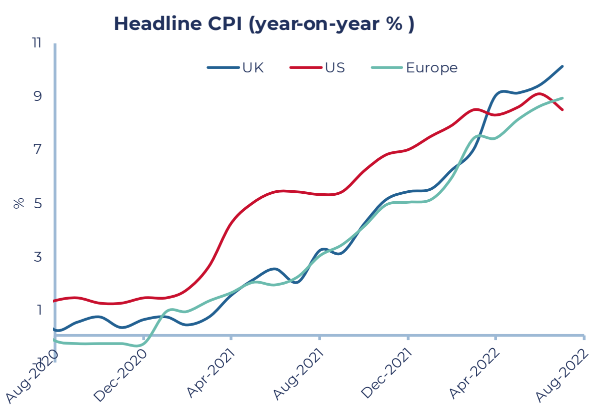
Guinness Atkinson

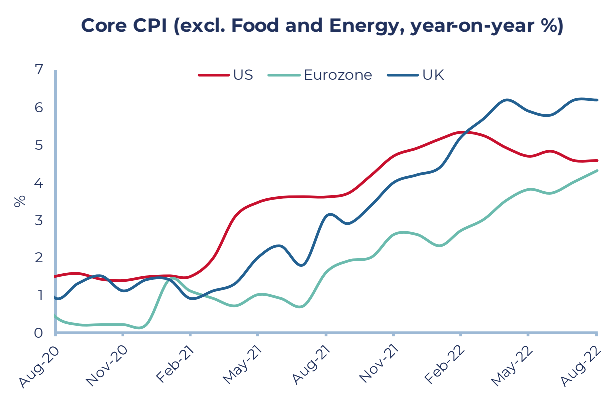
Global Innovators Fund

Managers Update – September 2022

August in review:

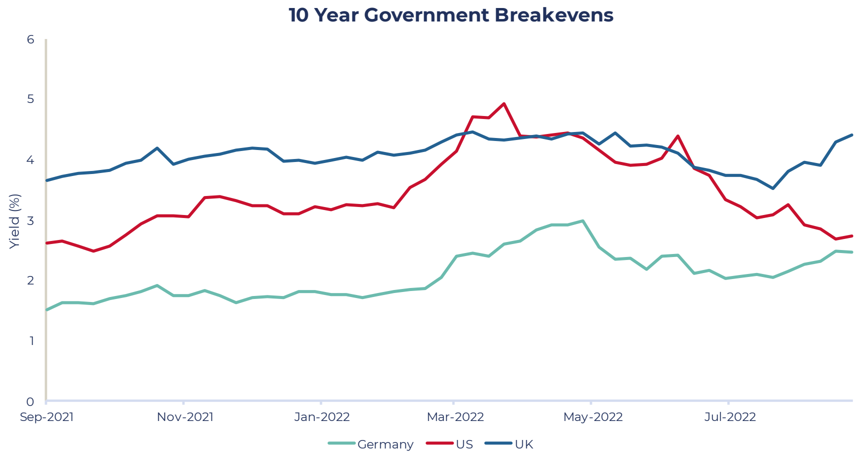
During July, developed equity markets delivered their best monthly returns since November 2020. Falling gross domestic product (GDP), declining inventories, and a drop in private investment over the quarter all indicated that the Fed's tight monetary policy was beginning to impact the economy, leading to market optimism that inflation may soon also be brought under control, with interest rate cuts to follow. The first two weeks of August suggested no different. Consumer Price Index (CPI) data out of the US showed the headline rate fell more than expected to 8.5% (versus 8.7% forecasted) from 9.1% the month prior. This equated to a 0% month-on-month increase (aided by -4.7% m-o-m in Energy), the lowest since May 2020. In addition, the Producer Price Index (PPI), often viewed as a leading indicator to CPI, fell 0.5% month on month (9.7% Year-over-Year, down from 11.2% a month prior), the first decrease since April 2020. To add further evidence that inflation was being brought under control, core inflation in the US has been slowly falling for a number of months already. Although inflation in the US continues to run close to 40-year highs, this evidence suggests an argument can be made for a less aggressive tightening of monetary policy. In contrast, the ongoing energy crisis in Europe and the UK led respective CPIs to continue to rise higher. In all, the start of the month was a positive one, with the MSCI World Index up 3.65% (USD) to the 16th of August, led by growth stocks.





