CIO Academy

Global Composite Sentiment Indicator

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- We have developed a Global Composite Sentiment Indicator as an additional input into our investment process. It offers a comprehensive overview of investor, business, and consumer surveys, as well as market positioning. Rather than lumping these aspects into one indicator, which is often done, separating them allows us to compare them and draw some interesting conclusions.
- By consolidating data from 70 different surveys, this indicator provides a comprehensive summary of overall economic and market confidence embedded into the expectations.
- Our analysis of individual sentiment groups currently reveals a trend towards improved sentiment readings in 2023, while positioning is still below average. That suggests a potential for continued bullish market conditions. We note that possible downside risks related to recent bank failures have had a limited impact on the overall sentiment readings.
- Our number crunching has also discovered an uptick in an unexpected place: trade.
 Contrary to the much-discussed de-globalisation trend, it seems that China's reopening and other factors should soon lead to a cyclical upswing in trade activity.

Overview of our Sentiment Indicator

We are unveiling a new global composite sentiment indicator that captures insights from a broad range of surveys and market positioning measures. The four underlying components of the indicator are: **investor sentiment**; tracking the market's mood from an investment perspective; **business sentiment**, revealing the outlook of companies across the globe; **consumer sentiment**, tapping into the expectations and sentiment of everyday consumers; and **positioning**, revealing the dynamics of speculative positions on risky asset classes.

The underlying surveys focus on a range of forward-looking timeframes between 1 and 12 months and multiple release frequencies ranging between weekly and quarterly. Surveys are conducted across geographies, including the US, Eurozone, Asia, Australia and LATAM. The distribution of surveys across these regions generally corresponds to their representation in the global economy. Our method, which relies solely on surveys and market positioning to measure market sentiment, distinguishes itself from many other industry-used sentiment indicators by emphasising expectations.

Each survey utilises distinct scales and methodologies, necessitating the application of normalisation (e.g., z-score transformation) within an expanding window to ensure comparability among components approach inherently stabilises recent data points, rendering them more contextually informative. Furthermore, the incorporation of newly available surveys in recent years enhances the representation of global sentiment while simultaneously mitigating volatility in sentiment levels, thanks to the growing number of surveys over time.

Each individual sentiment indicator within the four sentiment groups is equally weighted when constructing the corresponding sentiment component, which should reduce potential biases compared to more complex approaches, in our view.

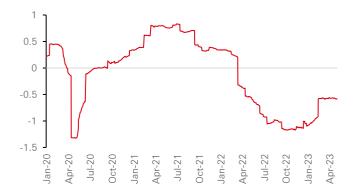
Global Sentiment Analysis

Improvement in sentiment despite heightened volatility

Recent developments showcase a notable improvement in sentiment in 2023. All four underlying sentiment indicators (Investor, Business, Consumer, and Positioning) have shown a robust recovery from their low points in 2022 with little fluctuation.

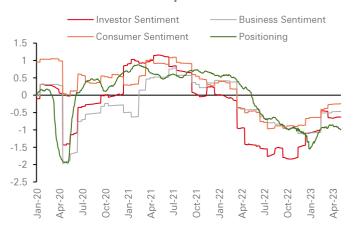
Despite the swift emergence from a banking crisis in April, initiated by SVB's collapse and further fueled by speculation around US regional banks as well as UBS's acquisition of Credit Suisse, sentiment levels have managed to remain unwavering, exhibiting a remarkable resistance to the negative impact of these market events. Consumer sentiment, in particular, has remained resilient in recent quarters, supported by a strong labour market.

Global Composite Sentiment Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Sentiment Indicator components



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Investor Sentiment

Our investor sentiment indicator has shown the strongest improvement in the last two months as the earliest mover within sentiment groups (starting in mid-November last year). The bullish readings in the "Intelligent Investor" and "AAII investor" surveys, together with improvements in stock market expectations in Germany led to the recent positive change in the group. Over the last two months, Street Confidence Index has been showing the strongest improvement, followed by Asia-ex Japan indicators covering the investor surveys for both business and economic expectations. The collective positive shifts across various important investor surveys paint a more optimistic picture than the readings observed just months ago.



