FORMULA GROWTH LIMITED

Formula Growth Alpha Fund

2022 Investment Results

January 17th, 2023

Highlights:

- 2022 was an extraordinarily volatile year and there was nowhere to hide in equities or bonds
- Global central bank inflation hawkishness is spiking interest rates, cooling demand and hurting businesses
- Technology and small-cap growth stocks were dramatically over sold with recovery in prices usually steep and swift off the bottom
- The Formula Growth Alpha Fund portfolio is conservatively positioned with a long book that is cheap and poised for a strong recovery

Dear Unitholders,

In 2022, the Formula Growth Alpha Fund (“FGAF”) was down US$ -11.9% or -5.6% in CDN$ equivalent.

Fund Positioning and Attribution

2022 presented a difficult market for Formula Growth on the long side as the market rapidly tilted to large cap cyclicals and energy while small caps, growth, and technology lagged.

On average across the hedge fund platform, our long book was heavily exposed towards technology and underperformed the Indexes. As expected in this environment, shorts were very profitable offsetting much of the long book losses. Unfortunately, the short book gains were unable to fully offset a handful of unexpected execution issues and significant valuation compression in an unforgiving technology tape. This is the main reason for the portfolio drawdown for the year. We remain about –1% net exposed in the Formula Growth Alpha Fund. We expect the individual long positions that proved to be difficult in 2022 to yield significant profits in 2023.

The last time our Hedge platform was down as much as this was during 2011 and 2008/09 when it took 15 and 5 months, respectively, to regain high water. We are very comfortable with the price targets of the portfolio holdings and are excited with the potential upside they represent.

The Markets and Outlook

2022 was a year to forget for most investors with almost nowhere to hide. The S&P 500 Index dropped 18% (its biggest decline since 2008 and 4th worst loss in the past 85 years) and the tech-heavy Nasdaq composite declined 33%. It was an extraordinarily volatile year as evidenced by the S&P 500 having 63 days with returns down more than 1%. In the past 50 years, this only happened 3 times: 1974 (1975 bounced back 32%), 2002

(2003 bounced back 26%), and 2008 (2009 bounced back 23%) according to RBC Capital Markets. The Russell 2000 also had more down days than any other year besides 1984 and 2002 as shown in the table below.

Fig 17. **This level of bearishness has been followed by strong forward returns**

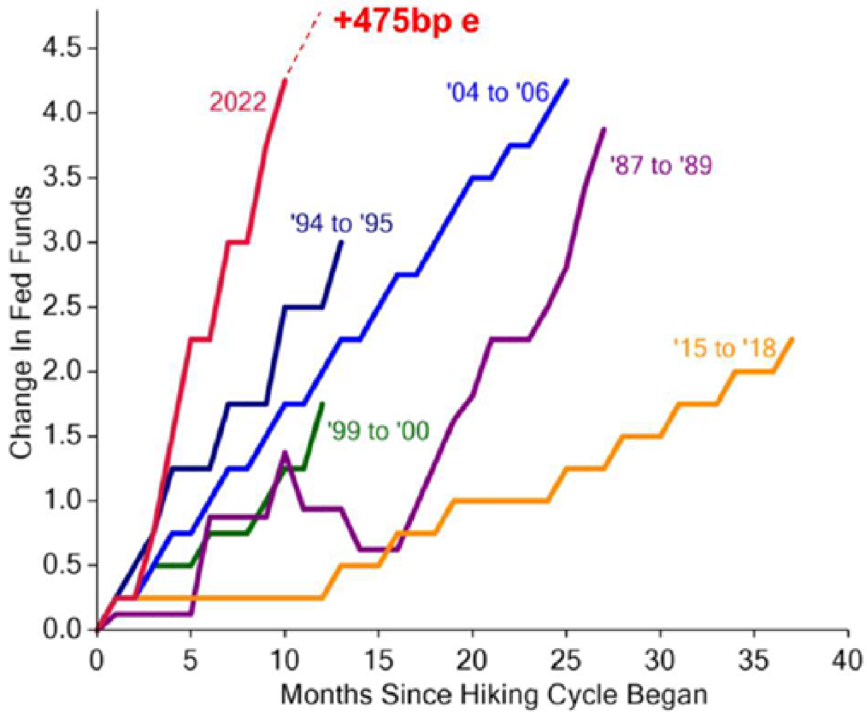
Year	% of Down Days During the Year	Next Year's Return (%)
1984	55.3%	31.0
2002	52.8%	47.3
2008	51.8%	27.2
2012	51.6%	38.8
2015	51.6%	21.3
2022	52.6%	
Average		**33.1**
Median		**31.0**

