Citi Global Wealth
Investments

citi

October 15, 2023

CIO Strategy Bulletin

David Bailin
Chief Investment Officer, Citi Global Wealth

Steven Wieting
Chief Investment Strategist and Chief Economist

Ken Peng
Head, Asia Pacific Investment Strategy

Charlie Reinhard
Head, North America Investment Strategy

Bruce Harris
Head, Global Fixed Income Strategy

Joseph Kaplan
Senior Fixed Income Strategist

Chadd Cornilles
Global Strategy Associate

Our Top 5 Answers to Your Top 5 Questions

Q1: Why have global markets reacted modestly to the outbreak of war in the Middle East?

A: Hamas's October 7th attack on Israel was the deadliest in the nation's history. While the scope of the war that follows remains unclear, little risk of a wider regional conflict has been discounted in financial markets at this moment.

What moves markets are events that catalyze a turning point in regional economies or the global economy. 90% of history's shocking geopolitical events since World War II did not cause a collapse in the world economy (**Figure 1**). The economic impact of most conflicts is regional.

According to top military and political advisors, neither Israel nor Iran will be in any rush to engage in a direct military conflict. The experts noted that Israel's capacity to engage in a multi-front war was limited and that Iran had political and practical reasons not to provoke an even wider conflict. The defense support that the US has provided to Israel has been accompanied by extensive political activity designed to limit the geographic scope of the armed conflict. For now, this matches the conclusions drawn by global investors.

The Oil Wild Card

After a 4.2% jump in the global crude oil price on October 9, petroleum markets have calmed. Brent Crude oil – the global benchmark – is at $89 per barrel at this date. This is a full 10% below its recent high set in September. That said, Iran and Russia collectively supply 15% of the world's oil. A disruption in supply could have a major negative impact on global markets, if sustained.

World petroleum supplies have both "concentration risk" and substantial political/geopolitical risk (**Figure 2**). Petroleum and gas supplies are "consumable" products. But the US typically has just 30 days of finished gasoline supplies in inventories. US drivers consume 300 million gallons of gasoline per day, excluding diesel. This explains why oil prices are 25X more volatile than supply (**Figure 3**).

With OPEC cutting production more than US producers have increased supplies, US/European energy producers are worthy portfolio additions. Their stocks are a source of income and may provide a potential hedge against shocks and inflation.

INVESTMENT PRODUCTS: NOT FDIC INSURED · NOT CDIC INSURED · NOT GOVERNMENT INSURED · NO BANK GUARANTEE · MAY LOSE VALUE

Q2: Will Rates Stay “Stay Higher for Longer”?

A: While the US budget deficit has fallen by about 50% since fiscal 2020, net US Treasury borrowing will still grow by about $1.6 trillion this year. At the same time, the Fed has already reduced its bond holdings by more than $1 trillion through its “Quantitative Tightening” program.

A near 30% rise in crude oil during the third quarter contributed to a rebound in inflation, pushing the CPI up 3.7% from September a year ago. The US economy added 336,000 new jobs in September. These factors, plus large Treasury issuance and fewer foreign buyers, caused US bond yields to “break higher” in September. 10-year US Treasury yields reaching a cycle-high 4.8%.

The collective impact of all this on consumer borrowing costs is significant, to the point where some Fed officials believe no further rate hikes may be needed (**Figure 4**). Like many other forward-looking indicators, business surveys are pointing toward slowing employment gains (**Figure 5**).

If employment and inflation both continue to slow without an economic collapse, it is reasonable to assume the Fed will eventually reduce rates modestly. But in the event of a sharp rise in unemployment, the Fed is likely to move quickly to reduce its “restraint.”

Our base case is that employment growth slows sharply but doesn’t contract. We believe a pickup in productivity growth and less demand for services will reverse excess employment growth relative to GDP. This suggests long-term yields falling to 4% or less by YE 2024. If employment growth doesn’t falter at all, long-term yields will likely remain closer to 5%.

Q3: Should Investors Consider Adding Bonds? Equities?

A: Today’s bond yields have normalized to levels close to what we should expect going forward. The 2020’s “zero yield” world was an anomaly. Today’s yields are also highly unlikely to rise to 1980 highs either, a decade of 10%-per-year wage growth.

For bond investors, the sharp repricing of 2022 has greatly reduced fixed income investment risk. With coupons averaging above 4.5%, the average US Treasury total return over 12 months would not be negative even if rates were to rise 100 basis points (**Figure 6**). Investors willing to take modest credit risk by buying investment grade corporate debt can earn in excess of 6% yields for the next 5 years, far higher than the Fed’s estimate of its policy rate over that period (between 2.5%-3.0%).

Turning to equities, we believe the correction in US markets is likely to end when investors can clearly point to the peak in interest rates. Our outlook for corporate profits – up 4% next year and +8% in 2025 – should be constructive even if industry analysts are excessively bullish.

We caution investors that broad US equity market returns are not likely to greatly exceed potential fixed income returns for the next year. To achieve higher equity returns, investors will need to be selective. As discussed in last week’s bulletin, small and medium sized growth companies (SMID) are an area of particular interest (**Figure 7**). US SMID growth shares have grown EPS by 11% per year in the last five years, more than the 9% posted by large cap growth shares. They also don’t have the high leverage risks of SMID banks and real estate firms.
Yet they trade at a 30% valuation discount to large cap growth shares.

Q4: Could a Government Shutdown Crush Markets in November?

A: Given the House’s difficulty in securing a Speaker, the odds of a US government shutdown in a few weeks have risen. Rep Steve Scalise was nominated for the gavel with a 113-99 closed door vote but withdrew after it became clear that he could not secure the necessary 217 votes in the full House to take the speakership. With just a slim 221-212 majority in the chamber, Republicans cannot afford many stray votes in a party line election.