Investor Sentiment Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Investor Sentiment Changes in the last month

Input	Δz-score
Intelligent Investor	0.32
AAII Investor	0.21
Germany, Business Surveys, CS, Stock Market Expectation, Eurozone, Good minus Bad	0.03
State Street Investor Confidence Index	-0.02
AAII Allocation Survey % Stocks	-0.11

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Investor Sentiment Changes in the last 2 months

Input	Δz-score
State Street Investor Confidence Index	1.22
Asia ex Japan, Business Surveys, Sentix, Investors Sentiment	1.01
Asia ex Japan, Business Surveys, Sentix, Indicator of Economic Sentiment, Total	0.94
World, Business Surveys, Sentix, Indicator of Economic Sentiment, Total	0.68
Germany, Business Surveys, Sentix, Indicator of Economic Sentiment, Total	0.64
United States, Business Surveys, Sentix, Indicator of Economic Sentiment, Total	0.14
US Sentix Investors Sentiment	80.0
Business Surveys, ZEW, Stock Market Indices, STOXX 50 Eurozone, Increase minus Decrease	-0.26
AAII Allocation Survey % Stocks	-0.39

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Business Sentiment

Business sentiment bottomed at the end of November 2022, and the uptick in this group has recently been driven by diverse

regions. Despite minimal notable changes in business surveys in the last month, the primary improvements over the past two months include Richmond shipment expectations, China's non-manufacturing business activity expectations, UK business optimism and housing market sales expectations, and IFO demands expectations. Each of these components exhibited a significant positive trend during this period, with z-score moves ranging from +1.15 to +3.69. Although some surveys contributed negatively, their impact has been comparatively minor, with changes in individual z-scores being lower than a 0.5 absolute move.

Business Sentiment Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Business Sentiment Changes in the last month

Input	Δz-score
United Kingdom, Business Surveys, Royal Institution of Chartered Surveyors Housing Market, Sales Expectations, England and Wales, SA	0.02
United States, Business Surveys, National Federation of Independent Business, Outlook For General Business Conditions, SA	0.02
United States, Business Surveys, National Federation of Independent Business, Small Business Sales Expectations, SA	0.02

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Business Sentiment Changes in the last 2 months

Input	Δz-score
United States, Business Surveys, Richmond Federal Manufacturing, Shipments, Expectations, SA, Index	3.69
China, Business Surveys, Purchasing Managers Index, Non-Manufacturing Sector, From NBS of China, Business Activities Expectation, SA, Index	2.24
United Kingdom, Business Surveys, CBI Industrial Trends, CBI Enquiry : Business Optimism	1.9
United Kingdom, Business Surveys, Royal Institution of Chartered Surveyors Housing Market, Sales Expectations, England and Wales, SA	1.47



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IFO, Germany, Service Sector, Business Surveys, Expectations Regarding Demand / Turnover, Total, SA	1.15
Australia, Business Surveys, Acci-westpac, Survey of Industrial Trends, New Orders, Next 3 Months	-0.18
Eurozone, Construction Survey, Total Construction, Employment Expectations, Construction Survey : Employment Expectations	-0.24
United States, New York Federal, Business Leaders Survey, Future Capital Spending, Diffusion, Index	-0.3
United States, Business Surveys, National Federation of Independent Business, Small Business Sales Expectations, SA	-0.34
United States, Business Surveys, National Federation of Independent Business, Outlook For Small Business Expansion, SA	-0.38

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Consumer Sentiment

Although a similar pattern of strengthening sentiment occurred across all sentiment groups we track, signs of improvements in consumer sentiment were visible at the end of July 2022, earlier than the other groups. While there is a lack of a strong trend in the past month, good news regarding future employment expectations in China (with a remarkable +3.67 z-scored move), thanks to its grand reopening, has been the main positive contributor in the past two months. China's overall consumer expectations, followed by improvements in the UK Ipsos Primary Consumer Sentiment Index, as well as other US indicators such as IDB/TIPP Economic Optimism Index, and vacation plans intended by airplane in the next six months have also contributed to the positive outlook in the group. Conversely, consumer expectations and future employment expectations in the US have seen a much more negative move between -0.98 and -0.31 zscores. However, the strongest movers have led to an overall positive outlook in consumer sentiment despite negative contributions from some surveys.

