Guinness Atkinson

China & Hong Kong Fund

Managers' Update – October 2022

Summary Review & Outlook

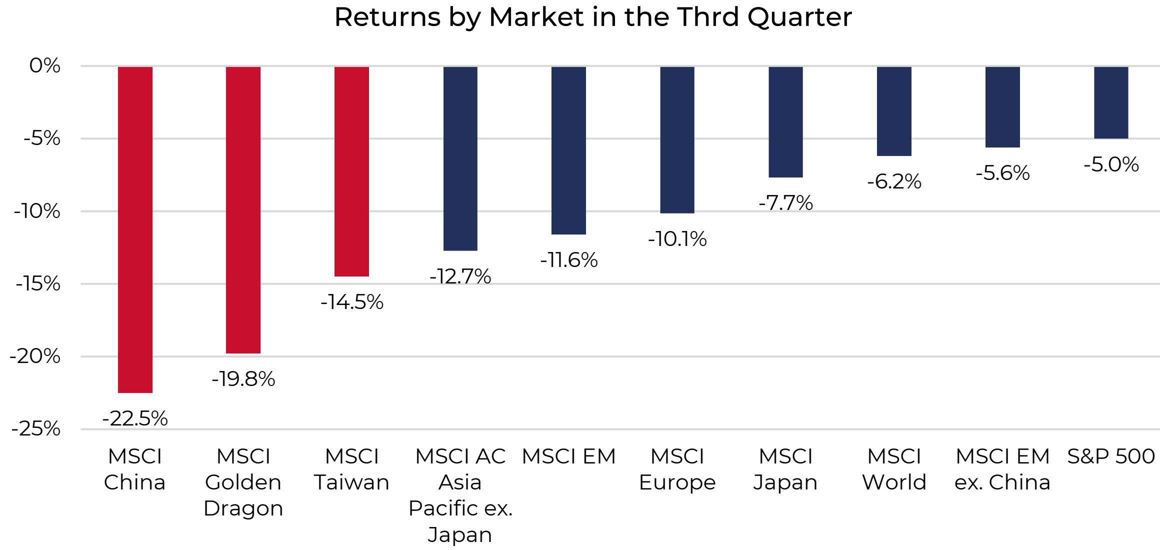
Summary View

- In the third quarter, the MSCI China Total Return Index ("MSCI China Index") fell 22.5% (in USD unless otherwise stated).
- The strongest stocks in the portfolio were CSPC Pharmaceutical, Venustech and Nari Technology. The weakest were Suofeiya, Geely and Weichai Power.
- Changes – we sold China Lilang and China Lesso. We bought Hangzhou First Applied Material.
- Valuation – on estimated 2022 earnings, the Fund trades on a price/earnings ratio of 14.0x which puts it at a 30% premium to the MSCI China Index which trades on 10.8x. However, banks make up 10% of the market and given the very low valuation of the banks (3.6x), they distort the valuation of the market. We estimate that the fund's premium valuation narrows if one excludes the banks from the index.

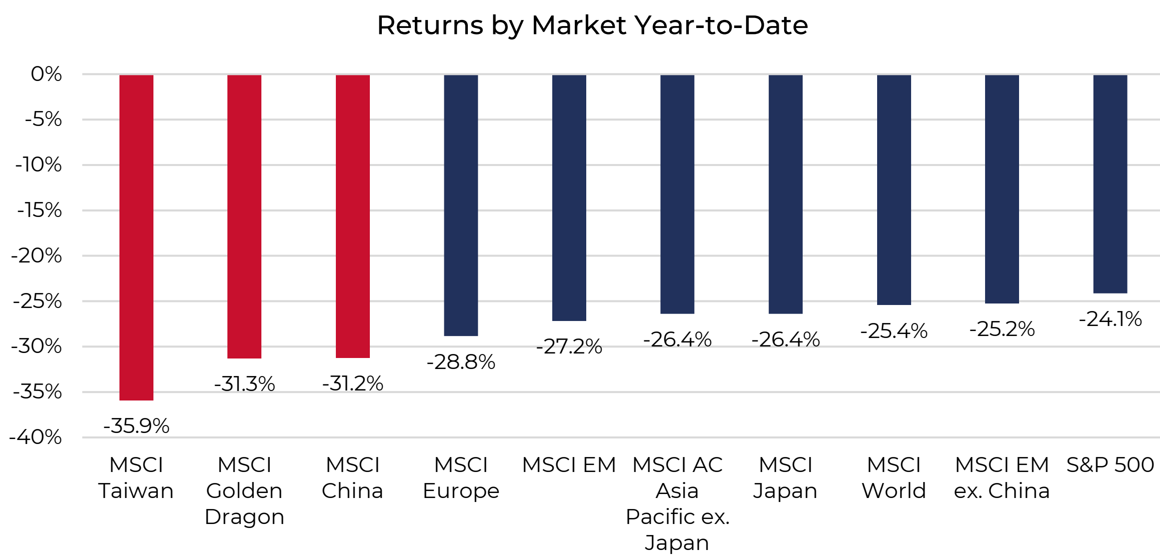
Macro Commentary

- Hong Kong announced an easing to its quarantine policy for incoming travelers. The requirement for a PCR test before boarding has been scrapped and now travelers only need an antigen test a day before flying. Inbound travelers no longer need to stay in a quarantine hotel and instead can stay in any hotel of their choosing. They must monitor their covid status for three days and cannot go to certain public areas such as restaurants and bars during this period. After three days, travelers can move freely but must still conduct PCR and antigen tests until the seventh day of their stay. However, if one tests positive, they must still go to a hospital or isolation hotel for a minimum of seven days.
- Macau will allow tour groups from mainland China to enter the region for the first time since covid. This will provide a boost for the local economy.
- However, in the mainland, there are no signs of an immediate reopening. We await progress on domestic mRNA vaccines and an uptick in booster shots for the elderly.
- The US dollar appreciated against major currencies including the Renminbi. The Renminbi weakened past the USDCNY 7.2 level which happened at a greater pace than the central bank was comfortable with. This led to the PBOC increasing the risk reserve requirement for forward foreign exchange trading from 0% to 20%, increasing the cost of these trades, aiming to reduce the selling pressure on the Renminbi.
- The Caixin Manufacturing Purchasing Managers Index (PMI), which is more geared towards private businesses, was 48.1 in September (a value below 50.0 indicates weakening activity). The NBS Manufacturing PMI, which is more geared towards state owned firms, was 50.1, which marked expanding activity. Policy stimulus through infrastructure and property support is likely benefiting state owned firms more than private firms.
- After a disappointing 2.7% rise in July, retail sales rose 5.4% in August, driven by a rebound in car sales and restaurant sales.
- Consumer price inflation was 2.5% in August, with a softening in food and energy prices. Producer prices rose 2.3% in August. Low inflation gives the central bank room to ease monetary policy, in our opinion.

