	Bel Fuse Inc Class B	1.65%
MOD	Modine Manufacturing	1.05%
AMRK	A-Mark Precious Metal	1.02%
EXTR	Extreme Networks, Inc.	0.73%
PRIM	Primoris Services	0.64%

LARGEST DETRACTORS Q4 2022³

		Impact
SRTS	Sensus Healthcare	-0.56%
IPI	Intrepid Potash	-0.21%
PCTI	PCTEL, Inc.	-0.21%
MHH	Mastech Digital	-0.19%
SMMF	Summit Financial	-0.17%



This chart illustrates the performance of a hypothetical \$10,000 investment made in the strategies ten years ago or on commencement of operations (whichever is later). Figures include reinvestment of capital gains and dividends. These charts are not intended to imply any future performance.



SECTOR WEIGHTS AS OF 12/31/2022

Energy	4.76%	Financials	19.31%
Materials	6.58%	Real Estate	0.56%
Industrials	18.54%	Technology	28.84%
Consumer Discretionary	12.26%	Telecommunications Services	0.95%
Consumer Staples	1.01%	Utilities	0.00%
Healthcare	3.14%	Cash	4.04%
		Total	100.00%

Past performance is no guarantee of future results. An index is unmanaged and is not available for direct investment. Allocations, holdings, sector weightings, and performance contributors and detractors are subject to change and should not be considered as investment recommendations. It should not be assumed that an investment in any of these securities will be profitable. This is supplemental information. Please refer to the end of this document for important disclosures. Portfolio information is derived from a representative account managed against the index noted and included in the composite. The representative account was selected based on objective criteria, including, but not limited to, the nature of the client, the client's benchmark, and the ability for the mandate to be implemented without material restrictions or limitations.

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³ Largest Contributors and Largest Detractors: The securities identified are the largest performance contributors and detractors in the representative account, and do not represent all of the securities purchased, sold, held or recommended for advisory clients. In order to obtain the calculation methodology and/or a list showing every holding's contribution to the representative account's performance during the quarter, please contact us at info@lyonsinvest.com.



COMMENTARY BY VAIÐAS PETRAUSKAS

Our All Asian portfolios rebounded 12.09% in the 4th quarter as Asian currencies and stocks recovered. My discussion will focus on macro factors because they had a much bigger impact on our returns than stock selection. As for stocks, our Japanese and Thai stocks finished the year down very slightly, almost flat. We outperformed Japanese indices by a wide margin. In Thailand, we trailed the Thai Set Index but widely outperformed the small cap benchmark. Our return in local currency was a good relative result compared to what happened to U.S., European, and some Asian markets (such as China, Taiwan, Hong Kong, and South Korea) which experienced losses of around 20%. It was hard to make money in 2022 as nearly everything went down. Only commodities, the dollar, and a few Latin American markets had positive returns. In Singapore we lost around 20%. But Singapore stocks have a very small allocation in portfolios for this precise reason – they are very volatile and are correlated with the U.S. market.

With our large weight in Japan, changes in the value of the Japanese Yen have been an important factor for our performance (more Yen per dollar, or Yen weakness, means the same local value for a stock is worth less in USD). The Japanese yen started 2022 at the rate of 115 yen to 1 dollar. It went into free-fall until October. This was sparked by differences in monetary policy between the Japanese and other central banks. The Bank of Japan (BoJ) was the only remaining central bank with an ultra-loose monetary policy while other central banks were raising rates throughout 2022, causing a widening difference in interest rates. The fall in the yen was exacerbated by speculators who participated in the "yen carry trade", borrowing cheaply in the Japanese currency and parking the money in higher yielding currencies. They make money on the interest rate differential and on (hopefully for them) an even cheaper yen when they have to repay the loan. The Bank of Japan's comments throughout the year that they did not plan to raise interest rates gave speculators confidence that the BoJ would not intervene and spoil the easiest trade of 2022. At one time in October the yen traded at 151, down an unbelievable 30% against the US dollar for the year. All of that changed in December.

