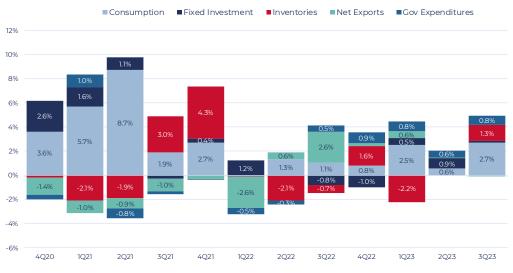
## GUINNESS ATKINSON FUNDS

#### October in review:

#### Consumer resilience the core driver of economic growth.

During October, the US announced third-quarter real GDP growth of 4.9% (annualized), significantly ahead of the 4.4% median expectation of analysts, and a jump from the 2.1% seen the prior quarter. The key driver was consumer spending. Despite a record interest-rate hiking cycle driving up borrowing rates across credit cards, auto-loans, and mortgages, spending has remained remarkably resilient, with consumer expenditure contributing to over half of real GDP growth for the quarter.



#### **Components of Real GDP Growth**

Source: Guinness Atkinson Asset Management, Bureau of Economic Analysis (data as of October 30, 2023)

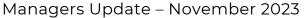
Company earnings have supported this narrative, with Fund holdings Visa and Mastercard both reporting US payment volume growth of +6% (year-on-year) in their latest fiscal quarter, with Visa stating they saw relatively stable spending trends across September and the early weeks of October. Amazon saw retail sales growth of +11%, in-line with the prior two quarters. US retail sales have hovered between 0.6-0.8% (month-on-month) for three consecutive months, a step-up from 0.2% seen in June.

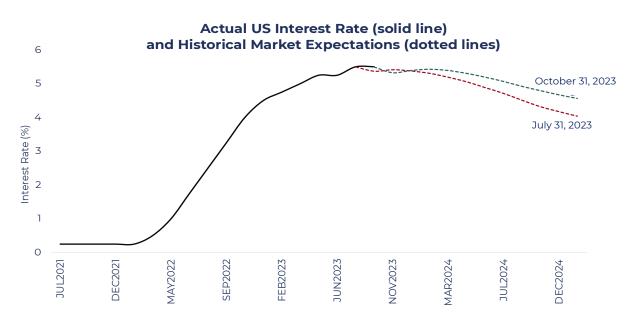
#### Good news in the economy isn't necessarily good news for equities

Over the year we have often seen good news in the economy contributing to weakness in equities. A strong economy raises the prospect of the economy "overheating" and placing upward pressure on inflation, thus driving expectations of tighter monetary policy. The most recent GDP print increased market concerns of this prospect. The strength of the Q3 print means that even if GDP growth dropped to 0% in Q4, real GDP growth in the US would still be at 2.3% for the full year - ahead of the Fed's own current official forecast of 2.1%. September's inflation and jobs reports added extra impetus to this concern, with both reports coming in hotter than expected during the month of October. These factors combined may mean global Central Banks keep rates higher for a longer period, and - hence markets are now pricing in a delay to any "cutting" cycle.

# **Guinness Atkinson Global Innovators Fund**

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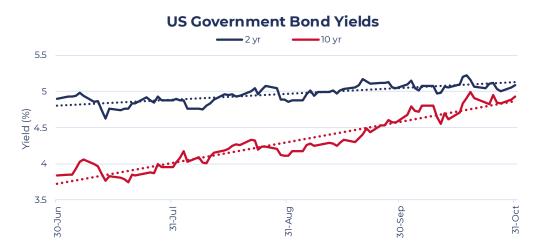




Source: Guinness Atkinson Asset Management, Bloomberg (data as of October 30, 2023)

#### What drove equity performance over this period?

During the month of October, the S&P 500 entered a market "correction" – a fall of >10% since the market peak at the end of July. Interest rate expectations and supply-demand imbalances in the treasury market contributed to the rapid rise in the yield of the US 10-year, which jumped 1% over the period to levels last seen in 2007.



