Morgan Stanley

INVESTMENT MANAGEMENT

BIG PICTURE

Key Themes for 2024

MACRO INSIGHT | Q1 2024

In the post-COVID world, many anticipated a shift in how economics, politics and finance would function. Instead, we are seeing signs of a reversion to familiar patterns. "Higher-for-longer" interest rates, a response to the inflationary pressures post-pandemic, may not be as prolonged as some had forecasted. The transition to green energy, seen as a swift response to climate change, is proving to be more gradual. Global populism, a fallout of increased inequality, may be peaking. The traditional 60/40 investment portfolio, thought to be outdated after a dismal 2022, is back.[1] Artificial intelligence (AI), while transformative, will disperse throughout society and eventually trend toward becoming a commoditized service: important and influential, but not necessarily sensational. Read more in our 10 Key Themes for 2024.

AUTHOR

JITANIA KANDHARI
Deputy CIO, Solutions & Multi Asset Group
Head of Macro & Thematic Research, Emerging Markets
Portfolio Manager, Passport Equity

Key Themes for 2024

1. Return of 60/40
2. Higher for No Longer
3. Polls, Prices and Populism
4. Oil: Underappreciated, Underinvested and Undervalued
5. U.S. Infrastructure Is Aging Faster Than Its Population
6. The AI Playbook
7. Widen the Investment Net
8. An Emerging Evolution
9. Decoding China
10. Not a Petty Pet Economy

1. Return of 60/40

The 60/40 portfolio, a mix of 60% U.S. equities and 40% U.S. bonds,[1] has traditionally served as a favored investment vehicle for moderate-risk investors. For more than two decades starting in 2000, bonds were often an effective hedge against equity-led portfolio losses.

However, this dynamic dramatically changed in 2022 when both bonds and stocks suffered negative returns, with the 60/40 portfolio declining 17.7%, its worst performance since 1937. Everyone turned sour on the strategy: Barron's warned the 60/40 portfolio was broken while Kiplinger declared it as dead. Our view at the beginning of 2023 was that these concerns were overstated. In 2023, stocks surged, with the S&P gaining 26.3% and U.S.

[1] In all cases a 60/40 portfolio refers to 60% U.S. equities/40% U.S. bonds. U.S. equities are represented by the S&P 500 Total Return Index (1926-Present) and the U.S. Market Total Return index (1820-1925), with data provided by Global Financial Data (GFD); U.S. bonds are represented by 10-year U.S. Treasury Total Returns (1820-Present), with data provided by GFD. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

10-year treasuries up 3.6%, driving the 60/40 strategy up 17.2%, far above its historical annual median return of 7.8%.

In 2022, central banks raised interest rates to curb the highest rate of inflation seen in 40 years, hurting both stocks and bonds.[2] This marked a shift as the negative correlation that had existed between the two asset classes for over two decades turned positive. Historical data shows that when inflation exceeds 2.4%, the correlation between equity and bonds tend to increase *(Display 1)*.

Analyzing 200 years of historical data reveals that there is an 80% probability that 60/40 generates positive returns in the two years following a year of negative returns for both stocks and bonds; the portfolio performance tends to mean revert. With inflation falling, the correlation between stocks and bonds should be lower in 2024, but still higher than the previous 25 years, given we have reset to a higher inflation rate. The 60/40 mix is beneficial again as fixed income should provide diversification and a steady source of income for investors.

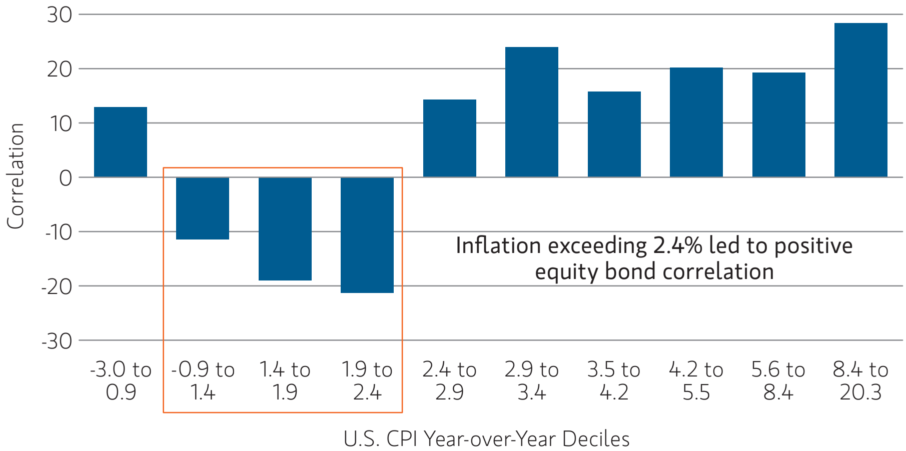
Within the 60/40 portfolio, investors should consider broadening their equity allocations to equal-weighted indices in the U.S., international markets and emerging markets, and by adding duration, high-quality bonds and EM debt within fixed income.

Despite skepticism following the challenges of 2022, we continue to believe a 60/40 strategy remains a reliable starting point for asset allocation.

