2024 Thematic Outlook

Three key themes to get investors off the sidelines

KEY TAKEAWAYS

1

Artificial intelligence (AI): From concept to commercialization

The AI trade is just beginning, with enterprise AI adoption, accelerated computing, and cutting-edge hardware set to take centre stage in 2024.

2

A new era for medical innovation

Attractive valuations, the potential for breakthroughs in neuroscience and AI-driven healthcare could present an attractive entry point.

3

The rewiring of globalization

Heightened geopolitical fragmentation is driving a doubling down on supply chain reorientation that is creating geographic winners and losers in emerging markets.

A higher bar

In today's era of heightened market volatility and "short-termism," long-term structural trends with near-term catalysts could prove a defining edge in generating outperformance. Macroeconomic uncertainty has triggered sentiment swings, resulting in rotations along factor, sector and country lines. Some sectors are being discounted without proper recognition of firms leading innovation or driving structural change. The market's underappreciation of nuance is exaggerated by tight liquidity, amplifying up and down market moves.

An uncertain backdrop does not mean a dearth of opportunity. We believe ongoing macro volatility could translate into divergence in security performance. We saw a similar phenomenon in 2023 – that AI would outperform broader technology.

There is US$6 trillion in Canada and the U.S. sitting in cash on the sidelines given record high short-term rates.[1] This has kept many investors out of equities. However, we see pockets of the market – specific themes – where capturing divergence could be rewarded relative to cash and other assets. Benefitting from this requires granularity and nimbleness. Investors need to demand greater compensation for taking on equity risk; they can meet this higher bar by getting precise about targeted opportunities.

We focus our 2024 outlook on: the growth of AI; medical innovations being overlooked given low current revenue; and countries – such as Mexico and India – that could benefit from the rewiring of globalization.

## Artificial intelligence: From concept to commercialization

2023 was the year AI exploded onto the scene, but we believe AI adoption is just beginning. In the coming year, enterprise AI adoption and product integration will leap forward; multi-modal AI will move closer to reality; and hardware opportunities will grow to expand beyond graphics processing units (GPUs).

70% of executives will increase AI resourcing in 2024, with cost savings a major driver of adoption.[2] Examples include analyzing legal briefs, automating repetitive tasks such as healthcare paperwork, and handling customer service. In the medium-term, we foresee AI driving incremental revenues by being embedded into existing products. There are already glimpses of this, like Microsoft Office 365 Copilot.

Cost savings is a major driver of corporate AI implementation strategies
Survey results: What is the biggest driver of corporate AI implementation strategies?

- ■ Cost savings
- ■ New revenue streams
- ■ Transformation
- ■ No strategy
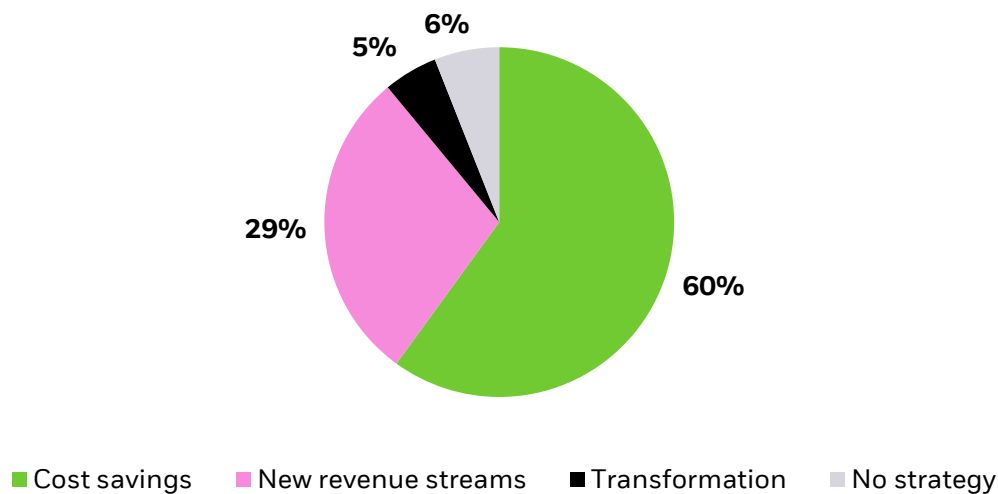
Source: Bank of America, "AI Evolution: Reality Justifies the Hype" 10/11/2023. Based on survey responses from 114 fundamental equity analysts.