Source: Guinness Atkinson Asset Management, Bloomberg (data as of October 30, 2023)

Historically, rising yields have impacted "growth" more heavily than "value" stocks, with the "high-duration" nature of growth stocks resulting in greater sensitivity to changes in the discount rate. Interestingly, despite a consistent rise in yield over the past three months, there have been multiple changes in factor leadership, with value only outperforming growth by 1.2% overall, in a market that was down 9.2% (MSCI World).



Managers Update – November 2023



Source: Guinness Atkinson Asset Management, MSCI, Bloomberg (data as of October 30, 2023)

Looking deeper, the three sectors most exposed to "growth" - Communication Services, Consumer Discretionary and Information Technology – have all seen the greatest multiple contraction since the market peak in July, which is probably as expected considering the rise in yields. Interestingly, however, with the exception of energy, these were the only three sectors to experience positive earnings growth upgrades.



#### Global Sector Total Return Breakdown July 31, 2023 to October 31, 2023

Source: Guinness Atkinson Asset Management, MSCI, Bloomberg (data as of October 30, 2023)

The impact on valuations was much clearer at the "speculative" end of the growth spectrum. The Goldman Sachs Unprofitable Tech index, which is made up of a basket of unprofitable tech companies, significantly underperformed the broader MSCI Technology Index over the same period.





Source: Guinness Atkinson Asset Management, Goldman Sachs, MSCI, Bloomberg (data as of October 30, 2023)

This outperformance also highlights the impact of quality on performance. Whilst economic data remains resilient, certain warning signs and pockets of weakness are starting to appear at the margins, which is as we would expect at the back end of a particularly intense tightening cycle. Given the broad macro-uncertainty over the period, there has been a general investor preference for higher quality parts of the market – companies with resilient margin profiles and stronger balance sheets, allowing them to better weather any impending macro-volatility ahead of lower quality peers.

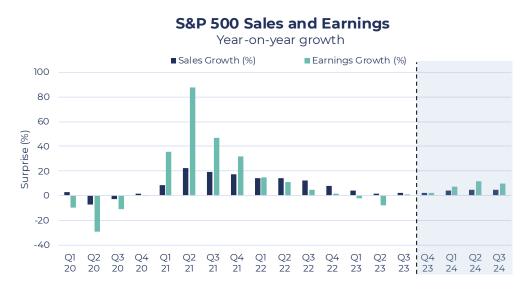


Source: Guinness Atkinson Asset Management, MSCI, Bloomberg (data as of October 30, 2023)

# GUINNESS ATKINSON FUNDS

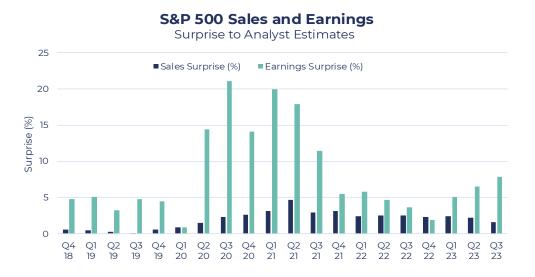
#### A quick note on company earnings

On the whole, it has been a strong Q3 earnings season so far. Following 8 consecutive quarters of slowing earnings growth, and two quarters of earnings declines, Q3 saw earnings growth of 1.0%.



Source: Guinness Atkinson Asset Management, Bloomberg (data as of October 30, 2023)

As at the time of writing, with over 80% of S&P 500 companies having reported, earnings surprised to the upside by 7.6%, 1% ahead of the 10-year historical average – yet the average price reaction was 0.0%. Companies do not appear, on average, to be getting rewarded for beating analyst estimates.



