

Global Investment Committee | August 2025

On the Markets

Ending the Pause(s)?

July was a sizzling month for US stocks, with the surge that began on April 9 with the 90-day “Liberation Day” tariff pause culminating in an all-time closing S&P 500 high of 6,389, nearly a 29% gain. For most of the month, investors celebrated a variety of factors: more resilient second quarter economic growth (with real GDP reported at 3%), fading tariff-linked inflation fears, better-than-expected earnings, especially among the “Magnificent Seven,” and passage of the One Big Beautiful Bill Act, which looked to bestow nearly \$120 billion in immediate cash tax cuts on the largest corporations.

Market buoyancy was further enhanced by a drop in equity and fixed income volatility, encouraging even more risk-on behavior—from repositioning of systematic and quantitative strategies to renewed speculative froth amid the return of meme stocks. These factors, along with expectations of an imminent end to the Fed’s policy pause, supported a “Goldilocks” narrative. Perhaps nothing signaled exuberance more than the historic initial public offering of a software stock that rose more than 300% on its first day of trading. The S&P 500 ended the month at a price/forward earnings ratio of approximately 22.7x, as expensive a valuation as ever. Concentration among the 10 largest stocks, furthermore, was back at January levels, with the skew between growth and value stocks, large caps and small caps, and cyclical and defensives extreme.

With this setup, on Aug. 1, across-the-board tariffs, which raised the effective rate to the 18%–20% range, were reinitiated just as weak July nonfarm payroll data was released. The combination suggested that the market would suddenly be dealing with the end of two pauses—one pertaining to the start of the post-tariff trade regime and one to the potential September start of a Fed easing campaign. While these events may ultimately prove inconsequential to the intermediate-term bullish narrative, we are at a seasonally weak juncture when investors often rethink their forecasts. With that in mind, we continue to stand on the side of prudence versus exuberance and are pursuing a maximally diversified portfolio. We want to acknowledge the importance of earnings realization and the idiosyncratic nature of Washington policies. Active stock picking is preferred. Portfolio defense and hedges remain attractive, and we recommend adding to real assets, gold, hedge funds and international/multinational names. ■

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GLOBAL ECONOMICS

Shadows in Late Summer?

Seth B. Carpenter, Chief Global Economist, Morgan Stanley & Co. LLC

The notion of a “Shadow Fed Chair” stirs discussions. Recent headlines on renewed criticism of Chair Powell fuel speculation over who the next Federal Reserve Chair will be and when the name will be released. How should investors think about the issue?

President Trump has been consistent in messaging a desire for the Fed to cut rates more. Market pricing, however, recently implied a rate of just over 3% at the end of next year. Through the end of Chair Powell’s term, as we have said before, we don’t see an immediate change in the Fed reaction function. We have said that Federal Open Market Committee (FOMC) dynamics will likely limit any changes, for at least a while beyond June. Perhaps that is why investors do not seem convinced of a big shift in policy, even after Powell’s term as Chair is up. Might that pricing change if there is a “Shadow Fed Chair” before Powell’s departure?

JANUARY VACANCY. Because the Chair of the Federal Reserve Board also needs to be a member of the Board, the vacancy on the Board in January could easily go to the successor, while waiting for the Chair seat to open up. Perhaps a “Shadow Chair” who is on the FOMC would move markets more? News reports suggest a successor could be named as soon as later this summer, but the same FOMC dynamics are reason to suspect the status quo could last. Indeed, a purely hypothetical wrinkle is that Powell’s seat on the Board of Governors does not expire when his Chair tenure does; in principle, he could stay on as a member, just as Michael Barr remained on the Board after stepping down as Vice Chair for Supervision and Regulation. Chair Powell has avoided any such discussion, so we have a thought experiment, nothing more.

That possibility, in turn, raises another institutional quirk. The FOMC is technically a distinct agency from the Federal

Reserve Board, and the Chair of the FOMC is only the Chair of the Board of Governors by convention, not law. Another thought experiment is that the FOMC is not obliged to pick the Chair of the Board to be Chair of the FOMC. Of course, such an outcome would be highly unusual, particularly for an institution that has historically been very orthodox.

MARKET REACTION? Those technicalities aside, there remains the discussion of whether the market might start to react to a “Shadow Chair” who is very vocal. An argument against that outcome is that market pricing may rather reflect history, where political appointees tend to shed past allegiances and work toward the institution’s legislative mandate of maximum sustainable employment and stable prices after taking office.

None of which is to say the Chair doesn’t matter. While the FOMC votes at each meeting, limiting the Chair’s ability to diverge dramatically, there is always wiggle room. Noisy data always presents judgment calls, and the Chair is the leader. Moreover, as time goes on, turnover on the Board allows new appointees to have larger and larger sway over the committee. Ultimately, even the choice of Reserve Bank Presidents is subject to a veto by the Board, giving influence over the entire FOMC.

For now, the “Shadow Chair” debate is nuanced and probably secondary. I do not think the reaction function of the FOMC will change notably between now and May. Over time, however, the range of outcomes grows notably. Until Powell’s term is up, though, the bigger risk to our Fed forecast is our economic forecast ... where we remain quite humble. ■

This article was excerpted from the July 13 Morgan Stanley & Co. Research report, “Shadows in Late Summer?” For a copy of the full report, please contact your Financial Advisor.

US POLICY

A Guide to OBBBA

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Developing tax policy is multifaceted, often accompanied by fits and starts, and the path to the passage of the One Big Beautiful Bill Act (OBBBA), signed by President Trump on July 4, was no exception. Here, we examine some of the most significant aspects of the final bill and the implications for investors.

We see four primary objectives and provisions in the new law:

- Reviving, expanding and making certain individual and corporate tax cuts from the 2017 Tax Cuts and Jobs Act (TCJA) permanent
- Introducing new individual and business tax cuts, including President Trump's "no-tax agenda"
- Reducing spending with cuts to Medicaid and the Supplemental Nutrition Assistance Program (SNAP) and phasing out certain clean energy tax credits while imposing excise taxes
- Increasing the debt limit by \$5 trillion

While much of the OBBBA makes the existing tax code permanent, the final law is intricate, balancing lawmakers' various priorities and a reconciliation of provisions from the House of Representatives and the Senate. Key to gaining support from Republicans representing higher-tax states, the bill temporarily raises the SALT (state and local tax) deduction cap to \$40,000 per household for modified adjusted gross incomes below \$500,000 for four years.

Other key provisions include President Trump's "no-tax" agenda (including on tips and overtime) and a \$6,000 deduction for seniors aged 65 or older, both of which sunset after four years. Previously expired and new business tax cuts, which are considered the most pro-growth elements of the bill, are made permanent. These include 100% bonus depreciation for equipment investment; immediate deduction of domestic research and development (R&D) expenses; a looser limit on business interest expense deductibility; expansion of the Advanced Manufacturing Investment Tax Credit for semiconductors and semiconductor equipment; and full expensing of factories through 2028.

Most deficit offsets come from cuts to Medicaid and SNAP benefits as well as from repealing and phasing out Inflation Reduction Act (IRA) tax credits. Importantly, Section 899, designed to increase taxes on some foreign entities and often referred to as the "revenge tax," was removed in the final bill, while the excise tax on remittances was lowered. The bill also softens the excise tax on university endowments.

DEBT AND DEFICITS. When assessing the impact of the bill, it is especially important to consider the current elevated interest rate environment. The OBBBA increases spending by about \$3.8 trillion over 10 years through 2034, offset by about \$500 billion in revenues for a primary deficit impact of approximately \$3.3 trillion. When including the additional interest on new borrowing, the total impact could be as high as \$4 trillion over 10 years (using "current law" accounting, which counts the costs associated with new and extended tax policies).

The expected growth in the deficit underscores the nation's long-term structural budget imbalance. Furthermore, it comes at a time when federal debt stands at \$36 trillion (approximately 123% of US GDP), and additional spending is projected to push the deficit-to-GDP ratio north of 7% by 2026—more than double the historical average before the Great Financial Crisis.

Deficit spending often serves as a method to stimulate the economy. On a current policy basis, the bill could add 0.4% to GDP in fiscal year 2025, with the effect peaking in fiscal year 2026 at 0.8% of GDP. By the early 2030s, some individual tax cuts, such as no tax on tips, overtime pay and car loan interest, will have expired, while spending cuts and IRA phaseouts will have kicked in, reducing the deficit as a percent of GDP.

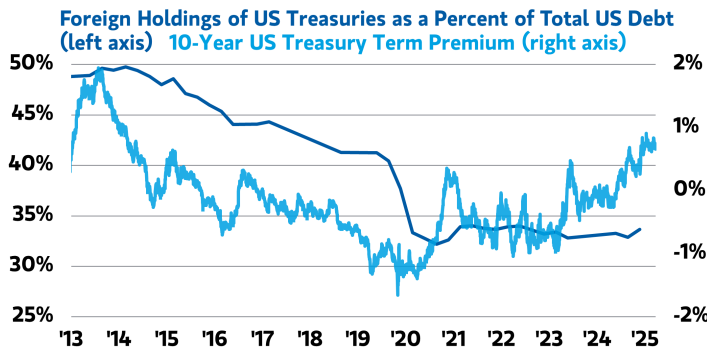
The Trump administration has highlighted potential tariff revenues, which are not included in the budget process, as a partial offset to budget pressures. Since the beginning of the 10% universal tariff regime in April and other industry-specific tariffs on autos, steel, aluminum and more, monthly tariff revenue has averaged \$23.8 billion, up from about \$5 billion over the past five years. If this trend were to continue over the long term, it could serve as a meaningful offset to deficit expansion.

POTENTIAL IMPACT ON FIXED INCOME. We see several important factors for fixed income investors to consider. The bill's \$5 trillion debt limit increase will require the Treasury General Account (TGA) to be refilled, likely resulting in a significant increase in net Treasury bill issuance. New debt issuance could lead to a supply/demand mismatch in the US Treasury market and put upward pressure on the 10-year US Treasury term premium—the amount of compensation in the form of yield required by investors to take on related risk.