We believe the vast majority of capital expenditures in 2024 will be dedicated to accelerated computing, the use of specialized hardware that speeds up processing - often with parallel processing that bundles frequently occurring tasks. Graphics processing units (GPUs) are the most widely used accelerators. Accelerated computing is fast, cost effective and energy efficient. A single GPU node could outperform a 16-node central processing unit (CPU) cluster by 33%, while slashing computing costs by 70%.[3] GPUs also deliver 42 times the energy efficiency for AI inference vs. CPUs.[4]

We are already seeing examples of multi-modal AI – generative AI that can operate in multiple dimensions such as text, sound, video and more all at once – with users of ChatGPT able to not just communicate with the model via text but also upload images and voice prompts. More modalities are coming, such as the ability to generate high quality three-dimensional models from textual descriptions or even entire video games and films.

AI is even transforming investing. Jeff Shen, Co-CIO and Co-Head of Systematic Active Equity at BlackRock, shared: "Artificial intelligence is both a potential space to allocate capital and a novel tool for investing. AI can be used across unstructured textual data to extract investment insights or be deployed at the portfolio level to optimize signal combinations for targeted investment outcomes. Looking ahead, we view the AI-empowered investor who blends 'big' data and 'big' models with human insight as the future of asset management."

The next frontier for generative AI is inference, where AI models generate unique outputs based on new inputs. Inference focuses on applying learned knowledge quickly and efficiently. It is the difference between learning how to do new math problems in class (*training*) versus completing a worksheet of math problems that you can work through yourself to solve (*inference*). While GPUs are instrumental in training AI models, they are not the most efficient choice for inference. CPUs play the more critical role, as will application-specific integrated circuits (ASICs). Networking hardware is also crucial for faster data transfer between servers running GenAI models and devices, as are power management chips for energy efficiency. High performance solid-state drives (SSDs) will also be increasingly important in the AI stack. As a result, we see performance widening out from a primary focus on GPU makers, to a broader range of semiconductor and hardware firms.

AI systems will increasingly rely on enterprise and personal data. Fortifying digital defenses has therefore become increasingly important. AI could be a potent tool in protecting itself. Machine learning algorithms can analyze vast datasets to identify anomalies and potential security breaches in real-time. And AI-driven threat detection can recognize malicious patterns that human analysts might miss.