Source: Guinness Atkinson Asset Management, Bloomberg (data as of October 30, 2023)

The important point to note is that the average earnings "beat" was even higher than those seen during Q1 and Q2, which were off the back of significant downgrades in quarterly earnings expectations prior to their release. On

### Guinness Atkinson Global Innovators Fund Managers Undate – November 202

Managers Update – November 2023

the other hand, Q3 surprised to the upside to an even greater extent, despite a small increase in expectations prior to results. At the full year level, while we have seen little change in the overall outlook for 2023, there has been a relatively small slide in full year expectations for 2024, perhaps an indication of company guidance and increasing market expectations of a potentially cooler macro-outlook.





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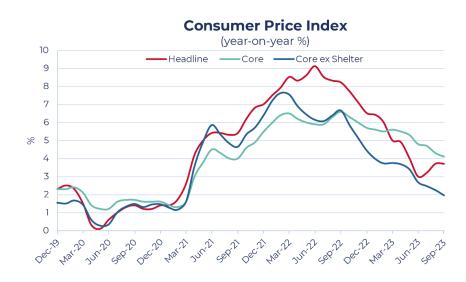
#### Looking forward, we are seeing some signs of a cooling economy...

With consumer spending accounting for over 70% of the US economy, the segment is by and large the most important to economic growth. But while resilient year to date, there are some indications that the situation could be starting to turn, with consumer confidence ticking down for three consecutive months. The U.S. Supreme Court's ruling on student loan debt forgiveness means that debt repayments resumed in full over October, presenting a headwind to spending in the fourth quarter of 2023 and into 2024. Additionally, signs of weakness on the margins continued as, for example, credit and auto-loan delinquencies ticked up, alongside bankruptcies. The growth in Visa and Mastercard's volumes (+6%) were in part due to market share gains – Bank of America's data, which reflects all deposit transactions, suggests lower volume growth of just +3% from the prior year. It could now be that the lagged effects of monetary policy are taking effect.

#### ...and there were bright spots within inflation reports.

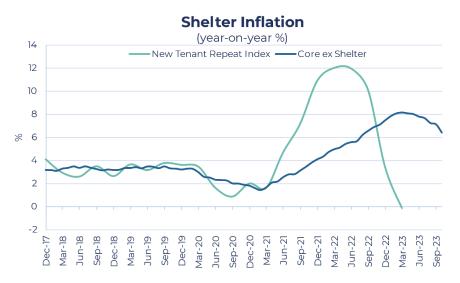
Markets reacted negatively to the US's September inflation report, with CPI registering at 3.7% for the second consecutive month, well ahead of the 3.0% delivered in June and 10 basis points (bps) ahead of analyst expectations. On the other hand, core inflation continued to slow to 4.1% (in-line with analyst expectations) and 20bps below the prior month. Market concerns were, however, based on the month-on-month uptick in Shelter (from 0.3% to 0.6%), which has become an important element of the disinflation narrative and has for the most part, been propping up "Core" inflation over 2023. Reassuringly, by stripping out the impact of Shelter on Core CPI we can see inflation falling to below 2% (year-on-year) for the first time since March 2021. On a month-on-month basis, this "Super-core" index registered just 0.1% month-on-month inflation compared to the "Core" index of 0.3%, and the "Headline" figure of 0.4%.





Source: Guinness Atkinson Asset Management, Bureau of Labor Statistics, Bureau of Economic Analysis Bloomberg (data as of October 30, 2023)

While Shelter is recognized as an important element of the CPI, the data tends to lag that of other shelter measurers and its calculation includes estimate figures rather than actual hard data e.g. Owners Equivalent Rent - an estimate of the cost of renting the homeowner's dwelling to themselves. The New Tenant Repeat Rent index focuses on "new" tenants using the same underlying lease data as the CPI and has been shown to lead the Shelter portion of the CPI index by approximately four quarters. This index last reported data in March at ~0%, yet still suggests that the Shelter component of the CPI index may yet have further to fall – despite a recent noisy data point.