Source: FRP, FactSet; as of 12/31/22

There was also no safety in Bonds as they posted their biggest declines in history with the JPM Global Aggregate Bond Index down nearly 16%. Only energy was positive in 2022 while gold was effectively flat. Thirty trillion dollars of capital was lost between bonds and stocks in 2022. Very unusually, the 60/40 model portfolio had its worst return in 100 years, down 16% according to Furey Research.

Following the 2008/09 "great financial crisis", markets became dependent on low interest rates and government back stops. The end of the natural disaster that was Covid-19, together with the accompanying massive global fiscal stimulus, combusted inflation for the first time since the early 1980s. Expensive "long duration" type investments that lightly discounted profits years out, such as non-earning technology companies, suffered the most as risk became a dirty word and liquidity dried up. The reckoning arrived in 2022 with a bang as higher rates crushed valuations in the same vein as the '99 tech crash. Low single-digit earnings growth held up across the board but price-to-earnings ratios (P/E's) dropped over 30% for small-caps and over 20% for large-caps (Credit Suisse).

The Fed played a huge role in the markets throughout 2022, with a forced admission that inflation was not transitory but rather more entrenched. By March, Quantitative Easing (QE) stopped and by June, the Fed had begun reducing their balance sheet at a staggering rate of $47.5b a month which increased to $95b by September. The pace of rate hikes in 2022 was unprecedented. Mid-March initial rate hikes from 0% to 25 bps kicked off a series of hikes to 4.25-4.5% by Mid-December, the fastest hikes in four decades. The Fed has signaled rates to continue to rise into 2023 as inflation, though falling, is still too high affected at the moment by persistent labor shortages.



Source: Trahan Macro Research

For thirteen years, the Fed created money out of thin air and that stimulus found its way into many markets, including the equity markets. The "everything bubble" is what some have coined the period. The market could be viewed as the largest bubble in history, with valuation metrics exceeding the 2000 hysteria. We are living through historical times here as low interest rates and "free" money normalizes. The unwinding of speculative excess is painful but a necessary purge.

In bear markets, smaller-cap growth stocks tend to suffer the most and 2022 was no exception. The Russell 2000 Growth (IWO) Index, a broad measure of smaller-cap names was down 27% in 2022. A well-known group of our long-only peers as indexed by the Investor's Business Daily (IBD) was down a staggering -35.5% on average. In terms of preferred style during bear markets, investing behavior is predictable as money flows to islands of perceived safety including value stocks. Value has outperformed growth by the largest margin since 2001 and value was the place to be during 2022 as it outperformed growth by approximately 25%.

Investor capitulation is now at an extreme adding credence to our feeling we are closer to the end than the beginning of the bear market. This can be seen in the table on the next page.

Fig 21. **This level of bearishness has been followed by strong forward returns**

Year	Avg. Michigan Sentiment Level	Next Year's Return (%)
1974	64.5	60.9
1979	66.0	38.6
1980	64.4	2.0
1982	68.0	29.1
2008	63.8	27.2
2009	66.3	26.9
2011	67.4	16.3
2022	59.0	
Average		**28.7**
Median		**27.2**

Source: FRP, FactSet; as of 12/31/22

Conclusion

Bear markets present opportunities for those with a longer-term horizon and liquidity. Our perspective is that we may be entering a period where small caps enjoy a durable period of outperformance, driven by attractive relative valuations for small-cap stocks that are at levels not seen since 1973 and 2000. These two times coincided with the start of two very long and profitable small-cap cycles. We look forward to a shift of funds flow away from mega-cap tech and passive "one decision" S&P 500 investing.

Formula Growth is optimistic that opportunities will soon be plentiful for growth stocks as the market washes out and green shoots emerge from the ash. It is also our feeling that short and hedging opportunities will remain available as Wall Street rearranges the deck chairs on the Titanic. It is our feeling the major indexes will have difficulty making significant forward progress as the mega-caps, while re-rated lower, still remain highly priced.

