Citi Global Wealth Investments

citi

CIO Strategy Bulletin

June 22, 2024

Steven Wieting
Chief Investment Strategist and Chief Economist

Joe Fiorica
Head, Global Equity Strategy

Cecilia Chen
Global Equity Investment Strategist

Paisan Limratanmongkol
Head of Strategic Asset Allocation and Quantitative Research

Kerry White
Head of Portfolio Solution, Citi Investment Management

Joseph Kaplan
Senior Fixed Income Investment Strategist

Chadd Cornilles
Global Investment Strategist

Pleasure and Perils of Concentrated Portfolios

Key Takeaways

- **Mid-year market turbulence**: With scattered signs of economic softening and rising global political risk at mid-year, interest rates have fallen and most equity markets have stalled in the past month. We've routinely cautioned of the pattern of mid-year equity market weakness and bond market strength (please see our June 8th CIO Bulletin). In contrast, markets view large cap tech as impervious to slowing, a view that wasn't prevalent as recently as 2022.
- **AI will be transformative, but what's already priced in?** Artificial Intelligence (AI) breakthroughs are a technological development that hint at a faster trend rate of economic growth and an economy that, in time, may be unrecognizable from the present. For equities, the impact is most reminiscent to the late 1990s internet boom. Let's recall, however, that top-10 market cap companies of the 1999 included IBM, Intel, Cisco Systems, Lucent and GE, firms that all eventually suffered very deep share price declines.
- **Surprise! Elections are unpredictable.** A populist swing in European parliamentary elections, heavy protest votes in India and cemented-left leadership wins in Mexico were all surprises for markets this year. This should remind us of the often-futile efforts to align investments to election poll results. This is ahead of looming contests in the UK, France and the US in coming weeks and months.

Potential Portfolio Implications

- Past performance is no guarantee of the future. However, the past shows most firms that have grown to be the market's largest by market cap have routinely underperformed when measured five years later.
- We continue to see US large cap tech EPS moderating to a still-robust pace near +25% in 2024, down from +43% in 2023. The world's most valuable semiconductor designer is "sold out" on AI strength through at least 2025. We continue to view semiconductor equipment producers as our favored potential narrow market opportunity. Conversely, AI investment spending by service providers might not deliver results fast enough for markets (i.e. recall investment spending on the "Metaverse?")
- Timing an investment in strong innovators with surging share prices is particularly hard. Investors can overpay for any investment, even those with positive fundamentals. We believe investors have to balance continued exposure to highly valued, growing market leaders with management of concentration risk.

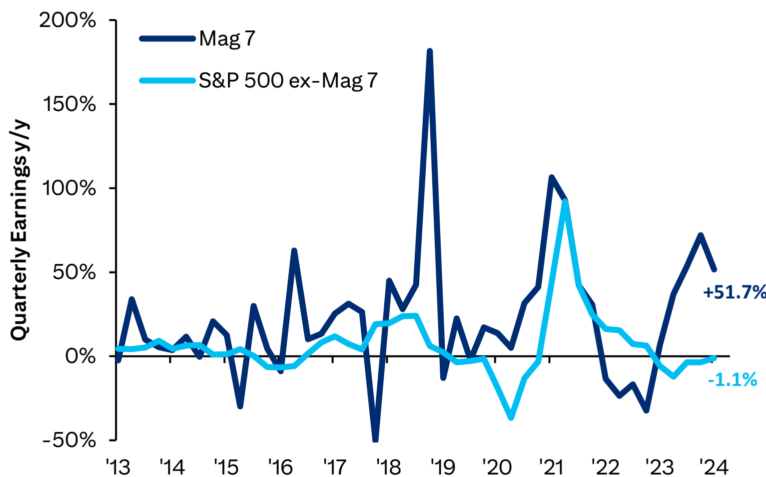
INVESTMENT PRODUCTS: NOT FDIC INSURED · NOT CDIC INSURED · NOT GOVERNMENT INSURED · NO BANK GUARANTEE · MAY LOSE VALUE

Pleasures and Perils of Concentrated Portfolios

Can a technological innovation be profound, “unstoppable,” and also overpriced by investors? History is unequivocal: it can. Yet that single observation is the mere starting point for a very difficult set of questions for investors with their long-term portfolio success in the balance.