Source: Guinness Atkinson Asset Management, Federal Reserve Bank of Cleveland, Bureau of Labor Statistics (data as of October 30, 2023)

## Guinness Atkinson Global Innovators Fund Managers Undate – November 202

Managers Update – November 2023

#### Bad news for the economy may not necessarily mean bad news for equities

Instead of focusing on positive economic data, markets have instead reacted negatively to the perceived impact interest rates have on equity valuation. The reverse has been true at other points during the year. Looking forward - while Q3 economic growth was significantly stronger than expected, the economic outlook remains very mixed, and with markets continuing to focus on the future path of interest rates, a slower growth environment may be supportive to equity performance – at least at first. We are certainly seeing indications of a weaker outlook to the largest component of GDP growth, with consumer confidence sliding. Elsewhere economic data is very mixed. The yield curve remains in inverted territory but significant progress in "un-inverting" itself over the past three months. Service and Manufacturing PMIs, while both making slight progress from the month prior, continue to hover on or around the ~50 level – a level indicating neither an expansionary nor contractionary environment. In the current market environment where interest rate concerns, inflation, and weaker economic growth remains top of mind (all of which have a very uncertain outlook) we are confident that the Fund's focus on high quality growth stocks, underpinned by secular trends should stand us in good stead going forward.



#### Source: Guinness Atkinson Asset Management, Bloomberg

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#### **Individual Stock Performance**



#### Nike (+7.5% USD)

Strong results on the final day of September allowed positive momentum to return to Nike, ending October as the Fund's top performer and fully offsetting the declines seen in September. While sales were in-line with expectations (-0.4%), the firm posted a 26.1% beat to adjusted earnings per share (EPS). One of the key investor debates for Nike of late has related to margin progression, with the firm suffering a number of transitory headwinds stemming from coronavirus-induced disruption (earnings before interest and taxes (EBIT) impact of 200 bps from freight, 150 bps from inventory clearance, and 150 bps from currency). The fact that the EPS beat was margin led is likely a key source of reassurance for investors. Gross Margins came in at 44.2% (43.6% expected),

GUINNESS ATKINSON FUNDS

with positive pricing more than offsetting headwinds from product costs and foreign exchange. Looking forward, transitory headwinds to the margin are likely to roll-off over the next 12-24 months, particularly in freight. Longer-term investments in Direct-to-Consumer will soon wind-down, resulting in structural efficiencies to the supply chain and inventory management systems that should drive further gross margin expansion. Longer term, the firm's target of high-teens EBIT margin (12.4% last quarter) suggests an additional 700bps of margin headroom from current levels, leaving significant opportunity for productivity gains within the firm's operations. On the top-line, management noted positive trends in overall consumer spending which grew during the quarter and guided for a similar level in the final quarter 2024.

During the month, Kelvin Kiptum broke the Marathon world record in a pair of Nike Alphafly's with a time of 2:00:35, only his sixth marathon ever, staking Nike's claim for the "battle of the super-shoe". Sifan Hassan registered the second fastest time ever in the Women's race at the same event, wearing the same shoe. Developing a "super-shoe" has been a flagship of Nike's innovative prowess. Designed in Nike's LeBron James Innovation Center, the firm leans on the expertise of biomechanics analysts, materials scientists, and software engineers, all working to find marginal gains for athletes and create the most efficient running shoe in history. The firm's commitment to innovation, in our view, will cement Nike's brand as the global leader in sportswear for the foreseeable future.