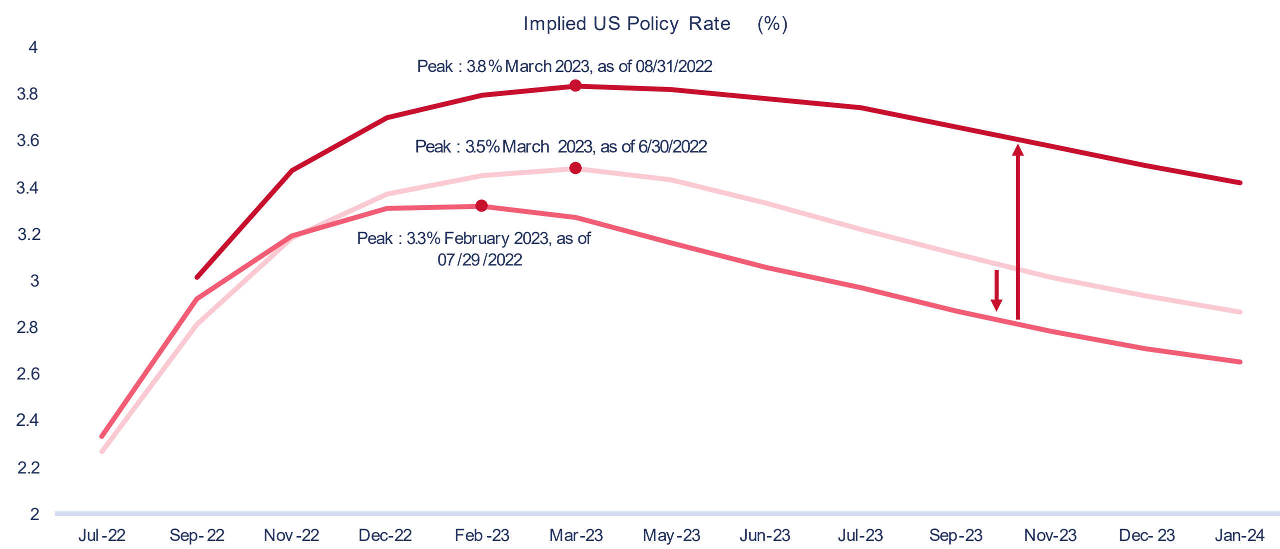
Source: Bloomberg, as of 08/31/2022

The 10 Year government breakeven gives an indication of market expectations of inflation over a 10-year time horizon. In Europe, the Russia-Ukraine war has driven up the cost of energy, fertilizer, and other agricultural commodities, leading to fears that soaring prices may soon embed themselves in the economy. The effect of this can be seen in a sharp uptick in the 10-year breakeven of the UK and Germany, reversing the slight downward trend previously seen since May. On the other hand, the US breakeven continued on a steady downward trend over July and August, suggesting increasing confidence in the Fed's ability to tame inflation. Many in the market initially interpreted this as a potentially earlier shift towards 'loose money.'