First, we’ll briefly revisit current market context and history. We’re not sure if 2022 counts as the “recent past” amid ever-shorter attention spans, but the Nasdaq 100 tech-laden index fell 33.0% that year, underperforming the S&P 500’s 19.4% drop. In fact, tech powered the decline. Today’s Magnificent 7 (or FANG, FAANG before it), saw EPS declines of 32.3% in 4Q22 with the economy adjusting to a post-pandemic period less centered in tech services like “video conferencing” and e-commerce (see **FIGURE 1**). This was before the words “artificial intelligence” thundered.

FIGURE 1: Mag-7 EPS vs remaining S&P 493 EPS



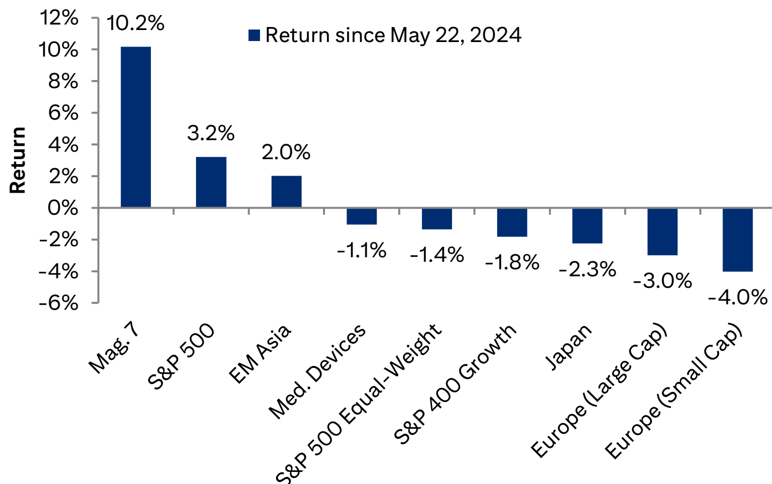
Source: Bloomberg as of June 17, 2024. The Magnificent 7 stocks include Amazon.com (AMZN), Apple (AAPL), Google parent Alphabet (GOOGL), Meta Platforms (META), Microsoft (MSFT), Nvidia (NVDA) and Tesla (TSLA). Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative 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.

With the demonstration of Chat-GPT’s human-like yet super-human qualities in 2023, trillions of dollars of market cap were quickly added for potential “hyper-scaler” AI service providers and the single semiconductor designer with the most advanced AI chips.

Tech platforms have each spent many billions of dollars on specialized semiconductors and broader AI data infrastructure. They will spend much more going forward to provide ever-improving new services. With this spending, EPS gains of magnificent scale returned for the Mag 7 in 2023, gaining 43.7% while shares rose 75.7%. The rest of the S&P 500 (non-magnificent 493) saw EPS fall 7.4% in that same time.

The story doesn’t end there. In the first quarter 2024, these largest US tech leaders grew EPS 51.7% year-over-year and seem poised for a 25% EPS gain for this year. Markets at present seem to view them as immune to any slowing. They’ve risen in value since 4Q 2022, while other shares have gained much less. During this time, bond yields have dropped as investors have feared for the economic and global political outlook (see **FIGURE 2**).

FIGURE 2: Market performance since May 22, 2024



Source: Bloomberg as of June 17, 2024. The Magnificent 7 stocks include Amazon.com (AMZN), Apple (AAPL), Google parent Alphabet (GOOGL), Meta Platforms (META), Microsoft (MSFT), Nvidia (NVDA) and Tesla (TSLA). 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.

AI is raising existential questions for humanity. The demonstration of AI's power to produce and eliminate labor – ideally allowing it to be redeployed making the economy grow larger – has also generated an optimism for future tech profits not seen since the second half of the 1990s (see **FIGURE 3**).

It should be quite apparent from Figure 3 that the mismatch between tech profits and market cap has not risen near the profound levels of the late 1990s peak. Will it rise again to such levels? Or what might mark an end to the optimism?