### Microsoft (7.1% USD)

Microsoft was the second top performer in the Fund during October, and the best performing of the Magnificent 7 (Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla). Shares bounced on news of Microsoft closing their \$69bn acquisition of gaming company Activision Blizzard after 21 months of regulatory scrutiny, after clearance from the UK regulator. The deal bolsters an already strong gaming division, making the firm the third largest gaming company globally and bringing titles such as Call of Duty into the firm's content catalogue. The deal, in our view, makes strong strategic sense. Not only can the firm drive top-line demand by bolstering their own Game Pass services with a stronger line-up of content (Microsoft had been lacking in this department), but the firm can gain traction on cloud gaming – a key priority within the division and a source of margin expansion - the firm's access to Azure a key competitive advantage. The firm delivered strong first fiscal quarter results during the month, with revenue beating consensus by 3.6%, and adjusted EPS beating by 12.6%. All three segments beat expectations, with even the struggling consumer segment, More Personal Computing, returning to growth. Given the uncertain macro-environment with both consumer and business spending under pressure, this result highlights the strength of the firm's product offering. Key highlights include a reacceleration in Microsoft Azure revenues by 100bps quarter-on-quarter (28% QoQ at constant currency), the first positive sequential change in over a year. On the bottom line, the firm saw operating margins of 47.6% compared to 42.9%, 300bps of outperformance compared with guidance – a combination of operating leverage and careful cost management. Markets also reacted positively to bullish commentary on their generative AI assistant, Copilot, which will be expanded for general availability for the current 600 commercial users at the beginning of November with 1mn paid users of Copilot already signed up. Microsoft continues to offer an extremely attractive investment case, with a clear focus on innovation paired with unique competitive advantages stemming from their technology offerings and defensible market shares, driving not just sustainable long-term growth, but the potential for further margin expansion.

## **Guinness Atkinson Global Innovators Fund** Managers Update – November 2023





#### Zoom (-14.2% USD)

Zoom ended the month as the Fund's bottom performer. Following "Zoomtopia", the firm's Capital Markets Day, new product announcements left investors seemingly underwhelmed, driving a slide in the firm's stock price. Zoom shares have been under pressure since the global reopening, as macro-economic uncertainty (rising rates, inflation, etc.) has led to greater deal scrutiny and deferrals, alongside hypotheses that a return to the office will reduce video-conferencing requirements (we do not believe this to be the case). Markets have also been concerned with the firm's execution risk relating to new products, with the majority of revenues currently stemming from the firm's core video conferencing capability. While these concerns are certainly not misplaced, the sell-off in the stock has seemingly been overdone, with the stock now trading at record lows (13x P/E 1 yr forward). On the whole, it was a broadly positive capital markets day. Key points of discussion included the firm's recently released AI Companion - a generative AI tool that enhances the overall customer experience that will be enabled across Zoom platforms at no additional cost to paying accounts. Markets were perhaps disappointed that the product would not be monetized, however Zoom highlighted the competitive benefits of offering the product alongside existing offerings, further extending their technological lead ahead of peers, while also providing an exciting discussion point for new customer/renewal conversations. So far, the product has been widely wellreceived, with 125,000 new users in the first two months of use. Zoom has historically been proven successful at bringing new products to market, with Zoom Phone reaching 5 million seats in 3 years, and the more recently introduced Zoom Contact Center carrying strong momentum. Overall, we believe that the firm have great potential to execute on their long-term strategy, with the firm's nascent product lines and growing TAM (total addressable market) offering strong growth potential. Paired with the firm's brand-equity, technological advantages, solid balance sheet, and focused strategy, alongside an attractive valuation, we have confidence in the long-term outlook for Zoom.



#### Danaher (-12.7% USD)

Danaher, a life sciences company, faced a challenging October after their third quarter earnings dampened sentiment around the company. Although they beat estimates on the top-line, weaker guidance from management sent the stock down 10% on the day of results. Danaher is a leading medical technology conglomerate which designs, manufactures, and markets professional, medical, industrial, and commercial products and services. Over 2023, there have been growing concerns about the firm's biotechnology business. The segment has been subject to headwinds from a destocking in consumables used in biological production (e.g. filters and single-use bags), leading to reduced demand as customers have worked down stockpiles. Furthermore, with biotech funding slowing, this has dampened demand for Danaher's tools being used in drug development. While this resulted in a -19% decline year-on-year within the segment, this was in-line with expectations and the segment appears to be bottoming near management expectations. Declines were driven by management guidance, with expectations of a core revenue decline in the low double digits for the full year – on the weaker end of previous guidance. Nonetheless, we still believe Danaher is a quality company that has good long-term growth potential, supported by a diverse product range. The firm has also seen good margin expansion with further room to run following the divestiture from Veralto in September 2023, allowing Danaher to streamline its life sciences



and biotechnology businesses. Although the business reported a challenging Q3, there are still secular tailwinds within each of its business segments contributing to a positive long-term growth outlook.