The yen was already strengthening when a shocker came on December 20th. Without warning, the BoJ announced a change in their yield curve control (YCC) limits. YCC means that the BoJ kept the yield on the 10-year government bond artificially depressed at 0.25% by buying bonds when necessary. The BoJ decided to allow the 10-year bond (JGB) yield to move 50 basis points either side of its 0% target, wider than the previous 25 basis point band. It's a small change but an important signal. The BoJ has shown that it can crush speculators. The JGB yield after the announcement promptly moved to 0.50%. The yen finished the year at 131, still down for the year but "only" by 12.6%. For the second year in a row the yen depreciated by more than 10% against the dollar. At the time of writing this, the yen is trading at 128. I think the yen will continue to appreciate in 2023, as I discuss below.

I think either the 0.50% JGB yield limit will have to be increased again or the whole yield curve control mechanism abandoned. Currently the 10-year JGB is yielding 0.60%, above the limit set by the BoJ, as speculators are testing the central bank. Also, there is increased pressure from investors who do not think that 0.50% is an adequate return for lending to Japan for 10 years given that the current level of inflation is over 3%. To fight this sell-off of bonds, the BoJ is currently buying more bonds than ever in an effort to keep the yield below 0.50% (and failing). So either the BoJ has to ramp up bond purchases even more aggressively (and increasing liquidity even further as a result) or adjust/eliminate the YCC, which would be embarrassing to BoJ governor Kuroda. I believe another increase in limits or abandonment of YCC is only a question of time and will happen in 2023. The central bank governor's Kuroda's term expires in April. YCC is his creation. The new team will likely make major changes to the yield curve control mechanism. Any changes they make will likely be yen-positive because any changes will be toward tighter policy. Events in the bond market are moving fast and the market is forcing the BoJ to act now. I doubt they can wait until April. The BoJ made no changes at their January meeting, but they have another one on March 10. We might see another policy shift from that meeting.

The reason why Japan's current ultra-loose monetary policy no longer makes sense is rising prices and wages. Inflation in Japan is currently above 3%. This is a lot for Japan where inflation was absent for the past 20+ years. Their whole massive

money printing experiment over the last 10 or so years was designed to generate inflation of 2%. They finally succeeded, although not because of their unprecedented monetary policy but because of rising prices around the world, including energy. Now more and more companies are announcing wage increases. This is important because wages in Japan were flat for decades. Uniqlo, an apparel company, raised wages by 40%. This was the first time in 20 years that the company revised remuneration across its entire group. Other examples are Nippon Life Insurance and Suntory Holdings. In such an environment, a normalization of monetary policy makes sense. Another positive for the yen.

The BoJ, however, does not want the yen to appreciate by a lot. Somewhere around 100 yen per dollar is a critical level. A very strong yen will hurt Japan's export economy. This is precisely why the BoJ is trying to keep a lid on bond yields. High yields would attract a lot of capital and would cause the yen to appreciate. This is a serious issue because big Japanese institutional investors hold large foreign bond holdings. As the yen appreciates and yields rise in Japan, it makes sense to repatriate the cash back to Japan, causing a cascading effect of yen strengthening. So, the BoJ will likely try to "manufacture" a controlled appreciation, by doing a balancing act between a shift in YCC policy and bond purchases.

Turning to Thailand, the Thai Baht also experienced volatility in 2022, going from 33 to 1 dollar at the beginning of the year to 38 in October (down 15%) and back to 33 at the time of writing. It finished 2022 weaker by 4%. What looked like the year of Dollar dominance very quickly unraveled in the last two months of 2022 as investors bet that the U.S. Fed is close to the end of its interest rate hiking cycle and that interest rate differentials will narrow. Still, the dollar finished stronger against most currencies for the second year in a row. The dollar rarely has moved in a one-way direction for more than 2 years. A weaker dollar would be welcome news for foreign economies and markets. So far in 2023 the dollar is continuing the downward trend.