Consumer Sentiment Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Consumer Sentiment changes in the last month

Input	Δz-score
United States, Consumer Surveys, IBD / TIPP, Economic Optimism Index, Index	0.09
UOMichigan Consumer Sentiment	0.01
China, Consumer Surveys, Refinitiv / Ipsos Primary Consumer Sentiment Index	-0.02

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Consumer Sentiment changes in the last 2 months

Δz-score
3.67
1.06
0.97
0.77
0.61
-0.31
-0.64
-0.98

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Positioning

The positioning appears to be in line with the investor surveys with a 2-month lag. We believe it is reasonable to expect a disconnection between what investors say and what they do. Cognitive biases can contribute to delayed market reactions and inconsistent adherence to stated preferences. Nevertheless, if the other indices continue to improve, it is reasonable to assume that positioning would need to follow.

Compared to the other sentiment groups, positioning appears to be more negative in both 1-month and 2-month time frames. While single equity options positioning has displayed some positive signs, it hasn't been sufficient to counterbalance the broader, slightly bearish outlook driven by the index derivatives positioning and a slight decrease in EM & HY mutual fund flows over the past month. In the last two months, the Inverse CBOE Put/Call ratio has witnessed a stronger upward shift with a +0.83 z-score. However, the negative influence from other indicators has been more pronounced, registering z-scored moves of -0.46 and -0.73, respectively.



The disparity between equity options positioning and index positioning is noteworthy. This could signal a cautious stance from investors regarding the overall market, implying that the stock-picking skills (alpha) may be more important in the current environment than the overall market exposure (beta). This could also be a consequence of the narrow leadership in markets (e.g. US Tech and global luxury goods).

In conclusion, positioning remains healthier compared to the levels at the beginning of the year, with a modest decline experienced recently. There seems to be more upside to positioning if sentiment indicators continue to improve.

Positioning Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Positioning changes in the last month

Input	Δz-score
Inverse CBOE Equity Put/Call	0.05
US Net Flows into EM & HY Mutual Funds Normalized by Net Assets of EM & HY Mutual Funds	-0.07
Total S&p 500, Nasdaq and Dow Index Derivatives Non-Commercial Net Pos. Normalized By Total Non. Com. Open-Interest	-0.4

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Positioning changes in the last 2 months

Input	Δz-score
Inverse CBOE Equity Put/Call	0.83
Total S&p 500, Nasdaq and Dow Index Derivatives Non-Commercial Net Pos. Normalized By Total Non. Com. Open-Interest	-0.46
US Net Flows into EM & HY Mutual Funds Normalized by Net Assets of EM & HY Mutual Funds	-0.73

Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023

Global Trade Commentary

In this analysis, we delve into the recent improvements in global trade, fueled by a confluence of positive indicators from key international trade players. The remarkable upturn in both

consumer and business sentiment in China is signalling optimism for future economic growth and trade activity. We find that the heightened business activity expectations in China could be a contributing factor to positive prospects for future trade activity. This appears to be further supported by healthier economic expectations from other regions of the world.

The outlook for shipment expectations in the US has also shown signs of improvement, reflecting a growing sense of optimism among manufacturers and industry leaders in the Fifth Federal Reserve District, which can be considered a reasonable proxy for shipment expectations in the whole US. Improving new export orders reflected in the ISM survey also indicates growing traffic for shipments for the world's largest importer. However, it should be noted that the ISM survey is excluded from our Global Composite Sentiment Indicator, as it does not primarily focus on expectations. On top of that, growing economic optimism in the US could be another factor contributing to better prospects for global trade in the coming months. Germany, a key player in global trade and Eurozone's largest economy joins the fray with encouraging demand expectations reflected in the IFO Business Climate Index.