DISPLAY 1

Inflation Is the Key Driver of Equity-Bond Correlation

Equity and bond total return correlation by inflation decile



Source: MSIM, Bloomberg, FactSet, GFD. As of December 31, 2023. Equities represented by the S&P 500 Total Return Index (1926-Present) and the U.S. Market Total Return Index (1820-1925) provided by Global Financial Data (GFD); U.S. bonds are represented by the 10-year U.S. Treasury Total Returns provided by GFD. Equities represented by the S&P 500, bonds by the U.S. 10-year Treasury. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index. Correlation is a statistical measure of how two securities or asset classes move in relation to each other.

2. Higher for No Longer

The surge in public debt has been sustained over the past decade largely because average global interest rates have remained below the rate of nominal GDP growth across developed economies. An analysis of past debt spikes and corresponding interest rate levels serves as a useful framework for asset owners.

Historically, sharp debt spikes have occurred during crises such as the Civil War in 1860, World War I in the 1910s, World War II in the 1940s, the Global Financial Crisis and the recent pandemic.[3] The key factor in debt-servicing costs is the real interest rate, the difference between nominal rates and the rate of inflation. Rates need to be lower than GDP to reduce the burden of servicing the debt and to stimulate economic activity. We do not expect this time to be different. Today, U.S. government debt stands at an all-time high of 120% of GDP, more than doubling from 2000, necessitating negative real rates to service that debt. The peak in real rates in October 2023 at 2.7% was very restrictive monetary policy, especially in such a high-debt situation.

The U.S. fiscal deficit remains a lingering concern, with the Congressional Budget Office projecting an average deficit of 6% of GDP, compared to 3.5% in the five years before the COVID crisis. Fiscal reform is difficult given two-thirds of the budget is allocated to entitlement programs like Medicare and Social

[2] Haver Analytics, Bloomberg Data.

[3] Haver Analytics, World Bank

Security, with another 16% going to defense spending and 6% to net interest payments. High public debt and deficits are here to stay and both political parties seem incapable of dealing with them. Republicans have made peace with large tax cuts, while Democrats believe they won't pay a political price for deficit spending. In a divided government, there is neither the interest nor the will to curb the deficit.

Academic literature shows that high debt-to-GDP ratios have historically been reduced by high economic growth, fiscal austerity, inflation or debt restructuring.[4] Hoping for public debt resolution through growth is impractical since high levels of debt are associated with lower growth. Real rates will be capped and have a tendency to move towards neutral to enable containing the high public debt and supporting growth.

3. Polls, Prices and Populism

This year voters in 75 countries, constituting half the world's population, will go to the polls. Historically, surges in inflation have been a catalyst for anti-incumbency globally. A study by Eurasia examining 57 inflation shocks since the 1970s revealed that elections occurring within two years of a shock resulted in a change of government in roughly three out of every four instances.[5]

Recent events validate this pattern: in Argentina, frustrations with the economy drove voters to elect "anarcho-capitalist" Javier Milei. Voters in Brazil, Colombia and Peru ousted their ruling parties amid high prices. In Europe, disenchanted Dutch voters propelled anti-immigration Geert Wilders' party to win the largest share of seats in the Netherlands, while in Poland, an opposition coalition defeated the ruling conservative party following record inflation levels.

Despite the noise over the rise of populism, we are witnessing the waning of sentiment that once fueled anti-elite and anti-systemic narratives. The steepest declines in populism have been observed in Latin America where incumbents have lost 17 out of 18 elections since 2019.[6] Interestingly, a Cambridge study reveals that the rise of populism was curtailed by COVID-19, as voters punished some populists for mishandling the pandemic. The Tony Blair Institute notes a reduction in the number of populists in power from 19 in 2020 to 11 in 2022.

Four pivotal elections in 2024 will impact global affairs. In the U.S., many Republican candidates who endorsed right-wing conspiracy theories and Democrats with super-progressive views failed in the 2022 midterm elections. Voters are favoring centrist views on crime, immigration and education over progressive policies. Despite parties leaning more red or blue, American voters are exhibiting a purple stance with Pew Research indicating that 25% feel neither party adequately represents them. In the U.S., despite numerous indictments, Donald Trump's poll numbers remain strong with higher inflation affecting Biden's popularity. In India, where inflation is not much of an issue, Prime Minister Narendra Modi is expected to retain power. Indonesia will witness the world's largest single-day election for a president and vice president with no real inflation issues. In Europe, the EU Parliamentary elections take place against a backdrop of high inflation and low economic growth, which may tilt member states further to the right.

While the multitude of elections in 2024 serves as a litmus test for the endurance of populist ideas and candidates, incumbents will likely face a substantial penalty for their inability to tame inflation.

4. Oil: Underappreciated, Underinvested and Undervalued

Even as the transition toward green energy moves forward, the fossil fuel industry has rebounded beyond pre-pandemic levels. Predictions of increasing adoption of electric vehicles (EVs) displacing oil demand have not led to a reduction in oil consumption. In 2023, EVs made up more than 10% of global auto sales, from less than 1% in 2012. Yet over the same period, oil demand climbed more than 11% to an all-time-high of over 101 million barrels a day.