For 2023, I feel confident about the Thai stock market. The Thai economy is expected to grow 3-4% this year while the U.S. and European economies might experience a contraction. A general election will be held in May, which is usually associated with a stock market rally. China reopening will be a big boost and tourism will recover greatly. Overall, I expect that Asian economies will experience higher growth rates relative to the rest of the world in 2023. So I think Thai stocks will do well, at least on a relative basis.

The Japanese stock market is always hard to predict. It is very unusual in its behavior compared to other markets. It is perennially cheap. Companies are extremely overcapitalized and being managed very conservatively. Governance changes were supposed to improve returns on capital, but change is very slow at small companies. The market tends to do nothing for 2-3 years and then have rapid appreciation lasting around 1 year. The Japanese market has been drifting lower for two years now. Combined with a weakening yen during this same time, it acted as a double-whammy for foreign investors. Is 2023 the year when the direction changes and both the yen and stocks appreciate? It is possible. I laid out the case why the yen is likely to appreciate. Guessing the direction of the stock market is harder. It will depend on the strength of the global economy, the level of the yen, and how inflation impacts corporate profits. So far, it's been a big positive since costs have gone up less than revenue. Rising wages are a new phenomenon in Japan. Wages are stickier there for cultural reasons, since workers do not typically ask for raises. It will be interesting to see how Japanese respond to rising living costs, which they haven't experienced in the last 20 years. I have a feeling that smaller companies will have a harder time if wage increases become a trend.



PORTFOLIO STATS AS OF 12/31/2022¹

	AA	S&P 500
Number of Holdings:	64	503
Mkt Cap Mil (Avg):	\$878	\$67,160
P/E (TTM):	6.3	19.2
P/B:	1.2	3.7
ROE (Median):	12.4%	17.1%
Dividend Yield	3.8%	1.8%

TOP 5 HOLDINGS AS OF 12/31/2022²

Thantawan Industry PCL. (Thai)
Nippon Pillar Co. (Japan)
Sahamitr Pressure Container PLC. (Thai)
Information Planning Co. (Japan)
Thai Optical PCL. (Thai)

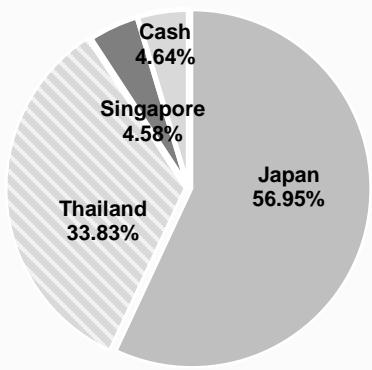
LARGEST CONTRIBUTORS Q4 2022³

	Impact
Nippon Pillar Co.	0.80%
Supalai PCL	0.78%
Elematec Co.	0.69%
G-7 Co.	0.57%
Digital Information Tech. Co.	0.56%

LARGEST DETRACTORS Q4 2022³

	Impact
Sahamitr Pressure Container	-0.26%
Asian Sea PLC	-0.23%
CSE Global Ltd.	-0.18%
SNC Former PCL.	-0.14%
Information Planning Co.	-0.10%