Market Commentary

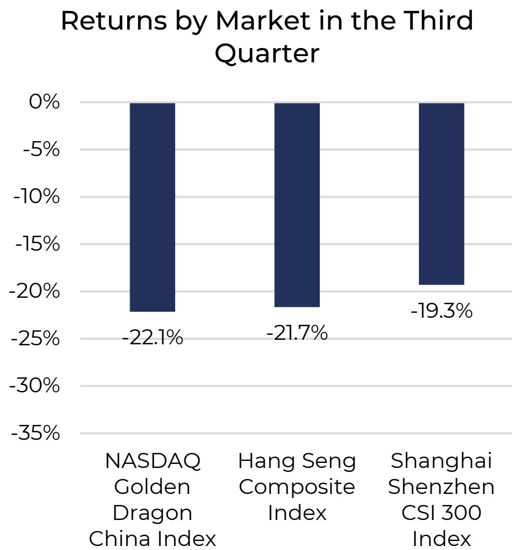


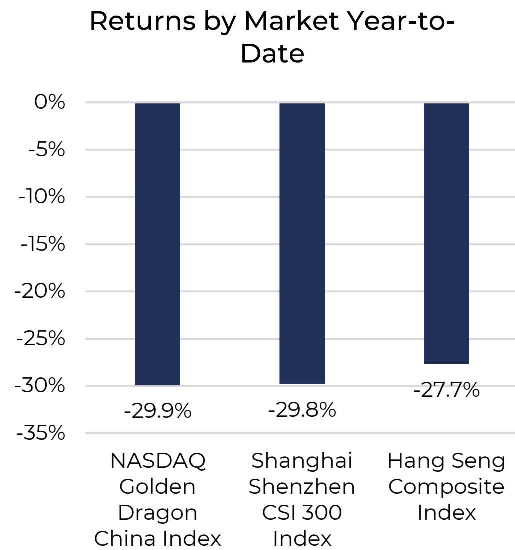
(Data from 06/30/22 to 09/30/22, returns in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations)



(Data from 12/31/21 to 09/30/22, returns in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations)

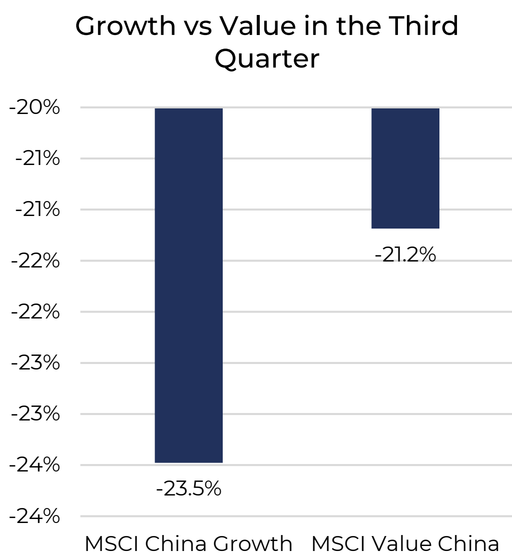
In the third quarter, Chinese markets were weak relative to other major markets. The MSCI China Index fell 22.5% compared to the MSCI World Index which fell 6.2%. Year-to-date, MSCI China has fallen 31.2% compared to a 25.4% drop for the MSCI World. China's zero covid policy and related weak property market are in our view the main reasons for China's weak equity performance.

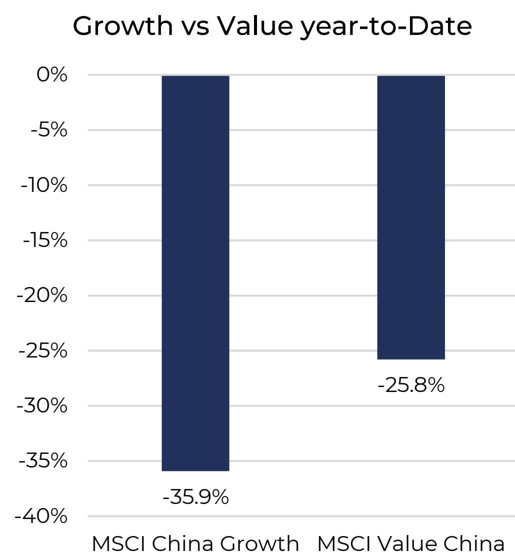




(Left chart: data from 06/30/22 to 09/30/22. Right chart: Data from 12/31/21 to 09/30/22, returns in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations)

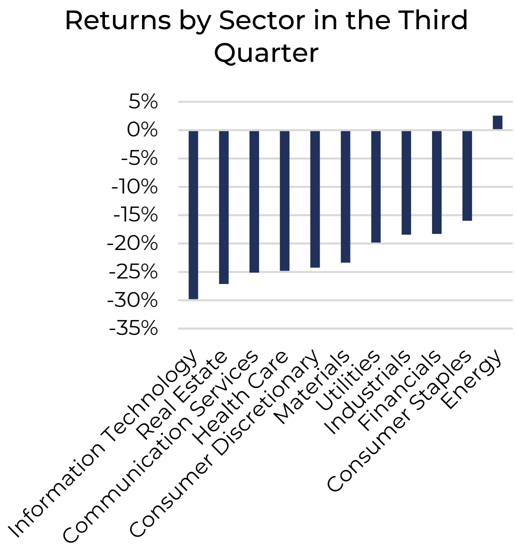
In the third quarter, the performance of the offshore stocks (the American depositary receipt in the US and HK listed stocks) was marginally weaker than the A share market. Year-to-date, all three markets have performed similarly, down 28% to 30%.