Fossil fuels currently account for over 80% of primary energy consumption, while solar and wind make up just over 5%. Although the adoption of cost-efficient renewables and climate-friendly government policies will alter this balance over time, we do not foresee a sudden collapse in oil demand. While much attention is paid to gasoline and diesel consumption, most of the increase in demand could come from jet fuel and petrochemicals.

Energy transitions unfold gradually, and it will take several decades to supplant established patterns and work habits. For example, the steam engine took a full 90 years to become

---

[4] Federal Reserve Bank of St Louis

[5] Eurasia Group. *Top Risks of 2023*. December 2023.

[6] The Brazil Report, November 23, 2023. Modern Diplomacy, August 18, 2023, MSIM Emerging Market Equities, 2023.

the predominant source of power, while electricity took more than 65 years to surpass gas as the leading source of lighting *(Display 2)*.

Major oil producers have so far offered a rather muted response to rising demand. OPEC, which accounts for a third of global crude oil supply, is supplying more than a million fewer barrels to the market compared to 2019 levels. Russia is also lagging 2019 output by a similar amount. The U.S., the world's largest producer, is only now exceeding pre-pandemic output. However, the shale sector, which accounts for two-thirds of U.S. oil production, should keep its "drill, baby drill" mindset in check.

Energy companies have adopted a more investor-friendly approach to capital allocation, with 2022 marking the first time in over a decade that more cash was spent on dividends, share buybacks and lowering debt than on capital expenditure. Last year, the International Energy Agency estimated that lack of investment could lead to global oil supplies falling below 95 million barrels a day by 2030, creating a potential shortfall. We expect oil assets to benefit in a tighter-for-longer oil market.

5. U.S. Infrastructure Is Aging Faster Than Its Population

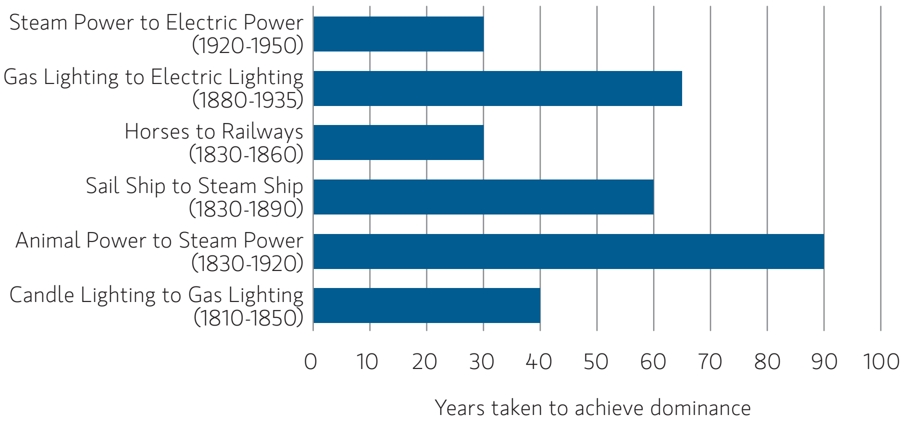
While the median age of Americans nears a high of 40, few understand that U.S. infrastructure is aging faster than its people. Most of the country's facilities—both private and public, across transportation, industry, power and military complexes—have aged significantly since the 1960s. Highways are 30 years old and government industrial complexes at 50 are "long in the tooth."[7] Even residential buildings now average 32 years, a post-war high. Although the U.S. military operates the most advanced weapons in the world, they are built in facilities that are 48 years old. Unlike fine wine, infrastructure doesn't improve with age.

The U.S. has fallen to 13th place among 138 nations in infrastructure quality, trailing Singapore, Hong Kong and the UAE. Despite a car-centric economy, Washington allocates a mere 0.5% of GDP on transportation infrastructure—lagging far behind Japan, Australia and China, who spend ten times as much *(Display 3)*. Unlike other advanced economies where central governments primarily fund infrastructure, the U.S. has historically relied on state and local governments. Only recently has there been a pickup in federal

DISPLAY 2

Past Energy Transitions: Diffusion to Dominance Is a Long Road

Years for past energy transitions to achieve dominance

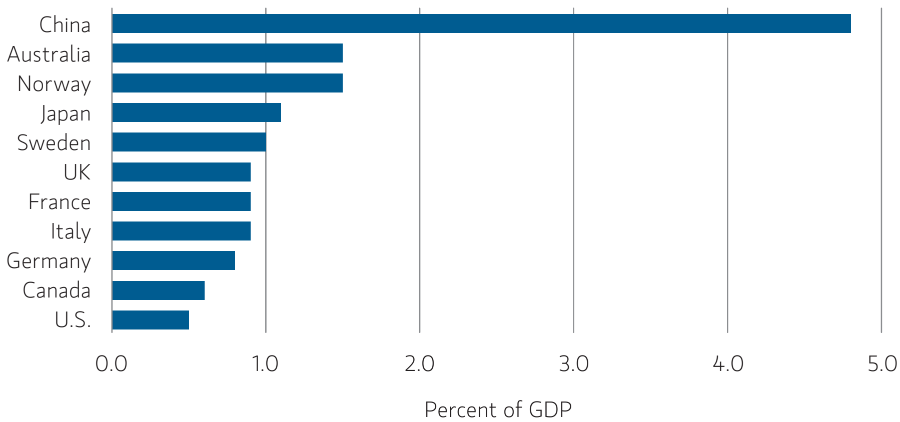


Source: MSIM EME Research, Fouquet.