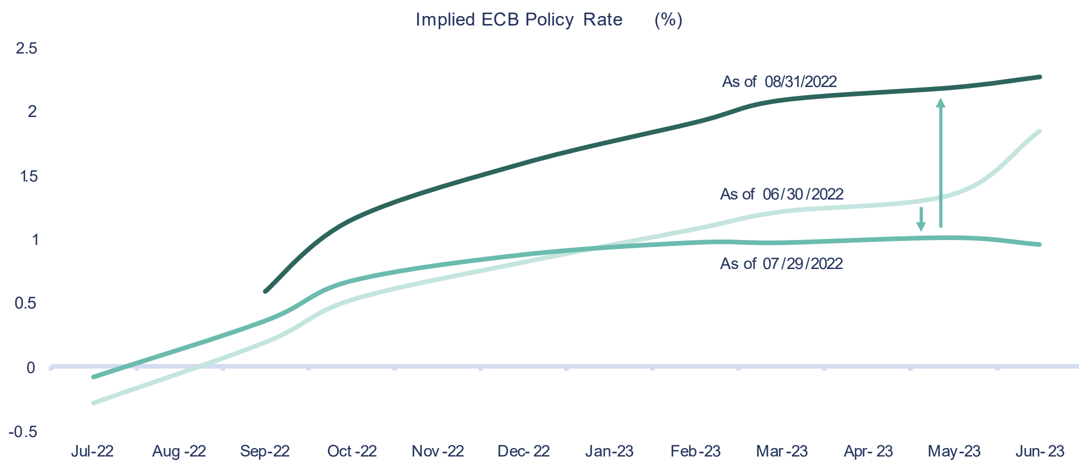
Source: Bloomberg, as of 08/31/2022

However, minutes released from the US Fed's July meeting (when rates were raised by 75 basis points), showed officials discussing the need to keep interest rates at levels that will restrict the economy *"for some time",* with Jay Powell reaffirming this view at Jackson Hole: *"We are taking forceful and rapid steps to moderate demand so that it comes into better alignment with supply, and to keep inflation expectations anchored. We will keep at it until we are confident the job is done."* This hawkish commentary sent equity markets down sharply, with the MSCI World Index falling 2.67% (USD) after the Jackson Hole speech on August 16th. As a result, investors, which had forecasted sooner-than-expected cuts at the end of July (when compared to March), now reversed these expectations, with the market now pricing in rates to reach a peak of 3.8% (versus 3.3% at the end of July).



Source: Bloomberg, as of 08/31/2022

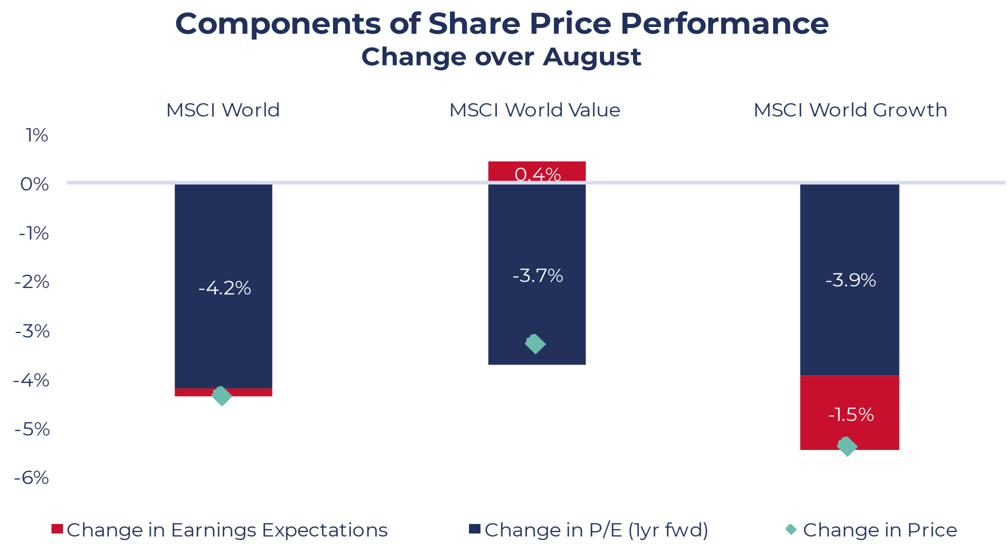
Similarly, the market shifted up their expectations for the European Central Bank (ECB) policy rates, now forecasting a rate of 2.3% in June 2023 from 1.0% expected as of the end of July.