Closing comments

Our partner and great friend, John Liddy has decided to turn a page with his life as 2023 begins. John has been absolutely essential in the development of Formula Growth for 28 years. His time with the firm represents almost half of the history of Formula since it was established in 1960. His hard work, sage counsel, and judgement have been crucial to the organization and to our clients. He joined Formula in 1995, moving from Toronto, and moving once again in 2008 to establish our New York office. John was instrumental in the ongoing development of our investment process, the growth of our business, and was responsible for establishing our hedge platform in 2002. As many of you know, he took a step back from the day-to-day in 2020 to care for his wife Christa. As 2022 unfolded, John concluded he needs more time to recharge, needing a change of pace as we begin 2023. We wish him the very best and cannot thank him enough for all that he has accomplished. We know you join us in wishing him and his family nothing but the very best as he begins this new chapter.

John has graciously agreed to act as a Special Advisor to the firm for the foreseeable future to help with this new stage of transition. He will remain an investor in our funds expressing confidence in our 9 person FG investment team. Additionally, along these same lines, the portfolio management team will be adding to their holdings in the FG Funds in January. Rest assured that as we begin the year, John is delighted with the investment team behaving as he would, hitting the road to meet prospective investments at JP Morgan Healthcare in San Francisco, the ICR Retail conference in Orlando and the Needham Growth conference in NYC.

We invite you to reach out to us to discuss your investments with our team regarding returns, portfolio positioning, and attribution. On behalf of the officers and employees of Formula Growth, allow us to take this opportunity to sincerely thank you for your continued support. Please also accept our best wishes for a healthy, happy and prosperous 2023.

Yours truly,

Formula Growth Ltd.

Formula Growth Alpha Fund Class F (US$) - Monthly and Year-To-Date Net Returns (US$ Returns)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2022	2.0%	(0.2%)	1.1%	(3.0%)	(1.8%)	(4.4%)	(1.3%)	0.1%	(3.2%)	(1.3%)	(2.2%)	1.9%	(11.9%)
2021	2.9%	3.3%	1.4%	(0.4%)	0.8%	2.9%	(1.8%)	(1.0%)	0.1%	(3.5%)	(3.1%)	(1.2%)	0.2%
2020	0.1%	(1.2%)	(8.2%)	4.9%	0.8%	0.2%	0.5%	(2.4%)	(0.1%)	1.6%	1.3%	(1.4%)	(4.4%)
2019	5.6%	0.7%	(1.1%)	0.7%	(1.6%)	(0.1%)	(1.7%)	(0.7%)	4.3%	1.0%	(0.3%)	(0.5%)	6.2%
2018	(1.3%)	1.0%	1.2%	2.1%	(0.2%)	(0.1%)	(0.8%)	(1.4%)	(1.3%)	(0.5%)	0.1%	(3.0%)	(4.1%)
2017	1.0%	(0.4%)	1.3%	(0.6%)	1.7%	1.3%	(0.2%)	0.7%	1.1%	(0.9%)	(2.0%)	0.8%	3.9%
2016	(5.4%)	1.4%	5.2%	0.2%	0.7%	(0.6%)	1.3%	1.8%	2.4%	0.0%	(0.8%)	2.2%	8.4%
2015	0.1%	2.5%	1.4%	2.3%	1.0%	(0.7%)	(1.1%)	1.4%	(1.3%)	0.6%	1.2%	(0.4%)	7.1%
2014	1.6%	2.2%	1.4%	1.4%	3.4%	0.0%	(1.3%)	1.1%	(1.2%)	(4.4%)	(1.2%)	0.0%	2.7%
2013	1.1%	(1.1%)	0.8%	(0.8%)	2.1%	1.1%	1.8%	1.1%	1.5%	4.6%	(0.9%)	0.3%	11.9%
2012	7.0%	6.6%	0.9%	(1.6%)	(1.5%)	(1.8%)	0.1%	0.7%	1.4%	0.9%	2.2%	5.5%	21.9%