Although foreign demand for Treasuries has modestly increased year to date (see chart), it is unlikely to offset the expected higher debt issuance. And should foreign holdings of US Treasuries meaningfully decline, the term premium may experience further upward pressure.

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Foreign Investor Participation Has Been Stable, Yet the Term Premium Has Risen



Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office as of July 30, 2025

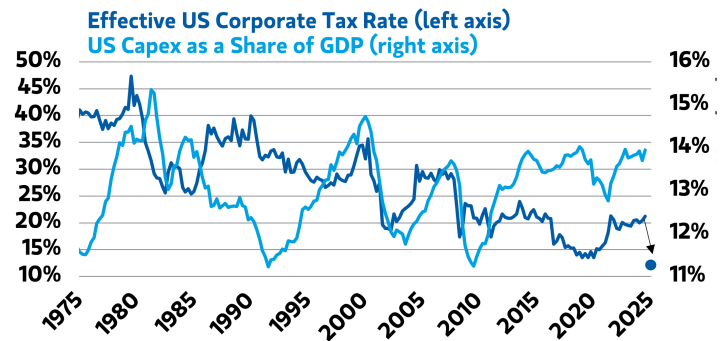
Turning to the spending reductions, the OBBBA reduces Medicaid spending by approximately \$900 billion, accounting for more than half of the legislation's total cost savings. The Congressional Budget Office estimates that these health care changes could reduce the number of people with health insurance by 17 million by 2034; they would also shift health care costs from the federal government to state and local governments and lead to notable revenue losses for hospitals, despite the inclusion of a \$47 billion rural hospital relief fund. As a result, the credit quality of certain state and nonprofit hospital municipal bonds could come under pressure.

POTENTIAL EQUITY IMPLICATIONS. The OBBBA is likely to provide the greatest benefits to corporate stakeholders. While the average statutory corporate income tax rate remains 21%, the reinstatement of some TCJA business provisions that had expired combined with the bill's new provisions could push the effective corporate rate to as low as 12%—the lowest level in US history.

US capital expenditures as a share of GDP could grow further as a result, having already increased significantly since 2020 (see chart). Specifically, a reduced tax burden may support

capex tailwinds in advanced technology sectors such as semiconductors, semiconductor equipment and AI data centers, and could favor industrials, communication services and energy stocks with elevated capex needs and US revenues.

Business Tax Provisions Could Push Down the Effective US Corporate Tax Rate



Source: Piper Sandler and Co., Morgan Stanley Wealth Management Global Investment Office as of March 31, 2025

Finally, the bill phases out some of the IRA's clean energy tax credits, including those for electric vehicles as well as home solar and storage. However, it is generally softer on clean energy than initially anticipated, especially hydrogen, geothermal and nuclear energy production. Clean energy stocks have outperformed the S&P 500 Index by more than 10% this year, driven by upside policy surprises along with anticipation of Federal Reserve rate cuts in the next 12 months. ■

This article was excerpted from the July 10 Morgan Stanley Wealth Management Global Investment Office report, "US Policy Pulse: A Guide to the One Big Beautiful Bill Act." For a copy of the full report, please contact your Financial Advisor.

US EQUITIES

AI and the Entertainment Business

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Generative artificial intelligence (GenAI) tools are coming to the entertainment industry. Beyond that point, however, the impact is less clear. While technology innovation and disruption are constants in the TV, film and music industries, GenAI tools have the potential to be more than just another innovation. Rather, they could fundamentally disrupt and transform the production and distribution of content.

We unpack this debate by focusing on three parts of the value chain: content distribution, or platforms; TV and film production, or studios; and owners of intellectual property (IP), such as TV and film libraries and music catalogs. In attempting to assess what GenAI tools could mean to each of these elements of the value chain, we note that each element plays a vital role in producing, distributing and monetizing content. We also explore how GenAI can open up opportunities for each area of the value chain to increase economic rent by accelerating growth and increasing returns (see table). Finally, we discuss the risks of disruption as the key barriers to entry fall in areas such as production, personalization and distribution.

BROAD IMPACT. We believe the tools that GenAI enables for creators and platforms will significantly impact the broader media and entertainment industry. Incumbents who already have scaled user bases, significant financial capacity and

meaningful IP ownership are well positioned to benefit. However, we expect the marginal cost of leveraging AI models to fall precipitously over time. This will increase the risk that new entrants may move more quickly than today's incumbents, in part from avoiding the burden of existing business models and revenue streams. Ultimately, success or failure will primarily be a function of each organization's ability and interest in pursuing opportunities and understanding the long-term impacts.

Producing, marketing and distributing content—whether TV, film, music or other forms of media, including books, podcasts or news—is still generally very costly and time consuming. This is particularly true for professional-quality scripted TV and film. As studios, platforms and music labels begin to test GenAI tools, we expect that technology can help reduce, perhaps dramatically, the cost and time to market of high-quality content.

EXPENSE REDUCTION. Our starting point assumes that major media companies could reduce their overall programming expenses by about 10%. This is based on our expectation that original scripted content production (half of total content spending) could realize 10%–30% cost efficiencies. Excluding marketing expenses, a typical movie production budget includes above-the-line talent costs—for actors, the director, etc.—and below-the-line production and post-production costs—for sets, visual effects, lighting, editing—with the below-the-line costs often representing 50% or more of the total budget.

Assessing GenAI's Impact on TV/Film/Music Across the Value Chain - Opportunities

Platforms	TV/Film Studios	Music Labels
<p>Content Creation:</p> <ul style="list-style-type: none">GenAI tools will bring lower-cost, higher-quality production tools to a significantly larger pool of creators than today. This will likely expand the volume of high-quality content available on major platforms and across media forms. <p>Distribution:</p> <ul style="list-style-type: none">GenAI will enable significantly improved recommendation engines that can better predict user preferences using behavioral data and consumption history.GenAI will support a more effective localized content strategy. This can help optimize content investment for global platforms across markets and regions. <p>Monetization:</p> <ul style="list-style-type: none">Successful leveraging of GenAI should lift engagement, supporting monetization through price increases, advertising or new revenue models.	<p>Content Creation:</p> <ul style="list-style-type: none">Across the production cycle, there are opportunities for GenAI to meaningfully reduce costs. This includes idea generation, script writing, editing, simulating new story arcs, pre- and post-production. Visual and animation areas that are today high-cost and long-duration projects, might see the most meaningful benefit from GenAI tools. <p>Distribution:</p> <ul style="list-style-type: none">Gen AI should allow studios to better serve local audiences as AI reduces cost of production, allowing for local language dubbing (including editing mouth movement). <p>Monetization:</p> <ul style="list-style-type: none">GenAI technology should enable greater exploitation of film and TV libraries, initially from licensing IP to GenAI training models but ultimately through bringing existing IP to new audiences in new highly engaging formats.	<p>Content Creation:</p> <ul style="list-style-type: none">GenAI should enhance the returns on artist and repertoire (A&R) spending by better identifying new artists across an increasingly global but still highly fragmented music landscape. <p>Distribution:</p> <ul style="list-style-type: none">Marketing and promotion efficiencies should improve as GenAI allows labels to better target the promotion of artist repertoires to fans around the world. <p>Monetization:</p> <ul style="list-style-type: none">GenAI tools are already creating new music from retired or deceased artists, as estates look to extend monetization over a longer period.AI lowers barriers for platforms and/or artist teams to make compelling personalized content. These “super-fan” opportunities should increase monetization by tapping into more price inelastic consumers.

Source: Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of July 9, 2025

ON THE MARKETS

Assuming original scripted production accounts for as much as half of overall content budgets across the industry, a 10%–30% net reduction in original production costs could translate into a 10% reduction in overall programming costs. We note that content production costs account for 50%–60% of a studio's expenses in any given year. We acknowledge that leveraging GenAI tools will not be free—technology adoption may incur investment costs either from licensing the technology or developing in-house productivity tools. However, the net effect could be a reduction in production costs.

ENABLING STARTUPS. Generative AI tools will of course be available to startups looking to grow and disrupt the market as well. The startup animation studio Toonstar, for example, is leveraging an AI-assisted production process to create content at about 10% of the cost of traditional industry norms. This points to the potential not only to lower the cost of production but to democratize storytelling and production.

Beyond production costs, there is the challenge of marketing content efficiently and effectively in an environment of rapidly rising content supply and fragmentation. The global consumer has more content choices available than ever before. Leading platforms like Netflix, Spotify and YouTube have excelled at combining machine learning, AI and consumer data to incrementally improve personalization over time. Nevertheless, if GenAI can help improve the effectiveness of marketing spend or drive increased engagement, then benefits could be material.

HEDGE AGAINST DISRUPTION. Owning the underlying IP has been a good hedge against disruption in the media industry, assuming that it remains relevant to enough global consumers over time. In contrast to music catalogs, which remain highly relevant to their generation of fans decades after initial release, TV and film catalogs decay in value more quickly. They also require significant continued investment—a new “Star Wars” trilogy, an “Alien” prequel or a “Fantastic Four” reboot, for example.

Despite the required reinvestment and faster decay rate, it is more likely than not that in an environment of rapidly rising film and TV supply, IP with history, a global fan base and even cross-platform dynamics (film and video games, for example)

will rise in value. The demand for scarce IP is not a new investment trend and was the driving rationale behind major acquisitions in recent years.

DISTRIBUTION SHIFTS. Studios are typically more than just studios, with many exposed to the shift in distribution economics from linear networks—that is, offering fixed programming at scheduled times—to streaming. Notably, GenAI will likely accelerate this shift. The studio business, historically, has been fairly modest in terms of profit dollars and returns. In fact, as we have highlighted in the past, movie exhibition (theaters) generates more in absolute operating profits in the US than film studios. Most major studios today are part of larger corporations, and those corporations have and continue to generate large but often eroding profits from linear TV networks. Cord cutting—that is, households giving up pay TV for internet-based streaming—has already wreaked havoc on the major studio owners.