COUNTRY ALLOCATIONS AS OF DECEMBER 31, 2022

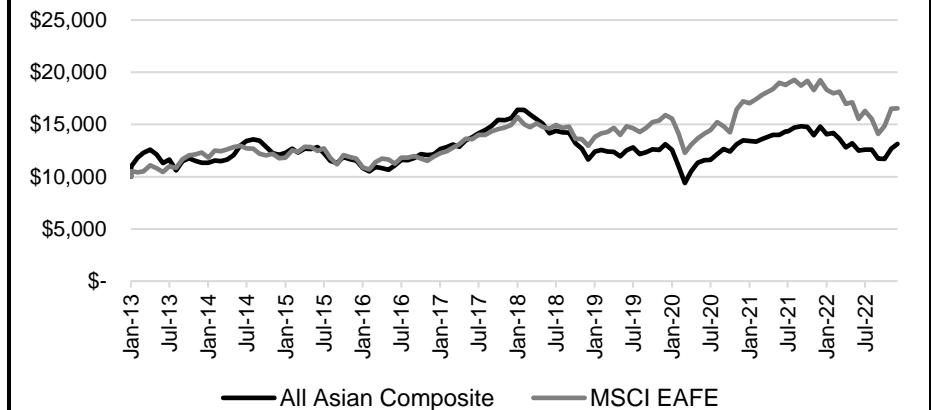


PERFORMANCE AS OF 12/31/2022

	Quarter	YTD
All Asian	12.09%	-11.19%
MSCI EAFE	17.41%	-14.01%
Nikkei 225	0.61%	-9.37%
Thai SET index (Baht w divs)	5.19%	3.53%
Singapore FTSE All Share	3.08%	0.21%
Japanese Yen vs USD	9.65%	-12.63%
Thai Baht vs USD	9.32%	-3.95%
Singapore Dollar vs USD	7.12%	0.69%

GROWTH OF HYPOTHETICAL \$10,000

JANUARY 1, 2013 - DECEMBER 31, 2022



This chart illustrates the performance of a hypothetical \$10,000 investment made in the strategies ten years ago or on commencement of operations (whichever is later). Figures include reinvestment of capital gains and dividends. These charts are not intended to imply any future performance.

Past performance is no guarantee of future results. An index is unmanaged and is not available for direct investment. Allocations, holdings, sector weightings, and performance contributors and detractors are subject to change and should not be considered as investment recommendations. It should not be assumed that an investment in any of these securities will be profitable. This is supplemental information. Please refer to the end of this document for important disclosures. Portfolio information is derived from a representative account managed against the index noted and included in the composite. The representative account was selected based on objective criteria, including, but not limited to, the nature of the client, the client's benchmark, and the ability for the mandate to be implemented without material restrictions or limitations.

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COMMENTARY BY MARK ZAVANELLI

The market rebounded in the fourth quarter. Performance trends were generally consistent with the overall themes of the whole year. Growth stocks, especially riskier ones, performed poorly. Large caps outperformed small caps by a wide margin. The average large cap stock gained 11.49% while the average microcap gained just 2.07%.

Within microcaps, here is how factors performed:

- Value performed well. Operating metrics like Price to Earnings and Price to Cash Flow outperformed Price to Book, but every flavor of value was successful.
- Momentum worked. Since growth stocks have been falling all year, momentum now aligns against growth and with value. Price momentum was the most successful variant.
- Profitability is now correlated with value and momentum, and it also worked.
- Risk measures like volatility were powerful, with higher risk stocks underperforming.
- Low volume outperformed high volume.

This was a positive backdrop for our quantitative strategies. Volume Momentum and Volume Winners outperformed the average microcap stock by healthy margins. Volume Value, surprisingly, only performed in line with the average stock. This was very disappointing. Upon further analysis, low price to book banks and cyclicals in the portfolio did not see the good performance that other value stocks had this quarter. This was an unusual case of a factor combination (low volume and value in this case) diluting performance.



Lyons Investment Management

Quantitative Strategies

Q4
2022

PERFORMANCE AS OF 12/31/2022

	Quarter	YTD
Volume Value	2.69%	-16.76%
Volume Winners	7.31%	-14.25%
Russell 2000	6.23%	-20.44%

PORTFOLIO STATS AS OF 12/31/2022¹

	Volume Value	S&P 500
Number of Holdings:	40	503
Mkt Cap Mil (Avg):	\$415	\$67,160
P/E (TTM):	6.4	19.2
P/B:	1.0	3.7
ROE (Median):	16.3%	17.1%