2023 saw the market crown mega-cap tech as the "AI winners", with the "Magnificent Seven" returning an average of 81% year-to-date (YTD).[5] This is far beyond the NYSE FactSet Global Robotics and AI Index up 13% YTD.[6] This may leave room to run for investors looking to capture enterprise and product adoption, multi-modal advancements and expanded hardware opportunities. We believe that small and mid-cap companies could be sought out in the new year as investors look for AI plays that appear to have attractive valuations. And those current valuations remain reasonable, with the NYSE FactSet Global Robotics and AI Index trading at a price-to-earnings (P/E) of 19.7, less than the S&P 500 Information Technology Index multiple of 29.0.[7] A price-to-earnings ratio is a valuation metric that measures the relationship between a company's stock price and earnings per share (EPS). In other words, many of the artificial intelligence stocks beyond the few already anointed "magnificent" are undervalued relative to mega caps and the broader technology sector.
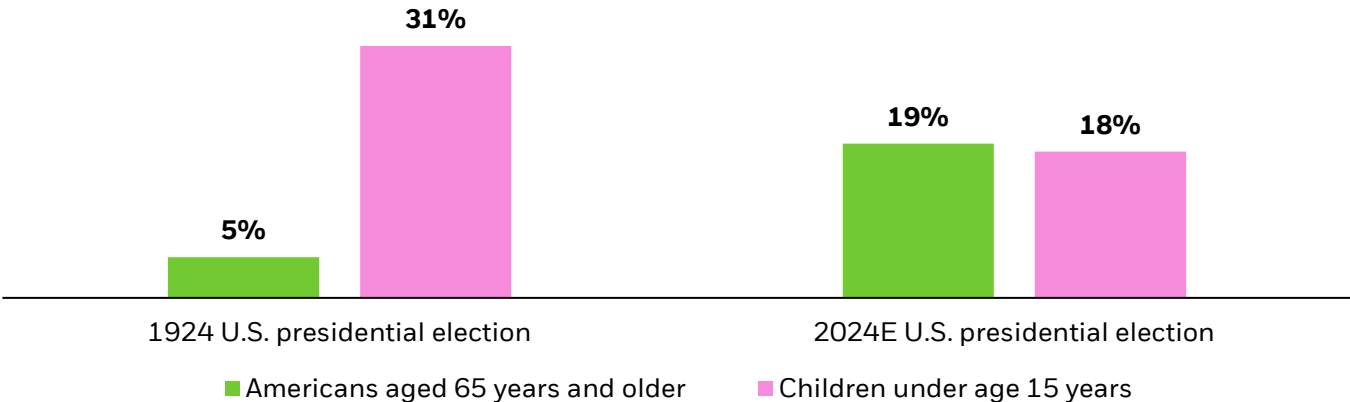
A new era for medical innovation

Recent breakthroughs in treatments for Alzheimer's, coupled with AI-driven healthcare and medical tech advancements, could be poised to revolutionize medicine. Investors could be missing out on neuroscience and biotech opportunities by overemphasizing current revenue and ignoring the one-two punch of innovation alongside compelling valuations.

US demographics are at an inflection point as they hit "peak 65" – the largest number of people ever reaching traditional retirement age[8] – and the "Historical Reversal" - wherein the proportion of Americans aged 65 and older exceeds children under 15 for the first time.[9]

The greatest surge of new retirees in American history is fast approaching

Proportion of Americans aged 65+ vs. those aged 15 during 1924 and 2024 U.S. presidential elections

Bar chart:
- 1924 U.S. presidential election: Americans aged 65 years and older 5%, Children under age 15 years 31%
- 2024E U.S. presidential election: Americans aged 65 years and older 19%, Children under age 15 years 18%

Legend: ■ Americans aged 65 years and older ■ Children under age 15 years

Source: The Hill, "2024: The Historic Reversal of America's population," 05/20/21.

As the 65-plus aged population grows, so too will the number of Americans experiencing age-related diseases: longer, healthier lives are an amazing win for society but also bring greater prevalence of age-related diseases, such as dementia and cancers. At the same time, progress in the battle against obesity will likely lead to longer lives still.

In 2023, one in nine older Americans faces Alzheimer's and this number is set to double.[10] Lecanemab, fully approved in July 2023, is the first medication to slow Alzheimer's.[11] Meanwhile, donanemab, another Alzheimer's drug, has shown remarkable progress in Phase 3 trials by driving 60% reduction in early-stage Alzheimer's progression.[12] With analysts anticipating huge sales of both drugs, more treatments are being accelerated and entering trials in order to reach the market as soon as 2024.

Advancements in obesity treatments are also underway. Dr. Erin Xie, head of the Health Sciences team in BlackRock's Active Equity Group, shared that in treating obesity "decades of genomics research are now paying off, leading to a deeper understanding of the root causes of diseases as well as a new wave of medicine." New therapies that promote weight loss could add over US$100 billion of revenue to the US$1.5 trillion prescription drug market, according to our analysis.[13]

Neuroscience, genomics and broader biotech are set to be big winners in adopting AI. AI models will sift through enormous volumes of health data – such as clinical studies, brain mapping and genetic information – and analyze it much faster than humans. The AI healthcare market, worth US$9 billion in 2022, is forecasted to skyrocket to US$188 billion in 2031.[14]

1. **Brain and gene mapping:** Scientists just used AI to map a fruit fly's brain with 150,000 neurons, the first complete brain map ever created for any adult animal.[15] AI is accelerating neural pathway tracing processes by 50 to 100 times.[16] Scientists are finally able to map the 200 billion cells and 86 billion branching neurons in the human brain, creating detailed cell atlases.[17] And we are rapidly improving understanding of a wide range of neurodegenerative, neurotraumatic neuropsychiatric conditions in ways that will lead to far better diagnosis and treatment.