DISPLAY 3

The U.S. Underinvests in Infrastructure

Inland infrastructure investment as a percentage of GDP



Source: MSIM EME Research, BEA, Congressional Budget Office. As of December 2023.

[7] Bureau of Economic Analysis Data as of December 2022.

investments through President Biden's infrastructure spending bill and the Inflation Reduction Act, a trend that we think should continue.

The graying of infrastructure incurs a hefty economic cost. More than a third of U.S. bridges need repairs. Major urban centers face over six hours of daily traffic jams, costing about $160 billion annually.[8] Outdated plants hamper energy efficiency, lack modern facilities and impede productivity, leading to longer turnover for repair and replacement of equipment.

Public infrastructure spending is a potent economic driver, with a multiplier effect ranging from 1.5x to 2.8x. Notably, academic studies suggest that for every $1 invested in U.S. interstate highways, the economy generated $6 in economic output.[9] Infrastructure spending, known for enhancing productivity and being less inflationary, has a greater long-term impact than other forms of government expenditures, like taxes and transfers.

The aging of infrastructure presents both public and private capex opportunities in industrials and construction. There is a pressing need for a hefty dose of Botox for U.S. roads, tunnels and bridges.

6. The AI Playbook

Not long ago, the buzz was all about the metaverse and blockchain. Now the spotlight has shifted to AI, the fastest-adopted technology we have ever seen. AI should follow the classic S-curve of innovation—a slow initiation, swift acceleration and eventual plateau. AI's capital cycle will look a lot like previous technologies. Capital investment chases high returns and as this investment spurs competition via new entrants, innovation flourishes and eventually costs drop, encouraging widespread adoption.

Having seen generative AI's capabilities, many fear AI could become too powerful or uncontrollable. These fears about technology are nothing new. Few today remember books published in the 1970s warning of the risks of widespread use of databases. Forty years later, nearly every big company uses databases for everyday use. Similarly, personal computers, internet providers, mobile phones and robots all eventually became commoditized. AI buzz will eventually turn to boredom. Last year, more than a quarter of U.S. venture capital funding went to AI startups and shares of publicly listed AI companies are soaring. We believe more players and competition will eventually lead to commoditization and lower returns.

There are early signs that the competitive advantage of larger players in the AI value chain is fraying as rivals are finding ways to innovate around incumbents. Barriers to create large language models (LLMs) are coming down. Some companies have taken on OpenAI, the company behind ChatGPT, by adopting open-source tools, such as Meta's Llama, allowing anyone to view the source code and methodologies to develop AI products more cheaply. The trend of splintering is emerging as companies seek to develop their own LLMs to maintain control over their own data, rather than share.

Top technology firms in the U.S. are investing in building their own chips to reduce dependence on major chipmakers. Incumbent semiconductor companies like Advanced Micro Devices (AMD) have announced new chips to compete with Nvidia while even custom AI chip designers are gaining traction in the Graphics Processing Unit market.

This is not to say AI won't create immense value. AI will be tailored as a service to address specific needs in areas like healthcare, cybersecurity, e-commerce, digital advertising and online learning. While the early investment opportunities have been in cloud players and semiconductors, new investment opportunities may lie beyond these industries, with firms that further shift the world to the new AI computing platform, redefining industry standards with AI-first business models.

7. Widen the Investment Net

Last year, U.S. markets climbed 27%, driven predominantly by the Magnificent 7 companies: Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia and Tesla. Excluding these seven, U.S. stocks were up 10%.

We believe opportunities in an equal-weighted index beyond mega-cap companies can lead to more diversified returns. There are interesting opportunities in industrials, energy, select financials and companies using AI to enhance efficiencies. Valuation spreads in the U.S. currently stand in neutral territory, diminishing the value versus growth argument. Value strategies work when there is a significant difference between the cheapest and most expensive stocks.

The U.S. dollar (USD) has likely peaked, as the Federal Reserve pauses its tightening cycle amid slower U.S. economic growth and tighter financial conditions. A weaker USD historically correlates with strong international equities performance.

[8] Texas A&M Transportation Institute, Council of Economic Advisers (White House) Calculations
[9] Cox, Wendall; Jean, Lice (June 1996)- "40 Years of the US Interstate Highway System: An Analysis- The Best Investment a Nation Ever Made"

European economies, where a downturn has largely been priced in, are poised for a recovery. The high savings rate, undervalued euro, coupled with expectations of contained inflation and potential interest rate cuts, positions Europe as an attractive and undervalued asset.