Source: Bloomberg, as of 08/31/2022

Monetary tightening at an accelerated rate creates a sizeable headwind for growth stocks. Interest rates are an important element when determining the discount rate in the valuation of a given stock's future cash flows. Growth stocks are typically 'higher duration' in nature (as compared to value stocks), meaning cash flows are weighted further out into the future. Since distant cash flows are more sensitive to changes in discount rates, growth companies are therefore also more sensitive to these changes. Consequently, when expectations of tighter money increase (as they did in the last two weeks of August), this leads to depressed valuations for growth stocks in particular. The MSCI World Growth Index fell 9.1% from the 16th to month-end, causing growth to underperform value over the month overall creating a drag on Fund performance.

It is interesting to deconstruct the sources of price declines over the month of August, for growth, value, and the broader market. While it appears that the MSCI World's fall over the month was entirely a result of multiple contraction (falling P/E ratios), on average value stocks saw an increase in earnings expectations, offsetting some of this impact. This was driven by significant earnings upgrades in the Energy sector (the MSCI World Energy Index had a +5% increase in earnings upgrades), alongside a lack of downgrades from other sectors such as Consumer Staples, Financials, and Industrials. Growth, on the other hand, felt a strong negative contribution from both multiple contraction (falling P/E ratios) and earnings downgrades.



Source: Bloomberg, as of 08/31/2022

Stock Specific News – Top and Bottom Performers

Anta Sports (+9.91% USD)

Anta Sports, China's largest domestic sportswear company, ended August as the Fund's top performer. In July, the stock was the Fund's bottom performer, with weak investor sentiment in the Chinese region and a negative read-across from Adidas creating a drag for share price performance. However, the firm reversed much of these losses with a very strong set of first half results in August, delivering +14% year-on-year growth in revenues (+6.8% ahead of expectations). While a number of lockdowns in the Chinese region in the prior year meant a relatively low base, the firm also had to deal with a number of lockdowns in first-tier cities in the second quarter of 2022, particularly for Anta's key-brand Fila, who had 30% of stores closed during peak time. However, strength in Anta's 'Kids' segment (+30% Year-over-Year), e-commerce, and the firm's smaller but higher-end brand's Descente and Kolon (+30% yoy) highlighted the resilience of the business, offsetting any lockdown headwinds. The firm has executed well on cost, with a shift to Direct-to-Consumer channels aiding year-on-year gross margin expansion of 1.2% to 63.2%. We continue to remain optimistic about the firm's future growth prospects and believe that the company is well placed to benefit from positive secular trends in the region. The Chinese government is driving sports participation with initiatives such as China's "Action Plan to Stimulate Sports Consumption (2019-2020)", the "Healthy China 2030" Plan, and the "National Fitness

Program (2016-2020)". In addition, the growing Chinese middle class and increasing disposable income should help lift the overall clothing market for some years to come. The business fundamentals remain robust; the firm has a strong balance sheet, peer leading margins and a Free Cash Flow (FCF) Yield in the high teens, therefore we continue to have a positive outlook for the stock, despite short-term weakness in the region.

PayPal (+7.99% USD)

For the second month running, PayPal has featured in the Fund's top performers. The stock has struggled over much of 2022, with a mix of negative momentum from 2021, a weak earnings release in the first quarter, and the outperformance of 'value' stocks in general, all contributing to this weak performance. However, Q3 has seen some positive momentum return to PayPal's share price. In July, the stock benefitted from strong read-across from other technology firms, particularly payments providers Mastercard and Visa who reported significant increases in payments volume, alongside reports that activist investor Elliott Management was building a stake in the company, causing a one-day jump of 12%. The company announced 2Q22 earnings in early August, somewhat ahead of estimates and guidance, leading to a strong positive market reaction. Net revenue increased 10% year over year, and 14% excluding the eBay headwinds. The firm's recent shift in strategy towards higher quality users (rather than simply driving new user numbers) is helping to drive the quality of their cash flows, and it was reassuring to see that 'transactions per active account,' a key indicator, was up +12% year-on-year. The firm also saw Total Payments Volume up 9% year on year. The headwind from the eBay disposal (c. 2% of revenues) is diminishing, and growth avenues such as Buy Now Pay Later and Venmo are carrying strong momentum. Expansion into new product areas such as credit-cards and cryptocurrency offer further visibility to growth catalysts down the road, and with a strong outlook paired with solid fundamentals, we continue to view PayPal as an attractive opportunity.