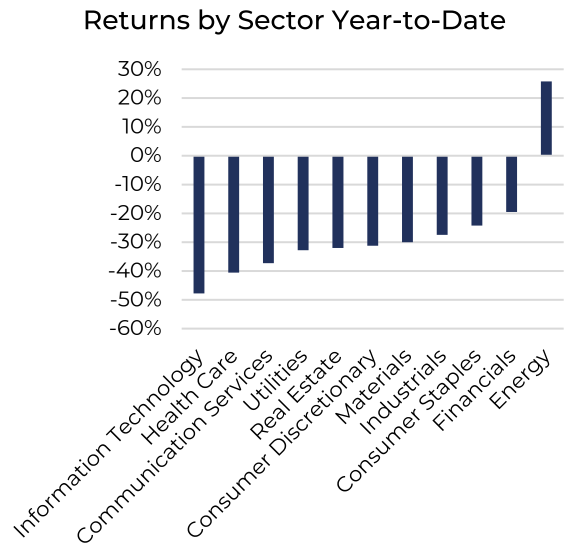




(Left chart: data from 06/30/22 to 09/30/22. Right chart: Data from 12/31/21 to 09/30/22, returns in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations)

Growth stocks were slightly weaker than value stocks in the third quarter. Year-to-date, value stocks are outperforming, down 25.8% vs the growth index down 35.9%.





(Left chart: data from 06/30/22 to 09/30/22. Right chart: Data from 12/31/21 to 09/30/22, returns in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations)

In the third quarter, the best performing sectors were Energy, Consumer Staples, and Financials. Expectations for elevated oil and gas prices explain Energy's strong performance. The weakest performing sectors were Information Technology, Real Estate and Communication Services. As estimates for global growth weaken, it is likely consumer demand for laptops, smartphones, etc. will weaken, meaning the share prices of companies in the supply chain have been weak. The ongoing weakness for Chinese property developers explains why Real Estate was weak.

Switches

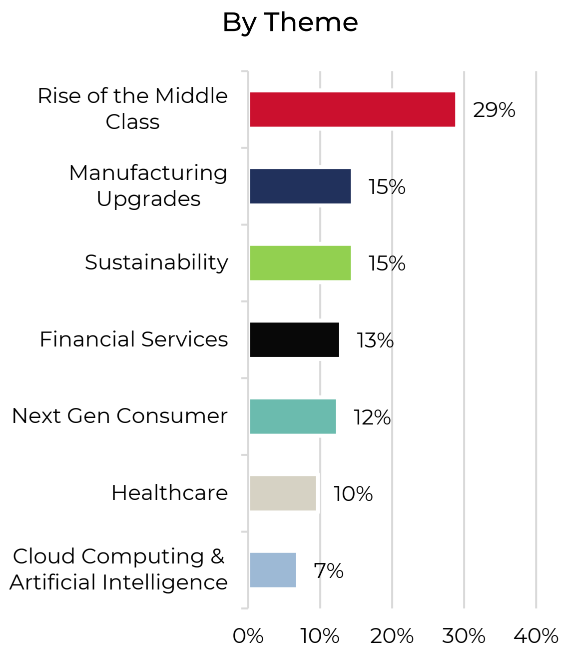
We sold China Lesso. It is a manufacturer of plastic pipes used in infrastructure projects and the real estate industry. It unexpectedly omitted the dividend and announced an expansion into the solar business where it has no expertise. We do not see how the existing business gives Lesso a competitive advantage in solar and so sold the stock.

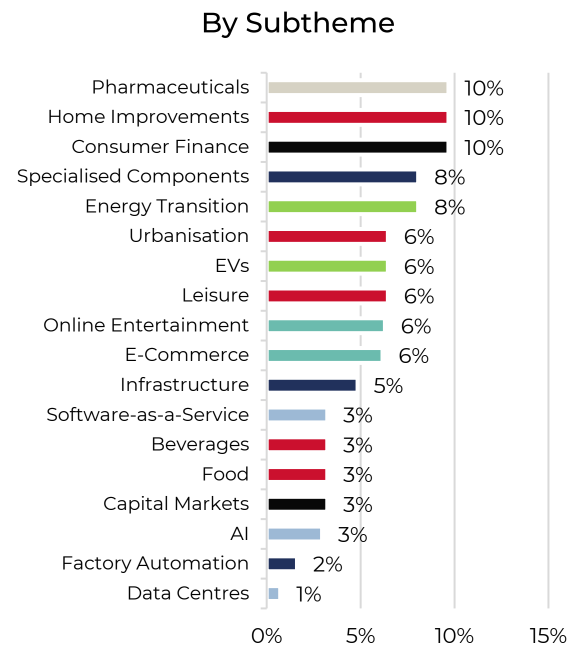
We also sold China Lilang. It is a clothing retailer targeting the men's casualwear segment. Given repeated covid outbreaks in China, sales in the physical stores which make up most of revenue have been weak. Liquidity in the stock has also declined in the past year and for both of these reasons, we exited the position.

We bought Hangzhou First Applied Material which is the world's largest manufacturer of Ethylene Vinyl Acetate (EVA) film, which is used to protect solar modules. In order for solar modules to operate for 20+ years, high quality EVA film is needed and so brand image is important. Hangzhou First Applied is now the world's largest manufacturer of EVA film for the solar industry. Since the business listed in 2014, it has generated a cash return on capital above the cost of capital, which is encouraging as it is a sign that the business has withstood prior slowdowns in the solar space.

Portfolio Positioning

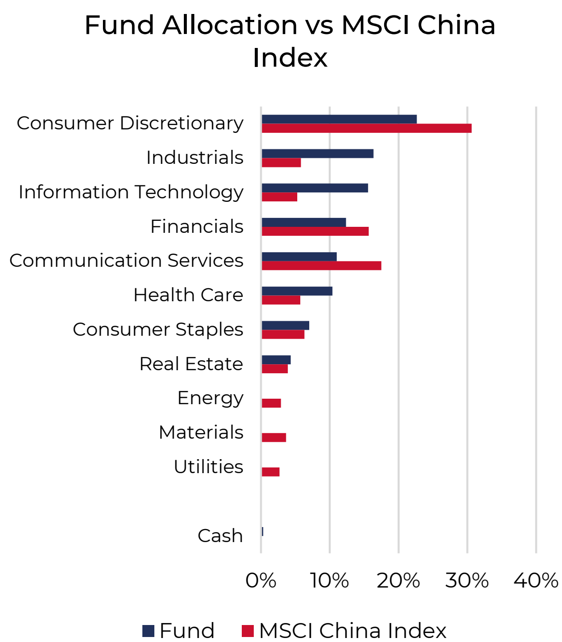
By theme, the Fund's largest exposures are to the Rise of the Middle Class, followed by Manufacturing Upgrades and Sustainability. Important subthemes include Pharmaceuticals, Home Improvements, Consumer Finance and Specialized Components.