2. **Drug Discovery**: Bringing a new drug to market, factoring in failures, currently costs about US$2.5 billion.[18] The process takes 12 to 15 years on average, with a 35% likelihood of discovering a new drug and a 9% to 14% success rate for regulatory approval post Phase 1 trials.[19] By 2025, over 30% of new drugs are expected to be discovered using generative AI techniques, potentially saving biotech companies 25% to 50% in time and costs from discovery to preclinical stages.[20]

Applications of AI in healthcare
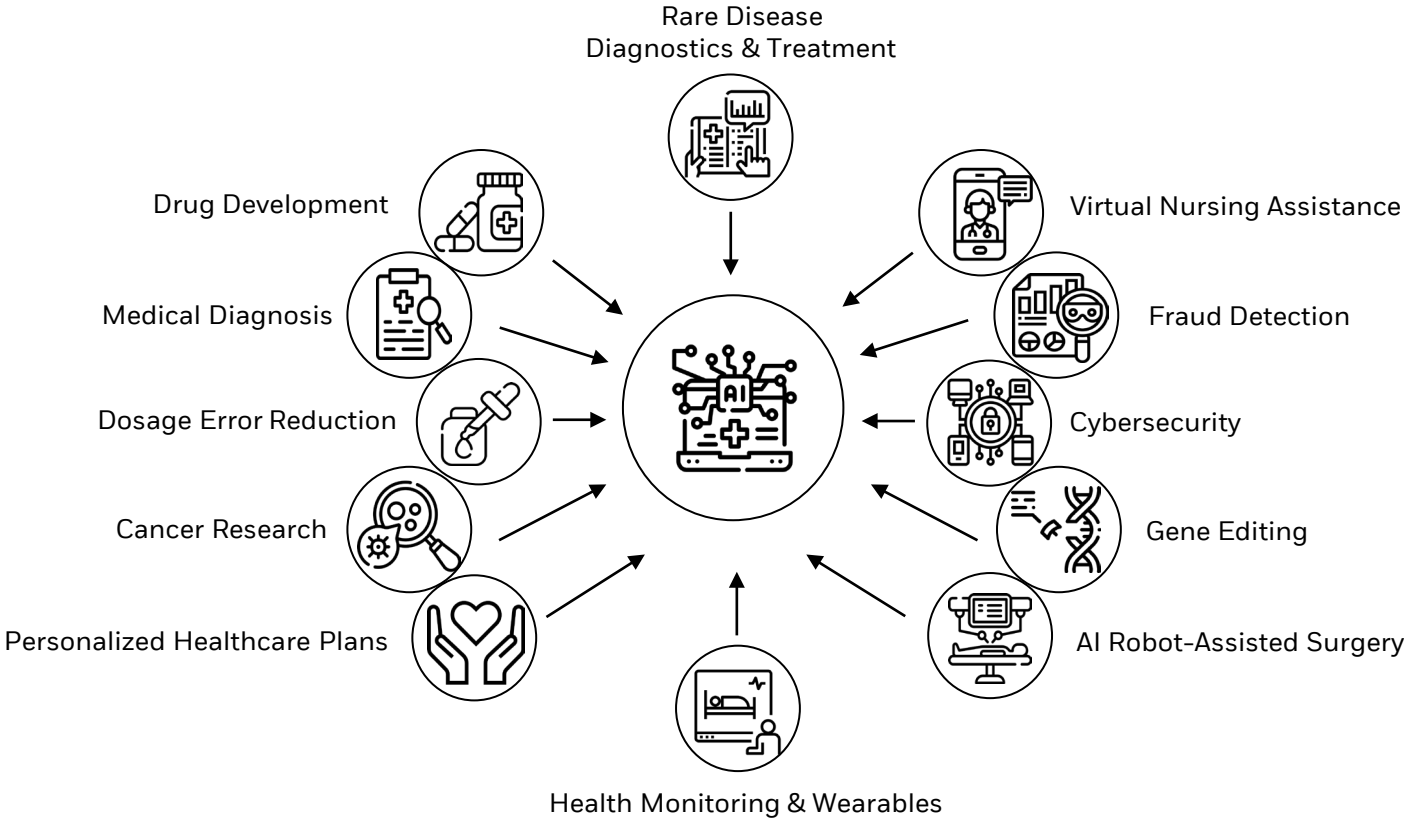
Source: World Economic Forum, "Scaling Smart Solutions with AI in Health: Unlocking Impact on High-Potential Use Cases," June 2023. Research and definitions summarized by BlackRock. For Illustrative Purposes Only.