Zoom Video Communications ended the month as the Fund's bottom performer. While top-line figures missed expectations (revenue -1.6% to consensus, +7.6% YoY), we found the negative market reaction to the results to be overdone. In our view, the most important segments to the firm continued to show broad-based strength (enterprise, upmarket, and nascent product lines). Enterprise exposure increased to 54% of sales, up from 41% last year, with strong top-line growth, +27% YoY. The Enterprise segment is a key strategic focus for Zoom, with higher quality revenues stemming from greater pricing power, multi-contract solutions, cross-selling opportunity, longer term contracts, and stickiness (stemming from organizational inertia). Zoom also had success in the upmarket (a subsegment of enterprise where the firm is currently underpenetrated), with revenues from customers contributing more than $100,000 (T12M) growing by +37%. In addition, there was a high level of growth in the amount enterprise customers were spending with the firm, with a net dollar expansion rate for enterprise customers of 120%. Outside of enterprise, Zoom demonstrated the strength of their nascent product lines. Zoom Phone is continuing to adopt new customers at a rapid rate, reaching nearly 4 million seats in 2Q23, with annual growth of over 100%. They added approximately double the amount of seats than one of their nearest competitors, RingCentral. The firm is also seeing early traction in Zoom Contact Center, with the 6-month-old product reaching deals of a size the firm only believed they would be making in 18-24 months' time - highlighting the strength of the brand when releasing new products. While there was some weakness in the international segment where the firm is aiming to drive growth, we do not feel that these results justified such a severe negative reaction, and may have in fact deserved a positive one, with the market perhaps placing too much emphasis on the retail segment, which is facing headwinds as we exit the pandemic. Overall, the firm's nascent product lines and growing TAM (total addressable market) offer strong growth potential, and paired with the firm's brand-equity, solid balance sheet and focused strategy, this gives us confidence in our overall investment thesis of the firm.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

GUINNESS ATKINSON FUNDS

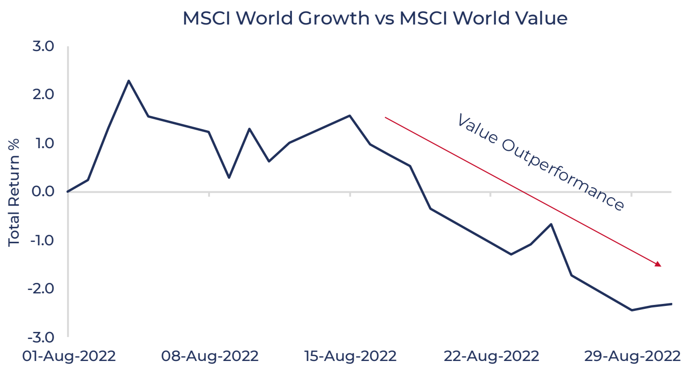
Summary performance

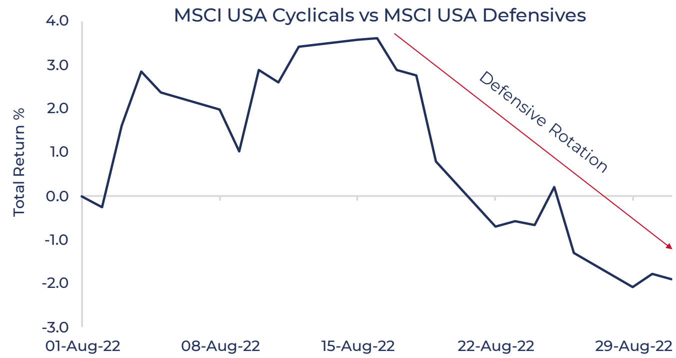
For the month of August, the Guinness Atkinson Global Innovators Fund provided a total return of -7.22% (USD) against the MSCI World Index net total return of -4.18% (USD). Hence, the fund underperformed the benchmark by 3.04% (USD).