MUSIC INDUSTRY. As for the music industry, technology has always played a major role. We have seen format and distribution migrations from vinyl albums to cassette tapes to compact discs to file downloads and finally to streaming. Technology has not always been a tailwind to growth. File-sharing site Napster was founded in June 1999. Music industry revenue peaked that year before file-sharing helped usher in the demise of packaged music. This led to a 15-year decline in industry revenues. Prior to that digital disruption, the music industry could be characterized as one with relatively high production costs and a distribution and monetization model built primarily on packaged media and brick-and-mortar retail.

The 2000s saw tremendous upheaval in the industry. Rapidly declining production costs, along with the rise of digital distribution through file formats such as the mp3, were followed by the emergence of digital stores such as iTunes. Only with the advent of subscription streaming did the industry return to growth and ultimately begin to flourish again. ■

This article was excerpted from the July 9 Morgan Stanley & Co. Research report, “Tech Diffusion: How Will Generative AI Reshape the Entertainment Business?” For a copy of the full report, please contact your Financial Advisor.

SINGAPORE

Singapore at 60: Unlocking Wealth Creation

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Singapore is a truly independent city-state. Upon gaining independence in the 1960s, its leaders moved to attract multinational companies and establish state-owned enterprises to create jobs for its growing working-age population. The government then moved to create value through innovation and productivity gains as that working population aged. Now, Singapore must create wealth to support its rapidly aging population and meet its citizens' aspirations. And anywhere wealth is being created, there are opportunities for investors.

Thanks to its historical focus on strong governance, stable macro policies and commitment to international law, Singapore has long served as a safe harbor for global capital. We believe it is therefore ideally positioned for success in today's increasingly multipolar and geopolitically complex world.

We forecast Singapore's GDP to experience a 3% compound annual growth rate in the next five years, the highest among developed economies. We also see household assets almost doubling to \$4 trillion by 2030—a tangible sign of real wealth creation.

Singapore has worked hard to develop a number of unique advantages that we believe give it strong pillars on which to create wealth.

Pillar 1—The World's Greatest Hub

Singapore is a major global center for energy, finance and transportation, and we expect it to become a data and artificial intelligence (AI) inference hub in due course as well. "Hub industries" currently account for about 63% of Singapore's GDP.

Roughly 20% of the world's energy and metals trading takes place in Singapore, and we expect it to become a leading center for liquified natural gas and carbon trading. Singapore is globally important in currency trading and is a major hub for insurance, finance and asset gathering.

Tourism already contributes about 3%–4% of GDP. Airlines are well positioned to capture demand from increasing tourism, helped by new attractions like Harry Potter World and events such as the recent Taylor Swift, Lady Gaga and Coldplay concerts.

Asia is on track to account for more than a third of global AI data-center capacity by 2027. We expect \$100 billion to be invested this decade, with Malaysia, Japan and Singapore

likely to get a disproportionate amount. Singapore currently has 26 subsea cables landing across three sites—among the most in Asia—and its domestic infrastructure is set for an upgrade to support broadband speeds of 10 gigabits per second within the next five years.

Pillar 2—Early Adoption of New Technologies

We believe that three emerging tech industries—AI, humanoids and autonomous vehicles (AVs)—will help Singapore overcome key constraints and lead to wealth creation via significant productivity gains, higher company valuations and potential initial public offerings (IPOs).

Singapore's rapid success in AI stems from its early adoption of a national strategy for this new industry, and it is now aiming to become a global AI inference hub. Singapore ranks among the top 10 AI markets worldwide in numerous respects and is home to more than 80 active AI research facilities, 150 AI R&D and product teams, and more than 1,000 AI start-ups.

The city-state is also at the forefront of exploring AV opportunities. It released a provisional national standard in 2019 and has authorized 13 AVs for public road trials. We believe logistics, sanitation and mobility could be key uses for AVs in Singapore.

We are increasingly seeing robots deployed across Singapore—for example, at Changi Airport for cleaning, transport and security—and the government has invested roughly \$500 million into the country's National Robotics Programme.

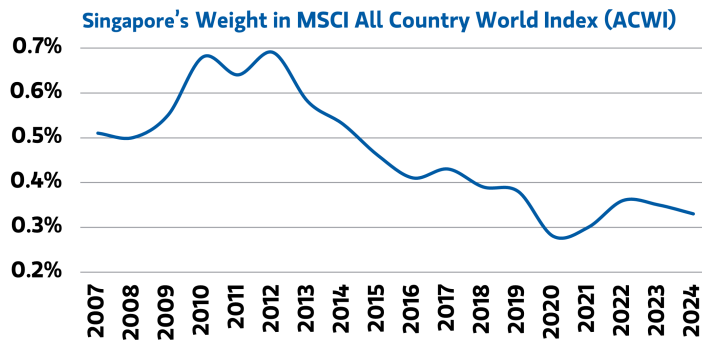
All of these initiatives require power, and Singapore is investing heavily in building power supplies. This includes 3 gigawatts of new green-hydrogen and gas-fired power generation capacity by 2030, with potentially another 7-plus gigawatts of renewables generation, including nuclear, after 2030.

Pillar 3—Equity Market Reform

When it comes to being a financial hub, we believe a vibrant equity market is the missing piece in Singapore's armory. The weight of Singapore equities in the global investable equities universe has been halved in the past decade even though the country's contribution to global economic output has grown (see charts). With relatively sparse offerings of new-economy growth stocks, investors often view Singapore as an illiquid safe haven with a handful of investable bank and real estate investment trust stocks. This is partly the result of new industry companies listing overseas, though we believe a higher free float of already-listed companies would help reverse this trend.

ON THE MARKETS

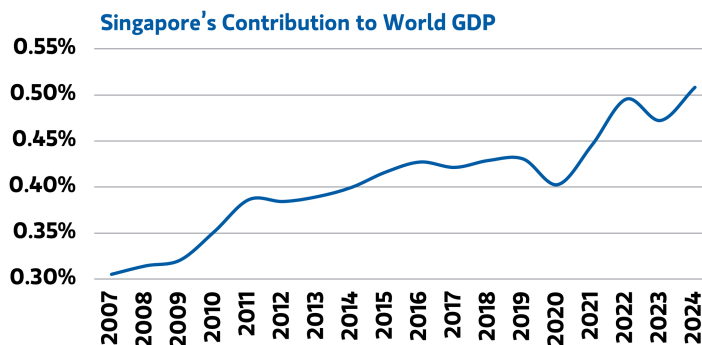
Singapore's Weight in the Global Investable Equities Universe Has Halved Over the Past Decade ...



Note: Chart shows weight reported at MSCI's November semiannual index review.

Source: MSCI, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of June 23, 2025

... Even as Its Contribution to Global Economic Output Has Steadily Grown

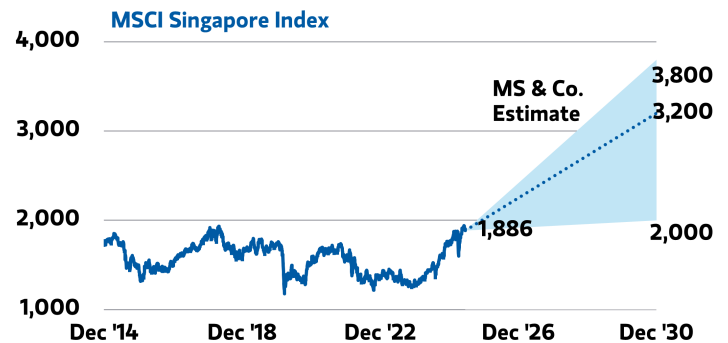


Source: Refinitiv, World Bank, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of June 23, 2025

We think this is about to change. Singapore has embarked on an unprecedented campaign of equity market reforms, including channeling billions of dollars of national reserve and third-party money into the local stock market. The government is also mulling a value-up program similar to those in Japan and South Korea, and longer term, could tap underallocated retail and pension capital. We believe this could ignite significant interest and confidence in Singapore stocks globally and potentially underpin a multiyear re-rating in valuation multiples, with price/book value expected to increase from 1.7x recently to 2.3x by 2030. This would leave Singapore stocks at similar multiples as those of higher-rated markets like Taiwan and Australia.

With the wealth creation efforts feeding into the stock market, we expect the upward re-rating to come about in several ways. These include an emphasis on capital distribution supported by a greater focus on shareholder returns and index-level return on equity (ROE) gains as tech and growth stocks are added to the MSCI Singapore Index via IPOs. In our base case, we forecast the index to deliver a 14% per year total return out to 2030 alongside a steady increase in ROE from 12% to 14%. In our bull case, we see the index doubling within five years (see chart).

In Our Bull Case, We Believe the MSCI Singapore Index Could Double Within the Next Five Years



Source: Refinitiv, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of June 23, 2025

Small-cap stocks could benefit from market reform measures specifically targeting the segment, and new small-cap indexes could encourage investments as well. As for REITs, Singapore is already home to two of the three largest listed REITs in Asia, and it could become Asia's largest REIT market by 2035.

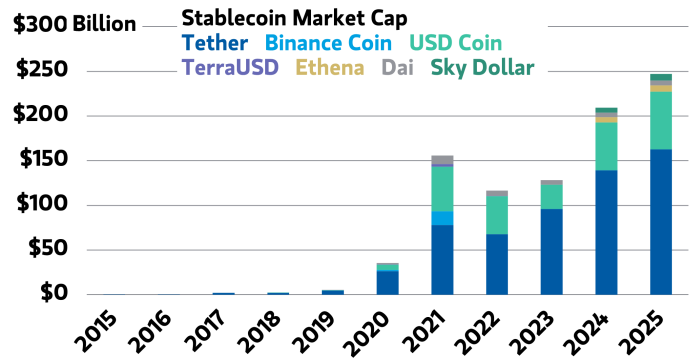
Singapore's tech startup ecosystem has nurtured a large and growing stable of quality companies that are ripe for listing on the local exchange. And potential additions of faster-growing new-economy stocks could serve to revitalize interest in Singapore's listed-equities market. ■

This article was excerpted from the June 23 Morgan Stanley & Co. Research report, "Singapore at 60: Unlocking Wealth Creation." For a copy of the full report, please contact your Financial Advisor.