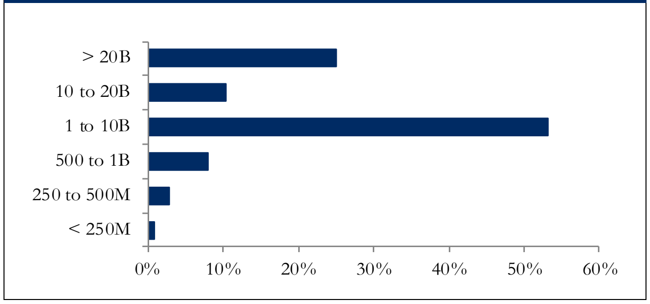
Formula Growth Alpha Fund

Fourth Quarter 2022 Investment Results

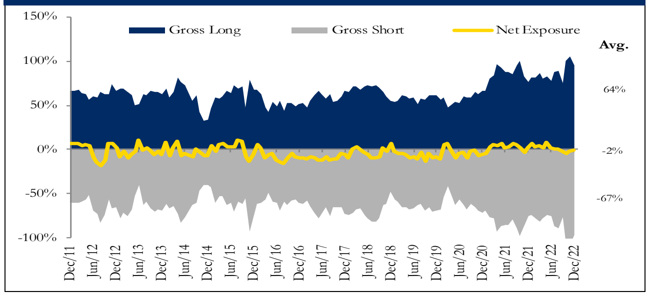
Market and Beta Exposure

	30-Sep	Q4 Avg.	31-Dec	2022 Avg.
Gross Long	75.9%	101.1%	95.8%	87.7%
Gross Short	-77.3%	-96.4%	-96.9%	-80.9%
Net	-1.4%	4.7%	-1.1%	6.8%
Total Gross	153.2%	197.6%	192.7%	168.6%
Net Beta	0.05	0.16	0.07	0.17

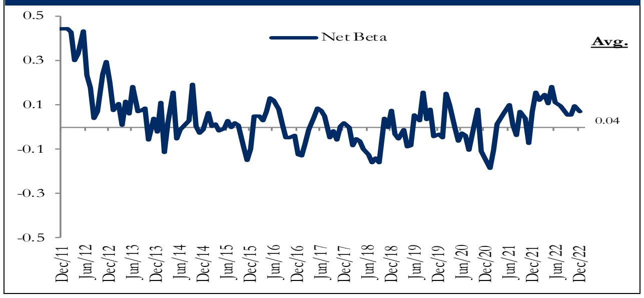
Market Capitalization Exposure Breakdown



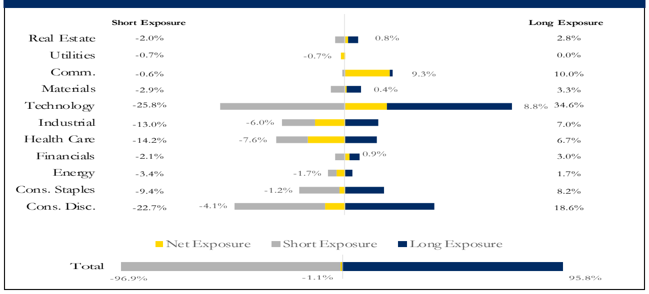
Portfolio Neutrality in Terms of Dollar Exposure



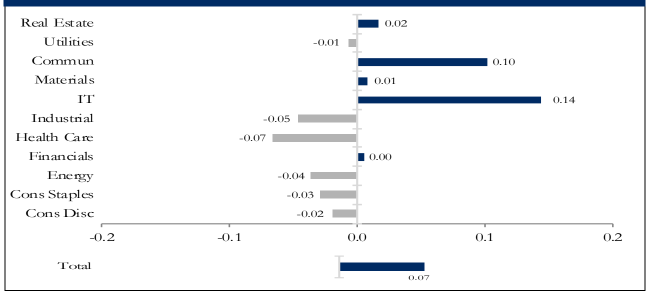
Portfolio Neutrality in Terms of Beta Exposure