Healthcare stocks, especially those tied to medical innovation, suffered in 2023 due to a restrictive capital environment. This could present an appealing entry point for investors focused on breakthrough themes with low valuations.

The rewiring of globalization

In 2016, BlackRock identified the trends transforming the world – they spanned technology, demographics, climate and urbanization. In 2023, we formally added another that we have been closely monitoring and seeing build for some time: geopolitical fragmentation and economic competition.

Simply put, globalization – a foundational driver of markets for almost 80 years – is shifting meaningfully:

History's next chapter may not be as global as the last

History of globalization, 1870-2020
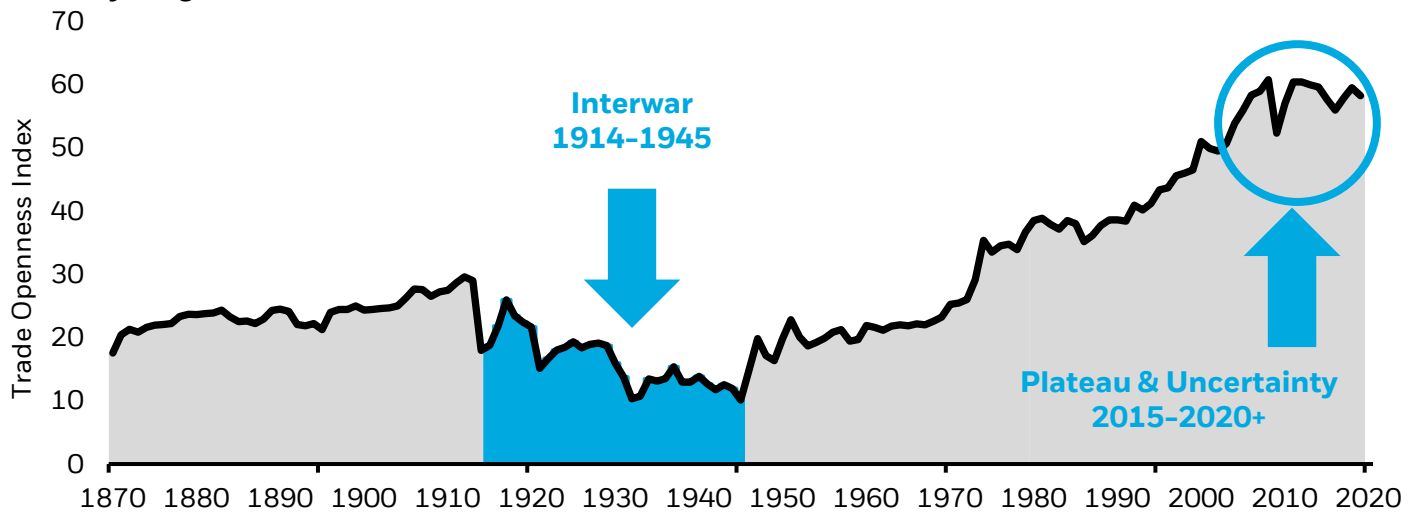
Source: BlackRock Investment Institute and U.S. Bureau of Economic Analysis, with data from Haver Analytics, November 2022. The chart represents globalization as the sum of world exports plus imports, divided by world GDP.