Japan is experiencing positive inflation after 30 years, which should benefit its debt situation. Sustainable corporate reforms, companies engaging in share buybacks and reducing cross holdings, and a strong yen favor Japanese equities in sectors like industrials, technology and consumer discretionary.

EM ex China is a heterogenous asset class and offers compelling prospects driven by enhanced relative growth, improved fiscal and current accounts, reduced USD debt and undervalued currencies.

Looking back to past decades, each era had a dominant investment theme. Key winners of past decades rarely repeat, emphasizing the importance of widening the investment net to capture future rising stars.

8. An Emerging Evolution

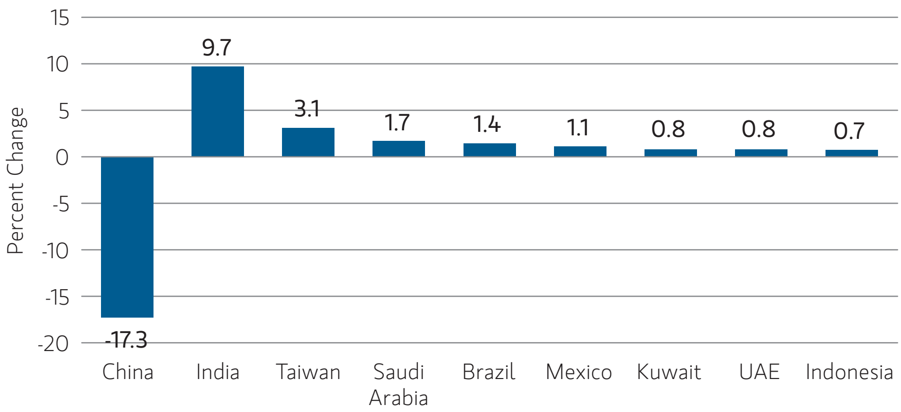
Emerging markets (EM) closed 2023 with a +10% return in dollar terms, rebounding from a 20% decline in the prior year. Yet the headline numbers mask significant divergences. Excluding China, the Index is up 20% while China marked its third consecutive year of decline, falling 11%. Nine of the 24 EM countries outperformed U.S. equities, including Hungary, Poland, Greece, Mexico, Brazil and Taiwan.

A shift is underway in the MSCI EM Index composition *(Display 4)*. China's weight peaked at 43% in October 2020, falling to 26% today, with further declines expected as its economy grapples with slowing growth amid ongoing property sector woes. China's reduced weight paves the way for increased representation from secular growth stories like India, and fundamentally strong stories in Southeast Asia and Latin America.

DISPLAY 4

A Shift Is Underway in the MSCI Emerging Market Index Composition

Change in country weights in the MSCI EM Index since 2020



Source: MSIM, MSCI EM Index. As of December 31, 2023. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

EM equities ex China should continue to benefit from favorable growth differentials, lower leverage relative to developed markets, a stronger adherence to monetary and fiscal orthodoxy and cheap currencies. EM companies are increasingly refinancing their dollar-denominated debt locally, reducing external financing vulnerabilities.

Key themes include supply chain diversification, digitization and commodity tailwinds. EM economies, including China, play a critical role in global electrification and decarbonization, providing 73% of the world's supply of graphite, 60% of rare earth minerals, over 70% of solar and wind capacity and 70% of EV batteries.

We believe active investment management in EM remains essential, as demonstrated by the consistent outperformance of actively managed funds compared to the largest ETFs over various timeframes.[10] Passive investors relying on past winners may miss opportunities in countries like India, Indonesia, Mexico, Poland, the Middle East and South Africa, in addition to diversified sectors like financials, consumer, manufacturing and semiconductors.

9. Decoding China

Over three decades, China's investment-driven growth significantly increased GDP per capita. However, it also led to the financing of unproductive assets and an overinvestment in real estate. Local governments, the driving force behind this economic boom, now struggle under the weight of approximately $10 trillion of total debt (55% of GDP), with approximately 15% in short-duration, non-performing loans. To address this debt burden, Chinese authorities are likely to resort to rollovers, divestments and transfers from local to state-owned entities, dragging down productivity and growth, essentially "kicking the can down the road."

[10] Morningstar, iShares. Data based on the median net excess return of actively-managed mutual funds in the Morningstar Diversified Emerging Markets universe versus the net excess return of the iShares MSCI Emerging Markets ETF.

China is constrained on the magnitude of stimulus it can provide. Mounting government debt restricts fiscal flexibility, while the risk of RMB (Chinese Yuan) depreciation curtails further monetary cuts. Fiscal and monetary policy impulses no longer stimulate private sector animal spirits compared to the past. Transitioning from an investment-led to a consumption-led model implies slower growth, while a domestic liquidity infusion by Beijing to meet growth targets further adds to indebtedness. Government meddling—including tighter controls on household and business remittances, fundraising restrictions, import quotas, tourism bans and outward foreign direct investment reviews—will weigh on the risk premium of Chinese assets.

