Guinness Atkinson

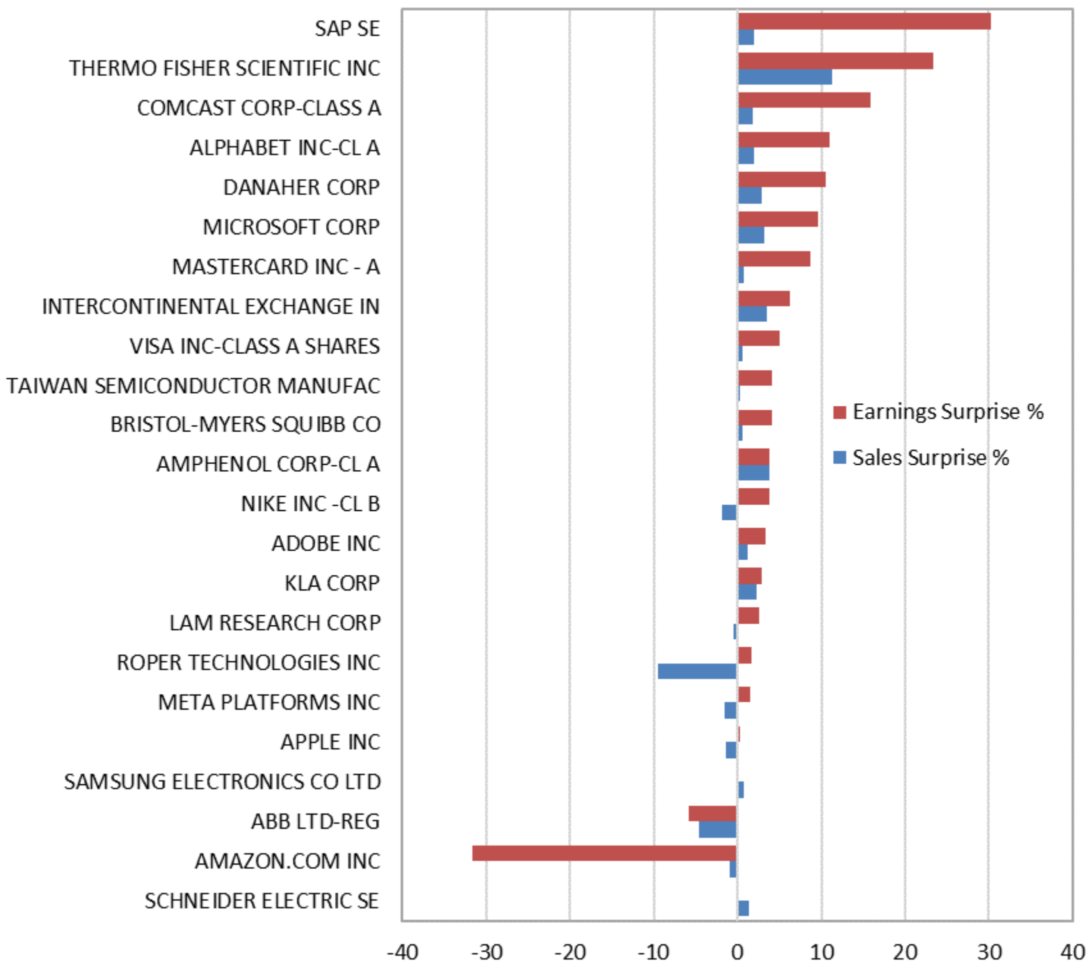
Global Innovators Fund

Managers Update – November 2021

October in review:

While concern over the combination of bottlenecks in the global supply chain and inflationary pressures persisted, broadly positive earnings reports enabled the MSCI World to rise 5.66% (USD) over the month. Indeed, according to FactSet, of the 56% of S&P 500 companies that have thus far reported earnings, 82% of companies reported a positive EPS surprise and 75% reported a positive revenue surprise, enabling the index to rise to record levels.

Fund holdings' quarterly figures vs expectations:



Source: Bloomberg, Guinness Atkinson Asset Management

Within the fund, of the 23 companies that have thus far reported (including Schneider Electric which only reported sales figures), 70% of holdings reported positive sales surprises, with an average surprise of 0.7%, and 86% of holdings reported positive earnings surprises with an average surprise of 5.0%. However, one notable miss was Amazon's earnings which missed analysts' estimates by 31.7%. While revenue growth continued to be strong (in-line with analyst estimates), growing 15% yoy, the surging demand for online goods, coupled with supply chain constraints, meant Amazon spent more than anticipated on elevated labor and input costs, as well as capital spent on vastly expanding their fulfilment network to meet demand. This weighed on net margins and resulted in the earnings miss. However, it is worth noting that Amazon has now doubled its fulfilment network from pre-covid levels so should be better equipped to manage increased demand going forward and as such, we believe this was a necessary spend.