Without a Speaker, the House is essentially unable to function, so the pressure is mounting. Legislative action is needed to fund the government or a shutdown on November 17th will occur. US lawmakers appear likely to want to show support for Israel. And the White House is expected to request aid for Ukraine, Israel and to replenish the US weapons stockpile.

There have been 20 shutdowns in recent decades that have lasted 2-35 days before upsetting voters enough to force a compromise. From a financial and economic perspective, we view a possible November shutdown as far less consequential than the debt ceiling showdown that led to June’s Fiscal Responsibility Act (FRA). A partial shutdown could temporarily close non-essential services but should only have a small impact on the economy. However, the impact of a sustained shutdown on the 2024 elections is a wild card. On average, the S&P 500 returned 0.1% during the shutdowns since 1976 with a range of -4.4% to 8.0%.

Q5: Is China Going to Take Action to Address its Anemic Economy?

A: We are seeing signs that Chinese authorities will take more material steps to bolster its economy. Economic sentiment has remained negative due to the ongoing real estate crisis and a lack of commitment to address the issue wholistically.

The focus of the Chinese actions is likely to be on infrastructure. The method of funding appears to be a bond issuance. A central government bond could provide a clear sign of the government's intent to inject material economic support. This would require the government to increase its deficit target at mid-year, something that has only occurred before during the Asian and Global financial crises of 1998 and 2008, respectively.

In addition, Central Huijin, the sovereign wealth fund has taken larger stakes in China's major four banks, a practice reserved for moments when strong policies are required to reset markets. Such interventions had produced positive returns in the past. Moreover, the government had been in consultation with industry experts on a much larger stabilization fund. The securities regulator has had multiple consultation sessions with industry participants in recent months. Many uncertainties remain as to the timing, size, and operation of this stabilization fund, but the Huijin purchases are likely just an initial step in efforts to shore up the equity market, with what is basically quantitative easing.

Moreover, there had been progress in the US-China relationship. The recent visit of the US Congressional delegation may signal potential indirect easing in US trade policy, to be followed by multilateral defense dialogue at the Xiangshan Forum in late October and a potential meeting between the presidents at the APEC summit in November. While markets are aware of the higher frequency of contact, it is still not pricing in any potential concrete easing of trade policy.

This type of stimulus would take time to have impact and would likely raise growth in the second half of 2024. We already expect some modest improvement in Q3 growth due to prior, smaller stimulus measures. We have seen a pickup in industrial and consumer activity since August. Meanwhile seasonality favors equity performance in 4Q (**Figure 8**).

With that said, we do not believe these measures are sufficient to return China to a sustained higher growth rate. The focus on infrastructure rather than providing a more favorable environment for consumer, education and technology companies to grow more rapidly also has limited long term benefits. It remains to be seen whether Chinese authorities can provide a more complete real estate solution and restore commitment to market-oriented reforms.

Figure 1: Historically, geopolitical events have rarely altered the course of the Global Economy

S&P 500	Initial Impact %	30 days %	90 days %
Average all events	-3.5	0.7	2.3
Average ex WW2	-3.3	0.9	2.9
Average ex WW2 and Oil Embargo	-2.7	1.0	4.4

Geopolitical Event	Date	S&P 500 (% since event date)			Crude Oil (% since event date)			MSCI World ex USA (% since event date)			DXY Dollar Index		
		Initial Reaction	30 days	90 days	Initial Reaction	30 days	90 days	Initial Reaction	30 days	90 days	Initial Reaction	30 days	90 days
Pearl Harbor	12/7/1941	-6.87	-2.90	-12.02									
Cuban Missile Crisis	10/19/1962	-3.78	7.61	17.16									
JFK Assasination	11/21/1963	-2.81	3.06	8.20									
US Bombs Cambodia	4/29/1970	-15.30	-6.43	-4.94				-10.45	-17.01	-16.07	-0.20	-0.23	-0.51
Arab Oil Embargo	10/18/1973	-16.26	-5.61	-15.11			287.04	-14.68	1.96	-18.53	6.98	4.68	12.31
USSR Invades Afghanistan	12/24/1979	-2.27	5.37	-7.78			8.33	3.94	3.94	11.85	-1.06	-0.71	5.91
Iraqi invasion of Iran	9/10/1980	1.28	5.62	5.17			6.66	0.00	3.70	5.81	-0.27	0.36	6.26
US Bombs Libya	4/15/1986	2.95	-1.39	0.16	-3.91	8.70	-15.65	0.00	6.19	8.16	-4.15	-4.80	-5.30
US Invades Panama	12/15/1989	-2.06	-3.73	-3.43	2.82	5.08	-6.21	0.00	3.67	-7.04	0.31	-1.69	-0.44
Gulf War	12/24/1990	-4.16	0.09	12.10	17.75	-20.67	-31.32	1.75	1.75	15.96	-0.21	-3.61	4.90
World Trade Center Bombing	2/26/1993	-0.31	1.67	2.04	-0.18	-3.44	-5.81	0.00	8.52	18.62	0.18	-1.15	-4.79
911	9/11/2001	-11.60	0.45	4.34	-4.09	-17.68	-31.98	-8.48	3.24	5.48	-1.08	0.29	1.85
US Invasion of Iraq	3/20/2003	2.49	2.06	15.57	8.16	5.86	6.54	1.53	4.58	22.05	0.84	1.85	7.89
Russian Annexation of Crimea	2/26/2014	1.16	0.68	3.62	-3.77	-2.43	-0.92	-2.42	-0.45	3.25	-0.40	-0.31	-0.10
Russian invasion of Ukraine	2/24/2022	-3.11	5.54	-0.44	19.04	17.26	10.90	-0.76	-0.36	-7.10	2.99	2.70	5.09
North Korea Related													
Korean War	6/23/1950	-12.80	-8.67	1.20									
Operation Paul Bunyan	8/18/1976	3.15	1.64	4.32	0.00	0.00	0.00	0.00	0.26	7.60	0.07	0.57	0.12
2006 Nuclear test	10/9/2006	0.90	2.60	4.60	-1.46	1.09	-7.43	0.46	4.33	8.09	0.43	-1.32	-2.21
2009 Nuclear test	4/25/2009	-1.20	5.09	13.05	-3.73	19.56	36.56	-2.32	12.20	21.21	0.52	-5.54	-7.04
2013 Nuclear test	2/12/2013	0.02	2.88	7.53	-0.27	-8.18	-12.49	-0.99	1.15	5.73	0.59	3.12	3.96
2016 Nuclear test	9/9/2016	-2.55	-0.81	2.97	-3.38	14.12	16.54	-2.06	-0.81	-0.72	-0.01	1.36	6.05
2017 Escalation	8/7/2017	-0.24	-0.64	4.44	2.19	7.00	21.65	-0.26	-0.49	3.60	0.23	-1.22	1.62
Missle test over Japan	8/28/2017	0.08	2.69	6.43	-0.83	10.37	23.06	-0.25	1.80	5.45	0.05	1.25	0.62