US ISM Non-Manufacturing Index – New Export Orders, Higher



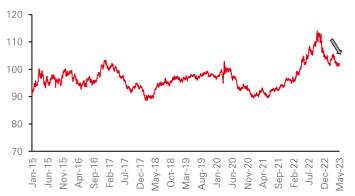
Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

A weakening US dollar in the past two months adds another supportive argument that the coming months could be better for global trade. The Baltic Exchange DRY Index (BDI) has come down quite substantially since October 2021, partly due to easing supply chain bottlenecks and slowing the world economy. Considering that BDI declined over the past couple of years and has been showing more resilient improvement since 20 February 2023 rather than abrupt volatile jumps, this could be a sign of increasing demand for goods in the world at historically reasonable shipping costs across the globe. A further compelling reason comes from Nasdag Global Semiconductor Index (GSOX), which can be considered important for global trade prospects as the demand for semiconductors typically reflects the broader economic activity. GSOX has outperformed the S&P 500 by around 13% since the recent lows at the end of December, reflecting a positive sentiment around semiconductors. In our



view, these improvements in real-time readings present a supportive argument for our global trade narrative.

United States Dollar Index (DXY)



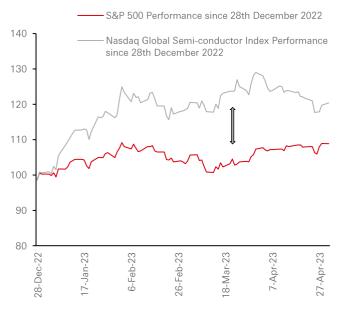
Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Baltic Exchange Dry Index (BDI)



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Nasdaq Global Semiconductors Index (GSOX) vs. S&P 500 performance since the start of the year



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Overall, the present landscape for global trade seems to have reached its nadir and is now showing signs of improvement. The progress in vital sentiment indicators for major trade partners lays the groundwork for a possible resurgence in worldwide trade. Additionally, the DXY and BDI indices contribute to this narrative, complemented by the robust performance of semiconductor stocks, which can be considered as a complementary real-time indicator for global trade.

Summary

In conclusion, our Global Composite Sentiment Indicator provides a comprehensive view of market sentiment. This information can serve as a valuable resource for investors, enabling them to make more informed decisions.

Our indicator reveals that the sentiment readings in all four sentiment groups (Investor, Business, Consumer and Positioning) are on an upward trajectory, suggesting that the most challenging times for global sentiment have passed. In our view, this represents a cautiously optimistic outlook for global markets, as sentiment levels remained resilient amid market turbulence and will continue to display gradual improvement.

Finally, we investigated potential underlying narratives behind prominent sentiment shifts and determined that recent developments could be signalling brighter days ahead for global trade.



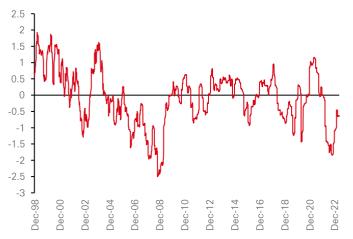
Appendix

Global Composite Sentiment Indicator



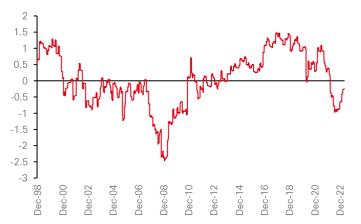
Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Investor Sentiment Indicator



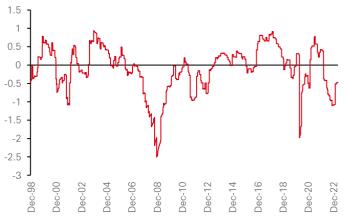
Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Consumer Sentiment Indicator



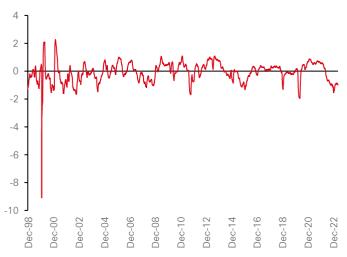
Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Business Sentiment Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.

Positioning Indicator



Source: Refinitiv Datastream, HSBC Private Banking and Wealth, as of 5 May 2023. Past performance is not a reliable indicator of future performance.