	Volume Winners	S&P 500
Number of Holdings:	24	503
Mkt Cap Mil (Avg):	\$323	\$67,160
P/E (TTM):	11.0	19.2
P/B:	1.2	3.7
ROE (Median):	10.7%	17.1%

MICROCAP FACTOR PERFORMANCE

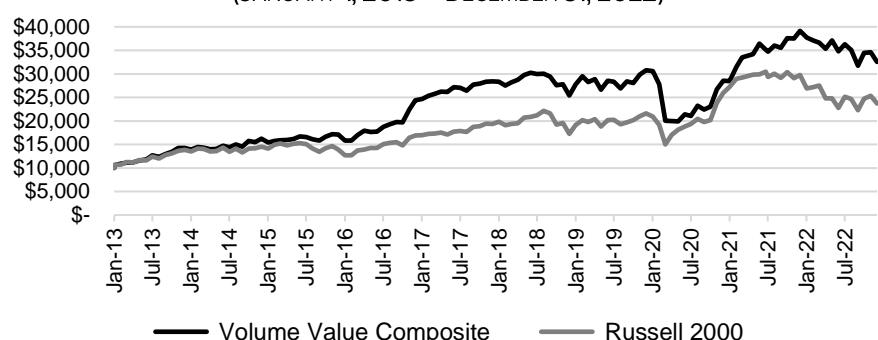
AS OF 12/31/2022²

	Factor Performance Direction*	
	QTR	YTD
Beta	High	High
Forecast P/E	Low	Low
Return on Equity	High	High
Exp. Growth	High	Low
Volume	Low	Low
Momentum	High	High

HIGH** indicates that higher values of the metric outperformed during the period. ***LOW indicates the reverse.*

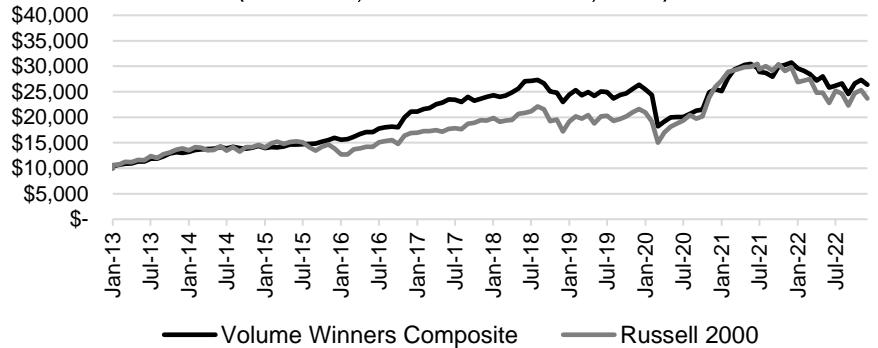
VOLUME VALUE – GROWTH OF HYPOTHETICAL \$10,000

(JANUARY 1, 2013 – DECEMBER 31, 2022)



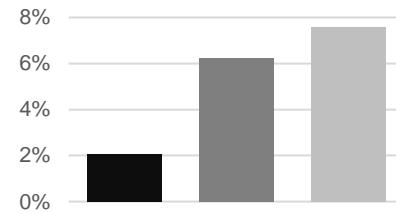
VOLUME WINNERS – GROWTH OF HYPOTHETICAL \$10,000

(JANUARY 1, 2013 – DECEMBER 31, 2022)

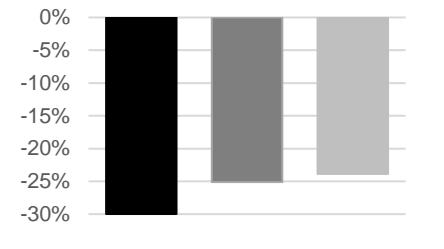


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Q4 2022 RETURNS



2022 YEAR TO DATE RETURNS



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² Microcap factor performance is presented for informative purposes only, to illustrate market themes during the period. It does not represent the results of any actual portfolio or any recommendations of the firm.