Short Takes

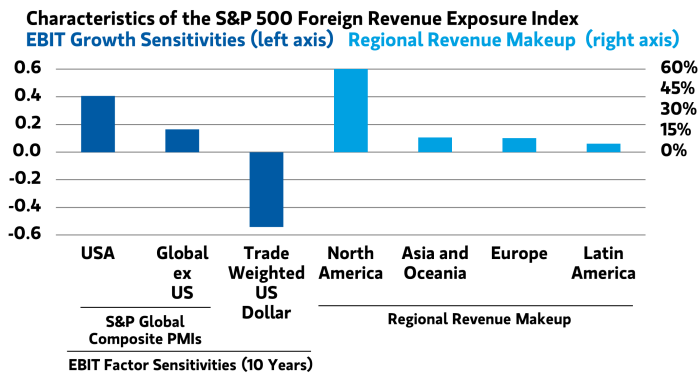
Stablecoin Summer?

So far this year, stablecoins’ market cap has expanded to about \$250 billion, with several developments driving growth. Notably, in June, a successful stablecoin IPO encouraged bank executives to reexamine their stablecoin strategies, and in July, the Genius Act passed. In our view, stablecoins could foster disruptive changes to finance. We review the myriad implications in our July 29 *AlphaCurrents Crypto* report, “Stablecoins: The Disrupted, the Disruptors and the Fortunate Beneficiaries.” They include potential disruption of the credit card industry, possible emergence of new forms of savings accounts and potential support for both the US Treasury market and the US dollar, with Treasuries gaining new buyers and foreign depositors able to use stablecoins to more easily shift their wealth to dollars. —*Denny Galindo, CFA*



Source: CoinMarketCap, Morgan Stanley Wealth Management Global Investment Office as of July 24, 2025

US Multinationals: Global Diversifiers?

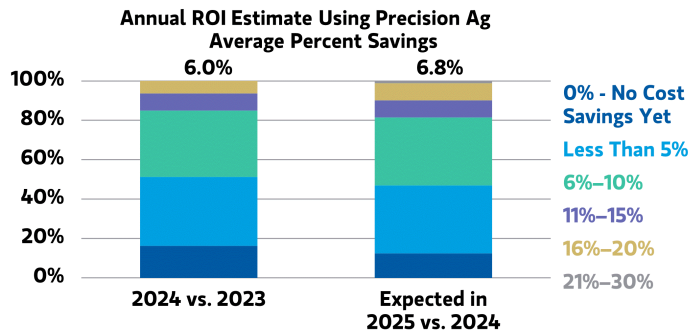


Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office as of July 31, 2025

Investors often assume that US multinationals on their own can serve as substitutes for foreign equities in achieving global diversification. However, our analysis shows that variation in the growth of earnings before interest and taxes (EBIT) of the S&P 500 Foreign Revenue Exposure Index, composed of companies with above-average foreign sales exposure, is 2.5 times more sensitive to variation in US economic growth than to non-US growth. Meanwhile, variation in EBIT growth was most sensitive to variation in the US dollar, due to translation effects. While US multinationals frequently exemplify innovative business models, they do not provide as much diversified exposure to foreign growth dynamics as many expect—a detail we believe investors should consider when building global portfolios. —*Alfredo Pinel, CAIA and Sonny Mendez*

Modern Farming Gets Smarter: A Shift Toward Precision Ag

Precision agriculture technology remains a key investment area for farmers. A recent Morgan Stanley & Co. Research AlphaWise survey showed that about 80% of US farmers use precision ag systems, a figure that’s expected to grow to 94% in two years. The survey also suggested improving precision ag return on investment (ROI). A separate AlphaWise study, of US ag equipment dealers, suggested that, while they find potential headwinds in tariffs, trade dynamics and commodity prices, positive sentiment has accelerated around precision ag technologies. These results help support MS & Co. Research analysts’ conviction in select global equipment manufacturers and align with the Morgan Stanley Wealth Management Thematic and Macro Investing team’s constructive take on “smart ag” as part of its sustainability thematic pillar. —*Jane Yu Sullivan, CFA*



Source: AlphaWise, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of May 2025

US HOUSING

Surging Supply, Stalled Demand and Builder Buydowns

James Egan, Strategist, Morgan Stanley & Co. LLC

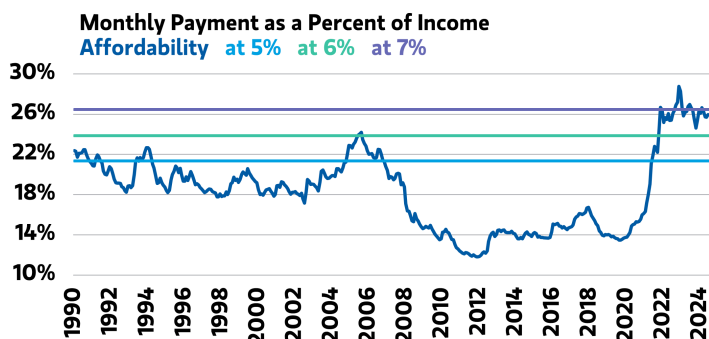
Home prices are simply a function of supply and demand. How much is someone willing and able to pay for a house ... and is the homeowner willing to sell at that price? Given the foundation of today's US housing market, the second half of that equation has been driving a wedge between housing activity and home prices.

We might be seeing signs of that wedge disintegrating. For-sale inventory has remained low because homeowners are "locked in" at below-market mortgage rates and are not forced to sell unless they receive "an offer they can't refuse." They have been disincentivized from selling because that would entail paying off their low-rate mortgage and taking out a new mortgage with a rate more than 250 basis points higher on a subsequent purchase.

The amount by which homeowners are locked in remains far in excess of most points over the past 40 years. Despite that lack of movement, for-sale inventories of existing homes have been growing on a year-over-year basis for more than 19 months and are at their fastest pace of growth in at least 40 years.

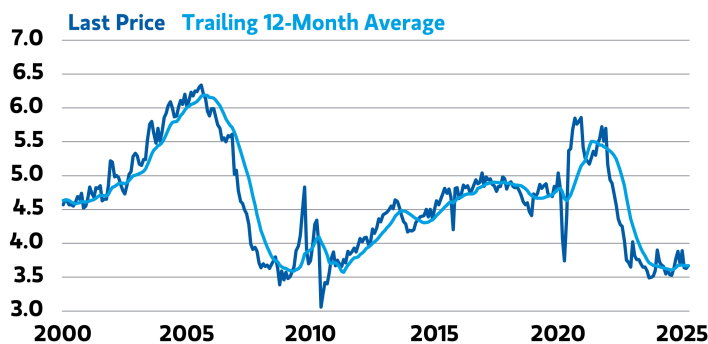
AFFORDABILITY MATTERS. To be fair, one of the reasons why the percentage change has climbed so high has been that inventories themselves are starting from historically low levels. With history as our lens, inventories are still tight, and affordability remains strongly pressured. So, while listing volumes climb, demand hasn't exactly risen to meet the challenge. The growth in supply without corresponding growth in demand has brought months of supply back to where it was at the beginning of the pandemic (see charts).

Affordability Close to Its Most Challenged Levels in Decades



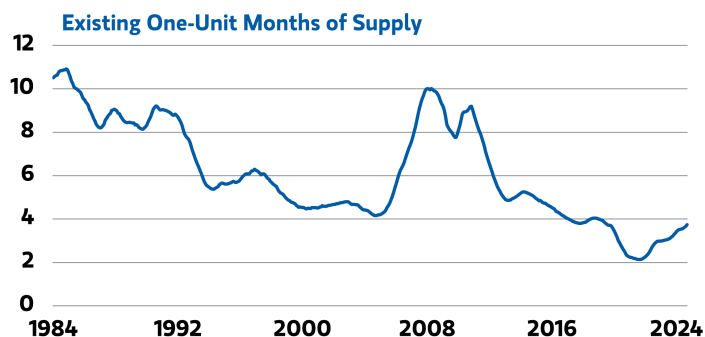
Source: NAR, Freddie Mac, US Census Bureau, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of July 31, 2025

Existing Home Sales Volumes Have Stopped Falling, but They've Exhibited Almost No Upward Momentum



Source: NAR, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of May 31, 2025

Growing Supply and Stalled Demand Have Brought Existing Months of Supply Back to Early 2020 Levels



Source: NAR, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of April 30, 2025

In our view, these dynamics are making themselves felt in a sharp slowdown in the pace of home price appreciation (HPA). During the past three months, national HPA has slowed from a 4.1% annual rate to 2.7%—the slowest pace in two years. The geographic breadth of the deceleration is notable, too. According to Zillow, home prices are decelerating in all of the top 100 metropolitan statistical areas (MSAs) for which we have data. Notably, 31% of the top 100 MSAs are seeing home prices decline year over year, up from just 5% one year ago.

EXISTING HOME PRICES. Taking a step back, existing home prices have exhibited such remarkable resilience because of the specific lack of supply in the existing market. The new home market has been experiencing much more supply, and softer pricing as a result. Compared with the restrictive months of supply territory that existing homes have enjoyed for over a decade, new home inventories have been north of eight months of supply for the better part of the past three years, and pricing has suffered. The median price of new home sales has fallen year over year for 18 consecutive months, and the basis between new and existing home prices

ON THE MARKETS

has collapsed to its tightest level in over 40 years.