Risk Disclosures



Risks of investment in fixed income

There are several key issues that one should consider before making an investment into fixed income. The risk specific to this type of investment may include, but are not limited to:

Credit risk

Investor is subject to the credit risk of the issuer. Investor is also subject to the credit risk of the government and/or the appointed trustee for debts that are guaranteed by the government.

Risks associated with high yield fixed income instruments

High yield fixed income instruments are typically rated below investment grade or are unrated and as such are often subject to a higher risk of issuer default. The net asset value of a high-yield bond fund may decline or be negatively affected if there is a default of any of the high yield bonds that it invests in or if interest rates change. The special features and risks of high-yield bond funds may also include the following:

- Capital growth risk some high-yield bond funds may have fees and/ or dividends paid out of capital. As a result, the capital that the fund has available for investment in the future and capital growth may be reduced; and
- Dividend distributions some high-yield bond funds may not distribute dividends, but instead reinvest the dividends into the fund or alternatively, the investment manager may have discretion on whether or not to make any distribution out of income and/ or capital of the fund. Also, a high distribution yield does not imply a positive or high return on the total investment.
- Vulnerability to economic cycles during economic downturns such instruments may typically fall more in value than investment grade bonds as (i) investors become more risk averse and (ii) default risk rises.

Risks associated with subordinated debentures, perpetual debentures, and contingent convertible or bail-in debentures

- Subordinated debentures subordinated debentures will bear higher risks than holders of senior debentures of the issuer due to a lower priority of claim in the event of the issuer's liquidation.
- Perpetual debentures perpetual debentures often are callable, do not have maturity dates and are subordinated. Investors may incur reinvestment and subordination risks. Investors may lose all their invested principal in certain circumstances. Interest payments may be variable, deferred or cancelled. Investors may face uncertainties over when and how much they can receive such payments.
- Contingent convertible or bail-in debentures Contingent convertible and bail-in debentures are hybrid debt-equity instruments that may be written off or converted to common stock on the occurrence of a trigger event. Contingent convertible debentures refer to debentures that contain a clause requiring them to be written off or converted to common stock on the occurrence of a trigger event. These debentures generally absorb losses while the issuer remains a going concern (i.e. in advance of the point of non-viability). "Bail-in" generally refers to (a) contractual mechanisms (i.e. contractual bail-in) under which debentures contain a clause requiring them to be written off or converted to common stock on the occurrence of a trigger event, or (b) statutory mechanisms (i.e. statutory bail-in) whereby a national resolution authority writes down or converts debentures under specified conditions to common stock. Bail-in debentures generally absorb losses at the point of non-viability. These features can introduce notable risks to investors who may lose all their invested principal.

Contingent convertible securities (CoCos) or bail-in debentures are

highly complex, high risk hybrid capital instruments with unusual lossabsorbency features written into their contractual terms. Investors should note that their capital is at risk and they may lose some or all of their capital.

Changes in legislation and/or regulation

Changes in legislation and/or regulation could affect the performance, prices and mark-to-market valuation on the investment.

Nationalisation risk

The uncertainty as to the coupons and principal will be paid on schedule and/or that the risk on the ranking of the bond seniority would be compromised following nationalization.

Reinvestment risk

A decline in interest rate would affect investors as coupons received and any return of principal may be reinvested at a lower rate. Changes in interest rate, volatility, credit spread, rating agencies actions, liquidity and market conditions may have a negative effect on the prices, mark-to-market valuations and your overall investment.

Risk disclosure on Dim Sum Bonds

Although sovereign bonds may be guaranteed by the China Central Government, investors should note that unless otherwise specified, other renminbi bonds will not be guaranteed by the China Central Government. Renminbi bonds are settled in renminbi, changes in exchange rates may have an adverse effect on the value of that investment. You may not get back the same amount of Hong Kong Dollars upon maturity of the bond. There may not be active secondary market available even if a renminbi bond is listed. Therefore, you need to face a certain degree of liquidity risk. Renminbi is subject to foreign exchange control. Renminbi is not freely convertible in Hong Kong. Should the China Central Government tighten the control, the liquidity of renminbi or even renminbi bonds in Hong Kong will be affected and you may be exposed to higher liquidity risks. Investors should be prepared that you may need to hold a renminbi bond until maturity.