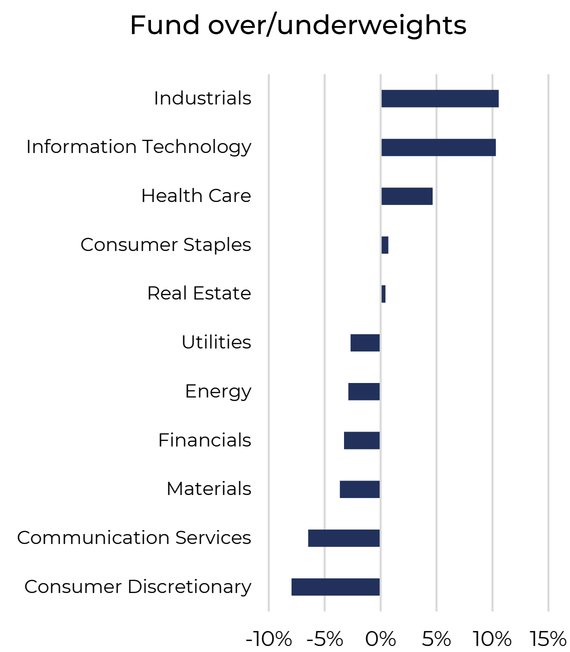




(Data as of 09/30/22, source: Guinness Atkinson Asset Management calculations. Data assumes each position is equally weighted)

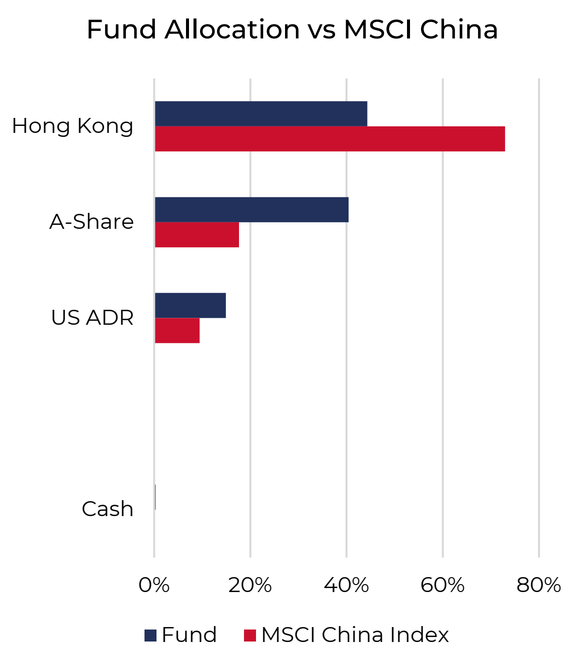
On a sector basis, the Fund's largest exposures are to Consumer Discretionary, Industrials and Information Technology (IT). Relative to the MSCI China Index, the Fund is overweight in Industrials and Information Technology. The Fund is underweight in Consumer Discretionary and Communication Services.

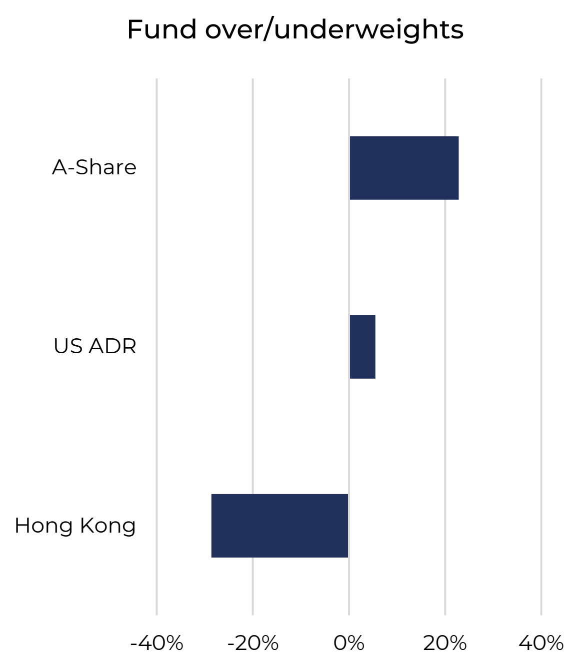




(Data as of 09/30/22, source: Bloomberg, Guinness Atkinson Asset Management calculations)

On a listing basis, the Fund has 44% exposure to stocks listed in Hong Kong, 40% exposure to the A share market and 15% exposure to China American Depositary Receipt (ADR) trading in the US.



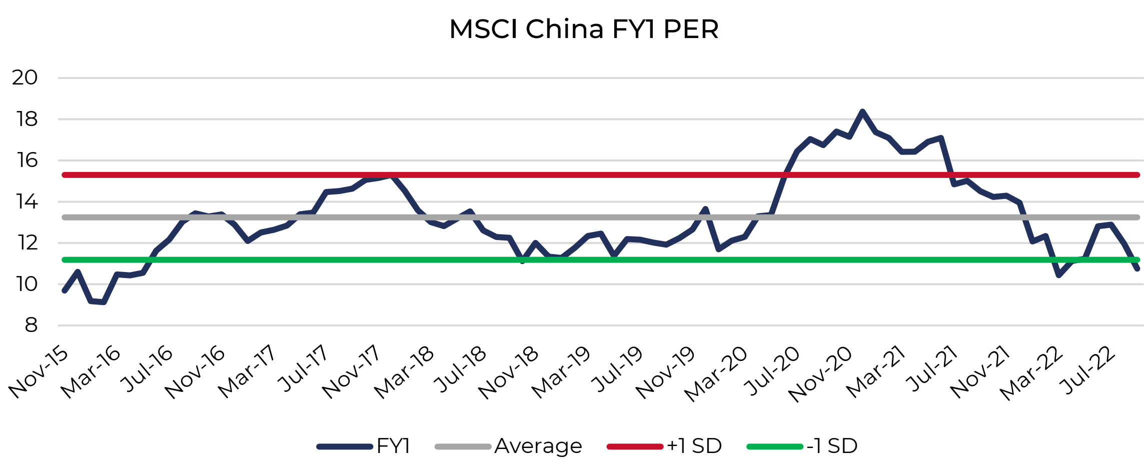


(Data as of 09/30/22, source: Bloomberg, Guinness Atkinson Asset Management calculations)