Composites Names in Bold <i>Benchmarks in italics</i>	PERIOD ENDING 12/31/2022					
	This Quarter	YTD	1 Year	3 Year Annualized	5 Year Annualized	10 Year Annualized
Fundamental Small Cap Value	11.63%	-4.53%	-4.53%	16.37%	7.65%	13.29%
Volume Value	2.69%	-16.76%	-16.76%	1.92%	2.78%	12.54%
Volume Winners	7.31%	-14.25%	-14.25%	0.00%	1.88%	10.18%
Volume Momentum	8.84%	-14.37%	-14.37%	5.64%	1.43%	9.29%
<i>Russell 2000</i>	6.23%	-20.44%	-20.44%	3.10%	4.13%	9.01%
<i>S&P 500</i>	7.56%	-18.11%	-18.11%	7.66%	9.42%	12.56%
Global Equity	11.68%	-10.01%	-10.01%	5.95%	0.83%	6.88%
<i>MSCI ACWI</i>	9.88%	-17.96%	-17.96%	4.49%	5.75%	8.54%
All Asian	12.09%	-11.19%	-11.19%	0.07%	-3.35%	2.78%
<i>MSCI EAFE</i>	17.41%	-14.01%	-14.01%	1.34%	2.03%	5.16%

Composites Names in Bold <i>Benchmarks in italics</i>	This Quarter	YTD	1 Year	3 Year	Since Inception (8/1/19) Annualized
Asia High Dividend	6.86%	-8.58%	-8.58%	18.17%	16.00%
<i>MSCI EAFE</i>	17.41%	-14.01%	-14.01%	1.34%	3.62%

Composite returns are presented net of management fees and trading expenses and include the reinvestment of dividends and other income. All returns are in US dollars.

Past performance does not guarantee future results. The table above reflects (1) performance of the Lyons Investment Management composites named in bold in the first column, (2) performance of the benchmark which reflects the composite's investment mandate, objective, or strategy, and (3) performance of the S&P 500 Index, which is provided for overall comparison and informational purposes. Please see the reverse for important information about composite and benchmark descriptions, how to receive more complete information about the composites, and disclosures regarding the calculation of performance, among other matters. Subsequent markets may perform better or worse than for the periods shown, which will cause the actual results of a portfolio to be better or worse than shown. Lyons Investment Management does not guarantee or offer any assurance that any portfolio or account will be profitable, meet a client's stated objectives, or prevent or reduce losses. **A client may lose money by investing in a portfolio.**

All composites include fully discretionary, management fee-paying and non-management fee-paying accounts, including those accounts no longer with the firm. The U.S. Dollar is the currency used to express performance, except for foreign indices which are reported in their local currencies. Returns are presented net of management fees and include all actual trading and custodial expenses and the reinvestment of income for accounts in the composite. Net of fee performance was calculated using model management fees, including for non-fee paying accounts. The model fee is our current maximum fee of 1.5% per year for separately managed accounts which do not pay a performance based fee. Actual advisory fees and transaction fees will vary depending on, among other things, the portfolio, account size, and activity. Fees are described in LIM's ADV Part 2A.

On September 24, 2019, Lyons Investment Management acquired the asset management business which managed the composites presented. At the time of the acquisition LIM was affiliated with the prior firm with shared investment personnel. Performance shown prior to the acquisition date is from the prior firm. The historical performance has been linked to performance achieved at Lyons Investment Management.

The benchmark and other data provided was obtained from publicly available reports, including internally derived databases and other resources available to Lyons Investment Management. LIM believes such data to be reliable but does not audit, verify, or guarantee its accuracy or completeness. When comparing the performance results to a benchmark, clients should keep in mind that: 1) Indexes are unmanaged and unavailable for direct investment. 2) Benchmark returns include reinvestment of income, but do not reflect taxes, or investment advisory or other fees that would reduce performance. 3) Performance information of benchmark indexes is included for comparison purposes only. Indexes and benchmarks may not directly correlate or only partially relate to the composite as they have different underlying investments and may use different strategies or have different objectives than the composite.