August was very much a month of two halves for equity markets. Following what many termed as a 'bear market rally' in July, much of this positive momentum continued into the early weeks of August. This rally was seemingly based on the view that the Fed was having some success in taming rapidly rising inflation and might therefore not raise rates to levels as high as previously predicted, potentially even entering an easing cycle around the middle of 2023. This drove equity markets higher, and 'growth' companies in particular. Inflation numbers came in below expectations in the US, falling from the month prior (on a year-on-year basis), and despite another decline in quarterly GDP, the economy remained broadly in positive territory.

As the month progressed, however, a shift in expectations towards sustained tighter money created a headwind for equities. The Federal Reserve's minutes from July suggested that restrictive rates may be needed *"for some time*," bringing a four-week string of equity gains to a close. With all eyes turning to the Federal Reserve's symposium at Jackson Hole at the end of August, Fed Chair Jerome Powell reaffirmed his commitment to aggressive rate rises, stating that a successful reduction in inflation would probably lead to lower economic growth for a *"sustained period."* Data points showing the economy remaining in reasonable shape, such as strong jobs data, an improvement in consumer confidence, resilient consumer spending, were now taken as evidence that the Fed would be further emboldened to continue on its tightening path. The idea that the Federal Reserve was also cognizant to avoid their mistake of the 1970's in prematurely easing monetary policy all pointed to a market discounting a base case of sustained tight money over the near term.

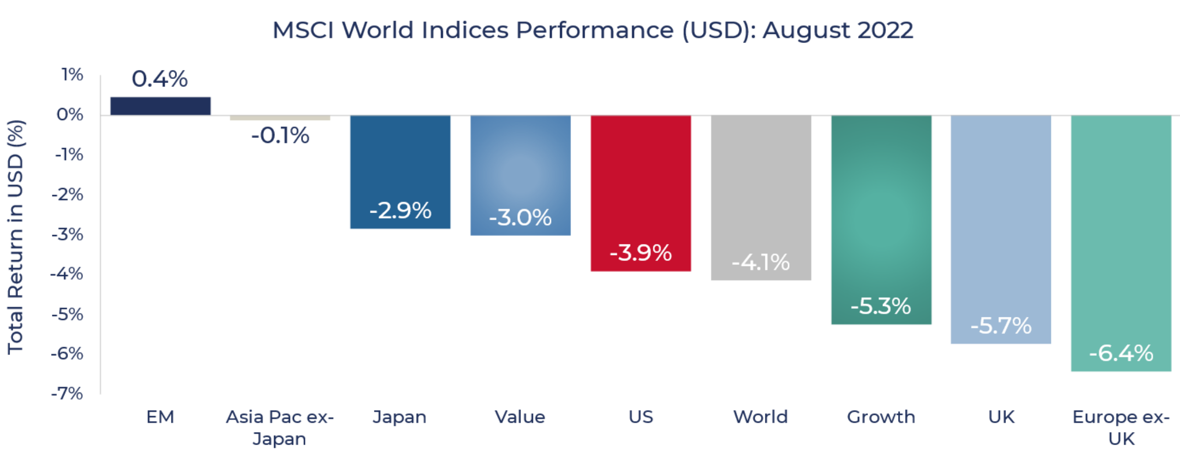
These tighter monetary expectations led value stocks to outperform their growth counterparts over the month as a whole, despite underperforming over the first two weeks of August-although it is important to note that both growth and value finished in negative territory. From a sector perspective, the growth tilted Information Technology, Consumer Discretionary and Communication Services sectors underperformed the broader market, and there was a significant rotation towards more defensive sectors, such as Consumer Staples and Healthcare.