We thank you for your continued support.

#### **Portfolio Managers**

Matthew Page, CFA Dr Ian Mortimer, CFA

#### Summary performance

Global equities fell for a third consecutive month during October. Economic data, however, was relatively positive. Strong consumer spending contributed to over half of the +4.9% Q3 GDP print in the US, ahead of analyst expectations. PMIs also reflected a slight improvement in business sentiment and company earnings offered the largest average positive surprise in two years. Following eight quarters of falling earnings growth (and two quarters of negative growth), S&P 500 companies saw Q3 earnings, on average, returning to positive territory. Yet this positive data did not translate to positive equity performance. The prospect that a "hot" economy may contribute to inflationary pressures fueled market expectations of "higher-for-longer" interest rates from the Fed - the perceived impact this would have on valuations creating a headwind for equities.

During the month, relative performance of the Fund was driven by the following:

- From a stock selection perspective, the Fund's three stocks within Consumer Discretionary provided the largest tailwind to Fund performance with Nike (+7.5%) the Fund's top performer, Amazon (+4.7%) outperforming the MSCI World by 7.6%, and off-benchmark name Anta Sports (+0.3%) outperforming by 3.2%.
- The Fund's overweight position to the best performing industry over the month, Software and Services, acted as a tailwind to Fund performance from an asset allocation perspective. While four of the Fund's six software names outperformed the MSCI World, this was offset by weakness in the Fund's bottom performing stock, Zoom Technologies (-14.2%).
- In contrast, the Fund's overweight position to the second worst performing industry, Semiconductors, was partially offset by strong stock selection, with KLA outperforming the industry by +7.7%, and offbenchmark name TSMC by +4.6%.
- Stock selection within Healthcare was a meaningful drag, with Danaher (-12.6%) and Thermo Fisher (-12.1%) both underperforming the sector. However, it was pleasing to see new holding Novo Nordisk offering one of the largest positive contributions in terms of stock selection.

## Guinness Atkinson Global Innovators Fund

Managers Update – November 2023



as of 10.31.2023 (in USD)	l year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class <sup>1</sup>	22.49%	6.18%		10.48%
Global Innovators, Institutional Class <sup>2</sup>	22.81%	6.45%	12.22%	10.69%
MSCI World Index NR	10.48%	8.14%	8.26%	7.53%

as of 09.30.2023 (in USD)	l year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class <sup>1</sup>	33.27%	6.32%	10.21%	11.37%
Global Innovators, Institutional Class <sup>2</sup>	33.62%	6.59%	10.48%	11.59%
MSCI World Index NR	21.95%	8.09%	7.25%	8.26%

All returns after 1 year annualized.

<sup>1</sup> Investor class (IWIRX)	Inception 12.15.1998 Expense ratio* 1.24% (net); 1.27% (gross)
<sup>2</sup> Institutional class (GINNX)	Inception 12.31.2015 Expense ratio* 0.99% (net); 1.10% (gross)

<sup>2</sup> 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, <u>https://www.gafunds.com/our-funds/global-innovators-fund/#fund\_performance</u> 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, 2026. 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 10/31/2023:

1.	Microsoft Corp	4.28%
2.	NVIDIA Corp	4.23%
3.	Roper Technologies Inc	3.87%
4.	KLA-Tencor Corp	3.87%
5.	Mastercard Inc	3.85%
6.	Amphenol Corp	3.83%
7.	Visa Inc	3.73%
8.	Intuit Inc	3.72%
9.	ANTA Sports Products Ltd	3.68%
10.	Lam Research Corp	3.60%

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

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.