Alternative Investments

Hedge Fund - Please note Hedge Funds often engage in leveraging and other speculative investment practices that may increase the risk of investment loss. They can also be highly illiquid, are not required to provide periodic pricing or valuation information to investors, and may involve complex tax structures and delays in distributing important information. Alternative investments are often not subject to the same regulatory requirements as, say, mutual funds, and often charge high fees that may potentially offset trading profits when they occur.

Private Equity - Please note Private Equity is generally illiquid, involving long term investments that do not display the liquid or transparency characteristics often found in other investments (e.g. Listed securities). It can take time for money to be invested (cash drag) and for investments to produce returns after initial losses.

Risk disclosure on Emerging Markets

Investment in emerging markets may involve certain, additional risks which may not be typically associated with investing in more established economies and/or securities markets. Such risks include (a) the risk of nationalization or expropriation of assets; (b) economic and political uncertainty; (c) less liquidity in so far of securities markets; (d) fluctuations in currency exchange rate; (c) higher rates of inflation; (f) less oversight by a regulator of local securities market; (g) longer settlement periods in so far as securities transactions and (h) less stringent laws in so far the duties of company officers and protection of Investors.

Risk disclosure on FX Margin

The price fluctuation of FX could be substantial under certain market conditions and/or occurrence of certain events, news or developments



and this could pose significant risk to the Customer. Leveraged FX trading carry a high degree of risk and the Customer may suffer losses exceeding their initial margin funds. Market conditions may make it impossible to square/close-out FX contracts/options. Customers could face substantial margin calls and therefore liquidity problems if the relevant price of the currency goes against them.

The leverage of a product can work against you and losses can exceed those of a direct investment. If the market value of a portfolio falls by a certain amount, this could result in a situation where the value of collateral no longer covers all outstanding loan amounts. This means that investors might have to respond promptly to margin calls. If a portfolio's return is lower than its financing cost then leverage would reduce a portfolio's overall performance and even generate a negative return

Currency risk – where product relates to other currencies

When an investment is denominated in a currency other than your local or reporting currency, changes in exchange rates may have a negative effect on your investment.

Chinese Yuan ("CNY") risks

There is a liquidity risk associated with CNY products, especially if such investments do not have an active secondary market and their prices have large bid/offer spreads.

CNY is currently not freely convertible and conversion of CNY through banks in Hong Kong and Singapore is subject to certain restrictions. CNY products are denominated and settled in CNY deliverable in Hong Kong and Singapore, which represents a market which is different from that of CNY deliverable in Mainland China.

There is a possibility of not receiving the full amount in CNY upon settlement, if the Bank is not able to obtain sufficient amount of CNY in a timely manner due to the exchange controls and restrictions applicable to the currency.

Illiquid markets/products

In the case of investments for which there is no recognised market, it may be difficult for investors to sell their investments or to obtain reliable information about their value or the extent of the risk to which they are exposed.

Environmental, Social and Governance ("ESG") Customer Disclosure

In broad terms "sustainable investments" include investment approaches or instruments which consider environmental, social, governance and/or other sustainability factors to varying degrees. Certain instruments we classify as sustainable may be in the process of changing to deliver improved sustainability outcomes.

There is no guarantee that sustainable investments will produce returns similar to those which don't consider these factors. Sustainable investments may diverge from traditional market benchmarks.

In addition, there is no standard definition of, or measurement criteria for, sustainable investments or the impact of sustainable investments. Sustainable investment and sustainability impact measurement criteria are (a) highly subjective and (b) may vary significantly across and within sectors.

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Sustainable investing is an evolving area and new regulatory frameworks are being developed which will affect how sustainable investments can be categorised or labelled. An investment which is considered to fulfil sustainable criteria today may not meet those criteria at some point in the future.

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Investment in emerging markets may involve certain additional risks, which may not be typically associated with investing in more established



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