Source: Bloomberg, as of 08/31/2022

Despite having more of a value tilt than the broader market, the UK and Europe fared particularly poorly over the month, lagging the MSCI World by 1.6% and 2.3% respectively (in USD terms). With these two regions continuing to battle an energy crisis, inflationary pressures were driven into double digits for the UK and record highs of 9.1% for Europe. With little sign of the energy crisis abating, investors fear that the region may suffer a more prolonged inflationary period than the US, driving tighter monetary policy and a protracted slowdown. Elsewhere, Emerging Markets and Asia significantly outperformed the MSCI World, aided by a number of growth-supporting measures from the Chinese government, amounting to more than 1 trillion yuan ($145bn).



Source: Bloomberg, as of 08/31/2022

Over the month of August, fund performance can be attributed to the following:

- With the relative outperformance of value and defensive areas of the market over the month, having zero exposure to Consumer Staples, Materials and Utilities (which all outperformed the MSCI World) was a source of relative underperformance for the Fund. However, having a zero weighting to the Real Estate sector acted as a tailwind.
- The Fund's high exposure to Information Technology acted as a headwind from an allocation perspective. In particular, having an overweight position to the Semiconductor industry (the MSCI World's bottom performing industry over August) was a key driver of this underperformance, with stocks such as Nvidia (-16.9% USD), Lam Research (-12.5%), Applied Materials (11.0%), and KLA (-10.0%) all delivering returns significantly below the benchmark.
- Weak stock selection within the Software industry also created a drag on performance, with Zoom (-22.6% USD) and Salesforce (-15.16%) significantly underperforming the broader sector (MSCI World Information Technology Index -5.9% USD). PayPal (+8.0%) provided a slight offset to this weakness.
- The Fund has a slight underweight position to the Consumer Discretionary sector, which was one of the bottom performing sectors during the month – leading to a slight positive from the allocation perspective. In addition, the sector contained the Fund's top performing stock over the month, Anta Sports (+9.9% USD).

as of 08.31.2022 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	-26.24%	11.13%	8.57%	12.95%
Global Innovators, Institutional Class[2]	-26.06%	11.40%	8.84%	13.14%
MSCI World Index NR	-15.08%	8.76%	7.85%	9.46%

as of 06.30.2022 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	-24.82%	9.80%	9.06%	13.02%
Global Innovators, Institutional Class[2]	-24.61%	10.08%	9.33%	13.21%
MSCI World Index NR	-14.34%	6.98%	7.66%	9.50%

All returns after 1 year annualized.

[1] Investor class (IWIRX) Inception 12.15.1998 Expense ratio* 1.24% (net); 1.17% (gross)
[2] Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 0.99%

[2] Performance data shown for Global Innovators, Institutional Class (GINNX), prior to its launch date on 12/31/15, uses performance data from the Global Innovators, Investor Class (IWIRX).

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance quoted. For most recent month-end and quarter-end performance, https://www.gafunds.com/our-funds/global-innovators-fund/#fund_performance or call (800) 915-6566.

*The Advisor has contractually agreed to reimburse expenses (excluding Acquired Fund Fees and Expenses, interest, taxes, dividends on short positions and extraordinary expenses) in order to limit the Fund's Total Annual Operating Expenses to 1.24% for the Investor class and 0.99% for the Institutional class through June 30, 2025. To the extent that the Advisor absorbs expenses to satisfy this cap, it may recoup a portion or all of such amounts absorbed at any time within three fiscal years after the fiscal year in which such amounts were absorbed, subject to the expense cap in place at the time recoupment is sought, which cannot exceed the expense cap at the time of waiver. The expense limitation agreement may be terminated by the Board of the Fund at any time without penalty upon 60 days' notice.