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 MSCI World Equal Weighted Index represents an alternative weighting scheme to its market cap weighted parent index, the MSCI World Index. The index includes the same constituents as its parent. However, at each quarterly rebalance date, all index constituents are weighted equally, effectively removing the influence of each constituent's current price (high or low).

The Citigroup Economic Surprise Indices are objective and quantitative measures of economic news. They are defined as weighted historical standard deviations of data surprises (actual releases vs Bloomberg survey median). A positive reading of the Economic Surprise Index suggests that economic releases have on balance [been] beating consensus. The indices are calculated daily in a rolling threemonth window.

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.

New Tenant Repeat Rent Index is a research series that uses rent data from the housing survey used in the Consumer Price Index (CPI). The New Tenant Rent Index measures prices new renters would face if they changed housing unit every period. The rent component of the CPI measures the change in all rents, including new leases, renewals, and rents in the middle of a lease.

The Purchasing Managers' Index (PMI) is an index of the prevailing direction of economic trends in the manufacturing and service sectors.

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.

The Federal Open Market Committee (FOMC) consists of twelve members--the seven members of the Board of Governors of the Federal Reserve System; the president of the Federal Reserve Bank of New York; and four of the remaining eleven Reserve Bank presidents, who serve one-year terms on a rotating basis.

Multiple Contraction refers to a situation where the valuation multiples of a particular asset or market decrease. When there is multiple contraction, it means that investors are willing to pay less for each unit of earnings, sales, or book value compared to previous periods or relative to other investments.

Yield Curve is a line that plots yields, or interest rates, of bonds that have equal credit quality but different maturity dates.

Standard deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance. If the data points are further from the mean, there is a higher deviation within the data set. A volatile stock has a high standard deviation, while the deviation of a stable blue-chip stock is usually rather low.



The Nasdaq-100 (NDX) is a large-cap growth index. It includes 100 of the largest domestic and international non-financial companies listed on the Nasdaq Stock Market based on market capitalization.

The MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 717 constituents, the index covers about 85% of this China equity universe. Currently, the index includes Large Cap A and Mid Cap A shares represented at 20% of their free float adjusted market capitalization.

Beta is a measure of a stock's volatility in relation to the overall market.

R-squared (R<sup>2</sup>) explains to what extent the variance of one variable explains the variance of the second variable. R-squared is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model.

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 pershare 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 <u>price-to-earnings</u> (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 multiples approach is a valuation theory based on the idea that similar assets sell at similar prices. It assumes that the type of ratio used in comparing firms, such as operating margins or cash flows, is the same across similar firms.

Multiple expansion is when a stocks valuation multiple (for example, their Price to Earnings ratio, or EV to EBITDA ratio) increases, meaning that the stock is now more expensive than before.



<u>Correlation is the interdependence</u> of variable quantities. It is a statistical measure that expresses the extent to which two variables are related i.e. how much one variable changes when another variable changes. The relationship does not need to indicate causation.

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.

EBITDA, or earnings before interest, taxes, depreciation, and amortization, is an alternate measure of profitability to net income

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)

The MSCI World Quality Index is based on MSCI World, its parent index, which includes large and mid cap stocks across 23 Developed Market (DM) countries. The index aims to capture the performance of quality growth stocks by identifying stocks with high quality scores based on three main fundamental variables: high return on equity (ROE), stable year-over-year earnings growth and low financial leverage.

The Goldman Sachs Non-Profitable Technology Index consists of non-profitable US listed companies in innovative industries. Tech is defined quite broadly to include new economy companies across Global Industry Classification Standard (GICS) industry groupings. The basket of tech stocks is optimized for liquidity with no name initially weighted greater than 4.65%

The MSCI USA Index is designed to measure the performance of the large and mid cap segments of the US market. With 625 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.

Forex (FX) refers to the global electronic marketplace for trading international currencies and currency derivatives. Most of the trading is done through banks, brokers, and financial institutions.

Year-over-year (YoY) sometimes referred to as year-on-year, is a frequently used financial comparison for looking at two or more measurable events on an annualized basis

One cannot invest directly in an index.

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