What has become increasingly prominent this year is the supply chain constraints companies are managing. While the holdings within the fund are not immune to these disruptions, we believe they are broadly managing them well. Over the recent earnings season we have collated a few examples of commentary taken from the quarterly conference calls:

Helping customers:

SAP – Product offerings giving customers better supply chain insights:

> *"coming back to the supply chains, indeed, many customers are just reaching out to also join the business network. Just to give you a few examples, semiconductor. There are a lot of enterprises right now who are joining our business network to get more transparency. Where are the shortages in the supply chain? Is it the next year supplier? Is it at the suppliers below? From which kind of region, from which kind of supplier can I get still some supply in the next months, in the next quarter? And really track and trace that real time. That's the business network."*

Minimal impact:

Thermo Fisher – No material impact from supply chain constraints:

> *"As I think about Q3, there was no material impact in our results based on supply chain challenges. The areas that you see then, there would be manager things like freight and logistics, delivery times are a little bit slower"*

Danaher – No material impact on operation performance:

> *"So we haven't really seen a material impact on our ability to meet our customers' demand, but we are seeing some modest inflationary and supply chain pressures in certain areas, just to name a couple. Of course, electronic components, freight and logistics and some labor shortages. But really this is where the Danaher Business System is a differentiator for us in this, in fact environment"*

Better-than-expected performance despite constraints:

Apple – Record sales despite larger-than-expected constraints:

> *"Demand was very robust and we set a new September quarter record of $83.4 billion, up 29% from last year and in line with what we discussed on our last call despite larger-than-expected supply constraints."*
>
> *"We estimate these constraints had around a $6 billion revenue dollar impact driven primarily by industry wide silicon shortages and COVID related manufacturing disruptions. Even so, we set an all-time record for Mac and quarterly records for iPhone, iPad, Wearables, Home, and Accessories representing 30% year-over-year growth in products."*

Microsoft – Better than expected PC performance despite constraints:

> *"In our consumer business, Windows OEM performance was better than expected in a growing PC market, despite ongoing supply chain constraints"*

Elevated costs but some bright spots:

Amazon – Increased costs against higher sales and network expansion:

> *"our capacity constraint is actually labor, which is new and not welcome, and that is what we have tried to articulate here today, and we are hoping that rectifies itself through Q4 and/or to early 2022."*

> *"In addition, disruption to the global supply chains and inflation in the cost of materials such as steel and services such as trucking have also raised our cost of operations. We estimate the cost of labor, labor-related productivity losses, and cost inflation to added approximately $2 billion in operating cost in Q3".*

Lam Research – Elevated costs and covid-related disruption against increasing capacity elsewhere:

> *"The supply chain constraints discussed earlier have resulted in elevated cost broadly, with freight and logistics costs continue to be one of the biggest headwinds. Additionally, we currently have margin dilution from our new factory in Malaysia, which is not yet operating at full capacity."*

> *"We're adding capability pretty much everywhere internally in the network."*

ABB – Increasing backlog despite tougher-than-anticipated supply chain constraints:

> *"We would not deliver as much as we wanted to because of the tight supply chain. It stretched beyond component shortages, it's also logistics, and the tight labor market, where high production levels meet continued COVID constraints."*

> *"I just want to highlight that when you look at our order backlog, it has gone up from last year $2.1 billion to $16 billion. And we are really not seeing order cancellations."*

Schneider Electric – Challenging quarter primarily associated with electronic component shortages:

> *"The last one and the one that we are particularly speaking to in this quarter and we had mentioned, I think that we anticipated it would continue into the second half on the H1, is around electronic component shortages. So effectively semiconductor and the supply chain that's supplying the semiconductor factories themselves."*

> *"In terms of how much to the top line, I'd mentioned during the call that we thought for Q3, and it's just an estimate, but we'd estimate around two points, 2% in impact from a sales standpoint, associated with those electronic component shortages mostly primarily the electronic component shortages."*

Notable stock news:

Nvidia (+23.4% over the month):

In the absense of quarterly earnings (due mid-November), Nvidia, the largest producer of Graphic Processing Units, continued its strong share prices peformance from Q3, ending the month as the fund's top performer. Although the proposed acquisition of ARM is still being reviewed by relavent commisions and is unlikely to complete before the initial proposed deadline of March 2022, this did not dampen investor's appetite for Nvidia's on-going success. With growth stocks returning to vogue, outperforming their value counterparts, Nvidia rallied during the month, with the stock now up 96.0% (USD) year-to-date. Additional news that Microsoft and Facebook are working on their respective versions of a 'metaverse' aided in Nvidia's performance, as investors digested the potential for ever-increasing demand for Nvidia's high-end GPUs that power company data centers.

TSMC (+1.8%):

During October, TSMC, the world's largest manufacturer of chips, reported solid figures that surpassed analyst expectations for sales, earnings, and perhaps most notably, gross margins. Indeed, some analysts had become increasing bearish on the stock on the thesis that rising prices of foundry equipment – primarily photolithography equipment from ASML – would hamper TSMC's margins. However management's last commentary went some way to dispel those beliefs, commenting that gross margins for the full year should equate to 51-53% and long-term margins should remains above 50%. The company continues to deliver strong growth on increasing use of chips across applications, with management expecting full year revenue growth of 24% for this year.