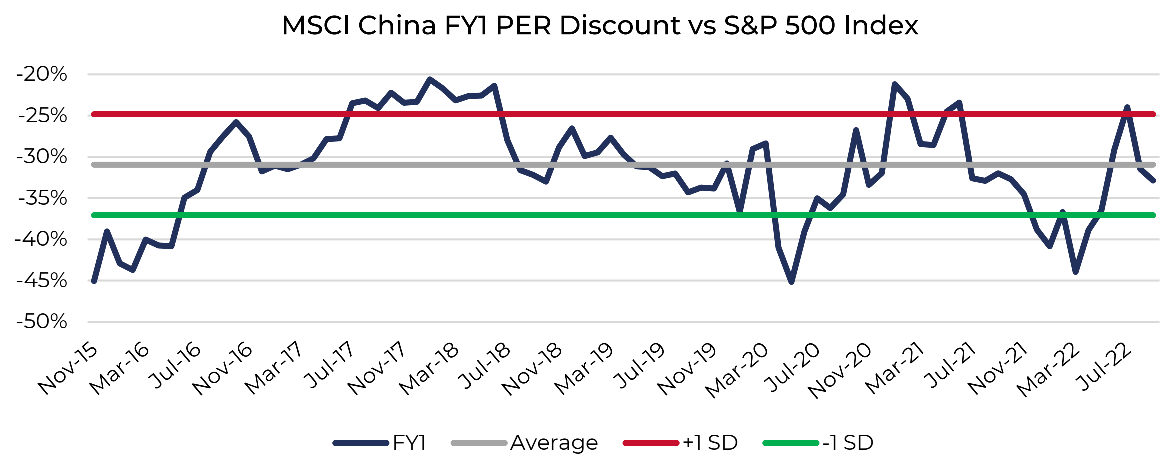
Why Invest in the Fund Today?

We emphasize that we focus on total shareholder return which is broken down into changes in valuation multiples, earnings growth, and the dividend yield. For this portfolio which invests in growing companies, valuations and earnings growth are most important.

Given the headwinds China is facing, valuations for the broader Chinese market have now dropped to levels last seen during the US-China trade war. Compared to developed markets which are trading at above their historic average, we think China's low valuation is attractive. As of 09/30/22, MSCI China was trading at 11.2x on a one-year forward looking price/earnings (P/E) basis, well below the S&P 500 at 16.7x. One may fairly argue that China often trades at a discount to the US, so we also show MSCI China's historical discount to the S&P 500. As of 09/30/22, MSCI China was trading at a 33% discount to the S&P 500, which is around its long-term average discount.

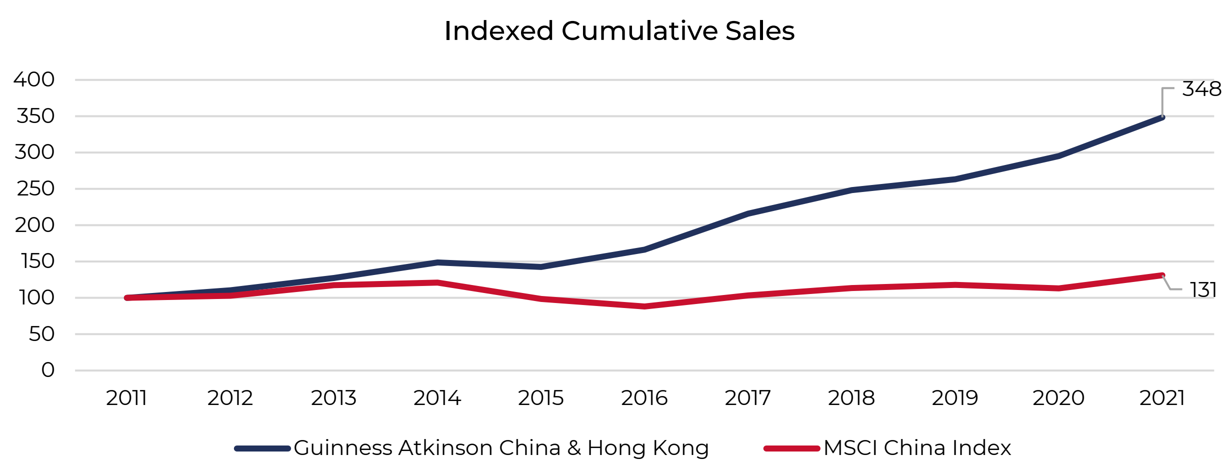


(Data from 11/30/15 to 09/31/22, SD refers to standard deviation. Source: Bloomberg, Guinness Atkinson Asset Management calculations)



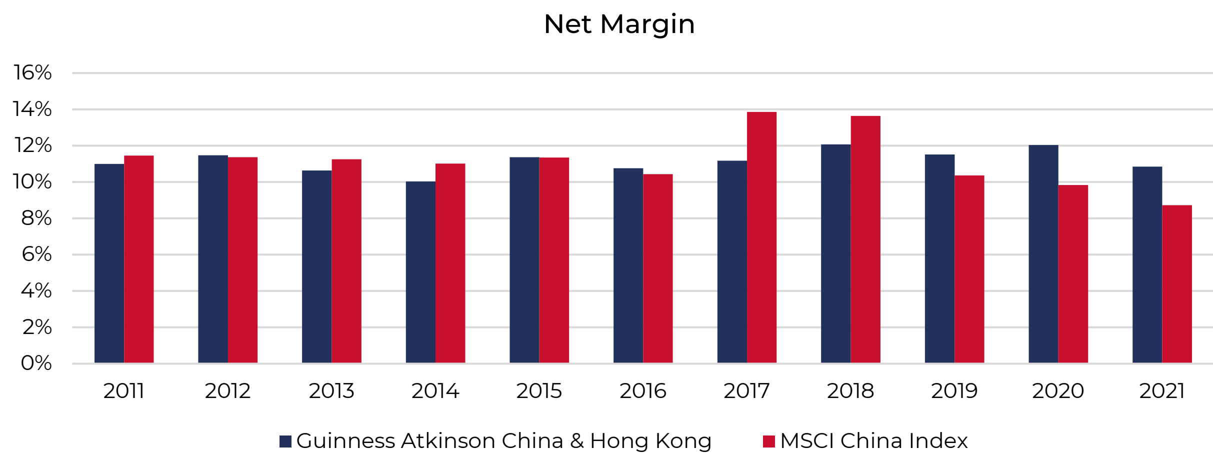
(Data from 11/30/15 to 09/30/22, SD refers to standard deviation. Source: Bloomberg, Guinness Atkinson Asset Management calculations)

But low valuations are not enough on their own to justify an investment into the Fund. Over the long-term, we believe its earnings growth which drives shareholder return. Our focus on structural growth themes means the Fund's current holdings have, over the past 10 years, grown sales at a much higher rate than the broader market. (Note for the cumulative calculations for the Fund, we look at the aggregate sales growth of the current holdings over the past 10 years. When calculating the aggregate sales growth for the MSCI China Index, the holdings and weights do change each year, so the companies on which 2021 sales are calculated for, are different to those on which 2011 sales are calculated for). Below we show the aggregate sales of the Fund's current companies, over the last 10 years, have grown by a total of 248%. This is much higher than the 31% aggregate sales growth of companies in the MSCI China Index.