Mutual fund investing involves risk and loss of principal is possible. Investments in foreign securities involve greater volatility, political, economic and currency risks and differences in accounting methods. These risks are greater for emerging markets countries. The Fund also invests in medium and smaller companies, which will involve additional risks such as limited liquidity and greater volatility. The Fund's focus on the technology, internet and communications sectors are extremely competitive and subject to rapid rates of change.

Securities mentioned are not recommendations to buy or sell any security.

Current and future portfolio holdings are subject to risk.

Top 10 holdings for Global Innovators Fund, as of 08/31/2022:

1.	Amphenol Corp	4.09%
2.	PayPal Holdings Inc	4.00%
3.	Thermo Fisher Scientific Inc	3.97%
4.	Mastercard Inc	3.88%
5.	Microsoft Corp	3.87%
6.	Intuit Inc	3.79%
7.	Roper Technologies Inc	3.73%
8.	Danaher Corp	3.72%
9.	Visa Inc	3.69%
10.	Intercontinental Exchange Inc	3.63%

For a complete list of holdings for the Global Innovators Fund, please visit: https://www.gafunds.com/our-funds/global-innovators-fund/

The Fund's investment objectives, risks, charges, and expenses must be considered carefully before investing. The statutory and summary prospectuses contain this and other important information and can be obtained by calling 800- 915-6565 or visiting www.gafunds.com. Read and consider it carefully before investing.

Earnings growth is not representative of the Fund's future performance.

The producer price index (PPI) measures the average change over time in the prices domestic producers receive for their output. It is a measure of inflation at the wholesale level that is compiled from thousands of indexes measuring producer prices by industry and product category.

MSCI World Index is a free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of developed markets.

MSCI World Value Index captures large and mid-cap securities exhibiting overall value style characteristics across 23 Developed Markets countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

MSCI World Growth Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large and mid-cap securities exhibiting overall growth style characteristics across developed markets.

The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. Indexes are available for the U.S. and various geographic areas.

One basis point is equal to 1/100th of 1%, or 0.01%, or 0.0001, and is used to denote the percentage change in a financial instrument. The relationship between percentage changes and basis points can be summarized as follows: 1% change = 100 basis points and 0.01% = 1 basis point.

Duration: The duration number is a complicated calculation involving present value, yield, coupon, final maturity, and call features. Fortunately for investors, this indicator is a standard data point provided in the presentation of comprehensive bond and bond mutual fund information. The bigger the duration number, provided in years, the greater the interest-rate risk or reward for bond prices. It can also be used to describe equities in a similar manner: a higher duration suggests most cash flows are expected far into the future, with a lower duration suggesting more stable cash flows over the short and long term.

Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period.

Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock.

Price-Earnings (P/E) ratio is a valuation ratio of a company's current share price compared to its per-share earnings. Forward earnings differ from trailing earnings, which is the figure quoted more often, as they are a projection and not a fact.

Forward price-to-earnings (forward P/E) is a version of the ratio of price-to-earnings (P/E) that use forecasted earnings for the P/E calculation. While the earnings used in this formula are just an estimate and not as reliable as current or historical earnings data, there are still benefits to estimated P/E analysis

Cash Flow is the total amount of money, in cash, being transferred into and out of a business.

The MSCI World Information Technology Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large and mid-cap equities across 23 developed markets, all classified within the Information Technology sector.

The S&P 500 Index features 500 leading U.S. publicly traded companies, with a primary emphasis on market capitalization.

Capital expenditures (CapEx) are funds used by a company to acquire, upgrade, and maintain physical assets such as property, technology, or equipment. CapEx is often used to undertake new projects or investments by a company.

The MSCI World Semiconductors and Semiconductor Equipment Index is composed of large and mid-cap stocks across 23 Developed Markets (DM) countries*. All securities in the index are classified in the Semiconductors and Semiconductor Equipment Industry Group (within the Information Technology sector)

One cannot invest directly in an index.

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