Source: Haver Analytics, Bloomberg through October 12, 2023. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.. Past performance is no guarantee of future results. Real results may vary.

Figure 2: Crude Oil (all energy liquids) Production As Share of Global Total (%)

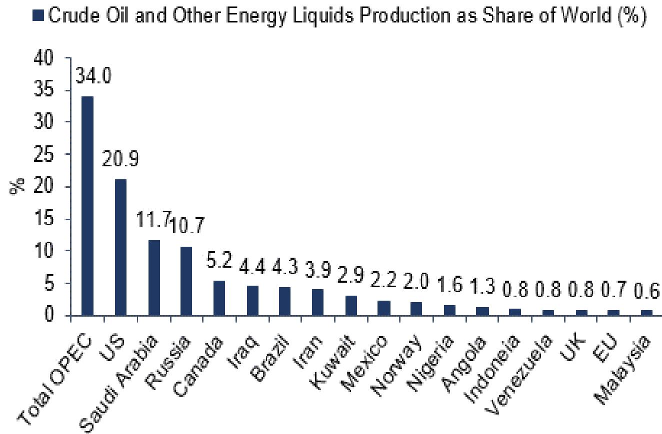
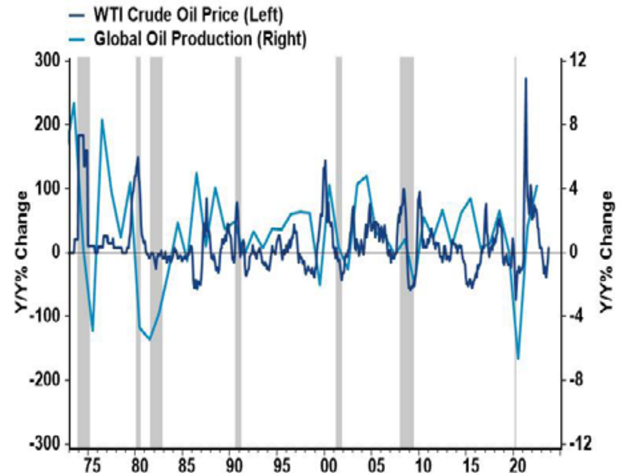


Figure 3: Global Oil Price and Production Year-over Year



Source: Haver Analytics as of October 12, 2023. Gray areas denote recessions.

Figure 4: 30-Year US Mortgage Rate (%)

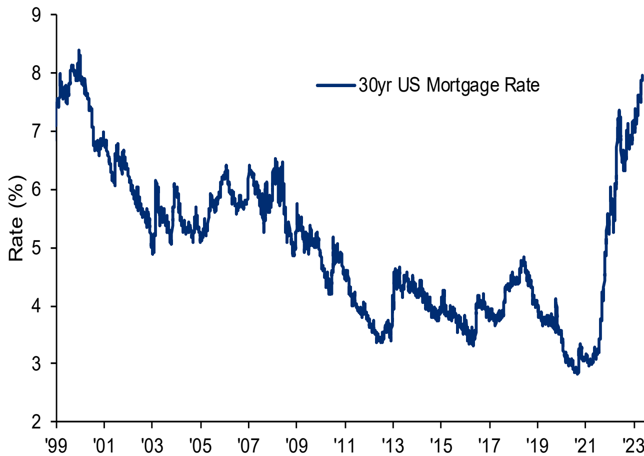
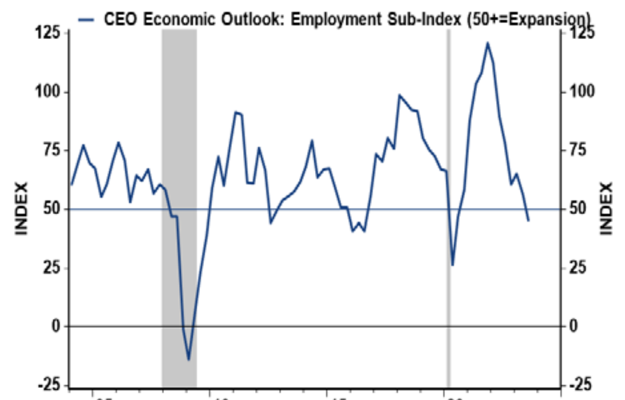