An inconvenient truth for investors is that innovation doesn't follow easily predictable patterns sometimes seen elsewhere in the economy. The sustainability of tech leaders' returns has varied widely. Only hindsight can make it seem easy to judge how well a firm would profit from its invention and critically, which firm, among competitors, would ultimately succeed. For example, 1990s tech highflyers Cisco Systems and Apple had very different returns. These were unforeseeable by investors until there was hindsight (see **FIGURE 4**).

FIGURE 3: IT sector EPS and market cap as % of S&P 500

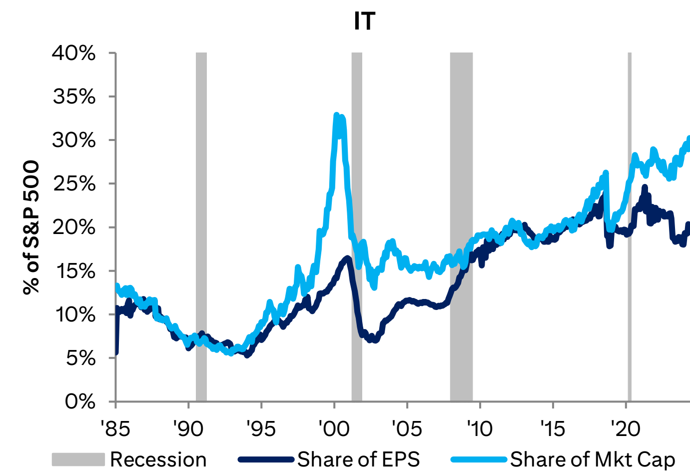
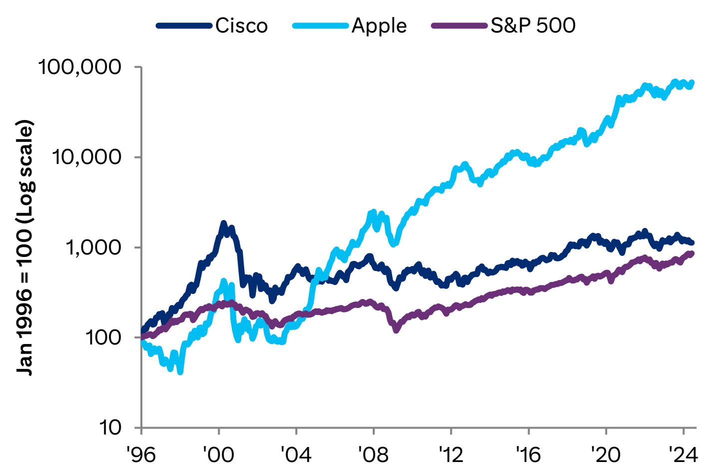


FIGURE 4: Cisco, Apple, and S&P 500 indexed return



Source: Bloomberg and Factset as of June 17, 2024. 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.

Our guesswork on the future of AI and US tech is as follows: 1) AI technology is merely at an incipient stage which has yet to result in an aggregate stock market bubble; 2) Like the advent of the internet, an explosion of market gains may come and go in exaggerated fashion.

This is indeed similar to the 1990s. An 82% drop in the Nasdaq 100 from 2000-2002 did not stop innovation and growth that followed (see **FIGURE 5**). The internet of course remained a long-term driving force in the economy and the backbone of incipient AI services.

FIGURE 5: Innovations from 2002 following the dot-com bubble

Bluetooth Wireless	Private Space Industry
Text Messaging	Advanced Artificial Heart, Liver
Camera Phone	Consumer GPS
USB Flash Drive	Action Camera
Plug-in Hybrid Autos	Online Furniture Retail
Microprocessor	MP3 Player
First Telesurgery	Human Genome Project Draft
Online Gaming	Smartphone

Source: Citi Wealth Outlook 2023. Past performance is no guarantee of future results. Real results may vary.

In our view, innovation that enables economic growth is the equity market's strongest driver of long-run returns. Investors need to temper this with knowledge that most firms that grow to become the market's largest may ultimately underperform within five years (see **FIGURE 6**). When the shares of firms that are seeing strong confidence in their future might peak is not knowable in advance.

Apple and Microsoft – firms founded in the 1980s – are now two of the largest three firms in the world by market cap. Other leaders of the late 1990s such as IBM, Cisco, GE, Intel and AT&T are worth less today than their value 25 years ago (see **FIGURE 7**).