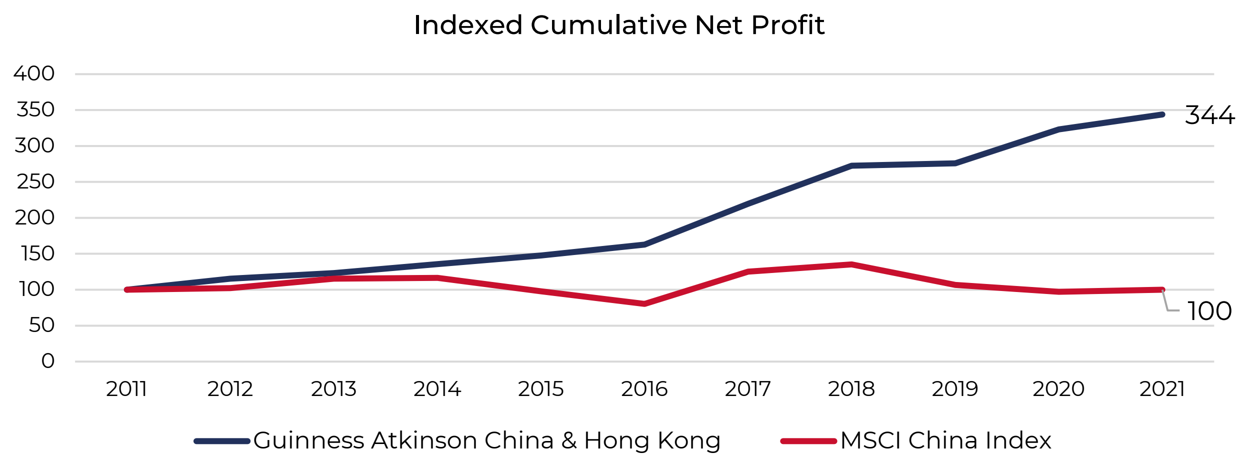
(Data as of 09/30/22, sales in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations. Data for The Fund is a simulation based on actual historic data for the Fund's current holdings.)

Now we must look at margins to see if the Fund's higher sales growth translates to earnings growth. Since 2015, the Fund's net margins have remained stable whereas for the broader market, margins have been volatile. We point out that since 2017, MSCI China's net margins have fallen by 5.1 percentage points whereas for the Fund, the drop has only been 0.3 percentage points.



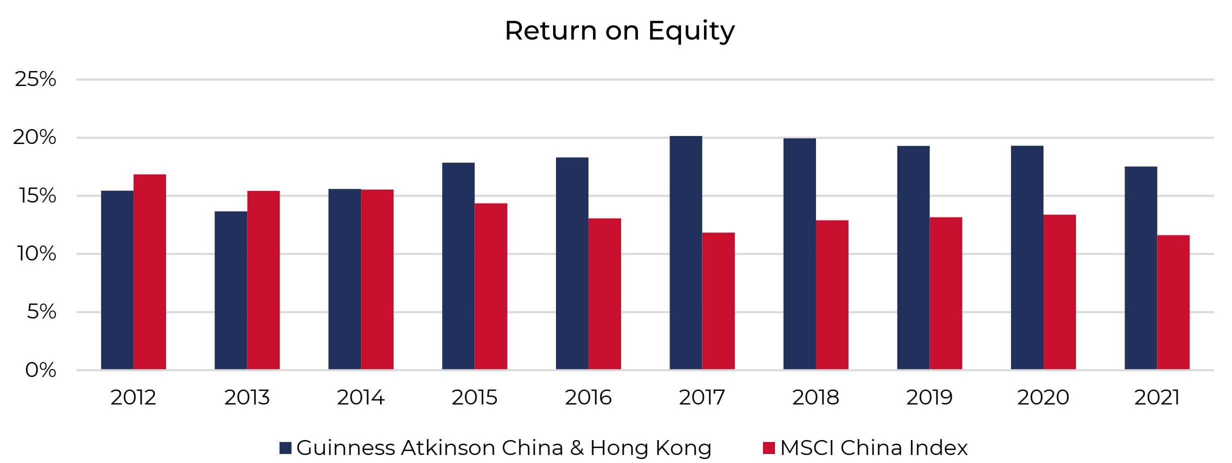
(Data as of 09/30/22, sales in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations. Data for The Fund is a simulation based on actual historic data for the Fund's current holdings.)

The aggregate net income of the Fund's current companies, over the last 10 years, has grown by 244%. This compares to essentially no growth in the aggregate net income of the companies in the MSCI China Index. We believe the Fund has superior growth because of our focus on structural growth themes, as well as for the fact that the Fund's net margins have been stable over the past 10 years, whereas for the MSCI China Index, net margins have fallen significantly. This is no coincidence - it is an outcome of our disciplined process. We do occasionally see articles arguing China is not investable because of the lack of long-term earnings growth in the broader market. We agree that the earnings growth of the broader market is poor, which is what makes the Fund so attractive. We are not investing in the broader market – we are investing, with high conviction, in a set of well-run companies which give exposure to the structural growth themes in China. This has resulted, as we have shown, in a very different set of outcomes for the Fund.



(Data as of 09/30/22, sales in USD, source: Bloomberg, Guinness Atkinson Asset Management calculations. Data for The Fund is a simulation based on actual historic data for the Fund's current holdings.)