BUILDER BUYDOWNS. Another dynamic is playing a significant role in new home prices: builder buydowns. Recently, homebuilders have been offering substantial mortgage rate buydowns to help move new homes. As an example of a buydown, assume a purchase mortgage loan is \$350,000, has a 96% loan-to-value (LTV) ratio and has a 6.5% mortgage rate. This implies that the home price is \$365,000 (\$350,000/96%) and the monthly mortgage payment is \$2,212. Now, let's say the builder "buys down" the average new home mortgage rate by 1.2 points. This would give the borrower a 5.3% mortgage rate and a \$1,944 monthly payment instead. By offering the buydown, however, the builder may also have encouraged the new home to transact at a price approximately \$45,000 higher than it otherwise might have.

While these buydowns improve affordability for homebuyers, they also theoretically increase the price they are willing to pay for the home. Without them, new home inventory might be even higher.

While borrowers will evaluate both the home price and the mortgage payment when deciding whether to purchase a home, we note that this lower rate/higher home price combination could make it more difficult for the borrower to sell their home in the near future. If the next buyer is unable to receive a bought-down mortgage rate—buydowns are often only offered to new home buyers—then the current homeowner would be immediately underwater from the home price adjusting lower to reflect the higher prevailing mortgage rate. However, we note that the borrowers who receive buydowns also tend to be those with higher credit

scores, decreasing the likelihood of default and forced selling of a property that might be technically underwater.

BUYDOWNS CONCENTRATED. Buydowns don't appear to be equally distributed across mortgages, and we estimate that significantly more buydowns are occurring for planned urban developments (PUD) than for condominiums or single-family homes. PUDs generally build many houses at once, which likely encourages builders to offer buydowns to accelerate sales and reduce inventory. Texas, Nevada, Arizona, Florida and Colorado comprise the top five buydown states.

Ultimately, while the volume of homes for sale has increased and a growing percentage of homeowners could be more motivated to sell after living in their homes for longer than they had originally planned, we don't think there will be enough forced selling to drive meaningful home price declines. This doesn't mean that year-over-year HPA can't turn negative; we saw that briefly in May 2023, the last time inventories were growing anywhere close to this fast. What we do think it means is that any decline in home prices would be contained to low single digits at the national level. Our base case for 2025 HPA remains positive at 2%, but the dynamics illustrated in this report show why our forecasts were more skewed to the downside in our bear case of a 3% decline. ■

This article was excerpted from the June 27 Morgan Stanley & Co. Research report, "Surging Supply, Stalled Demand, and Builder Buydowns." For a copy of the full report, please contact your Financial Advisor.

FOREIGN EXCHANGE

The Renminbi and the Yen

Chetan Ahya, Chief Asia Economist, Morgan Stanley Asia Limited

In the mid-1980s, the US and Japan experienced trade tensions, an episode that some investors have compared with the US and China situation today. One of the agreements reached to ease the tensions was for Japan to allow its currency to appreciate—and indeed it did. From February 1985 to April 1995, the Japanese yen rose 211% against the US dollar. Now, investors are drawing parallels between the macro situation for Japan in the mid-1980s and that of China today and wondering if a yen-like rise is ahead for the renminbi (RMB).

It's not likely. Morgan Stanley & Co.'s global foreign strategy team forecasts that the US Dollar Index (DXY) will depreciate by 9% by mid-2026, with the renminbi appreciating by another 1% versus the US dollar over the same period.

UNLIKELY TARIFF RELIEF. Why do we expect so little for the renminbi? To start with, currency appreciation alone is unlikely to bring about substantial tariff relief. That's because the multitude and the complexity of issues between the US and China mean that currency is just one of the many points of contention. Issues such as reducing the US-China trade deficit and improving access to China's market, as well as concerns about national security, will not be easy to fix. At the same time, we believe both US and China negotiators will want a comprehensive deal.

What's more, currency appreciation would not lead to a sustained reduction in China's trade surplus with the US. In the past 20 years, previous bouts of renminbi appreciation against the dollar did not lead to a corresponding narrowing of China's trade surplus with the US. In fact, between 2005 and 2007, and again between 2010 and 2014, the renminbi gained 13% against the dollar, and the trade surplus with the US widened instead of narrowing (see chart).

GROWTH MODELS. The sizable trade deficit reflects a more fundamental issue about the difference in growth models between the two economies. US consumer spending remains high, and saving is low; in contrast, China is reliant on high saving and high investment. A sustained turnaround in the bilateral trade balance between the US and China would instead require lasting fundamental changes to the growth models of these two economies.

Even if China took steps to increase purchases from the US, there would still be practical challenges. Strategic competition will be a concern, and the US may be unwilling to

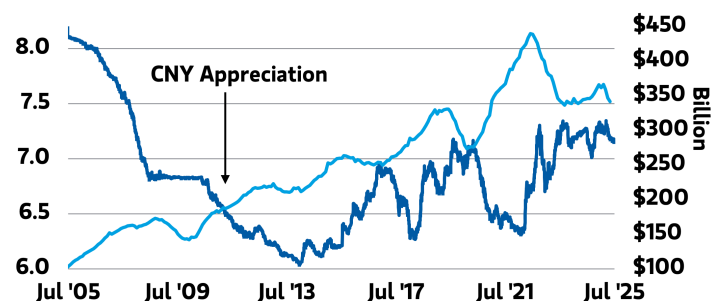
sell high-tech and defense equipment to China. More importantly, US capacity constraints in manufactured goods will be a challenge. Onshoring production in the US will be difficult given that manufacturing wage costs are five times China's. China is also well entrenched in the global supply chain and accounts for 41% of global value-chain-related output, compared with 13% for the US.

DEFLATIONARY PRESSURES. China faces deflationary pressures, and a costlier currency would not help on that front. Robin Xing, our chief China economist, expects further interest rate cuts. Moreover, the drag from tariff uncertainty means that policymakers will prefer to weaken the currency or at least manage the pace of appreciation. Significant currency appreciation would weigh on import and producer prices. That would further dent corporate profit growth, which has been weak amid the persistent deflation of the past two years.

To manage profit margins, the corporate sector would continue to cut wage growth, which in turn would weigh on aggregate demand and place additional deflationary pressures on the economy. Indeed, as deflationary pressures became more entrenched in Japan in the wake of yen appreciation, Japanese companies eventually moved to cut wages, which put constraints on consumption growth. ■

Currency Appreciation Alone Would Not Drive a Narrowing of China's Trade Surplus With the US

USD CNY China Trade Balance with US (12M trailing sum) (RHS)



Source: Bloomberg, CEIC, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management Global Investment Office as of July 28, 2025

This article was excerpted from the July 1 Morgan Stanley & Co. Research report, "The Viewpoint: Why the RMB Will Not Follow the Yen Path of 1985-95." For a copy of the full report, please contact your Financial Advisor.

Q&A

Why Special Situations Investing Is “Special”

Special situations investing is an area that is distinct from traditional leveraged buyouts (LBOs) and distressed debt investing, because it involves obtaining significant influence or outright control of companies without employing high leverage. This approach potentially allows for equity upside with reduced risk. According to Oaktree Capital’s Jordon Kruse and Matt Wilson, co-portfolio managers of the firm’s Special Situations Group, the effect of elevated interest rates on middle-market companies’ balance sheets has created attractive current opportunities. In addition, the uncertainty around tariffs poses challenges for businesses, which may create additional investment opportunities for special situations investing. Kruse and Wilson recently spoke with Paul Jodice, Morgan Stanley Wealth Management’s co-head of Global Investment Manager Analysis, about the investment environment and their investment approach. The following is an edited version of their conversation, which took place on July 21.

Paul Jodice (PJ): What is special situations investing?

Jordon Kruse (JK): While there isn’t a perfect definition for special situations investing, it frequently involves a spectrum of opportunities. These can range from financially distressed businesses that must restructure, to stressed businesses that need capital to address a liquidity challenge or maturity issue, to healthy businesses that need capital for a strategic opportunity, such as an acquisition or buying out a shareholder, but that cannot or do not want to access traditional financial markets. While we find opportunities in all those scenarios, most of our opportunities are driven by idiosyncratic challenges as opposed to macro issues. We certainly take advantage of macro issues, but if a business has leverage and suffers lower earnings because of something like a lost customer or a bad acquisition, we can absolutely take advantage of that.

PJ: Stylistically, can you compare and contrast special situations investing with more traditional investing in LBOs or distressed debt?

Matt Wilson (MW): We define special situations as a hybrid strategy, at the intersection of traditional LBO or private equity, and distressed debt investing. For example, we take significant interest or control stakes in companies, and we sit on the board of every company in which we invest, whether the investment is equity or debt. We help set the strategic direction of a company—to hire and fire management, to make acquisitions and all the things to create value that a private equity investor would do.

What we don’t do in special situations is employ a lot of leverage to buy the companies we invest in. We often have very little to no leverage in front of us, unlike an LBO, which by definition has significant leverage to amplify its returns. When we structure most of our deals, we typically sit in a priority position, meaning there is some equity value in the common stock behind us so that we have a margin of safety. We compare favorably to private equity or LBOs because we get the same benefit of the upside of creating value through active ownership, but we do it with less risk. We don’t sit so far behind large amounts of leverage in the capital structure. Our structure allows us to participate in the equity upside but have very good downside support.

Distressed debt investing can be a whole spectrum of opportunities. We do not trade distressed debt. When we buy into distressed companies through the debt, it is typically with an angle to buy control of the company through the back door. In the US, you can use debt in a restructuring to secure the equity of a company. If a company is overleveraged and facing some type of challenge, you can buy its debt at a significant discount to par. We then use our restructuring expertise to lead the restructuring or bankruptcy process, exchange our debt for equity and de-lever the balance sheet. We are therefore able to acquire a business at a time in its life cycle when things have gone wrong or it’s economically challenged at a very attractive valuation through the debt.

PJ: What does the market environment for special situations look like? Have tariffs been playing a role?