One consequence of trade rewiring is production moving to higher cost locales – not just to Canada, the U.S., Western Europe and Japan, but also "near" or "friendly" countries where costs are lower than developed markets but still higher than much of Asia. Linus Franngard, Senior Portfolio Manager in BlackRock Systematic team, noted that "pressure to prove reliability is leading U.S. companies to reevaluate global sourcing and customer access, particularly in critical areas like technology. While reshoring or nearshoring plans may be enacted over several years, stock price shocks will be felt far sooner."

Mexico is the paradigmatic example of near-shoring and friend-shoring: it shares a border with the U.S. and its lower cost of labour and skilled workforce make it attractive for firms bringing manufacturing closer to home. Mexico also benefits from the United States–Mexico–Canada Agreement (USMCA), a free-trade agreement that eliminates tariffs across North America. Counterintuitively, given that the movement of jobs to Mexico is a recent and accelerating phenomenon, Mexican equities are valued below historical averages over 1-year and 3-year periods and trading at a discount compared to broader emerging markets.[21]

Diversifying supply chains and deepening ties with partners, like Mexico

Survey results: Why is Mexico attractive as an investment destination?
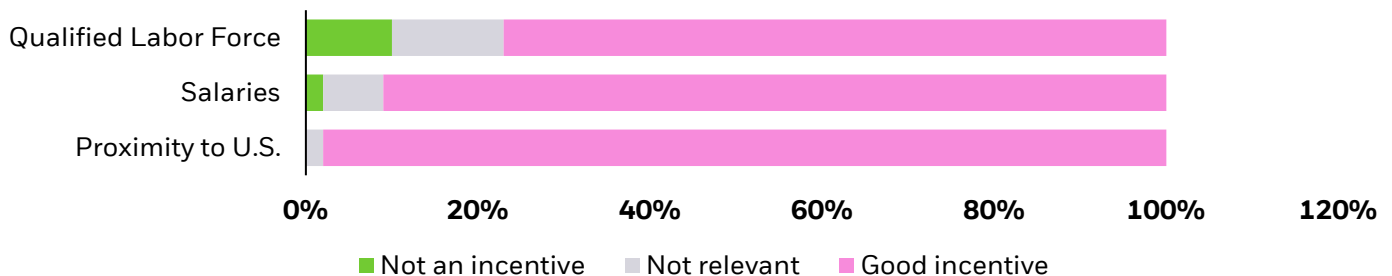
Source: Banxico, Bank of America, 10/25/22.