The irony of this analysis is that every firm that rose to the top 10 enjoyed higher returns than the broad market to get to that level. But seeking future outperformance is different from simply assuming the past innovators will continue to outperform.

As already witnessed a mere year after the demonstration of Chat-GPT, the firms that have the potential to grow and sustain profits from AI development have the possibility to be the firms that become the world's market cap leaders. But who will they be and how long will individual firms sustain their leadership? It's fiction to believe this can be predicted with great confidence in advance. With this knowledge, we believe investors should seek to balance the reward against the idiosyncratic risk endemic in portfolio concentration.

FIGURE 6: Top 10 stocks by market cap and subsequent performance vs S&P 500

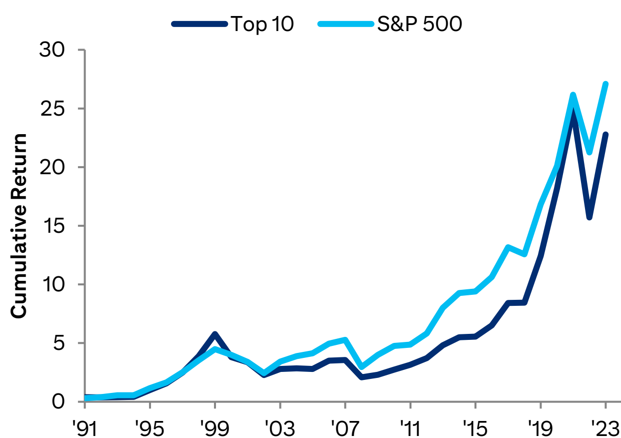
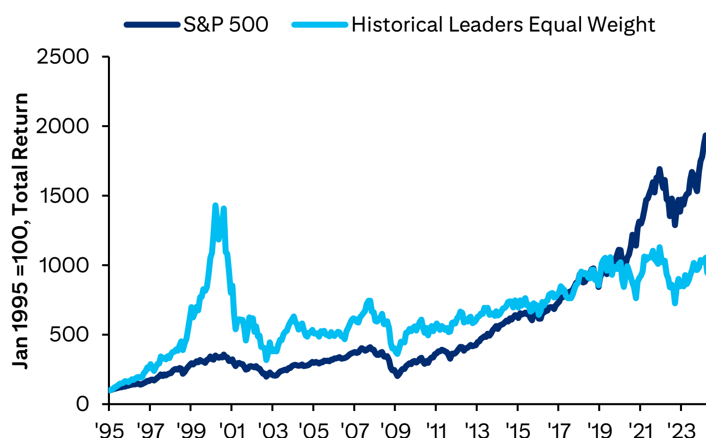


FIGURE 7: Top market caps of 1999 from 1995 to date vs S&P 500



Source: Bloomberg as of June 17, 2024. Left: Chart shows the cumulative total returns of the top ten S&P 500 firms by market capitalization at the end of each year over the following 12 months alongside the cumulative total return of the S&P 500. Each point on the chart shows the cumulative return between that point and one year later. Right: the Historical Leaders Equal Weight is an equal-weighted basket of the top names by market capitalization at the beginning of 1995. 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.

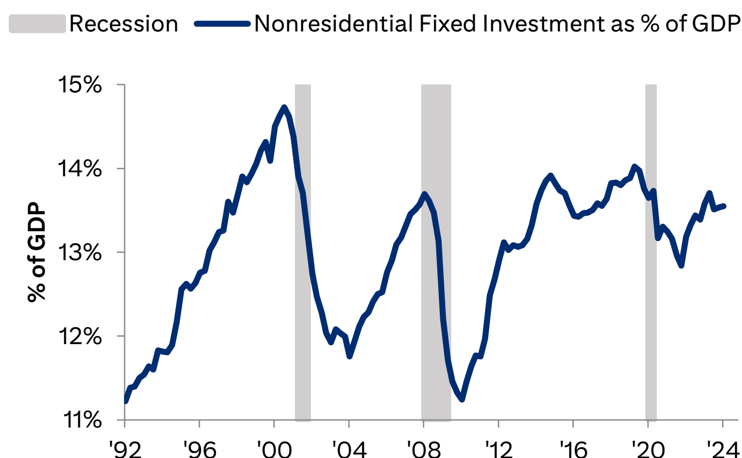
Conclusion

Our lessons about portfolio outcomes five years ahead will likely be ignored if the next five years looks like the 1995-1999 period. Over those five years, the Nasdaq 100 annualized a 55.8% return while the S&P 500 returned 26.2%.