MW: The market environment is as good as it’s been since I can remember. Elevated interest rates that have existed since 2022 have put a huge amount of pressure on the balance sheets of middle-market companies in particular. The market that we hunt in has a lot of companies that were purchased during the last LBO cycle from 2010 to 2022, particularly the last four years of the cycle. That’s when LBOs were executed at all-time highs averaging 13 times earnings before interest, taxes, depreciation and amortization (EBITDA), or simply put, cash flow.

In order to pay those multiples, the leverage needed to be more than seven times EBITDA for the majority of those LBOs, which was achievable when the base rate on fed funds was zero. That obviously all changed in 2022 and 2023 as the Fed substantially increased the fed funds rate to fight inflation. The capital structures employed by those companies in that 2018–2022 period simply don’t work when the base rate is 4.25% or 5.5% instead of zero. As a result, today, a significant number of middle-market firms that are good companies with sound business models, good strategies and strong management teams, ultimately have the wrong balance sheet because someone paid too much for those assets when money had a different cost.

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As that deleveraging process occurs, we think there's significant opportunity. We've seen that over the past 18 months, and we believe it will persist for the next several years. Tariffs have put a wrinkle in this, but we don't have a full picture on that yet. For one, the cost of doing business will no doubt be higher. No one knows exactly how much at this point, because tariff rates are still being negotiated. And it remains to be seen who will eat these additional costs in the supply chain. It will be another year before we have good visibility concerning the true impact and meaning of these tariffs for companies, particularly middle-market businesses.

We do know that since tariff noise has been part of the markets, it has been difficult for CEOs to decide where to put capital and what to do with scarce resources. When you have overleveraged balance sheets and insufficient cash flows to service those balance sheets in a period of uncertainty, you get paralysis. These companies are simply not growing right now, and they need to continue to grow to fit into those balance sheets. In the short term, tariffs are creating disruption, which I think would be quite detrimental for companies in some cases by the end of this year (which could pose a significant investment opportunity for our style of investing).

PJ: Does special situations investing have some private credit-like attributes with private equity outcomes?

JK: There's always going to be a warrant package or a conversion feature in our fixed income investment that gives us equity upside. Importantly—and not all distressed investors do this—we have an internal operations team. We are driving performance improvement in our portfolio in order to grow the earnings of the business to be able to make that equity upside worth something. We hold assets between four and five years, on average.

PJ: Can you describe what it means to be hands-on and how active management via operational professionalism drives better outcomes?

MW: When we say we're hands-on, one of the things we're referring to is that we have a model that we've developed over a decade of running this strategy together that includes a portfolio transformation team—a team of dedicated operators. These are folks with deep backgrounds in consulting and operations. We put them on every deal team from day-one of due diligence and make them part of the underwriting process so that they have accountability from the day we start looking at an investment all the way through the investment and the ultimate exit from that investment.

Having that team does a few things. Number one, it helps hedge our downside. Having our people embedded in the company on the operational side gives us deep visibility into the day-to-day workings of the company, and makes sure that everything we're trying to achieve strategically and tactically is being implemented on time and in a way we want to do it. Number two, it helps us create alpha. We're buying these companies with the idea that we're going to grow their cash flows, and those cash flows will grow their valuations.

PJ: Do you still have to buy assets at the right entry point?

MW: You can change the management. You can change the strategy. You can change the trajectory of its cash flows. The one thing you can't change in an investment is the price you paid. So, we are incredibly mindful about how we go into every situation.

The key is to buy these companies as cheaply as we can buy them, and then to do the hard work to create the growth, revenues and cash flows to get a higher earnings stream and a higher multiple when we exit the business.

PJ: What investment characteristics do you focus on?

JK: When we underwrite a deal and we're looking at an opportunity, the first question we ask ourselves is, how do we not lose money on this investment? What is it about the investment? Is it the price? Is it the structure? Or is it some other factor, or a combination of those things that make us feel very good that the risk of loss is quite low? It's not as easy as saying we need this particular attribute in every case. It's a holistic assessment. Still, at its core, it's value- and risk control-oriented.

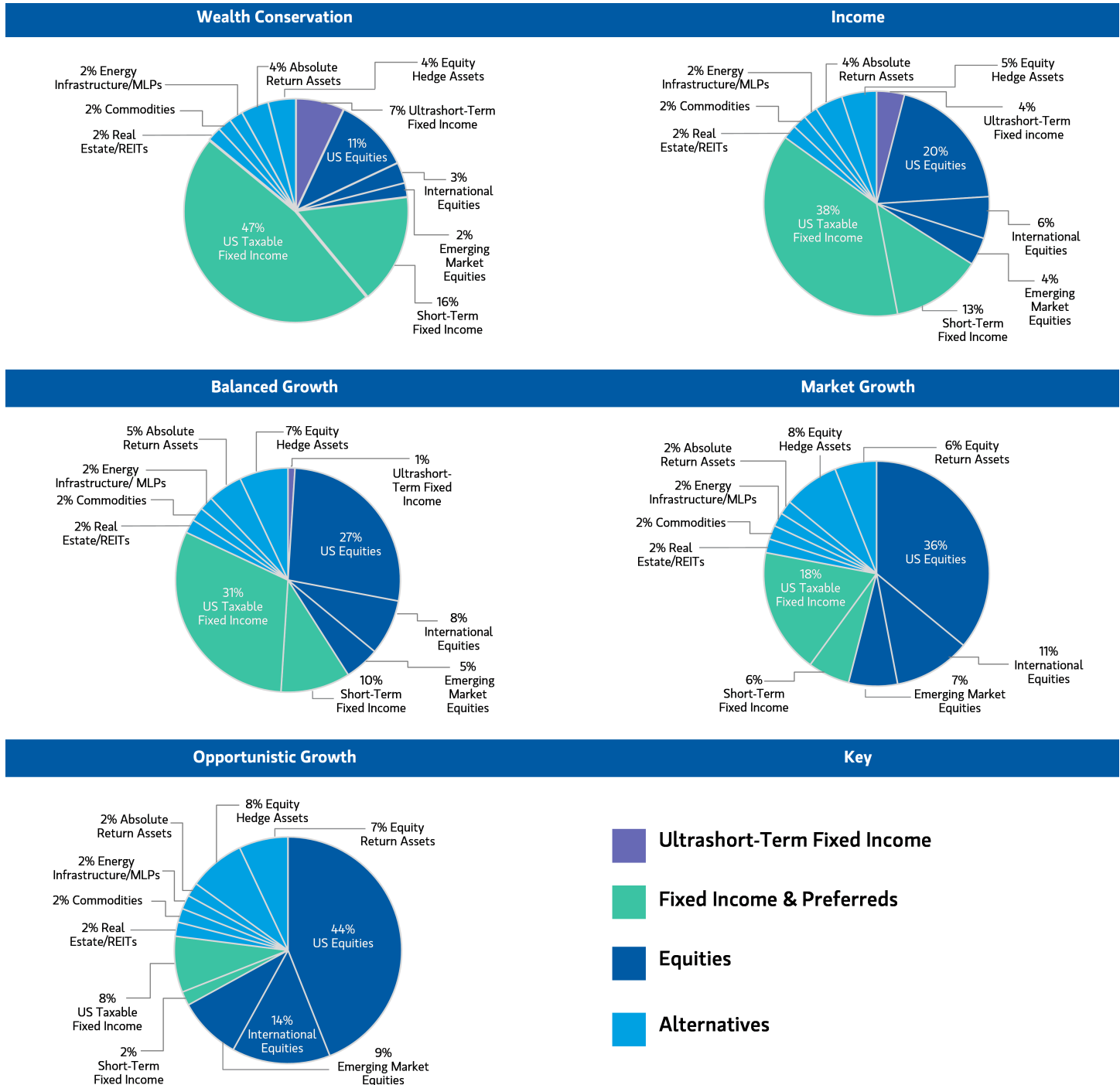
PJ: Does investment team continuity make a difference in your success?

MW: Absolutely. Our senior leadership team has been together as a unit for decades. Jordon and I have been partners for almost two decades. And when you look at the opportunity set and the sheer volume of opportunities that we see every week, the ability to parse through the ones that don't make sense and get to the ones that do is critical. ■

Jordon Kruse and Matt Wilson are not employees of Morgan Stanley Wealth Management or its affiliates. Opinions expressed by them are their own and may not necessarily reflect those of Morgan Stanley Wealth Management or its affiliates.