Figure 5: CEO Employment Outlook



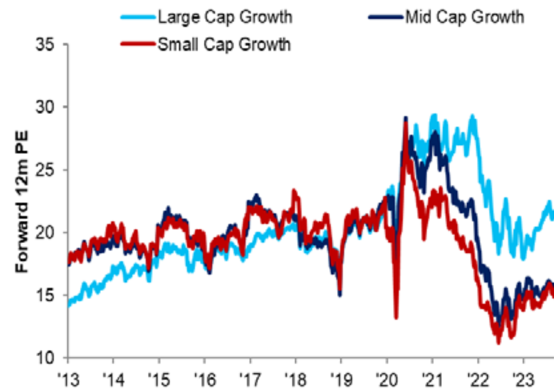
Source: Haver Analytics as of October 12, 2023.Grey areas denote recessions. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

Figure 6: US Treasury 12-Month Returns Under Various Scenarios for Changes in Yields

Total Return Estimates for US Treasuries, 12-month time horizen					
Scenarios (chg. in basis points)	-100	-50	0	50	100
2yr US Treasury	5.61	5.11	4.62	4.13	3.64
5yr US Treasury	8.62	6.61	4.65	2.72	0.84
10yr US Treasury	12.07	8.30	4.69	1.22	-2.10
30yr US Treasury	22.28	12.81	4.38	-3.12	-9.83
US Treasury Index	9.86	7.20	4.68	2.29	0.02

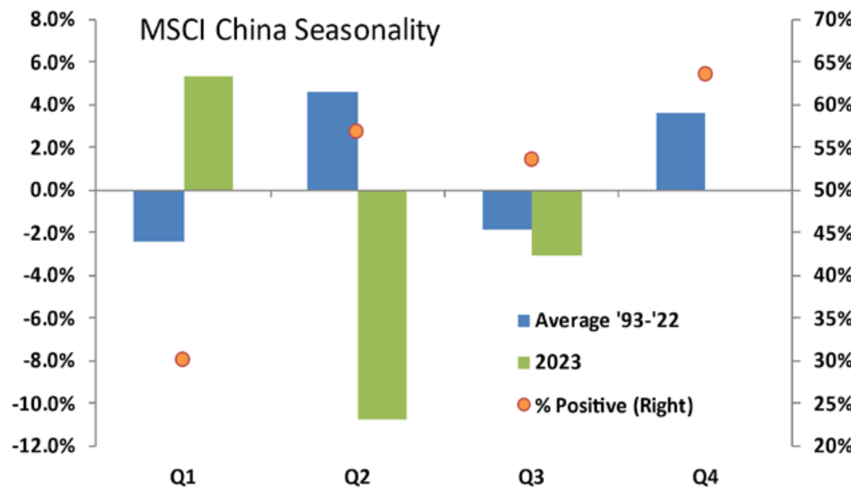
Note: US Treasury bond index has an average duration of 5.8 years. Scenarios are based on parrell shift of the US Treasury curve. Estimates were calculated with 10yr US Treasury yield at 4.65%.

Figure 7: US Small, Mid-Cap and Large-Cap Growth Shares Forward P/E



Source: Haver Analytics as of October 12, 2023. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

Figure 8: Over the past three decades, performance had been positive in 4Q nearly two thirds of the time



Source: Haver Analytics as of October 12, 2023. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance Past performance is no guarantee of future results. Real results may vary.

Important Information

In any instance where distribution of this communication ("Communication") is subject to the rules of the US Commodity Futures Trading Commission ("CFTC"), this communication constitutes an invitation to consider entering into a derivatives transaction under US CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

This Communication is prepared by Citi Global Wealth Investments ("CGWI") which is comprised of the Investments and Capital Markets capabilities of Citi Private Bank, Citi Global Wealth at Work, Citi Personal Wealth Management and International Personal Bank U.S.

Citi Private Bank, Citi Global Wealth at Work, Citi Personal Wealth Management are businesses of Citigroup Inc. ("Citigroup"), which provide clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations. In the U.S., investment products and services are provided by Citigroup Global Markets Inc. ("CGMI"), member FINRA and SIPC, Citi Private Advisory, LLC ("CPA"), member FINRA and SIPC, and Citi Global Alternatives, LLC ("CGA"). CPA acts as distributor of certain alternative investment products to certain eligible clients' segments. CGMI accounts are carried by Pershing LLC, member FINRA, NYSE, SIPC. Investment management services (including portfolio management) are available through CGMI, CGA, Citibank, N.A. and other affiliated advisory businesses. Insurance is offered by Citi Personal Wealth Management through Citigroup Life Agency LLC ("CLA"). In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). CGMI, CPA, CGA, CLA and Citibank, N.A. are affiliated companies under the common control of Citigroup.

Outside the U.S., investment products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, CGA, Citibank, N.A. and other affiliated advisory businesses. These Citigroup affiliates, including CGA, will be compensated for the respective investment management, advisory, administrative, distribution and placement services they may provide.

International Personal Bank U.S. ("IPB U.S.") is a business of Citigroup which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, "Citi"). Through IPB U.S. prospects and clients have access to the Citigold® Private Client International, Citigold® International, International Personal, Citi Global Executive Preferred, and Citi Global Executive Account Packages. Investment products and services are made available through Citi Personal Investments International ("CPII"), a business of Citigroup which offers securities through CGMI, member FINRA and SIPC, an investment advisor and broker–dealer registered with the Securities and Exchange Commission CGMI, and investment accounts are carried by Pershing LLC, member FINRA, NYSE, and SIPC. Insurance is offered by CPII through CLA. In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). Citibank, N.A., CGMI and CLA are affiliated companies under common control of Citigroup Inc.