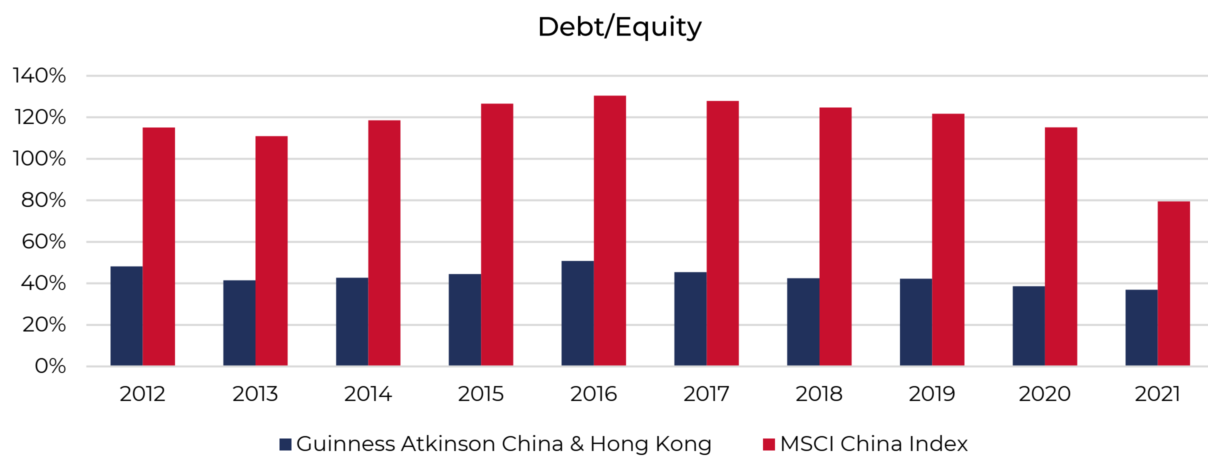
As a result of the process's focus on quality, since 2015 the Fund's holdings have had a much higher aggregate return on equity (ROE) than the broader market. Furthermore, the Fund's ROE has been relatively stable while that of the broader market has fallen. In 2021, the Fund's ROE was 18% compared to MSCI China which had a ROE of 12%. So not only have our companies grown sales and earnings at a faster rate than the market, but they are doing so more efficiently. This is because each dollar of equity has generated a significantly higher return compared to the broader market.



(Data as of 09/30/22. Source: Bloomberg, Guinness Atkinson Asset Management calculations. Data for The Fund is a simulation based on actual historic data for the Fund's current holdings. Return on Equity refers to trailing 12 months net income / average total common equity)

Leverage can boost a company's ROE, as taking on debt reduces the need to raise equity. So, we also show the debt/equity ratios for the Fund's current holdings over the past 10 years as well as that of the MSCI China index. The chart shows that for the past decade, the Fund's debt/equity ratio has hovered around

40%. This is significantly below the broader market which has had a debt/equity ratio well above 100% for the majority of the period. We also show the Fund's net debt/equity ratio which subtracts cash from the debt for each company. The Fund has persistently had a negative net debt/equity ratio. This means our companies, in aggregate, have enough cash on the balance sheet to theoretically pay back all of their debt. This is in stark contrast to the broader market – in 2021 the net debt/equity ratio was -19% for the Fund vs 30% for the market.



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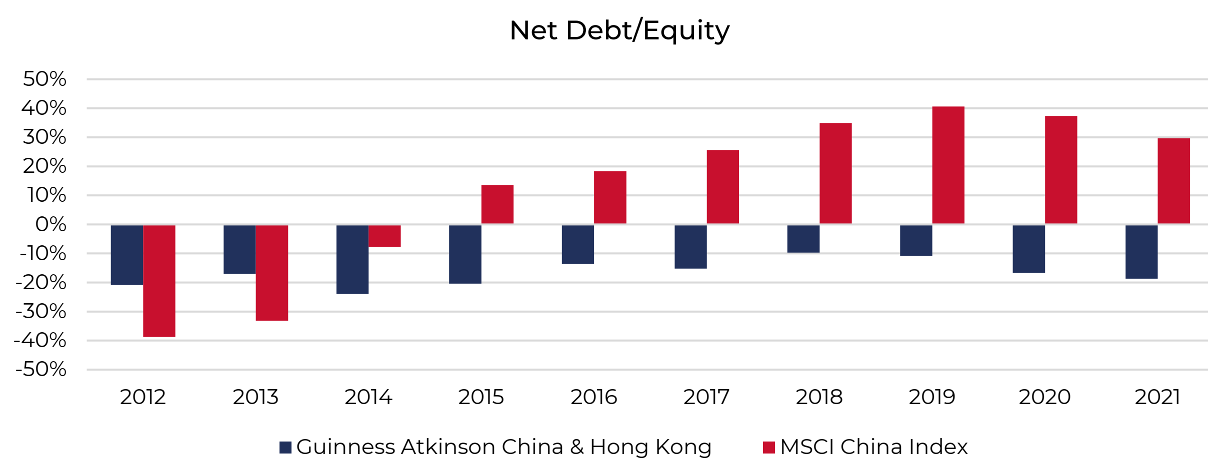

(Data as of 09/30/22. Source: Bloomberg, Guinness Atkinson Asset Management calculations. Data for The Fund is a simulation based on actual historic data for the Fund's current holdings.)

In summary, we have shown the Fund is invested in quality, profitable companies which have compounded earnings over time, at a much more efficient rate than the market. This set of companies is trading at one of its cheapest valuations in recent years. As of 09/30/22, The Fund was valued at 14.0x on estimated 2022 earnings, which put it at a 30% premium to the MSCI China Index, which was valued at 10.8x. However, we point out that banks make up 10.0% of the index and given the very low valuation of the banks (3.6x), they distort the valuation of the market. We estimate that the Fund's premium valuation narrows if one excludes the banks from the index.

Outlook

Due to China's zero covid policy, the market is trading at a cheap valuation relative to history. We argue current valuations reflect current sentiment and the debate is whether they reflect future outcomes. We think at some point China is likely to move away from its zero covid policy which would lead to stronger economic growth, since lockdowns and movement restrictions would no longer occur. In this scenario, demand for Chinese stocks would likely increase, leading to a valuation re-rating. The operating environment would be better for companies which is more supportive for earnings growth. We argue China is cheap as today's valuations do not reflect likely future outcomes and so we argue investors should be looking at the country. If one were to wait for China to move away from its zero covid policy before investing in the country, they would very likely miss the valuation re-rating which would occur the moment China announces a change in policy.