Global Investment Committee Tactical Asset Allocation

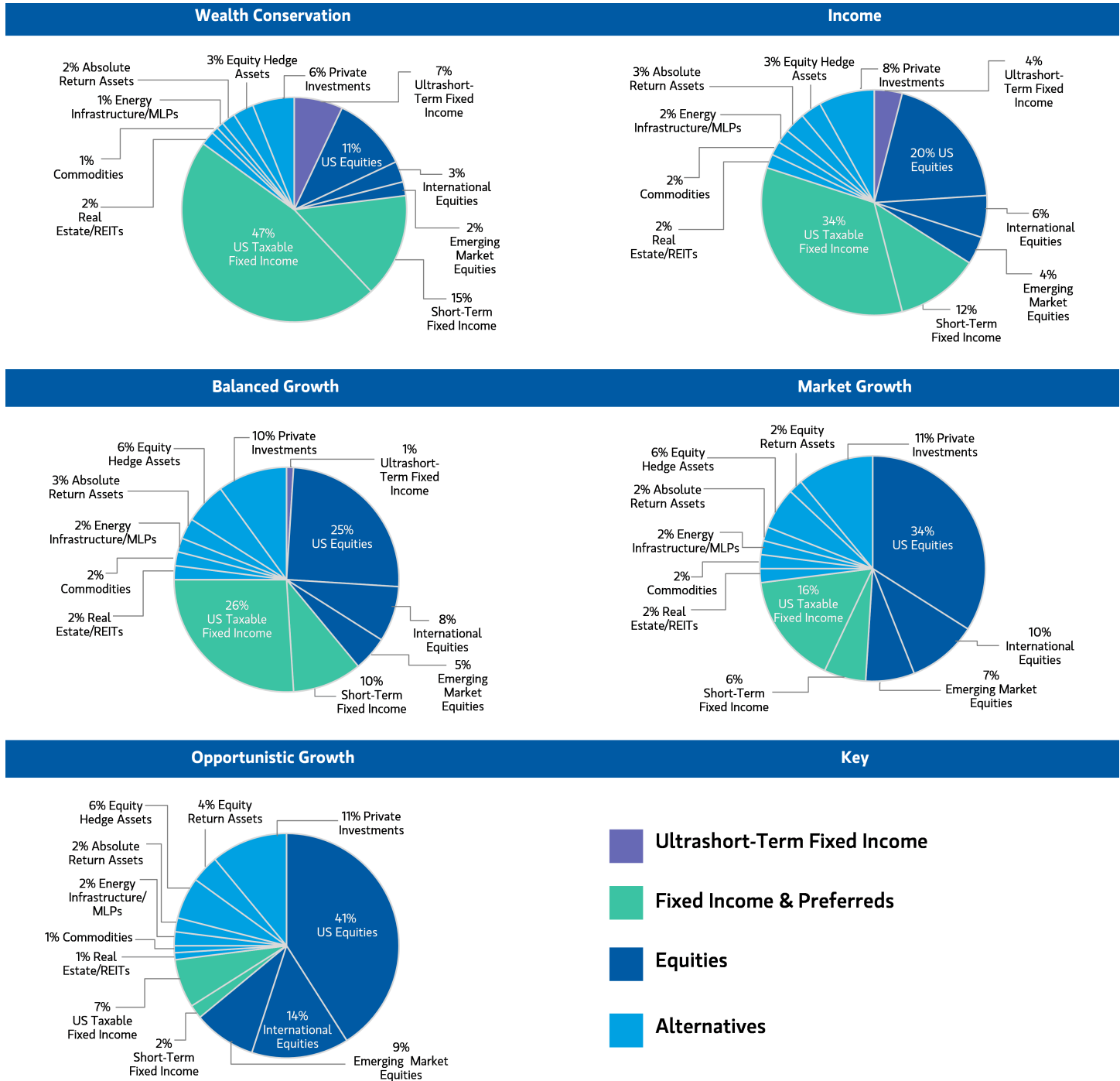
The Global Investment Committee provides guidance on asset allocation decisions through its various allocation models. The five models below include allocations to traditional assets, real assets and hedged strategies. They are based on an increasing scale of risk (expected volatility) and expected return.



Source: Morgan Stanley Wealth Management GIC as of Aug. 4, 2025

ON THE MARKETS

The Global Investment Committee provides guidance on asset allocation decisions through its various allocation models. The five models below include allocations to traditional assets and alternative investments, including privates, and are recommended for investors with over \$10 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.



Source: Morgan Stanley Wealth Management GIC as of Aug. 4, 2025

Tactical Asset Allocation Reasoning

Global Equities		Weight Relative to Model Benchmark
US	Overweight	Stock indexes have experienced a round trip of April's bear market shock from tariffs, and aggregate valuations are as rich as they were in January on 3%–5% lower earnings estimates. That said, uncertainty remains elevated as equity investors appear highly complacent. An economic soft landing is still the base case as long as the labor market holds. The S&P 500 Index appears poised to grind out a 5%–10% gain this year, with interest rates (debt/deficits) the biggest constraint. We are buying equal-weighted indexes, quality-cash-flow stories in both growth and value universes and midcap growth names.
International Equities (Developed Markets)	Underweight	Recent outperformance has been catalyzed as responses to the “America First” agenda have driven fiscal stimulus and concerns about tariffs have been cooling rest-of-world (ROW) inflation. This is creating ROW opportunities to simultaneously enjoy monetary, fiscal and currency-related stimulus. The outlook is improving in Japan, Germany and the UK. Lower global oil prices help.
Emerging Markets	Overweight	China stimulus, while potentially insufficient to address the challenges of the country's secular bear market, is likely enough to help stabilize the downturn in the short term. The US-China trade conflict remains a wild card, and we expect the “bazooka” of China stimulus may come in light of ongoing trade tensions. Given that valuations in the region are already nondemanding, we are inclined to be patient and wait for recovery. A weaker US dollar and lower global energy prices are positives for Latin America and Southeast Asia.
Global Fixed Income		Weight Relative to Model Benchmark
US Investment Grade	Overweight	Corporate cash flows remain resilient, especially as odds of a soft landing continue to solidify. Spreads have partially adjusted to these realities, and default risk remains modest. While interest rates have backed up to reflect “higher-for-longer” expectations, there is good value and “coupon” in the belly of the curve. With geopolitical uncertainty high and equity valuations broadly rich, we like coupons of bonds with index-matching and shorter durations. Municipal securities are exhibiting good value but should be actively managed for credit concerns in a new world of federal funding priorities.
International Investment Grade	Market-Weight*	Yields are decent, central banks have begun to cut rates and there is room for spread tightening as economic growth improves. Currency impact is a tailwind for US dollar investors.
Inflation-Protection Securities	Market-Weight*	Real yields have sold off and are now bordering on cheap relative to the past two years. The securities could be a potential buy in a stagflationary environment.
High Yield	Market-Weight*	We have eliminated our exposure to the equity-like asset class to reduce equity beta of portfolios. High yield bonds rallied aggressively after the unprecedented provision of liquidity from the Fed and fiscal stimulus from Washington. However, we believe there is currently limited upside. Ultra-tight spreads may be the result of increasing competition for capital among private credit financial sponsors and general partners and may not fully reflect adequate compensation for default risk.
Alternative Investments		Weight Relative to Model Benchmark
REITs	Market-Weight	We expect higher stock-bond correlations, which places a premium on the diversification benefits of investing in real assets. Nevertheless, with real interest rates positive and services inflation remaining quite sticky, we would need to be selective in adding to this asset class broadly. We are focused on interesting opportunities aimed at solving the residential housing shortage.
Commodities	Market-Weight	Global deflation, tense geopolitics, especially in the Middle East, and ongoing fiscal spending suggest decent upside potential for precious metals and industrial commodities, including energy-related.
MLP/Energy Infrastructure	Overweight	We previously increased exposure to real assets, with a preference for energy infrastructure and MLPs. Competitive yields and expectations for continued capital discipline amid stable oil and gas prices underpin our decision, as does hedging against geopolitical risks.
Hedged Strategies (Hedge Funds and Managed Futures)	Overweight	We recently added to equity hedged positions, noting the pickup in idiosyncratic risk, falling borrowing costs and rising volatility. The current environment appears constructive for hedge fund managers, who are frequently good stock pickers and can use leverage and risk management to potentially amplify returns. We prefer very active and fundamental strategies, especially high quality, low beta, low volatility and absolute return hedge funds.

*The GIC asset allocation models' benchmarks do not include any exposure to this asset class.

Source: Morgan Stanley Wealth Management GIC as of Aug. 4, 2025

Disclosure Section

Important Information

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For index, indicator and survey definitions referenced in this report please visit the following: <https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions>

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Glossary

Alpha is the excess return of an investment relative to the return of a benchmark index.

Artificial Intelligence (AI) A field of study that seeks to train computers to process large amounts of unstructured information in a manner similar to human intelligence, capable of performing tasks such as learning and problem solving.

Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

Correlation This is a statistical measure of how two securities move in relation to each other. This measure is often converted into what is known as correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation coefficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random. A correlation greater than 0.8 is generally described as strong, whereas a correlation less than 0.5 is generally described as weak.

Price to forward earnings calculates the price-to-earnings ratio that uses projected future earnings.

Real Gross Domestic Product (GDP) is the GDP of the country measured at current market prices and adjusted for inflation or deflation.

Volatility This is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Hedged Strategy Definitions

ON THE MARKETS

Absolute return: This type of investing describes a category of investment strategies and mutual funds that seek to earn a positive return over time—regardless of whether markets are going up, down, or sideways—and to do so with less volatility than stocks.

Equity Hedge is a hedge fund investment strategy with a typical goal of providing equity-like returns while limiting the impact of downside market movements and volatility on an investor's portfolio. Managers utilize long and short positions, primarily in equity and equity-related instruments, to achieve this goal.

Risk Considerations

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Alternative Investments

Alternative investments may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: 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 a fund; Volatility of returns; Restrictions on transferring interests in a 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 Risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

It is important to note that only eligible investors can invest in alternative investment funds and that in order for an FA/PWA to engage a prospective investor in general discussions about Alternative Investments and specifically with regards to Private Funds, the prospective investor will need to be pre-qualified through the Reg D system.

Managed futures investments are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually appropriate only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may act as a complement to these asset categories in a diversified portfolio.

Hedge funds may involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns.

Private Real Estate: Risks of private real estate include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary

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market; lack of transparency; volatility (risk of loss); and leverage.

An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. Investing in an international ETF also involves certain risks and considerations not typically associated with investing in an ETF that invests in the securities of U.S. issues, such as political, currency, economic and market risks. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies. ETFs investing in physical commodities and commodity or currency futures have special tax considerations. Physical commodities may be treated as collectibles subject to a maximum 28% long-term capital gains rates, while futures are marked-to-market and may be subject to a blended 60% long- and 40% short-term capital gains tax rate. Rolling futures positions may create taxable events. For specifics and a greater explanation of possible risks with ETFs, along with the ETF's investment objectives, charges and expenses, please consult a copy of the ETF's prospectus. Investing in sectors may be more volatile than diversifying across many industries. The investment return and principal value of ETF investments will fluctuate, so an investor's ETF shares (Creation Units), if or when sold, may be worth more or less than the original cost. ETFs are redeemable only in Creation Unit size through an Authorized Participant and are not individually redeemable from an ETF.

Investors should carefully consider the investment objectives and risks as well as charges and expenses of an exchange-traded fund or mutual fund before investing. The prospectus contains this and other important information about the mutual fund. To obtain a prospectus, contact your Financial Advisor or visit the mutual fund company's website. Please read the prospectus carefully before investing.