CGWI personnel are not research analysts, and the information in this Communication is not intended to constitute "research", as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

This Communication is provided for information and discussion purposes only, at the recipient's request. The recipient should notify CGWI immediately should it at any time wish to cease being provided with such information. Unless otherwise indicated, (i) it does not constitute an offer or recommendation to purchase or sell any security, financial instrument or other product or service, or to attract any funding or deposits, and (ii) it does not constitute a solicitation if it is not subject to the rules of the CFTC (but see discussion above regarding communication subject to CFTC rules) and (iii) it is not intended as an official confirmation of any transaction.

Unless otherwise expressly indicated, this Communication does not take into account the investment objectives, risk profile or financial situation of any particular person and as such, investments mentioned in this document may not be suitable for all investors. Citi is not acting as an investment or other advisor, fiduciary or agent. The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Recipients of this Communication should obtain advice based on their own individual circumstances from their own tax, financial, legal, and other advisors about the risks and merits of any transaction before making an investment decision, and only make such decisions on the basis of their own objectives, experience, risk profile and resources.

The information contained in this Communication is based on generally available information and, although obtained from sources believed by Citi to be reliable, its accuracy and completeness cannot be assured, and such information may be incomplete or condensed. Any assumptions or information contained in this Communication constitute a judgment only as of the date of this document or on any specified dates and is subject to change without notice. Insofar as this Communication may contain historical and forward-looking information, past performance is neither a guarantee nor an indication of future results, and future results may not meet expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain. Any prices, values or estimates provided in this Communication (other than those that are identified as being historical) are indicative only, may change without notice and do not represent firm quotes as to either price or size, nor reflect the value Citi may assign a security in its inventory. Forward looking information does not indicate a level at which Citi is prepared to do a trade and may not account for all relevant assumptions and future conditions. Actual conditions may vary substantially from estimates which could have a negative impact on the value of an instrument.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this document and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this Communication.

None of the financial instruments or other products mentioned in this Communication (unless expressly stated otherwise) is (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by Citi or any other insured depository institution.

Citi often acts as an issuer of financial instruments and other products, acts as a market maker and trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this Communication may have discussed the information contained therein with others within or outside Citi, and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of Citi may be long or short the financial instruments or other products referred to in this Communication, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Neither Citi nor any of its affiliates can accept responsibility for the tax treatment of any investment product, whether or not the investment is purchased by a trust or company administered by an affiliate of Citi. Citi assumes that, before making any commitment to invest, the investor and (where applicable, its beneficial owners) have taken whatever tax, legal or other advice the investor/beneficial owners consider necessary and have arranged to account for any tax lawfully due on the income or gains arising from any investment product provided by Citi.

This Communication is for the sole and exclusive use of the intended recipients and may contain information proprietary to Citi which may not be reproduced or circulated in whole or in part without Citi's prior consent. The manner of circulation and distribution may be restricted by law or regulation in certain countries. Persons who come into possession of this document are required to inform themselves of, and to observe such restrictions. Citi accepts no liability whatsoever for the actions of third parties in this respect. Any unauthorized use, duplication, or disclosure of this document is prohibited by law and may result in prosecution.

Other businesses within Citigroup Inc. and affiliates of Citigroup Inc. may give advice, make recommendations, and take action in the interest of their clients, or for their own accounts, that may differ from the views expressed in this document. All expressions of opinion are current as of the date of this document and are subject to change without notice. Citigroup Inc. is not obligated to provide updates or changes to the information contained in this document.

The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Past performance is not a guarantee of future results. Real results may vary.

Although information in this document has been obtained from sources believed to be reliable, Citigroup Inc. and its affiliates do not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use. Throughout this publication where charts indicate that a third party (parties) is the source, please note that the attributed may refer to the raw data received from such parties. No part of this document may be copied, photocopied or duplicated in any form or by any means, or distributed to any person that is not an employee, officer, director, or authorized agent of the recipient without Citigroup Inc.'s prior written consent.

Citigroup Inc. may act as principal for its own account or as agent for another person in connection with transactions placed by Citigroup Inc. for its clients involving securities that are the subject of this document or future editions of the document.

RISKS

Investments in financial instruments or other products carry significant risk, including the possible loss of the principal amount invested. Financial instruments or other products denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. This Communication does not purport to identify all risks or material considerations which may be associated with entering into any transaction.

Structured products can be highly illiquid and are not suitable for all investors. Additional information can be found in the disclosure documents of the issuer for each respective structured product described herein. Investing in structured products is intended only for experienced and sophisticated investors who are willing and able to bear the high economic risks of such an investment. Investors should carefully review and consider potential risks before investing.

OTC derivative transactions involve risk and are not suitable for all investors. Investment products are not insured, carry no bank or government guarantee, and may lose value. Before entering into these transactions, you should: (i) ensure that you have obtained and considered relevant information from independent reliable sources concerning the financial, economic and political conditions of the relevant markets; (ii) determine that you have the necessary knowledge, sophistication and experience in financial, business and investment matters to be able to evaluate the risks involved, and that you are financially able to bear such risks; and (iii) determine, having considered the foregoing points, that capital markets transactions are suitable and appropriate for your financial, tax, business and investment objectives.

This material may mention options regulated by the US Securities and Exchange Commission. Before buying or selling options you should obtain and review the current version of the Options Clearing Corporation booklet, Characteristics and Risks of Standardized Options. A copy of the booklet can be obtained upon request from Citigroup Global Markets Inc., 390 Greenwich Street, 3rd Floor, New York, NY 10013.