A repeat of that period is hardly a guarantee. What catalyzed the collapse of the late 1990s period was not ineffective technology, but the unwinding of excessive, wasteful capital spending of the time. Scarcity of capital improves returns. A surplus of capital undermines returns.

Experiments in AI will yield both successes and failures. At an individual firm level, some of these gains and losses will be significant. With optimism, we would note that the aggregate gains in capital spending in the US economy have not shown any unusual excesses even as AI booms within (see **FIGURE 8**).

FIGURE 8: US nonresidential fixed investment as % of GDP



Source: Haver Analytics as of June 17, 2024.

Surprise! Elections Are Unpredictable

Just as it seemed as though the US election would win awards for surreal disharmony, France has grabbed headlines with shocking dual movements of left-wing and right-wing populism, sure to rock centrist sensibilities. As discussed in the New York Times[1] and other media (see our Europe: Electoral Implications report), President Macron has called to dissolve the lower house of parliament. France will now hold new elections after a surge in support for French nationalists in European Parliamentary votes this month. His call to battle the right has helped unify the French left. Either extreme could potentially build a coalition to govern after second round elections on July 7.

Typically, EU parliament votes are not market moving issues likely to impact the outlook for the economy. However, the surprise unification of left-wing parties, including communists, has rocked Europe's markets. This is just as its economies are coming to grips after a very weak 2023.

Some spokesmen for the French centrists have made strident warnings that France would fail to adhere to European budget conventions, sending it spiraling out of the Eurozone. This has caused a sharp rise in French sovereign risk premia and pummeled French banks, though much less than during the European sovereign debt crisis of 2011-2013. That event centered on discord over the potential for Greek default which caused contagion throughout the south of Europe (see **FIGURE 9-10**).

[1] New York Times "Battered by Far Right in E.U. Vote, Macron Calls for New Elections in France"

FIGURE 9: French CDS

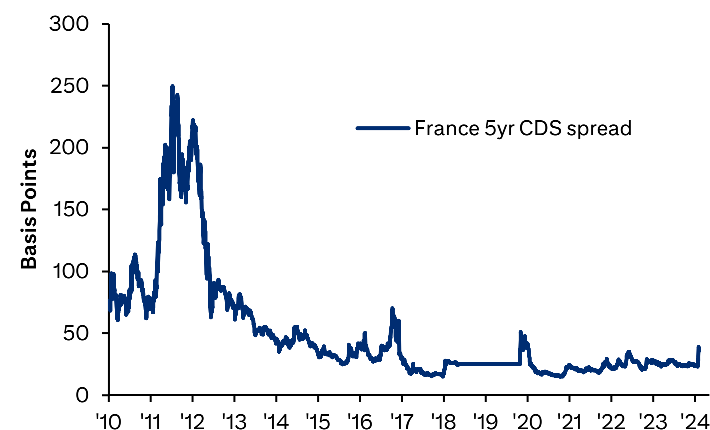
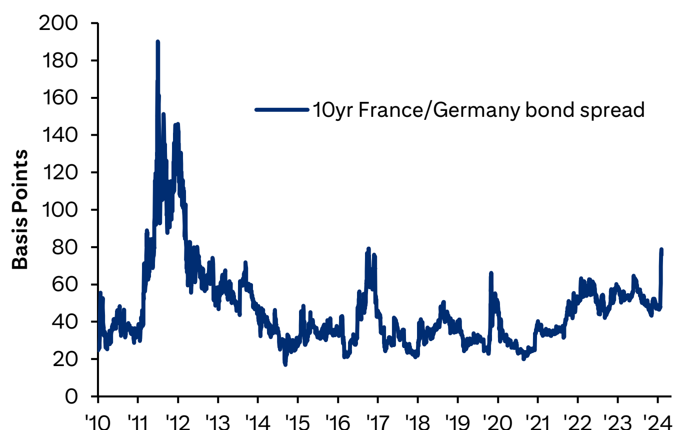


FIGURE 10: France/German cash bond spread



Source: Bloomberg as of June 17, 2024. Past performance is no guarantee of future results. Real results may vary.