An investment in a **money market fund (MMF)** is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment at \$1.00 per share, it is possible to lose money by investing in the fund. The price of other MMFs will fluctuate and when you sell shares they may be worth more or less than originally paid. MMFs may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits.

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. MLPs carry interest rate risk and may underperform in a rising interest rate environment.

International investing entails greater risk, as well as greater potential rewards compared to U.S. 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** and **frontier markets**, since these countries may have relatively unstable governments and less established markets and economies.

Investing in currency involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. 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 economies.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on municipal bonds is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Ultrashort-term fixed income asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Although they are backed by the full faith and credit of the U.S. Government as to timely payment of principal and interest, **Treasury Bills** are subject to interest rate and inflation risk, as well as the opportunity risk of other more potentially lucrative investment opportunities.

Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate

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movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

Credit ratings are subject to change.

Duration, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. Generally, if interest rates rise, bond prices fall and vice versa. Longer-term bonds carry a longer or higher duration than shorter-term bonds; as such, they would be affected by changing interest rates for a greater period of time if interest rates were to increase. Consequently, the price of a long-term bond would drop significantly as compared to the price of a short-term bond.

The majority of \$25 and \$1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per \$25 or \$1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price.

Some \$25 or \$1000 par **preferred securities** are **QDI (Qualified Dividend Income)** eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

Physical precious metals are non-regulated products. Precious metals are speculative investments, which may experience short-term and long-term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be appropriate for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

CDs are insured by the FDIC, an independent agency of the U.S. Government, up to a maximum of \$250,000 (including principal and accrued interest) for all deposits held in the same insurable capacity (e.g. individual account, joint account, IRA etc.) per CD depository. Investors are responsible for monitoring the total amount held with each CD depository. All deposits at a single depository held in the same insurable capacity will be aggregated for the purposes of the applicable FDIC insurance limit, including deposits (such as bank accounts) maintained directly with the depository and CDs of the depository. For more information visit the FDIC website at www.fdic.gov.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

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.

Stocks of medium-sized companies entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

Companies paying **dividends** can reduce or cut payouts at any time.

Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn

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their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **Technology stocks** may be especially volatile. Risks applicable to companies in the **energy and natural resources** sectors include commodity pricing risk, supply and demand risk, depletion risk and exploration risk. **Health care sector stocks** are subject to government regulation, as well as government approval of products and services, which can significantly impact price and availability, and which can also be significantly affected by rapid obsolescence and patent expirations.

Artificial intelligence (AI) is subject to limitations, and you should be aware that any output from an IA-supported tool or service made available by the Firm for your use is subject to such limitations, including but not limited to inaccuracy, incompleteness, or embedded bias. You should always verify the results of any AI-generated output.

Environmental, Social and Governance ("ESG") investments in a portfolio may experience performance that is lower or higher than a portfolio not employing such practices. Portfolios with ESG restrictions and strategies as well as ESG investments may not be able to take advantage of the same opportunities or market trends as portfolios where ESG criteria is not applied. There are inconsistent ESG definitions and criteria within the industry, as well as multiple ESG ratings providers that provide ESG ratings of the same subject companies and/or securities that vary among the providers. Certain issuers of investments may have differing and inconsistent views concerning ESG criteria where the ESG claims made in offering documents or other literature may overstate ESG impact. ESG designations are as of the date of this material, and no assurance is provided that the underlying assets have maintained or will maintain and such designation or any stated ESG compliance. As a result, it is difficult to compare ESG investment products or to evaluate an ESG investment product in comparison to one that does not focus on ESG. Investors should also independently consider whether the ESG investment product meets their own ESG objectives or criteria. There is no assurance that an ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or a dependable measure of future results.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Virtual Currency Products (Cryptocurrencies)

Buying, selling, and transacting in Bitcoin, Ethereum or other digital assets ("Digital Assets"), and related funds and products, is highly speculative and may result in a loss of the entire investment. Risks and considerations include but are not limited to:

- Digital Assets have only been in existence for a short period of time and historical trading prices for Digital Assets have been highly volatile. The price of Digital Assets could decline rapidly, and investors could lose their entire investment.
- Certain Digital Asset funds and products, allow investors to invest on a more frequent basis than investors may withdraw from the fund or product, and interests in such funds or products are generally not freely transferrable. This means that, particularly given the volatility of Digital Assets, an investor will have to bear any losses with respect to its investment for an extended period of time and will not be able to react to changes in the price of the Digital Asset once invested (for example, by seeking to withdraw) as quickly as when making the decision to invest. Such Digital Asset funds and products, are intended only for persons who are able to bear the economic risk of investment and who do not need liquidity with respect to their investments.
- Given the volatility in the price of Digital Assets, the net asset value of a fund or product that invests in such assets at the time an investor's subscription for interests in the fund or product is accepted may be significantly below or above the net asset value of the product or fund at the time the investor submitted subscription materials.
- Certain Digital Assets are not intended to function as currencies but are intended to have other use cases. These other Digital Assets may be subject to some or all of the risks and considerations set forth herein, as well as additional risks applicable to such Digital Assets. Buyers, sellers and users of such Digital Assets should thoroughly familiarize themselves with such risks and considerations before transacting in such Digital Assets.
- The value of Digital Assets may be negatively impacted by future legal and regulatory developments, including but not limited to increased regulation of such Digital Assets. Any such developments may make such Digital Assets less valuable, impose additional burdens and expenses on a fund or product investing in such assets or impact the ability of such a fund or product to continue to operate, which may materially decrease the value of an investment therein.
- Due to the new and evolving nature of digital currencies and the absence of comprehensive guidance, many significant aspects of the tax treatment of Digital Assets are uncertain. Prospective investors should consult their own tax advisors concerning the tax consequences to them of the purchase, ownership and disposition of Digital Assets, directly or indirectly through a fund or product, under U.S. federal income tax law, as well as the tax law of any relevant state, local or other jurisdiction.
- Over the past several years, certain Digital Asset exchanges have experienced failures or interruptions in service due to fraud, security breaches, operational problems or business failure. Such events in the future could impact any fund's or product's ability to transact in Digital Assets if the fund or product relies on an impacted exchange and may also materially decrease the price of Digital Assets, thereby impacting the value of your investment, regardless of whether the fund or product relies on such an impacted exchange.
- Although any Digital Asset product and its service providers have in place significant safeguards against loss, theft, destruction and inaccessibility, there is nonetheless a risk that some or all of a product's Digital Asset could be permanently lost, stolen, destroyed or inaccessible by virtue of, among other things, the loss or theft of the "private keys" necessary to access a product's Digital Asset.
- Investors in funds or products investing or transacting in Digital Assets may not benefit to the same extent (or at all) from "airdrops" with respect to, or "forks" in, a Digital Asset's blockchain, compared to investors who hold Digital Assets directly instead of through a fund or product. Additionally, a "fork" in the Digital Asset blockchain could materially decrease the price of such Digital Asset.

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- Digital Assets are not legal tender, and are not backed by any government, corporation or other identified body, other than with respect to certain digital currencies that certain governments are or may be developing now or in the future. No law requires companies or individuals to accept digital currency as a form of payment (except, potentially, with respect to digital currencies developed by certain governments where such acceptance may be mandated). Instead, other than as described in the preceding sentences, Digital Asset products' use is limited to businesses and individuals that are willing to accept them. If no one were to accept digital currencies, virtual currency products would very likely become worthless.
- Platforms that buy and sell Digital Assets can be hacked, and some have failed. In addition, like the platforms themselves, digital wallets can be hacked, and are subject to theft and fraud. As a result, like other investors have, you can lose some or all of your holdings of Digital Assets.
- Unlike US banks and credit unions that provide certain guarantees of safety to depositors, there are no such safeguards provided to Digital Assets held in digital wallets by their providers or by regulators.
- Due to the anonymity Digital Assets offer, they have known use in illegal activity, including drug dealing, money laundering, human trafficking, sanction evasion and other forms of illegal commerce. Abuses could impact legitimate consumers and speculators; for instance, law enforcement agencies could shut down or restrict the use of platforms and exchanges, limiting or shutting off entirely the ability to use or trade Digital Asset products.
- Digital Assets may not have an established track record of credibility and trust. Further, any performance data relating to Digital Asset products may not be verifiable as pricing models are not uniform.
- Investors should be aware of the potentially increased risks of transacting in Digital Assets relating to the risks and considerations, including fraud, theft, and lack of legitimacy, and other aspects and qualities of Digital Assets, before transacting in such assets.
- The exchange rate of virtual currency products versus the USD historically has been very volatile and the exchange rate could drastically decline. For example, the exchange rate of certain Digital Assets versus the USD has in the past dropped more than 50% in a single day. Other Digital Assets may be affected by such volatility as well.
- Digital Asset exchanges have limited operating and performance histories and are not regulated with the same controls or customer protections available to more traditional exchanges transacting equity, debt, and other assets and securities. There is no assurance that a person/exchange who currently accepts a Digital Asset as payment will continue to do so in the future.
- The regulatory framework of Digital Assets is evolving, and in some cases is uncertain, and Digital Assets themselves may not be governed and protected by applicable securities regulators and securities laws, including, but not limited to, Securities Investor Protection Corporation coverage, or other regulatory regimes.
- Morgan Stanley Smith Barney LLC or its affiliates (collectively, "Morgan Stanley") may currently, or in the future, offer or invest in Digital Asset products, services or platforms. The proprietary interests of Morgan Stanley may conflict with your interests.
- The foregoing list of considerations and risks are not and do not purport to be a complete enumeration or explanation of the risks involved in an investment in any product or fund investing or trading in Digital Assets.

The **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. The indices are not subject to expenses or fees and are often comprised of securities and other investment instruments the liquidity of which is not restricted. A particular investment product may consist of securities significantly different than those in any index referred to herein. Comparing an investment to a particular index may be of limited use.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Smith Barney LLC retains the right to change representative indices at any time.

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