If you buy options, the maximum loss is the premium. If you sell put options, the risk is the entire notional below the strike. If you sell call options, the risk is unlimited. The actual profit or loss from any trade will depend on the price at which the trades are executed. The prices used herein are historical and may not be available when you order is entered. Commissions and other transaction costs are not considered in these examples. Option trades in general and these trades in particular may not be appropriate for every investor. Unless noted otherwise, the source of all graphs and tables in this report is Citi. Because of the importance of tax considerations to all option transactions, the investor considering options should consult with his/her tax advisor as to how their tax situation is affected by the outcome of contemplated options transactions.

Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

Bond rating equivalence

Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

1 The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.

2 The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

(MLP's) - Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

Past performance is no guarantee of future results.

International investing entails greater risk, as well as greater potential rewards compared to US investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Readers interested in the strategies or concepts should consult their tax, legal, or other advisors, as appropriate.

Diversification does not guarantee a profit or protect against loss. Different asset classes present different risks.

COUNTRY DISCLOSURES

Citibank, N.A., Hong Kong / Singapore organized under the laws of U.S.A. with limited liability. This communication is distributed in Hong Kong by Citi Private Bank operating through Citibank N.A., Hong Kong Branch, which is registered in Hong Kong with the Securities and Futures Commission for Type 1 (dealing in securities), Type 4 (advising on securities), Type 6 (advising on corporate finance) and Type 9 (asset management) regulated activities with CE No: (AAP937) or in Singapore by Citi Private Bank operating through Citibank, N.A., Singapore Branch which is regulated by the Monetary Authority of Singapore. Any questions in connection with the contents in this communication should be directed to registered or licensed representatives of the relevant aforementioned entity. The contents of this communication have not been reviewed by any regulatory authority in Hong Kong or any regulatory authority in Singapore. This communication contains confidential and proprietary information and is intended only for recipient in accordance with accredited investors requirements in Singapore (as defined under the Securities and Futures Act (Chapter 289 of Singapore) (the "Act") and professional investors requirements in Hong Kong(as defined under the Hong Kong Securities and Futures Ordinance and its subsidiary legislation). For regulated asset management services, any mandate will be entered into only with Citibank, N.A., Hong Kong Branch and/or Citibank, N.A. Singapore Branch, as applicable. Citibank, N.A., Hong Kong Branch or Citibank, N.A., Singapore Branch may sub-delegate all or part of its mandate to another Citigroup affiliate or other branch of Citibank, N.A. Any references to named portfolio managers are for your information only, and this communication shall not be construed to be an offer to enter into any portfolio management mandate with any other Citigroup affiliate or other branch of Citibank, N.A. and, at no time will any other Citigroup affiliate or other branch of Citibank, N.A. or any other Citigroup affiliate enter into a mandate relating to the above portfolio with you. To the extent this communication is provided to clients who are booked and/or managed in Hong Kong: No other statement(s) in this communication shall operate to remove, exclude or restrict any of your rights or obligations of Citibank under applicable laws and regulations. Citibank, N.A., Hong Kong Branch does not intend to rely on any provisions herein which are inconsistent with its obligations under the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission, or which mis-describes the actual services to be provided to you.

Citibank, N.A. is incorporated in the United States of America and its principal regulators are the US Office of the Comptroller of Currency and Federal Reserve under US laws, which differ from Australian laws. Citibank, N.A. does not hold an Australian Financial Services License under the Corporations Act 2001 as it enjoys the benefit of an exemption under ASIC Class Order CO 03/1101 (remade as ASIC Corporations (Repeal and Transitional) Instrument 2016/396 and extended by ASIC Corporations (Amendment) Instrument 2023/588).

In the United Kingdom, Citibank N.A., London Branch (registered branch number BR001018), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorized and regulated by the Office of the Comptroller of the Currency (USA) and authorized by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. The contact number for Citibank N.A., London Branch is +44 (0)20 7508 8000.

Citibank Europe plc (UK Branch) is a branch of Citibank Europe plc, which is authorised and regulated by the Central Bank of Ireland and the European Central Bank. Authorised by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. Citibank Europe plc, UK Branch is registered as a branch in the register of companies for England and Wales with registered branch number BR017844. Its registered address is Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB. VAT No.: GB 429 6256 29. Citibank Europe plc is registered in Ireland with number 132781, with its registered office at 1 North Wall Quay, Dublin 1. Citibank Europe plc is regulated by the Central Bank of Ireland. Ultimately owned by Citigroup Inc., New York, USA.

Citibank Europe plc, Luxembourg Branch, registered with the Luxembourg Trade and Companies Register under number B 200204, is a branch of Citibank Europe plc. It is subject to the joint supervision of the European Central bank and the Central Bank of Ireland. It is furthermore subject to limited regulation by the Commission de Surveillance du Secteur Financier (the CSSF) in its role as host Member State authority and registered with the CSSF under number B00000395. Its business office is at 31, Z.A. Bourmicht, 8070 Bertrange, Grand Duchy of Luxembourg. Citibank Europe plc is registered in Ireland with company registration number 132781. It is regulated by the Central Bank of Ireland under the reference number C26553 and supervised by the European Central Bank. Its registered office is at 1 North Wall Quay, Dublin 1, Ireland.