The notion that rising far-right or far-left parties would quickly default on French debt or jettison Eurozone membership seems wildly exaggerated. The Greek crisis ushered in a plethora of EU solidarity measures including central bank bond purchases to limit sovereign credit divergence and even fiscal transfers between EU states. None of this was in place as the crisis of 2011-2013 took hold.

Nonetheless, the costs of moving France away from centrist policies will be a market factor for the time being. Investors will have to live with French uncertainty until at least July 7 when second round votes conclude. It is possible that political concerns impacting European and global markets will increase if certain parties take action that threatens growth, profits, and sustainable government finance. It is also possible, however, that just as in the case of Italy, a political shift in power – once unthinkable – fades into the background as a market concern.

The recent EU parliamentary vote surprises – with elections in Mexico and India before it – should remind investors that comfortable polling data should not be taken for granted. Every election of note this year has generated surprises.

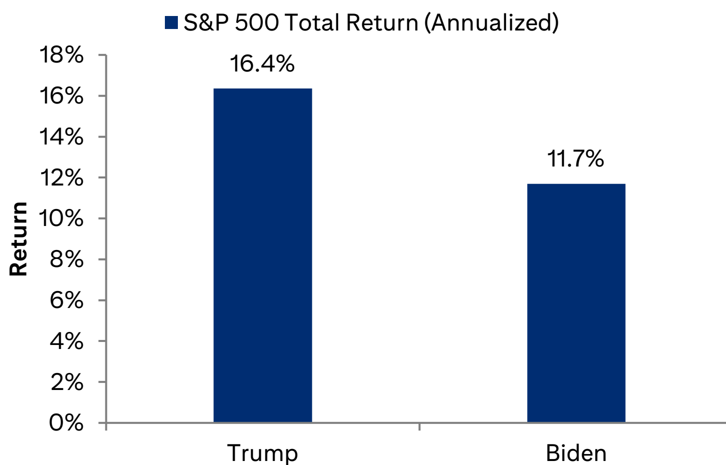
The UK general election looms on July 4, and the US Presidential and Congressional election of November 5 follows. There are industry implications to consider, but also the larger observation that politics alone will not determine the economic and market outlook in economies with significantly free markets like the UK and US (see **FIGURE 11-12**).

FIGURE 11: Forecast of industries that may benefit from Democrat or Republican sweep in November's elections

Headwind / Neutral / Tailwind	Democratic White House		Republican White House	
	Split Congress	Democratic Congress	Split Congress	Republican Congress
Consumer Discretionary	Neutral	Headwind	Neutral	Tailwind
HMOs & Hospitals	Neutral	Tailwind	Neutral	Headwind
Healthcare Equip & Med Devices	Tailwind	Neutral	Tailwind	Tailwind
Pharma & Biotech	Neutral	Headwind	Neutral	Neutral
Platform Technology	Headwind	Headwind	Neutral	Neutral
"Critical & Emerging" Tech	Neutral	Tailwind	Tailwind	Neutral
Financial Services	Headwind	Headwind	Neutral	Tailwind
Traditional Energy	Neutral	Headwind	Tailwind	Tailwind
Renewable Energy	Tailwind	Tailwind	Headwind	Headwind
Infrastructure	Neutral	Tailwind	Neutral	Tailwind
Defense	Neutral	Tailwind	Tailwind	Tailwind

Source: Citi Global Wealth Investments as of June 17, 2024. The results are opinions of headwinds and tailwinds for the future, not a statement of equity sector returns or any historic analysis. Each sub-sector was analyzed for a split congress or swept congress for either a democratic or republican White House. Key elements of potential legislative change – or lack thereof – coupled with executive office policy or perceived policy were input for portfolio management assessment of potential sector headwinds or tailwinds. Some of the analysis is based on past outcomes of political office and others is based on forward looking statements by candidates. This is a qualitative analysis and reflects the views of the authors. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is no guarantee of future results. Real results may vary.

FIGURE 12: Equity returns under Trump vs Biden



Source: Bloomberg as of May 31, 2024. 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.