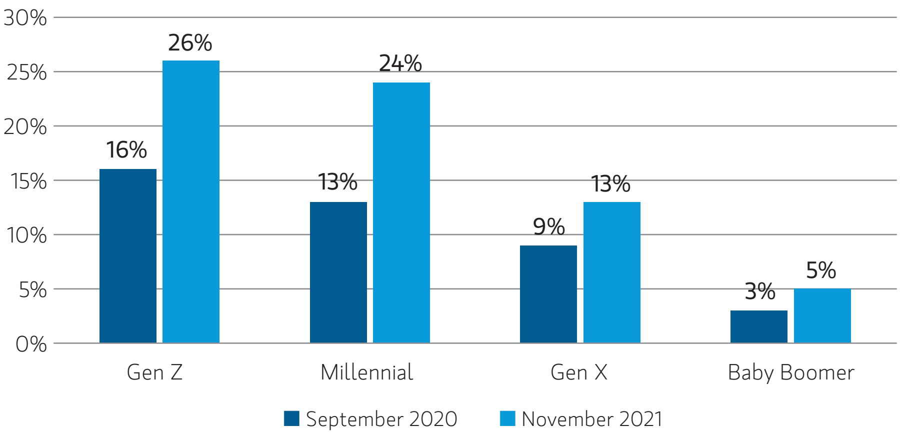
Despite U.S. efforts to limit China's access to advanced semiconductors, Beijing has adeptly employed foreign shell companies, developed in-house engineering capabilities and created innovative chiplet technology to bypass Washington's restrictions. These "restricted" chips are pricier, but not as scarce as the U.S. would prefer. The conflict over advanced chips is just one aspect of the broader contest for tech leadership. While the U.S. leads in AI, advanced semiconductors, quantum computing, space launch systems and video games, China excels in 5G technology, green energy and EVs.

Platform companies, the winners of the last decade, are likely to prioritize government interests over maximizing shareholder returns. Investable opportunities lie in semiconductors, AI, quantum computing, green tech, biotech and high-end-manufacturing. These constitute less than a third of the MSCI China Index.

DISPLAY 5

We Have More Four-Legged Friends Than Ever Before

Pet ownership per generation



Source: APPA, Statista. As of November 30, 2021.

10. Not a Petty Pet Economy

While the world experiences a baby bust with falling birth rates, a pet boom is in full swing—in fact, babies seem to be taking a back seat to our four-legged companions. Since 1980, the global fertility rate has dropped 38%, with Millennials leading the decline by choosing to have children later or opting out of parenthood entirely. Estimates show that over half of the global population owns a pet, with 66% of U.S. households having a dog, cat or both. Nearly a fifth of these are "pandemic pets," welcomed into the family during COVID-19 *(Display 5)*.

This surge in ownership has given rise to the pet economy, involving caring for, pampering and spending on our furry friends. Some surveys show that Millennials are buying homes with backyards to enhance their pet's quality of life. The humanization of pets is a global trend with increasing ownership and strong growth in pet care expenditures in many markets such as Chile, Brazil, Korea and Poland.

The global pet food industry is estimated to be $120 billion, approximately one and a half times the size of the global baby food market—a tail-wagging boom that shows no signs of stopping. The U.S. premium pet food market, with a shift from table scraps to quality food, is expected to reach $12 billion by 2027, a 300% jump from 2011. There are even dedicated restaurants for dogs offering Alaskan salmon with steamed rice paired with nonalcoholic "beer" made of pork broth.

And what do our pets wear for such a feast? Gucci and Moncler have created $500 designer jackets for dogs, while Louis Vuitton is marketing $3,500 pet travel bags. The dog clothing and accessories market is currently valued at $11 billion globally and growing.

Post-pandemic, pets have become a workplace topic as more companies embrace pet-friendly policies to encourage employees to return to the office. Big name companies like Amazon and Google offer dog parks and treats at the office, while others have introduced "pawternity" leave for pet parents.

While younger generations delay or forgo traditional milestones, like marriage and children, the pet industry is fetching, sitting and staying better than ever.

Risk Considerations

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market values of securities owned by the portfolio will decline and that the value of portfolio shares may therefore be less than what you paid for them. **Asset allocation/Diversification** does not protect you against a loss in a particular market; however it allows you to spread that risk across various asset classes. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing. In general, **equities securities'** values also fluctuate in response to activities specific to a company. Investments in **foreign markets** entail special risks such as currency, political, economic, market and liquidity risks. The risks of investing in **emerging market countries** are greater than the risks generally associated with investments in foreign developed countries. Stocks of **small-capitalization companies** entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies. The **commodities markets** may fluctuate widely based on a variety of factors. These include changes in overall market movements, domestic and foreign political and economic events and policies, war, acts of terrorism, changes in domestic or foreign interest rates and/or investor expectations concerning interest rates, domestic and foreign inflation rates and/or investor expectations concerning inflation rates and investment and trading activities of mutual funds, hedge funds and commodities funds.