This document is communicated by Citibank (Switzerland) AG, which has its registered address at Hardstrasse 201, 8005 Zurich, Citibank N.A., Zurich Branch, which has its registered address at Hardstrasse 201, 8005 Zurich, or Citibank N.A., Geneva Branch, which has its registered address at 2, Quai de la Poste, 1204 Geneva. Citibank (Switzerland) AG and Citibank, N.A., Zurich and Geneva Branches are authorised and supervised by the Swiss Financial Supervisory Authority (FINMA). In Jersey, this

document is communicated by Citibank N.A., Jersey Branch which has its registered address at PO Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citibank N.A. Jersey Branch is a participant in the Jersey Bank Depositors Compensation Scheme. The Scheme offers protection for eligible deposits of up to £50,000. The maximum total amount of compensation is capped at £100,000,000 in any 5-year period. Full details of the Scheme and banking groups covered are available on the States of Jersey website www.gov.je/dcs, or on request.

Citi may offer, issue, distribute or provide other services in relation to certain unsecured financial instruments issued or entered into by BRRD Entities (i.e., EU entities within the scope of Directive 2014/59/EU (the BRRD), including EU credit institutions, certain EU investment firms and / or their EU subsidiaries or parents) (BRRD Financial Instruments).

In various jurisdictions (including, without limitation, the European Union and the United States) national authorities have certain powers to manage and resolve banks, broker dealers and other financial institutions (including, but not limited to, Citi) when they are failing or likely to fail. There is a risk that the use, or anticipated use, of such powers, or the manner in which they are exercised, may materially adversely affect (i) your rights under certain types of unsecured financial instruments (including, without limitation, BRRD Financial Instruments), (ii) the value, volatility or liquidity of certain unsecured financial instruments (including, without limitation, BRRD Financial Instruments) that you hold and / or (iii) the ability of an institution (including, without limitation, a BRRD Entity) to satisfy any liabilities or obligations it has to you. In the event of resolution, the value of BRRD Financial Instruments may be reduced to zero and or liabilities may be converted into ordinary shares or other instruments of ownership for the purposes of stabilisation and loss absorption. The terms of existing BRRD Financial Instruments (e.g., date of maturity or interest rates payable) could be altered and payments could be suspended.

There can be no assurance that the use of any BRRD resolution tools or powers by the BRRD Resolution Authority or the manner in which they are exercised will not materially adversely affect your rights as a holder of BRRD Financial Instruments, the market value of any investment you may have in BRRD Financial Instruments and/or a BRRD Entity's ability to satisfy any liabilities or obligations it has to you. You may have a right to compensation from the relevant authorities if the exercise of such resolution powers results in less favourable treatment for you than the treatment that you would have received under normal insolvency proceedings. By accepting any services from Citi, you confirm that you are aware of these risks.

In Canada, Citi Private Bank is a division of Citibank Canada, a Schedule II Canadian chartered bank. References herein to Citi Private Bank and its activities in Canada relate solely to Citibank Canada and do not refer to any affiliates or subsidiaries of Citibank Canada operating in Canada. Certain investment products are made available through Citibank Canada Investment Funds Limited ("CCIFL"), a wholly owned subsidiary of Citibank Canada. Investment Products are subject to investment risk, including possible loss of principal amount invested. Investment Products are not insured by the CDIC, FDIC or depository insurance regime of any jurisdiction and are not guaranteed by Citigroup or any affiliate thereof.

This document is for information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities to any person in any jurisdiction. The information set out herein may be subject to updating, completion, revision, verification and amendment and such information may change materially.

Citigroup, its affiliates and any of the officers, directors, employees, representatives or agents shall not be held liable for any direct, indirect, incidental, special, or consequential damages, including loss of profits, arising out of the use of information contained herein, including through errors whether caused by negligence or otherwise.

CCIFL is not currently a member and does not intend to become a member of the Canadian Investment Regulatory Organization ("CIRO"); consequently, clients of CCIFL will not have available to them investor protection benefits that would otherwise derive from membership of CCIFL in the CIRO, including coverage under any investor protection plan for clients of members of the CIRO.

Bahrain: IN BAHRAIN, CITI PRIVATE BANK OPERATES UNDER SPECIFIC APPROVAL ISSUED ON THE BASIS OF CITIBANK, N.A., BAHRAIN BRANCH'S BANKING LICENSE

Marketing and distribution of Investment Funds to clients in Bahrain requires Notification to the Central Bank of Bahrain and will be limited to UHNWI as defined below. Minimum investment subscription criteria will apply for products for all subscriptions for Bahrain domiciled clients.

Ultra-high net worth investors are:
(a) Individuals who have a minimum net worth (or joint net worth with their spouse) of USD 25 million or more
(b) Companies, partnerships, trusts or other commercial undertakings, which have financial assets available for investment of not less than USD 25 million; or
(c) Governments, supranational organisations, central banks or other national monetary authorities, and state organisations whose main activity is to invest in financial instruments (such as state pension funds).

GLOBAL CONSUMER BANK (Asia Pacific and EMEA):

"Citi analysts" refer to investment professionals within Citi Research ("CR"), Citi Global Markets Inc. ("CGMI"), Citi Global Wealth Investments ("CGWI") and voting members of the Citi Global Investment Committee. Citibank N.A. and its affiliates / subsidiaries provide no independent research or analysis in the substance or preparation of this document.