Though there are risks with investing in China, we argue we have a disciplined process which steers investors away from these risks. Through this process we invest in high quality, growing companies which give exposure to the structural growth themes in China, a style Guinness has been using across the business for some time. This process results in a Fund whose holdings have historically grown sales and earnings at a premium to the broader market, at a much higher return on equity. We follow a valuation discipline to make sure we do not overpay for this growth. We believe our systematic approach gives investors a solution which results in outcomes which are superior to the broader market.

Edmund Harriss (portfolio manager)

Sharukh Malik (portfolio manager)

GUINNESS ATKINSON FUNDS

Performance

Year-to-date, the main sources of underperformance have come from:

- Overweight in Information Technology – the sector has been the weakest year-to-date, falling 48%. However, the stocks we hold in aggregate outperformed the sector, driven by Xinyi Solar (down 38%), Venustech (-38%). Shengyi Tech (-48%) fell in line while Shenzhen H&T Intelligent marginally underperformed, falling 51%.
- Stock specific within Industrials - property exposure (Lesso and Sany), Lead Intelligent (electric vehicles), Nari (grid automation), Inovance (high end manufacturing).

Areas which have aided the Fund's performance year-to-date:

- Underweight in Communication Services – underweight in Tencent.
- Good stock selection in Consumer Discretionary – underweight in Alibaba (same reasoning as Tencent above). The Fund does not hold Meituan and Nio because historically they have not been able to achieve a cash return on capital above the cost of capital for an extended period of time.

As of 09/30/2022	YTD	1 Year	3 Year	5 Year	10 Year
China & Hong Kong Fund (ICHKX)	**-33.12%**	**-31.35%**	**-5.44%**	**-3.87%**	**2.01%**
Hang Seng Composite Index TR	**-27.67%**	**-31.27%**	**-7.37%**	**-5.02%**	**2.20%**
MSCI China Net Total Return Index	**-31.23%**	**-35.39%**	**-7.17%**	**-5.55%**	**2.36%**

All returns over 1 year annualized. *Source: Bloomberg, Guinness Atkinson Asset Management.*

Expense Ratio: 1.50%

Performance data quoted represents past performance; past performance 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. Performance data shown is current to the most recent month and quarter end. To obtain performance as of the most recent month end, please visit www.gafunds.com or call 1-800-915-6565. Performance data does not reflect the 2% redemption fee for shares held less than 30 days and, if deducted the fee would reduce the performance noted.

The Fund's investment objectives, risks, charges and expenses must be considered carefully before investing. The statutory and summary prospectus contains this and other important information about the investment company, and it may be obtained by calling 800-915-6566 or visiting gafunds.com. Read it carefully before investing.

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 China and/or Hong Kong stock markets in which the Fund invests may experience periods of volatility and instability. These fluctuations may cause a security to be worth less than it was at the time of purchase. Market risk applies to individual securities, a particular sector or the entire economy. China and/or Hong Kong stocks may fall out of favor with investors, the value of Chinese currencies may decline relative to the U.S. dollar and/or China or Hong Kong stock markets may decline generally. The Fund invests in invest in small-cap or mid-cap, which involve additional risks such as limited liquidity and greater volatility, than investments in larger companies.

One cannot invest directly in an Index.

The **Shanghai Shenzhen CSI 300 Index** is a market capitalization-weighted stock market index designed to replicate the performance of the top 300 A-share stocks traded in the Shanghai and Shenzhen stock exchanges.

Hang Seng Composite Total Return Index is a market capitalization weighted index that monitors the performance of stocks listed in Hong Kong.

In China, the **NBS Manufacturing Purchasing Manager Index** measures the performance of the manufacturing sector and is derived from a survey of more large-scale, state-owned companies. The Manufacturing Purchasing Managers Index is based on five individual indexes with the following weights: New Orders (30%), Output (25%), Employment (20%), Suppliers' Delivery Times (15%) and Stock of Items Purchased (10%), with the Delivery Times index inverted so that it moves in a comparable direction.

The **Caixin PMI** measures the performance of the manufacturing sector and is derived from a survey of more private companies.

MSCI AC Asia Pacific ex Japan Index is free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of countries in the Asia Pacific region.

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

MSCI EM Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of Emerging markets in Asia, Europe, Middle East, Africa, and Latin America.

MSCI EM ex China is the same as the MSCI Emerging Markets Index but excludes China.

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 703 constituents, the index covers about 85% of this China equity universe.

The **MSCI China A Index** captures large and mid-cap representation across China securities listed on the Shanghai and Shenzhen exchanges. The index covers only those securities that are accessible through "Stock Connect".

MSCI Hong Kong Index is a capital weighted stock index designed to measure the performance of the large and mid-cap segments of the Hong Kong market. It has 48 constituents and covers approximately 85% of the free float-adjusted market capitalization of Hong Kong equity stocks.

MSCI Golden Dragon is a composite of the MSCI China, Hong Kong and Taiwan Indices which are free float-adjusted market capitalization weighted indices that is designed to measure the equity market performance of the respective markets.

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

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 China Growth Index captures large and mid-cap securities exhibiting overall growth style characteristics across the Chinese equity markets.

MSCI China Value Index captures large and mid-cap Chinese securities exhibiting overall value style characteristics. 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.

S&P 500 Index is a market-capitalization-weighted index of leading publicly traded companies in the U.S.

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. The standard deviation is calculated as the square root of variance by determining each data point's deviation relative to the mean.

American depositary receipt (ADR) refers to a negotiable certificate issued by a U.S. depositary bank representing a specified number of shares—usually one share—of a foreign company's stock. The ADR trades on U.S. stock markets as any domestic shares would.

Price/Earnings ratio (P/E) is an equity valuation multiple. It is defined as market price per share divided by annual earnings per share

Opinions expressed are subject to change, are not a guarantee and should not be considered investment advice. Past performance is not indicative of future results.

Top Fund Holdings as of 9/30/2022:

1.	NetEase Inc - ADR	4.46%
2.	China Overseas Land & Investments Ltd	4.35%
3.	NARI Technology Co Ltd	4.33%
4.	JD.com Inc	4.32%
5.	AIA Group Ltd	4.01%
6.	Haier Smart Home Co Ltd	3.90%
7.	Shenzhen Inovance Technology Co Ltd.	3.89%
8.	Baidu Inc	3.88%
9.	CSPC Pharmaceutical Group Ltd	3.86%
10.	China Medical System Holdings Ltd	3.69%

Fund holdings and sector allocations are subject to change and are not recommendations to buy or sell any security.

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