CIO Strategy *Webcast series*

Thursdays at 11:30am EST
LIVE Q&A TO FOLLOW

In-depth weekly conversation on timely market events

Register now

STEVEN WIETING

Chief Investment Strategist and Chief Economist Citi Wealth

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 that are provided to Citi Private Bank, Citi Global Wealth at Work, Citi Personal Wealth Management and Citi Personal Investments International (CPII).

Citi Private Bank, Citi Global Wealth at Work, Citi Personal Wealth Management, and Citi Personal Investments International, 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 Alternatives, 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.

CGWI personnel and GPS authors 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 rating 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 Rating[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 rating 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 standings 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.

An investment in alternative investments can be highly illiquid, is speculative and not suitable for all investors. Investing in alternative investments is for experienced and sophisticated investors who are willing to bear the high economic risks associated with such an investment. Investors should carefully review and consider potential risks before investing. Certain of these risks may include:

- loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices;

- lack of liquidity in that there may be no secondary market for the fund and none is expected to develop;
- volatility of returns;
- restrictions on transferring interests in the Fund;
- potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized;
- absence of information regarding valuations and pricing;
- complex tax structures and delays in tax reporting;
- less regulation and higher fees than mutual funds; and
- manager risk.

Individual funds will have specific risks related to their investment programs that will vary from fund to fund.

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

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

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 risks, 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.

Environmental, Social and Governance (ESG) and sustainable investing may limit the type and number of investment opportunities, and, as a result may affect performance relative to other approaches that do not impose similar sustainability criteria. Sustainable investment products are subject to availability. Certain sustainable investment opportunities may not be available in all regions or not available at all. No guarantee is provided regarding the financial or sustainability performance of such products and the products may not meet their investment or sustainability objectives.

There is currently no globally accepted framework or definition (legal, regulatory or otherwise) nor market consensus as to what constitutes, an "ESG", "sustainable", "impact" or an equivalently labelled product, or regarding what precise attributes are required for a particular investment, product or asset to be defined as such. Different persons may arrive at varied conclusions when evaluating the sustainability attributes of a product or any of its underlying investments. Certain jurisdictional laws and regulations require classifications of investment products against their own sustainability definitions and as such there is likely to be a degree of divergence as to the meaning of such terms. For example, the term "sustainable investing" where used in this disclosure is by reference to CGWI's internal framework rather than any defined meaning under jurisdictional laws and regulations. There is no guarantee that investing in these products will have a sustainability impact.

There are numerous ESG data providers that evaluate companies on their ESG performance and provide reports, ratings, and benchmarks. Report, rating and benchmark methodology, scope, and coverage, vary greatly among providers. ESG data may not be available for all companies, securities, or geographies and as such, may not necessarily be reliable or complete. Such data will also be subject to various limitations, including (inter alia): i) limitations in the third-party data provider's methodologies; ii) data lags, data coverage gaps or other issues impacting the quality of the data; iii) the fact that there are divergent views, approaches, methodologies and disclosure standards in the market, including among data providers, with respect to the identification, assessment, disclosure or determination of "ESG" factors or indicators and which precise attributes are required for a particular investment, product or asset to be defined as such; iv) the fact that ESG information, including where obtained from third-party data providers, may be based on qualitative or subjective assessment, and any one data source may not in itself represent a complete 'picture' for the ESG metric that it represents; v) the fact that such data may be subject to change without any notice of this to CGWI by the third-party data provider or other source. Furthermore, some of the data CGWI obtain from third-party providers is not obtained directly from investee companies, but rather represents estimated / proxy data that the third-party data provider has prepared using its own proprietary methodologies (e.g. because there is no actual investee company data). Such proprietary methodologies are also subject to various limitations of their own, acknowledging that estimates / proxies are in and of themselves an inexact science. CGWI does not make any representation or warranty as to the completeness or accuracy of

any such third-party data (whether actual or estimated), or of data that is generated using this third-party data. CGWI shall have no liability for any errors or omissions in the information where such information has been obtained from third parties or not.

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.

Canada - Citi Private Bank is a business of Citigroup Inc. ("Citigroup"), which provides its 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 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).

CONSUMER BANKING MARKET SPECIFIC DISCLOSURES

Hong Kong: 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.

© 2024 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.