INDEX DEFINITIONS

The **S&P 500 Total Return Index** is an index that consists of 500 stocks chosen for market size, liquidity and industry group representation. The S&P Index is a market value weighted index with each stock's weight proportionate to its market value. The S&P Index is one of the most widely used benchmarks of U.S. equity performance. The performance of the S&P Index does not account for any management fees, incentive compensation, commissions or other expenses that would be incurred pursuing such strategy. Total return provides investors with a price-plus-gross cash dividend return. Gross cash dividends are applied on the ex-date of the dividend.

The **MSCI China Index** captures large and mid-cap representation across China A-shares, B-shares, H-shares, Red-chips and P-chips. It reflects the Mainland China and Hong Kong opportunity set from an international investor's perspective

The **MSCI Emerging Markets Index (MSCI EM)** is a free float-adjusted market capitalization weighted index that is designed to measure equity market performance of emerging markets.

The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

IMPORTANT DISCLOSURES

Past performance is no guarantee of future results. The returns referred to herein are those of representative indices and are not meant to depict the performance of a specific investment.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market.

A separately managed account may not be appropriate for all investors. Separate accounts managed according to the particular Strategy may include securities that may not necessarily track the performance of a particular index. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required.

For important information about the investment managers, please refer to Form ADV Part 2.

The views and opinions and/or analysis expressed are those of the author or the investment team as of the date of preparation of this material and are subject to change at any time without notice due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication. The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively "the Firm"), and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or the investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources.

This material is a general communication, which is not impartial and all information provided has been prepared solely for informational and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The information herein has not been based on a consideration of any individual investor circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

The indexes are unmanaged and do not include any expenses, fees or sales charges. It is not possible to invest directly in an index. Any index referred to herein is the intellectual property (including registered trademarks) of the applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

This material is not a product of Morgan Stanley's Research Department and should not be regarded as a research material or a recommendation.

The Firm has not authorised financial intermediaries to use and to distribute this material, unless such use and distribution is made in accordance with applicable law and regulation. Additionally, financial intermediaries are required to satisfy themselves that the information in this material is appropriate for any person to whom they provide this material in view of that person's circumstances and purpose. The Firm shall not be liable for, and accepts no liability for, the use or misuse of this material by any such financial intermediary.

This material may be translated into other languages. Where such a translation is made this English version remains definitive. If there are any discrepancies between the English version and any version of this material in another language, the English version shall prevail.

Eaton Vance is part of Morgan Stanley Investment Management. Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

DISTRIBUTION

This material is only intended for and will only be distributed to persons resident in jurisdictions where such distribution or availability would not be contrary to local laws or regulations.

MSIM, the asset management division of Morgan Stanley (NYSE: MS), and its affiliates have arrangements in place to market each other's products and services. Each MSIM affiliate is regulated as appropriate in the jurisdiction it operates. MSIM's affiliates are: Eaton Vance Management (International) Limited, Eaton Vance Advisers International Ltd, Calvert Research and Management, Eaton Vance Management, Parametric Portfolio Associates LLC and Atlanta Capital Management LLC.

This material has been issued by any one or more of the following entities:

EMEA:

This material is for Professional Clients/Accredited Investors only.

In the EU, MSIM and Eaton Vance materials are issued by MSIM Fund Management (Ireland) Limited ("FMIL"). FMIL is regulated by the Central Bank of Ireland and is incorporated in Ireland as a private company limited by shares with company registration number 616661 and has its registered address at 24-26 City Quay, Dublin 2, DO2 NY19, Ireland.

Outside the EU, MSIM materials are issued by Morgan Stanley Investment Management Limited (MSIM Ltd) is authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 1981121. Registered Office: 25 Cabot Square, Canary Wharf, London E14 4QA.

In Switzerland, MSIM materials are issued by Morgan Stanley & Co. International plc, London (Zurich Branch) Authorised and regulated by the Eidgenössische Finanzmarktaufsicht ("FINMA"). Registered Office: Beethovenstrasse 33, 8002 Zurich, Switzerland.

Outside the US and EU, Eaton Vance materials are issued by Eaton Vance Management (International) Limited ("EVMI") 125 Old Broad Street, London, EC2N 1AR, UK, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority.

Italy: MSIM FMIL (Milan Branch), (Sede Secondaria di Milano) Palazzo Serbelloni Corso Venezia, 16 20121 Milano, Italy. The **Netherlands**: MSIM FMIL (Amsterdam Branch), Rembrandt Tower, 11th Floor Amstelplein 1 1096HA, Netherlands. **France**: MSIM FMIL (Paris Branch), 61 rue de Monceau 75008 Paris, France. **Spain**: MSIM FMIL (Madrid Branch), Calle Serrano 55, 28006, Madrid, Spain. **Germany**: MSIM FMIL, Frankfurt Branch, Grosse Gallusstrasse 18, 60312 Frankfurt am Main, Germany (Gattung: Zweigniederlassung (FDI) gem. § 53b KWG). **Denmark**: MSIM FMIL (Copenhagen Branch), Gorrissen Federspiel, Axel Towers, Axeltorv2, 1609 Copenhagen V, Denmark.