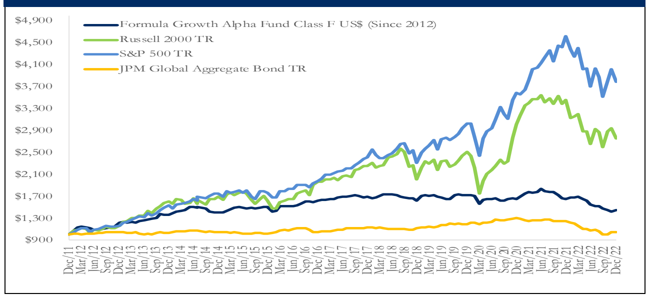
Sector Neutrality in Terms of Dollar Exposure



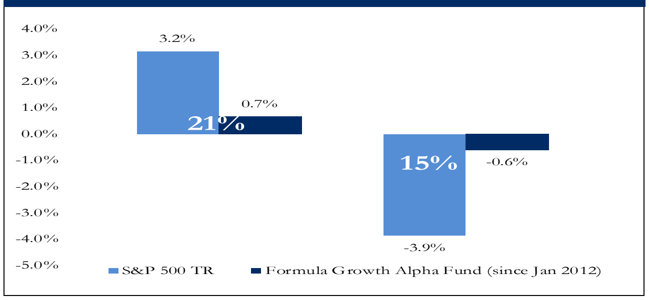
Sector Neutrality in Terms of Beta Exposure



Cumulative Return vs Stocks and Bonds



Participation in Market Upside & Downside



Graphs above are either as at December 31st,, 2022 or since inception of the strategy. Please see Notes & Disclaimers on page 5. Do not hesitate to contact us should you have any questions.

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Glossary of Terms

- Alpha longs: An investment strategy which involves taking long positions in stocks that are expected (in the opinion of the managers) to increase in value by more than 30% over approximately 12 to 18 months.

- Alpha shorts: An investment strategy which involves taking short positions in stocks that are expected (in the opinion of the managers) to decrease in value by more than 20% over approximately 12 to 18 months.

- Short positions: The sale of a borrowed security, with the expectation that the stock/security will fall in value and the re-purchase will result in a positive investment result.

- Pair trades: An investment strategy whereby an initial investment is made in a stock/security either long or short with a corresponding direct offset, or hedge, against the primary risk of the initial investment.

- Hedges: Hedging is the practice of taking a position in one market or stock/security to offset and balance against the risk adopted by assuming a position in a contrary or opposing market or stock/security.

- Correlation: Correlation in the investment industry is a statistic that measures the degree to which two securities move in relation to each other. Correlation is computed into what is known as the correlation coefficient, which has a value that must fall between -1 and 1. A perfect, positive correlation means that the correlation coefficient is exactly 1. This implies that as one security moves, either up or down, the other security moves in lockstep, in the same direction. A perfect, negative correlation of -1 means that two assets move in opposite directions, while a zero correlation implies no relationship at all.

- Sharpe ratio: The ratio measures the excess return (or risk premium) per unit of deviation in an investment asset or a trading strategy, typically referred to as risk.

- Batting average: Number of positions on which we have a positive return divided by the total number of positions we held during the period.

- Slugging average: Average contribution of positions on which we have a positive return divided by the average contribution of positions on which we have a negative return for the period.

- Upside/Downside Capture: Upside market participation since inception is calculated as the average performance of the fund when the benchmark has a positive month while the downside market participation is calculated as the average performance of the fund when the benchmark has a negative month.