Meta Platforms (previously Facebook Inc, -4.7%):

Over the month, Facebook Inc announced a change of name – to Meta Platforms – to reflect its vision beyond social media, into working and playing in a virtual world - "Today we are seen as a social media company, but in our DNA we are a company that builds technology to connect people, and the metaverse is the next frontier just like social networking was when we got started". The so-called metaverse that the company is attempting to create remains a long way off, however Meta is beginning to expand upon its social media status, with eCommerce, virtual reality, and gaming which could create an ever-more prominent ecosystem than social media alone. Aside from this, Meta also reported earnings during the month that was broadly in-line with investor's reduced expectations off the back of Apple's iOS privacy policy changes and supply chain headwinds. Further, going forward Facebook will restructure its operations to break out revenue into "family of apps", which emcompasses Facebook, Instagram, Messenger and WhatsApp, and the "reality labs" products including Augmented Reality and Virtual Reality as well as any related hardware.

Anta Sports (-17.1%):

During the month, Chinese GDP for October was reported at 4.9%, narrowly missing estimates of 5%, but marked a slowdown from the 7.9% in the previous quarter (although this was versus tougher comps). The broader commentary on China continues to be a loss of momentum as the country faces energy shortages, property slowdowns, and ongoing regulatory shifts as President Xi pursues his 'common prosperity' strategy. While Chinese retail sales did beat estimates to grow 4.4% yoy, this was not enough to prop up worsening sentiment. October subsequently led to a series of analyst downgrades for Anta Sports, which, in the absence of direct company news, left Anta down 17.1% (USD) for the month.

We thank you for your continued support.

Portfolio Managers

Matthew Page, CFA

Dr Ian Mortimer, CFA

Summary performance

For the month of October, the Guinness Atkinson Global Innovators Fund provided a total return of 3.88% (USD) against the MSCI World Index net total return of 5.66% (USD). Hence the fund underperformed the benchmark by 1.78% (USD). Year to date, the fund has produced a total return of 16.21% (USD) against the MSCI World 19.44% (USD).

Global stock performance was broadly positive throughout October. This was a reversal of trends from a difficult September, which saw stocks fall following a series of negative news flow, including increasingly disrupted supply chains, hawkish federal reserve rhetoric, and persistently high inflation across developed markets. This negative sentiment continued into early October.

While many of these headwinds remain, markets soon regained momentum following the onset of a strong start to the Q3 earnings season, as over 80% of S&P 500 companies that have so far reported beat earnings expectations, driving the index to new peaks. According to FactSet, for Q3 2021 the blended earnings growth rate for the S&P 500 is currently 36.6%, which, if the growth remains the same once all companies have reported, would mark the third-highest year-on-year earnings growth rate since 2010.

From a factor perspective, growth stocks outperformed their value counterparts in October reversing some of the weakness growth endured during September, while quality stocks (as measured by the MSCI World Quality index) continued to outperform both growth and value, showing investors ongoing appetite for companies with robust balance sheets that can continue to grow in a lower growth environment.

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

- The largest positive stock contributor to the fund's relative performance over the month was from the fund's only Financial holding, Intercontinental Exchange, which rose 20.6% (USD) over the month.
- The fund benefitted from an allocation perspective through lower exposure to weaker performing sectors over the month including Consumer Staples, Materials, and Utilities – where we have a zero weighting to each of these three sectors
- Broadly weaker stock selection across the fund's Consumer Discretionary, IT and Healthcare exposures were responsible for the fund's underperformance over the month. Most notably: Anta Sports within Consumer Discretionary was the fund's weakest performer (down -17.1% in USD); and PayPal which was down 10.6% over the month as economic data showed a deacceleration in ecommerce spending, whilst investors were mixed on the potential acquisition of Pinterest (which has since been called off).

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.

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as of 10.31.2021 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class[1]	37.23%	26.31%	20.41%	17.13%
Global Innovators, Institutional Class[2]	37.60%	26.62%	20.71%	17.30%
MSCI World Index NR	40.42%	18.22%	15.46%	12.19%

as of 09.30.2021 (in USD)	1 year	3 years annualized	5 years annualized	10 years annualized
Global Innovators, Investor Class1	28.46%	20.22%	19.04%	18.12%
Global Innovators, Institutional Class2	28.79%	20.53%	19.33%	18.29%
MSCI World Index NR	28.82%	13.13%	13.73%	12.67%

All returns after 1 year annualized.

[1] Investor class (IWIRX) Inception 12.15.1998 Expense ratio* 1.24%
[2] Institutional class (GINNX) Inception 12.31.2015 Expense ratio* 0.99% (net); 1.07% (gross)

[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).

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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 10/31/2021:

1.	NVIDIA Corp	3.93%
2.	Intercontinental Exchange Inc	3.78%
3.	Microsoft Corp	3.72%
4.	NIKE Inc	3.66%
5.	Adobe Inc	3.57%
6.	Infineon Technologies AG	3.57%
7.	Thermo Fisher Scientific Inc	3.49%
8.	Alphabet Inc - A Shares	3.46%
9.	Roper Technologies Inc	3.42%
10.	KLA-Tencor Corp	3.41%

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.

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

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.

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.

One cannot invest directly in an index.

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