India is another beneficiary. As the world's fifth largest economy, India is focused on moving further up the league tables by playing a bigger role in global supply chains and manufacturing.[22] By the end of the decade, economists predict India will be the world's third-largest economy.[23] This surge in economic potential is underscored by over US$2 billion flowing into U.S.-listed India ETFs this year.[24]
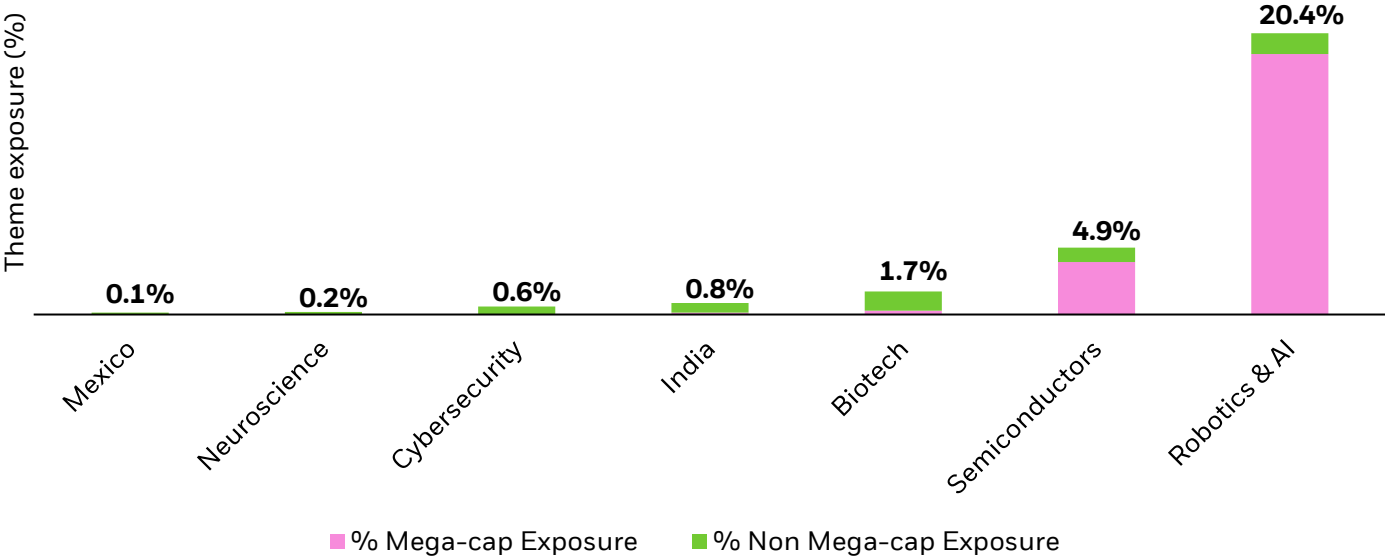
The list goes on – from Vietnam to Thailand, Indonesia, Brazil and beyond. These countries represent the bulk of emerging markets outside of China. Given that China makes up 30% of emerging markets (EM),[25] investors are increasingly segmenting EM exposures. China is not only large, but it also has its own opportunities, challenges and nuances. So, more and more, we are seeing investors take a modular approach that actually splits China and these other EM holdings. The approach of thinking about China, distinctly from other EM countries, allows investors to dial up and down their China-specific exposure accordingly.

Conclusion

The bar has been rightfully raised for choosing equities over cash but there are high growth themes to meet that hurdle. If investors want to capture them, they have to be intentional. The rise of the "Magnificent Seven" may lead some to believe they are already well exposed to thematic growth. However, this may not be the case. We analyzed a portfolio representative of US wealth investors' broad allocations to equities, based on a study of 21K portfolios over a 12-month trailing period. The analysis measures the average portfolio's weighting across different themes discussed in this outlook. The analysis measures the overlap between an existing portfolio and different thematic indices identified by BlackRock.

The chart below shows the theme exposure of the portfolio. The total theme exposure is broken down into two categories: mega-cap exposure (dilutive) and non mega-cap exposure (pure play). The results show low exposure to key themes, particularly when it comes to pure-play names, or companies that focus specifically on products or services related to a theme:

How much thematic exposure do you think you own?[26]

■ % Mega-cap Exposure   ■ % Non Mega-cap Exposure

Only 1.5% of the average robotics and AI allocation is coming from firms with high sensitivity to the theme; the rest comes from US-based, mega-cap firms in the technology and communication services sectors. In fact, no theme above has more than ~1.5% pure play exposure, and the average is <1%.

Thematic strategies are built using a tailored construction process to best capture each themes value chain. Owning a targeted basket of securities poised to benefit from the emergence of a theme can help investors capture thematic outperformance – even in a world where rates are higher for longer.

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Related funds

Artificial intelligence

XEXP   **iShares Exponential Technologies Index ETF**

XHAK   **iShares Cybersecurity and Tech Index ETF**

XCHP   **iShares Semiconductor Index ETF**

Medical innovation

XDNA   **iShares Genomics Immunology and Healthcare Index ETF**

Globalization rewired

XID   **iShares India Index ETF**

XEMC   **iShares MSCI Emerging Markets ex China Index ETF**

[1] Morningstar, as of 09/30/2023. Total sum of AUM of Morningstar money market fund categories in Canadian and U.S. mutual funds.