Notes & Disclaimers

- Performance figures reported from January 1st 2014 onwards represent the US$ net performance of the Formula Growth Alpha Fund (the "Fund") after all fees and other Fund expenses. Prior returns represent the US$ net performance of the Formula Growth Alpha II L.P. and are based on an investment in the Fund made on January 1, 2012, the date of the Strategy's inception. The Formula Growth Alpha II L.P. was launched in May 2011. In January 2012, significant changes were made to the risk management and portfolio management guidelines. As risk management and portfolio management guidelines established in January 2012 are relevant only to the current strategy of the Formula Growth Alpha Fund, the statistics do not include the 2011 performance figures which are available upon request. In January 2014, the Formula Growth Alpha II Fund structure was changed from a Canadian Limited Partnership to a Canadian Mutual Fund Trust and the name of the fund was changed to the Formula Growth Alpha Fund.
- Gross portfolio returns discussed are presented after reduction for any investment and Fund accounting related expenses, net interest, other expenses and the reinvestment of dividends, and include any gains or losses from "new issue" securities. Per the Fund's High Water Mark provisions, net performance figures take into account a 1% Management Fee and a 20% incentive allocation. Performance results for particular investors may vary from the performance stated herein as a result of, among other things, the timing of their investment(s) in the Fund, different management and incentive allocation terms and the respective investor's eligibility to participate in "new issue" securities.
- All performance figures contained herein are unaudited estimates and subject to change. Certain information contained herein may have been provided by third party sources including Bloomberg, and, although believed to be reliable, has not been independently verified and cannot be guaranteed. Performance estimates are presented only as of the date referenced above and may have changed materially since such date.
- Market index information shown herein, such as that of the S&P 500 TR, Russell 2000 TR, JPM GABI and HFRI EMN Indices, are included to show relative market performance for the periods indicated and not as standards of comparison, since these are unmanaged, broadly-based indices which differ in numerous respects from the portfolio composition of the Fund. Market index information was compiled from sources that Formula Growth believes to be reliable. No representation or guarantee is made hereby with respect to the accuracy or completeness of such data. The current month's HFRI EH: EMN return is that of the HFRX EH: EMN which is used as a proxy for the HFRI. For more information regarding the indices, please consult https://www.hedgefundresearch.com.
- The analyses, opinions, and conclusions of Formula Growth contained in this report include certain statements, assumptions, estimates and projections that reflect various assumptions by Formula Growth concerning anticipated results that are inherently subject to significant economic, competitive, and other uncertainties and contingencies and have been included solely for illustrative purposes. No representations, express or implied, are made as to the accuracy or completeness of such statements, assumptions, estimates or projections or with respect to any other materials herein.
- Performance attribution figures and returns for individual securities, including ETFs, reflect summations of the respective profits and losses divided by the average of the beginning and end of month total gross Fund assets, and are not inclusive of expenses, management, and incentive fees/allocations. Performance attributions should be considered approximations calculated to the best of our knowledge.

Notes & Disclaimers

- Beta is calculated by Formula Growth Ltd. using the Bloomberg system and is the trailing 6 months daily returns versus the S&P 500 unadjusted (raw).
- Exposure represents the market value of all equity securities and single-equity-backed instruments (i.e. derivatives) as of the date of this letter/report. Exposure numbers exclude currency hedges.
- Sector and industry classifications are determined by Formula Growth Ltd. using available sources such as Bloomberg. Exposures based on these figures include ETFs and should be considered as approximations calculated to the best of our knowledge.
- Market Capitalization represents the relative market capitalization of long and short positions on a United States dollar adjusted basis using available sources such as Bloomberg. Exposures based on these figures do not include ETFs and should be considered as approximations calculated to the best of our knowledge.
- Formula Growth Ltd. serves as the investment manager for the Fund. Investors should consult the Offering Memorandum (the "Memoranda"), which is available upon request, for more information on the investment strategy, complete disclosures and the terms and conditions relating to an investment in each Fund.
- Any investment in the Fund is speculative and involves substantial risk, including the risk of losing all or substantially all of such investment. No representation is made that the Fund will or is likely to achieve their objectives, that any investor will or is likely to achieve results comparable to the estimated performance shown, will make any profit at all or will be able to avoid incurring substantial losses. Past performance is not necessarily indicative of future results.
- The Fund has monthly liquidity provisions for redemptions and subscriptions. There is no secondary market for the interests in the Fund and none is expected to develop. There are restrictions on transferring interests in the Fund. Formula Growth Ltd. has total trading authority of assets within the Formula Growth Alpha Fund.
- The Fund's fees and expenses may offset its trading profits. The fact that Formula Growth Ltd. is eligible to receive an incentive fee or allocation may create an incentive to make investments on behalf of the Fund that are riskier or more speculative than would be the case in the absence of such priority allocation of profits.
- The Fund may be denominated in a currency that is not the currency of your own jurisdiction and thus may be subject to any fluctuation in exchange rates between your investment in the Fund and the currency of your own jurisdiction. Such fluctuations may have an adverse effect on the value, price or income return of your investment.
- The Fund is subject to conflicts of interest. Please review the "Risk Factors" and "Conflicts of Interest" sections in the Memoranda.
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