Composite and Benchmark Descriptions:

The S&P 500 and Russell 2000 are market cap weighted indices of large company and small company US stocks, respectively.

The Fundamental Small Cap Value Composite consists of accounts that hold U.S. small cap stocks selected by using LIM Investment Management Fundamental Analysis. This analysis identifies undervalued companies using LIM's GRAPES valuation model and also applies other selection criteria relating to a company's business prospects, management quality, and capital structure. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars. In the past the composite has displayed higher volatility than its benchmark.

The Volume Winners Composite consists of accounts that hold U.S. microcap stocks selected by using LIM Volume Winners Analysis. This analysis is a quantitative evaluation system incorporating volume, momentum and valuation measures. The composite name is not intended to imply that the securities selected will be winning investments, but rather that price momentum is considered in the stock selection process. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars. In the past the composite has displayed lower sensitivity to market returns than its benchmark, which would cause it to underperform in a strongly rising market.

The Volume Value Composite consists of accounts that hold U.S. microcap stocks selected by using LIM Volume Value Analysis. This analysis is a quantitative evaluation system incorporating volume and valuation measures. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars.

The Volume Momentum Composite consists of accounts that hold U.S. microcap stocks selected by using LIM Volume Momentum Analysis. This analysis combines two quantitative evaluation techniques; LIM's price and earnings momentum measure SuperMo, and LIM's volume, momentum and value system Volume Winners. The benchmark for the composite is the Russell 2000 Index presented in U.S. Dollars.

The Global Equity Composite consists of accounts that hold both U.S. and International stocks selected by LIM Fundamental Analysis. This analysis identifies undervalued companies using LIM's GRAPES valuation model and also applies other selection criteria relating to a company's business prospects, management quality, and capital structure. The benchmark for the composite is the MSCI All Country World (Gross) Index, presented in US Dollars. MSCI ACWI is a market capitalization weighted index comprised of equities from developed and emerging markets, including the US. The composite has historically held small cap stocks from a limited set of countries while the benchmark weighting is primarily composed of larger companies spread across many countries. This is likely to cause the composite to have greater volatility than its benchmark. The composite includes the performance of accounts that may occasionally use margin; however, the use of margin is not part of the overall strategy of the composite.

Lyons Investment Management All Asian Composite consists of accounts that hold Asian stocks selected by using LIM's Fundamental Analysis. This analysis identifies undervalued companies using LIM's GRAPES valuation model and also applies other selection criteria relating to a company's business prospects, management quality, and capital structure. The benchmark for the composite is the MSCI EAFE Index, which is comprised of equities from developed markets around the world, excluding the US and Canada. MSCI EAFE is presented in U.S. Dollars. The composite has historically held small cap stocks from a limited set of countries, including emerging markets, while the benchmark weighting is primarily composed of larger companies from developed countries. This is likely to cause the composite to have greater sensitivity to the returns of countries where it invests, and overall greater volatility than its benchmark.

The Asia High Dividend Composite consists of accounts that hold Asian stocks selected by using LIM's Fundamental High Dividend Analysis. This analysis identifies undervalued dividend paying companies and also applies other selection criteria relating to a company's business prospects, management quality, and capital structure. The benchmark for the composite is the MSCI EAFE Index, which is comprised of equities from developed markets around the world, excluding the US and Canada. MSCI EAFE is presented in U.S. Dollars. The composite has historically held small cap stocks from a limited set of countries, including emerging markets, while the benchmark weighting is primarily composed of larger companies from developed countries. This is likely to cause the composite to have greater sensitivity to the returns of countries where it invests, and overall greater volatility than its benchmark.

This is not a recommendation nor an offer to sell (or solicitation of an offer to buy) securities in the United States or in any other jurisdiction.