[2] Slalom, "AI's most powerful prompt," 10/10/23.

[3] Nvidia, "Saving Green: Accelerated Analytics Cuts Costs and Carbon," 08/28/2020.

[4] Nvidia, "What Is Accelerated Computing?," 09/01/2021.

[5] Morningstar, as of 10/31/2023. The average total return of the "Magnificent Seven" was 81%. The "Magnificent Seven" includes Microsoft Corp., Amazon.com Inc., Meta Platforms Inc., Apple Inc., Alphabet Inc., Nvidia Corp., and Tesla Inc. Past performance does not guarantee future results.

[6] Morningstar, total return as of 10/31/2023. A price-to-earnings ratio measures the relationship between a company's stock price and earnings per share (EPS). You cannot invest directly into an index.

[7] Morningstar, as of 10/31/23.

[8] Investor's Business Daily, "Baby Boomers Are Hitting Peak 65. What It Means For Retirement Planning," 08/10/2023.

[9] Inter Press Service News Agency, "The Historic Reversal of Populations," 08/08/2016.

[10] Alzheimer's Association, "Alzheimer's Disease Facts and Figures," 2023.

[11] Biogen, "FDA Grants Traditional Approval for LEQEMBI® (lecanemab-irmb) for the Treatment of Alzheimer's Disease," 07/06/2023.

[12] Alzheimer's Association, "Alzheimer's Association Statement on Donanemab Phase 3 Data Reported at AAIC 2023," 07/17/2023.

[13] BlackRock, "Diagnosis: Big opportunity in healthcare stocks," 07/27/2023.

[14] Statista, "Artificial intelligence (AI) in healthcare market size worldwide from 2021 to 2030," 09/28/2023.

[15] Fortune, "Scientists just used A.I. to map a fruit fly's brain. Here's why it's a 'turning point in neuroscience'," 07/08/2023.

[16] Fortune, "Scientists just used A.I. to map a fruit fly's brain. Here's why it's a 'turning point in neuroscience'," 07/08/2023.

[17] Drug Discovery and Development, "The Brain Knowledge Platform aims to illumine the brain's cellular universe," 06/10/2023.

[18] Morgan Stanley, "Why Artificial Intelligence Could Speed Drug Discovery," 09/09/2023.

[19] BCG and Wellcome, Unlocking the potential of AI in Drug Discovery," June 2023.

[20] Gartner, "Beyond ChatGPT: The Future of Generative AI for Enterprises," 01/26/2023. BCG and Wellcome, Unlocking the potential of AI in Drug Discovery," June 2023.

[21] Morningstar, as of 10/31/2023.

[22] World Economic Forum, "This chart shows the growth of India's economy," 09/26/2022.

[23] The Economic Times, "India set to be world's third-largest economy by 2030: S&P Global," 10/25/2023.

[24] Global Business Intelligence, Bloomberg, as of 10/31/23.

[25] Morningstar, as of 10/31/2023.

[26] BlackRock, Morningstar, BlackRock Portfolio Solutions. Starting Portfolio Theme Exposure breaks out the percentage overlap of the Starting Portfolio Allocation and respective megatrend product representative of its broader theme. Robotics & AI is represented by the NYSE FactSet Global Robotics and Artificial Intelligence Index. Semiconductors is represented by the NYSE Semiconductor Index. Neuroscience is represented by the NYSE FactSet Global Biopharm & MedTech Index. Biotech is represented by the NYSE Biotechnology Index. Cybersecurity is represented by the NYSE FactSet Global Cybersecurity Index. India is represented by the MSCI India Index. Mexico is represented by the MSCI Mexico IMI 25/50 Index. "Mega-cap" exposure is defined as companies (all Reg NMS domestic public companies) with market cap greater than $100B. "Smaller-cap" exposure defined as market cap below $100B.

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