The information in this document has been obtained from reports issued by CGMI and CGWI. Such information is based on sources CGMI and CGWI believe to be reliable. CGMI and CGWI, however, do not guarantee its accuracy and it may be incomplete or condensed. All opinions and estimates constitute CGMI and CGWI's judgment as of the date of the report and are subject to change without notice. This document is for general information purposes only and is not intended as a recommendation or an offer or solicitation for the purchase or sale of any security or currency. No part of this document may be reproduced in any manner without the written consent of Citibank N.A. Information in this document has been prepared without taking account of the objectives, financial situation, or needs of any particular investor. Any person considering an

investment should consider the appropriateness of the investment having regard to their objectives, financial situation, or needs, and should seek independent advice on the suitability or otherwise of a particular investment. Investments are not deposits, are not obligations of, or guaranteed or insured by Citibank N.A., Citigroup Inc., or any of their affiliates or subsidiaries, or by any local government or insurance agency, and are subject to investment risk, including the possible loss of the principal amount invested. Investors investing in funds denominated in non-local currency should be aware of the risk of exchange rate fluctuations that may cause a loss of principal. Past performance is not indicative of future performance, prices can go up or down. Investment products are not available to US persons. Investors should be aware that it is his/her responsibility to seek legal and/or tax advice regarding the legal and tax consequences of his/her investment transactions. If an investor changes residence, citizenship, nationality, or place of work, it is his/her responsibility to understand how his/her investment transactions are affected by such change and comply with all applicable laws and regulations as and when such becomes applicable. Citibank does not provide legal and/or tax advice and is not responsible for advising an investor on the laws pertaining to his/her transaction.

Citi Research (CR) is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

For more information, please refer to https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

MARKET SPECIFIC DISCLOSURES

Hong Kong: This This communication is distributed in Hong Kong by Citibank (Hong Kong) Limited ("CHKL") and/or Citibank, N.A., Hong Kong Branch ("CBNA HK", Citibank, N.A. is organized under the laws of U.S.A. with limited liability). CHKL and CBNA HK provide no independent research or analysis in the substance or preparation of this communication. Although information in this communication has been obtained from sources believed to be reliable, CHKL and CBNA HK do not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use.

This communication is for general information only, is not intended as a recommendation or an offer or solicitation for the purchase or sale of any products or services and should not be relied upon as financial advice. The information herein has not taken account of the objectives, financial situation or needs of any particular investor. Any person considering an investment should consider the suitability of the investment having regard to their objectives, financial situation and needs, and should seek independent advice before making an investment decision. You should obtain and consider the relevant product terms and conditions and risk disclosure statement, and consider if it's suitable for your objectives, financial situation or needs before making any investment decision. Investors are advised to obtain independent legal, financial and taxation advice prior to investing. Investments are not deposits, are not protected by the Deposit Protection Scheme in Hong Kong and are subject to investment risk including the possible loss of the principal amount invested.

This communication does not constitute the distribution of any information in any jurisdiction in which it is unlawful to distribute such information to any person in such jurisdiction.

CHKL does not provide discretionary portfolio management services.

Singapore: This communication is distributed in Singapore by Citibank Singapore Limited ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this communication. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this communication. Investment products are not insured under the provisions of the Deposit Insurance and Policy Owners' Protection Schemes Act of Singapore and are not eligible for deposit insurance coverage under the Deposit Insurance Scheme.

This communication is for general information only and should not be relied upon as financial advice. The information herein has no regard to the specific objectives, financial situation and particular needs of any specific person and is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Any person interested in the strategies or concepts mentioned herein should consult their independent tax, legal, financial or other advisors, as appropriate. This communication does not constitute the distribution of any information or the making of any offer or solicitation by anyone in any jurisdiction in which such distribution or offer is not authorized or to any person to whom it is unlawful to distribute such information or make any offer or solicitation.

Before making any investment, each investor must obtain the investment offering materials, which include a description of the risks, fees and expenses and the performance history, if any, which may be considered in connection with making an investment decision. Interested investors should seek the advice of their financial adviser about the issues discussed herein as appropriate. Should investors choose not to seek such advice, they should carefully consider the risks associated with the investment and make a determination based upon the investor's own particular circumstances, that the investment is consistent with the investor's investment objectives and assess whether the investment product is suitable for themselves. Although information in this document has been obtained from sources believed to be reliable, CSL does not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use.

CSL does not provide discretionary portfolio management services

UAE: This document is distributed in UAE by Citibank, N.A. UAE. Citibank N.A. UAE is licensed by UAE Securities and Commodities Authority ("SCA") to undertake the financial activity as Promoter under license number 602003.

Citibank N.A. UAE is registered with Central Bank of UAE under license numbers BSD/504/83 for Al Wasl Branch Dubai, 13/184/2019 for Mall of the Emirates Branch Dubai, BSD/2819/9 for Sharjah Branch, and BSD/692/83 for Abu Dhabi Branch.

This is not an official statement of Citigroup Inc. and may not reflect all of your investments with or made through Citibank. For an accurate record of your accounts and transactions, please consult your official statement. Before making any investment, each investor must obtain the investment offering materials, which include a description of the risks, fees and expenses and the performance history, if any, which may be considered in connection with making an investment decision. Each investor should carefully consider the risks associated with the investment and make a determination based upon the investor's own particular circumstances, that the investment is consistent with the investor's investment objectives. At any time, Citigroup companies may compensate affiliates and their representatives for providing products and services to clients.

United Kingdom: This document is distributed in the U.K. by Citibank UK Limited and in Jersey by Citibank N.A., Jersey Branch.

Citibank UK Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Our firm's Financial Services Register number is 805574. Citibank UK Limited is a company limited by shares registered in England and Wales with registered address at Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB, Companies House Registration No. 11283101.

Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citi International Personal Bank is registered in Jersey as a business name of Citibank N.A. The address of Citibank N.A., Jersey Branch is P.O. Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A. is incorporated with limited liability in the USA. Head office: 399 Park Avenue, New York, NY 10043, USA.

© 2023 Citigroup Inc. Citi, Citi and Arc Design and other marks used herein are service marks of Citigroup Inc. or its affiliates, used and registered throughout the world.