MIDDLE EAST:

Dubai: MSIM Ltd (Representative Office, Unit Precinct 3-7th Floor-Unit 701 and 702, Level 7, Gate Precinct Building 3, Dubai International Financial Centre, Dubai, 506501, United Arab Emirates. Telephone: +97 (0)14 709 7158).

This document is distributed in the Dubai International Financial Centre by Morgan Stanley Investment Management Limited (Representative Office), an entity regulated by the Dubai Financial Services Authority (DFSA). It is intended for use by professional clients and market counterparties only. This document is not intended for distribution to retail clients, and retail clients should not act upon the information contained in this document.

This document relates to a financial product which is not subject to any form of regulation or approval by the DFSA. The DFSA has no responsibility for reviewing or verifying any documents in connection with this financial product. Accordingly, the DFSA has not approved this document or any other associated documents nor taken any steps to verify the information set out in this document, and has no responsibility for it. The financial product to which this document relates may be illiquid and/or subject to restrictions on its resale or transfer. Prospective purchasers should conduct their own due diligence on the financial product. If you do not understand the contents of this document, you should consult an authorised financial adviser.

U.S.: NOT FDIC INSURED | OFFER NO BANK GUARANTEE | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A DEPOSIT

Latin America (Brazil, Chile Colombia, Mexico, Peru, and Uruguay)

This material is for use with an institutional investor or a qualified investor only. All information contained herein is confidential and is for the exclusive use and review of the intended addressee, and may not be passed on to any third party. This material is provided for informational purposes only and does not constitute a public offering, solicitation or recommendation to buy or sell for any product, service, security and/or strategy. A decision to invest should only be made after reading the strategy documentation and conducting in-depth and independent due diligence.

ASIA PACIFIC

Hong Kong: This material is disseminated by Morgan Stanley Asia Limited for use in Hong Kong and shall only be made available to "professional investors" as defined under the Securities and Futures Ordinance of Hong Kong (Cap 571). The contents of this material have not been reviewed nor approved by any regulatory authority including the Securities and Futures Commission in Hong Kong. Accordingly, save where an exemption is available under the relevant law, this material shall not be issued, circulated, distributed, directed at, or made available to, the public in Hong Kong. **Singapore**: This material is disseminated by Morgan Stanley Investment Management Company and should not be considered to be the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under section 304 of the Securities and Futures Act, Chapter 289 of Singapore ("SFA"); (ii) to a "relevant person" (which includes an accredited investor) pursuant to section 305 of the SFA, and such distribution is in accordance with the conditions specified in section 305 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. This publication has not been reviewed by the Monetary Authority of Singapore. **Australia**: This material is provided by Morgan Stanley Investment Management (Australia) Pty Ltd ABN 22122040037, AFSL No. 314182 and its affiliates and does not constitute an offer of interests. Morgan Stanley Investment Management (Australia) Pty Limited arranges for MSIM affiliates to provide financial services to Australian wholesale clients. Interests will only be offered in circumstances under which no disclosure is required under the Corporations Act 2001 (Cth) (the "Corporations Act"). Any offer of interests will not purport to be an offer of interests in circumstances under which disclosure is required under the Corporations Act and will only be made to persons who qualify as a "wholesale client" (as defined in the Corporations Act). This material will not be lodged with the Australian Securities and Investments Commission.

Japan: For professional investors, this material is circulated or distributed for informational purposes only. For those who are not professional investors, this material is provided in relation to Morgan Stanley Investment Management (Japan) Co., Ltd. ("MSIMJ")'s business with respect to discretionary investment management agreements ("IMA") and investment advisory agreements ("IAA"). This is not for the purpose of a recommendation or solicitation of transactions or offers any particular financial instruments. Under an IMA, with respect to management of assets of a client, the client prescribes basic management policies in advance and commissions MSIMJ to make all investment decisions based on an analysis of the value, etc. of the securities, and MSIMJ accepts such commission. The client shall delegate to MSIMJ the authorities necessary for making investment. MSIMJ exercises the delegated authorities based on investment decisions of MSIMJ, and the client shall not make individual instructions. All investment profits and losses belong to the clients; principal is not guaranteed. Please consider the investment objectives and nature of risks before investing. As an investment advisory fee for an IAA or an IMA, the amount of assets subject to the contract multiplied by a certain rate (the upper limit is 2.20% per annum (including tax)) shall be incurred in proportion to the contract period. For some strategies, a contingency fee may be incurred in addition to the fee mentioned above. Indirect charges also may be incurred, such as brokerage commissions for incorporated securities. Since these charges and expenses are different depending on a contract and other factors, MSIMJ cannot present the rates, upper limits, etc. in advance. All clients should read the Documents Provided Prior to the Conclusion of a Contract carefully before executing an agreement. This material is disseminated in Japan by MSIMJ, Registered No. 410 (Director of Kanto Local Finance Bureau (Financial Instruments Firms)), Membership: the Japan Securities Dealers Association, The Investment Trusts Association, Japan, the Japan Investment Advisers Association and the Type II Financial Instruments Firms Association.

morganstanley.com/im